

5731

Diag'd. on Diag. Ch. No. 1208-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Planimetric Air Photographic

Field No. _____ Office No. T-5731

LOCALITY

State Massachusetts

General locality Cape Cod

Locality Provincetown - Race Point -

Pilgrim Lake

1944

CHIEF OF PARTY

Fred. L. Peacock

LIBRARY & ARCHIVES

DATE _____

B-1870-1 (1)++

5731

applied to chart drawing 580 Sept 21, 1944. H.E.M.

DATA RECORD

T-5731

Quadrangle (II):

Project No. (II): HT-227

Provincetown, Massachusetts 15' U.S.G.S.

Sub-Project No. HT-227-C

Field Office:

Chief of Party:

Air Photographic Party No. 2

L. W. Swanson

Baltimore, Maryland

Compilation Office:

Chief of Party:

Air Photographic Party No. 2

Fred. L. Peacock

Baltimore, Maryland

Instructions dated (II III):

Copy filed in Descriptive
Report No. T- (VI)

September 28, 1938 and

August 15, 1939

Completed survey received in office:

7/1/44

Reported to Nautical Chart Section:

2/26/44

Reviewed:

2/18/45

Applied to chart No.

Date:

Redrafting Completed:

3/17/45

Registered:

12/46

Published:

8/29/46

Compilation Scale: 1:10,000

Published Scale: 1:10,000

Scale Factor (III): None

Geographic Datum (III): N. A. 1927

Datum Plane (III): Mean Sea Level

Reference Station (III): TELEGRAPH HILL, 1902, r.1933, r.1941

30.672" 946.3m

47.536" 1093.2m

Lat.: 42° 02' 30.684" 946.7m Long.: 70° 11' 47.540" 1093.4m Adjusted
(904.5m) (286.6m) Unadjusted

Massachusetts

State Plane Coordinates (VI): (Mainland Zone)

X = 954,059.02 Feet

Y = 382,351.02 Feet

Military Grid Zone (VI)

PHOTOGRAPHS (III)

<u>Number</u>	<u>Date</u>	<u>E.S.T. Time</u>	<u>Scale</u>	<u>Stage of Tide</u>
2432 to 2434	7/16/38	12:35p.m.	1:10,000	7.9' above M. L. W.
GSF4-179 to GSF4-183	11/21/38	9:57a.m.	1:10,000	9.8' above M. L. W.
GSF4-209 to GSF4-212	11/21/38	10:24a.m.	1:10,000	9.9' above M. L. W.
GSF4-753 to GSF4-755	12/14/38	10:32a.m.	1:10,000	Mean Low-Water
13398 to 13403	4/9/43	*11:50a.m.	1:10,000	4.6' above M. L. W.
13538 & 13539	4/13/43	*10:05a.m.	1:10,000	2.4' above M.L.W.

*This time has been changed from Eastern War Time to Eastern Standard Time.

Tide from (III): Predicted tide tables, reference station, Boston, Mass., with corrections to Race Point and Provincetown, Cape Cod.

Mean Range: Provincetown, Cape Cod - 9.1' **Spring Range:** Provincetown, Cape Cod - 10.6'
Race Point, Cape Cod - 9.0' Race Point, Cape Cod - 10.4'

Camera: (Kind or source) U. S. Coast & Geodetic Survey nine lens camera (focal length 8 $\frac{1}{2}$ "). All negatives are on file at the Washington Office. The character of the camera used to take the

Field Inspection by: single lens photographs, which were **date:**
purchased from the U. S. Geological Survey, is unknown.

Field Inspection by: Lieut. E. B. Lewey **date:** Autumn, 1941
Field Edit by: **date:**

Date of Mean High-Water Line Location (III):

Photographs of April 9 and 13, 1943 - *See page 8 of descriptive report and*
~~Supplemented by field inspection of Autumn, 1941~~ *the review of back of this*

State
Projection and/Grids ruled by (III) John C. O'Neill **date:** March 20, 1943

" " " **checked by:** John C. O'Neill **date:** March 20, 1943

Control plotted by: Charles C. Tropp and John P. Kubasco **date:** April 15, 16, 20, 1943

Control checked by: Charles C. Tropp and John P. Kubasco **date:** April 22, 23, 1943

Radial Plot by: Charles C. Tropp & Walter E. Schmidt **date:** April 29, 1943

Detailed by: Mary Katherine Olthouse (Shore line and interior planimetry - rough draft) **date:** June 25 - August 16, 1943
October 2-7, 1943

Reviewed in compilation office by: Harry R. Rudolph **date:** October 28, 1943-Jan. 17, 1944
January, 1944

Elevations on Field Edit Sheet
checked by: **date:**

STATISTICS (III)

Land Area (Sq. Statute Miles): 12 Square Statute Miles

Shoreline (More than 200 meters to opposite shore): 22.0 Statute Miles
Inland Ponds 3.0 Statute Miles

Shoreline (Less than 200 meters to opposite shore): 4.2 Statute Miles
Inland Ponds 5.6 Statute Miles

Number of Recoverable Topographic Stations established: 25 Positions determined by
radial intersection

Number of Temporary Hydrographic Stations located by radial plot: 28

Leveling (to control contours) - miles: None

Roman numerals indicate whether the item is to be entered by,

(II) Field Party, (III) Compilation Party, or, (VI) the Washington Office.

When entering names of personnel on this record give the surname
and initials (not initials only).

Remarks:

26 CONTROL:

The horizontal control plotted directly on Map Drawing, Survey No. T-5731 consists of thirty-eight (38) U. S. Coast & Geodetic Survey Triangulation Stations, eight (8) Massachusetts Geodetic Survey Traverse Stations, and one (1) U. S. Engineers Triangulation Station. The positions of all of these stations have been shown on the Map Drawing with the standard triangulation symbol in black acid ink.

The control stations listed below are within the detail limits of the Map Drawing.

Thirty-Six (36) U. S. Coast & Geodetic Survey Triangulation Stations:

- ✓HILL POINT 2, 1906, r.1909
- ✓HILL RANGE, WEST, 1902
- ✓LONG POINT, INNER RANGE BEACON 1, 1933, r.1941
- ✓LONG POINT, INNER RANGE BEACON 2, 1933, r.1941
- ✓LONG POINT, INNER RANGE BEACON 3, 1933, r.1941
- ✓LONG POINT LIGHTHOUSE, 1877, r.1933, r.1941
- ✓LONG POINT, OUTER RANGE BEACON 1, 1933, r.1941
- ✓LONG POINT, OUTER RANGE BEACON 2, 1933, r.1941
- ✓LONG POINT, OUTER RANGE BEACON 3, 1933, r.1941
- ✓PEAKED HILL BARS COAST GUARD, SIGNAL MAST, 1933, r.1941
- ✓PILGRIM MONUMENT, 1909, r.1932, r.1941
- ✓PROVINCETOWN, CAPE COD COLD STORAGE STACK, 1933, r.1941
- ✓PROVINCETOWN, CENTER CHURCH, SPIRE, 1933, r.1941
- ✓PROVINCETOWN, COLONIAL COLD STORAGE, STACK, 1933, r.1941
- ✓PROVINCETOWN, NORTHWEST RANGE, FRONT BEACON, 1906, r.1933, r.1941
- ✓PROVINCETOWN, NORTHWEST RANGE, REAR BEACON, 1906, r.1933, r.1941
- ✓PROVINCETOWN, ORTHODOX CHURCH, 1847, r.1933, r.1941
- ✓PROVINCETOWN, SOUTHEAST RANGE, FRONT BEACON, 1906, r.1933, r.1941
- ✓PROVINCETOWN, SOUTHEAST RANGE, REAR BEACON, 1906, r.1933, r.1941
- ✓PROVINCETOWN, STANDPIPE, 1933, r.1941
- ✓PROVINCETOWN, TOWN HALL, SPIRE, 1887, r.1933, r.1941
- ✓PROVINCETOWN-TRURO 1 (W. M.) (Truro Corner 7), 1887
- ✓PROVINCETOWN-TRURO 2 (W.M.No. 1) (Truro Corner 6), 1887
- ✓PROVINCETOWN, UNIVERSALIST CHURCH, SPIRE, 1847, r.1933, r.1941
- ✓PROVINCETOWN, WEATHER SIGNAL MAST, 1933, r.1941
- ✓RACE POINT LIGHTHOUSE, 1877, r.1933, r.1941
- ✓TELEGRAPH HILL, 1902, r.1933, r.1941
- ✓TRURO CORNER 2, 1887
- ✓TRURO CORNER 3, 1887
- ✓TRURO CORNER 4, 1887
- ✓TRURO CORNER 5, 1887
- ✓WOOD, 1909
- ✓WOOD END COAST GUARD, SIGNAL MAST, 1933, r.1941
- ✓WOOD END LIFE SAVING STATION, CUPOLA, 1902, r.1933, r.1941
- ✓WOOD END LIGHTHOUSE, 1877, r.1933, r.1934, r.1941
- ✓WOOD END LIGHTHOUSE, BELL TOWER, 1902, r.1933, r.1941

26 CONTROL: (cont'd)

Seven (7) Massachusetts Geodetic Survey Traverse Stations:

✓153C (M. G. S.), r.1941
✓153E (M. G. S.), r.1941
✓153G (M. G. S.), r.1941
✓153J (M. G. S.), r.1941
✓153V (M. G. S.), r.1941
✓153W (M. G. S.), r.1941
✓MOUNT GILBOA 3, 1940, r.1941 (M.G.S.)

One (1) U. S. Engineers Triangulation Station:

✓OCEAN VIEW, 1920, r.1936, r.1941

The following stations are outside the detail limits of the Map Drawing:

Two (2) U. S. Coast & Geodetic Survey Triangulation Stations:

HIGH HEAD, 1933, r.1941
PROVINCETOWN, PUMPING STATION, STACK, 1933, r.1941

One (1) Massachusetts Geodetic Survey Traverse Stations:

153A (M. G. S.), r.1941

Two U. S. Coast & Geodetic Survey Triangulation Stations which were recovered by the Field Inspection Party in 1941, but are to be considered lost, are discussed in the following two paragraphs.

The photographs taken in 1943, indicate that the Provincetown Fisherman's Cold Storage Stack is no longer in existence as the building on which it was located has been completely destroyed. This stack was the Triangulation Station "PROVINCETOWN, FISHERMANS COLD STORAGE, STACK, 1933, r.1941". The position of this station has been deleted from the Map Drawing and since the station was previously a landmark, Form No. 567 has been submitted for a deletion.

The radial plot proved that the Triangulation Station "RACE POINT COAST GUARD, SIGNAL MAST, 1933, r.1941" has been moved. The radially plotted position of the mast is now 3.6mm. northeast of the position as determined by triangulation in 1933. The original position has been deleted from the Map Drawing. The new position has been shown on the Map Drawing with a 2 $\frac{1}{2}$ mm. black acid ink circle. Forms Nos. 524 and 567 have been submitted.

27 RADIAL PLOT:

The radial plot for Map Drawing, Survey No. T-5731 to be discussed in the succeeding paragraphs, pertains to all that portion of the northern hook of Cape Cod, west of Longitude $70^{\circ} 07' 00''$.

Since there was an abundance of horizontal control within the area of Map Drawing, Survey No. T-5731, it was decided to lay an individual plot by the radial method. No celluloid templets were used except for photographs Nos. 13398 to 13403 inclusive, and photographs Nos. 13538 and 13539. Such templets were necessary and are to be discussed later in this report.

The celluloid Map Drawing Projection and the photographs were prepared in the usual manner.

The horizontal control in the area of this Survey consists of U. S. Coast & Geodetic Survey Triangulation Stations, Massachusetts Geodetic Survey Traverse Stations, and a U. S. Engineers Triangulation Station. The positions of the U. S. Coast & Geodetic Survey Triangulation Stations and the U. S. Engineers Triangulation Station were plotted from geographic coordinates, while the traverse stations were plotted from Massachusetts State grid coordinates. The Massachusetts State Grid is a Lambert Conformal Projection with Y equal to 0 at Latitude $41^{\circ} 00' 00''$ and X equal to 600,000' at Longitude $71^{\circ} 30' 00''$.

The horizontal control was considered adequate in number, density, and distribution. In general, the field inspection data pertaining to the location of the control on the photographs was adequate. The area was well covered by photography and the number of photographs was adequate.

Differential distortion combined with chamber displacement in the nine lens photographs taken on April 9 and 13, 1943, and submitted to this Compilation Office on June 14, 1943, was a source of trouble. Correction of the radials was necessary and was made on celluloid templets in accordance with instructions from the Washington Office.

The triangulation station "RACE POINT COAST GUARD, SIGNAL MAST, 1933", as pricked on the office photographs in accordance with the field inspection data, could not be held to in the radial plot. This station has been previously discussed in Paragraph No. 26.

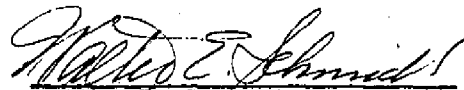
The positions of the secondary points and photograph centers (principal points) determined by radial intersection and resection respectively by this plot, are believed to be, with but few exceptions, within the limits of satisfactory accuracy. The positions of secondary points considered relatively strong have been shown with small/double purple

27 RADIAL PLOT: (cont'd)

ink circles on the glossy side of the Map Drawing, while relatively weak positions have been shown with small double green ink circles. The positions of the photograph centers (principal points) have been shown with large purple ink circles on the glossy side of the Map Drawing accompanied by the photograph numbers.

Paragraph No. 27

Respectfully submitted by:



Walter E. Schmidt

Asst. Photogrammetric Eng.

28 DETAILING:

The conventional topographic symbols have been used to show the detailed planimetry. The scales of the photographs and the Map Drawing were in good agreement. However, it was necessary to use the vertical projector in detailing the area known as Long Point, and a part of the shore line to the west and north.

Good intersections were obtained for most of the minor detail points, the positions of which have been shown with small purple ink circles on the glossy side of the Map Drawing. However, some shore line points and a few detail points in the interior could be seen on only two photographs. The positions of such points which were determined by the intersection of two radials were considered relatively weak, and have been shown with small green ink circles on the glossy side of the Map Drawing.

The area was well covered by photography and the number of photographs was sufficient for office detailing.

The area within the detail limits of the Map Drawing consists of the outermost portion of Cape Cod which is bounded on three sides by water, with the Atlantic Ocean to the north, Cape Cod Bay to the west and southwest, and Provincetown Harbor to the south. In general, sand bluffs ranging in height from 10' to 50' form the shore line of the part of this area bounded by the Atlantic Ocean. Marsh areas along the shore line occur in the vicinity of Race Point, and to the southwest of Provincetown near the stone dike extending to Long Point. Many piers, bulkheads, and groins appear along the shore line from Provincetown to the eastern detail limit of the Map Drawing. The shore line of the entire area of the Survey is sandy and subject to almost constant change.

The interior of the Survey includes many sand dunes and sand ridges to the north, a number of ponds to the northwest of Provincetown, Pilgrim Lake with its marshy shore line, one small village and one congested urban district, Provincetown, the approximate limits of which have been shown with red ink on the glossy side of the Map Drawing. U. S. Highway No. 6 and the New York, New Haven, and Hartford Railroad follow the shore line south of Pilgrim Lake as far as Provincetown.

The Field Inspection Party of 1941 recorded much of the field inspection data for the area of the Survey on single lens photographs at their original scale of 1:24,000. The remainder of the field inspection data was recorded on the 1938 nine lens photographs. Many shore line changes not noted by the 1941 Field Inspection Party were evident on the 1943 photographs, which were, in general, used to detail the Mean High-Water Line. In a few cases where these photographs were not clear, the Mean High-Water Line, was detailed in accordance with the * 1941 field inspection data. Wherever differences of the interior topographic features occurred between the 1938 and 1943 photographs, the planimetry shown on the Map Drawing was detailed in accordance with the photography of 1943.

* The entire Mean High-Water Line has been detailed in accordance with the 1943 photographs by the reviewer in the Wash. office.

28 DETAILING: (cont'd)

The ridges shown on the Map Drawing accompanied by the note "Ridge" were detailed in accordance with stereoscopic examination of the photographs.

All public buildings and all buildings between the Mean High-Water Line and the first street back of the Mean High-Water Line within the congested urban area, and all other buildings, except small outbuildings, that were visible on the photographs outside the congested urban area, have been shown on the Map Drawing. A building, shown at approximately latitude $42^{\circ} 03' 40''$ and longitude $70^{\circ} 11' 30''$, was called a pumping station by the Field Inspection Party of 1941, and has been labeled as such on the Map Drawing. However, Ensign R.H. Brown, U. S. Coast & Geodetic Survey, in a letter dated January 11, 1944, submitted information which he received from Mr. Pratt, manager of the Chatham, Massachusetts Office of the Cape and Vineyard Electric Company, showing that this building is really an electric power station. *Shown as power station by reviewer.*

All roads inside the congested urban district have been detailed in full. All other first and second class roads outside the congested urban district have been shown by a centerline only, and are to be considered as 6.0 meters in width. Many paths and trails through the sand are only partially visible on the photographs, and for this reason could not be detailed in full on the Map Drawing. The notes "d.f.l.", "d.d.l.", and "s.d.l." have been lettered on the Map Drawing to indicate the road classification.

30 MEAN HIGH-WATER LINE:

The method of detailing the Mean High-Water Line has been discussed in Paragraph No. 28. The Mean High-Water Line has been shown on the Map Drawing with a full heavy-weight black acid ink line, the center of which is believed to be the true position. The outer limits of marsh areas bordering the Mean High-Water Line have been shown with a full light-weight black acid ink line.

A wreck just inshore from the Mean High-Water Line near the Race Point Coast Guard Station has been detailed in accordance with the field inspection data, and shown on the Map Drawing with the conventional wreck symbol.

31 LOW-WATER AND SHOAL LINES:

Since only the note "Shoal" rather than a shoal line was indicated by the Field Inspection Party of 1941 on the field photographs, the approximate outer limits of shoal areas bordering the Mean High-Water Line where visible, have been detailed from the 1943 photographs. The note "Shoal" has been made on the Map Drawing to indicate both the detailed shoal areas visible on the photographs and areas marked with the word

31 LOW-WATER AND SHOAL LINES: (cont'd)

"Shoal" on the field inspection photographs. This shoal line is for the use of hydrographic parties only and should not be considered as the position of the Mean Low-Water Line.

32 DETAILS OFFSHORE FROM THE MEAN HIGH-WATER LINE:

Two wrecks and the ruins of a wharf offshore from the Mean High-Water Line have been detailed in accordance with the field inspection data, and shown on the Map Drawing with the conventional symbols. A third wreck shown on the Map Drawing has been discussed in Paragraph No. 30.

33 WHARVES AND SHORE LINE STRUCTURES:

All piers, groins, ruins of wharves, bulkheads, a marine way, dikes, etc., have been detailed in accordance with the field inspection data or from information obtained by means of examination of the 1943 photographs, and have been shown on the Map Drawing with the conventional symbols, accompanied by descriptive notes.

34 LANDMARKS AND AIDS TO NAVIGATION:

Shown within the detail limits of the Survey are eighteen (18) landmarks and thirteen (13) fixed aids to navigation, which can be identified by the notes "Landmark" or "Aid to navigation" lettered on the Map Drawing.

The positions of the four (4) landmarks listed below are also recoverable topographic stations. Their positions which appear on Charts Nos. 580 and 1208 have been re-determined by radial intersection and shown on the Map Drawing with 2 $\frac{1}{2}$ mm. black acid circles. Form No. 567 has been submitted.

Cupola, Governor Bradford School ✓
Lookout Tower, Peaked Hill Bar Coast Guard ✓
Lookout Tower, Race Point Coast Guard ✓
Signal Mast, Race Point Coast Guard

Since the positions of the following fourteen (14) landmarks have been previously determined by the Bureau by triangulation, they are not included on the Forms No. 567 being submitted:

34 LANDMARKS AND AIDS TO NAVIGATION: (cont'd)

LONG POINT LIGHTHOUSE, 1877, r.1933, r.1941
PEAKED HILL BARS COAST GUARD, SIGNAL MAST, 1933, r.1941
PILGRIM MONUMENT, 1909, r.1932, r.1941
PROVINCETOWN, CAPE COD COLD STORAGE, STACK, 1933, r.1941
PROVINCETOWN, CENTER CHURCH, SPIRE, 1933, r.1941
PROVINCETOWN, COLONIAL COLD STORAGE, STACK, 1933, r.1941
PROVINCETOWN, ORTHODOX CHURCH, 1847, r.1933, r.1941
PROVINCETOWN, STANDPIPE, 1933, r.1941
PROVINCETOWN, TOWN HALL, SPIRE, 1887, r.1933, r.1941
PROVINCETOWN, UNIVERSALIST CHURCH, SPIRE, 1847, r.1933, r.1941
PROVINCETOWN, WEATHER SIGNAL MAST, 1933, r.1941
RACE POINT LIGHTHOUSE, 1877, r.1933, r.1941
WOOD END, COAST GUARD, SIGNAL MAST, 1933, r.1941
WOOD END LIGHTHOUSE, 1877, r.1933, r.1934, r.1941

Form No. 567 has been submitted for the following nine (9) landmarks which are recommended for deletion:

Provincetown, brick stack
*Race Point Coast Guard, signal mast
*Lookout Tower, Peaked Hill Bar Coast Guard
*Lookout Tower, Race Point Coast Guard
Provincetown Cold Storage Stack
Twin Tanks
Brick Chimney
*Provincetown, Governor Bradford School Cupola (Field Inspection Party reports rebuilding and attendant alterations to original structure.)
Provincetown, Fishermans cold storage stack

*Delete former charted positions and rechart in newly determined positions.

Since the positions of the following thirteen (13) ^{Fixed} Aids to Navigation have been previously determined by triangulation by the Bureau, they are not included in the Forms No. 567 being submitted:

LONG POINT, INNER RANGE BEACON 1, 1933, r.1941
LONG POINT, INNER RANGE BEACON 2, 1933, r.1941
LONG POINT, INNER RANGE BEACON 3, 1933, r.1941
LONG POINT LIGHTHOUSE, 1877, r.1933, r.1941
LONG POINT, OUTER RANGE BEACON 1, 1933, r.1941
LONG POINT, OUTER RANGE BEACON 2, 1933, r.1941
LONG POINT, OUTER RANGE BEACON 3, 1933, r.1941
PROVINCETOWN, NORTHWEST RANGE, FRONT BEACON, 1906, r.1933, r.1941
PROVINCETOWN, NORTHWEST RANGE, REAR BEACON, 1906, r.1933, r.1941
PROVINCETOWN, SOUTHEAST RANGE, FRONT BEACON, 1906, r.1933, r.1941
PROVINCETOWN, SOUTHEAST RANGE, REAR BEACON, 1906, r.1933, r.1941
RACE POINT LIGHTHOUSE, 1877, r.1933, r.1941
WOOD END LIGHTHOUSE, 1877, r.1933, r.1934, r.1941

35 HYDROGRAPHIC CONTROL:

The hydrographic control within the area of the Map Drawing consists of twenty-five (25) recoverable topographic stations, and twenty-eight (28) temporary hydrographic stations, the positions of all of which have been determined by radial intersections and shown with 2 $\frac{1}{2}$ mm. black acid ink circles. The numbers, names, and descriptions of all the recoverable topographic stations, except the tidal bench marks, the numbers and descriptions of the temporary hydrographic stations, and the names of the tidal bench marks, have been shown on the Map Drawing.

Form No. 524 has been submitted for the following twenty-five (25) recoverable topographic stations: 5pt

- ✓ BELFRY CHURCH OF ST. MARY OF THE HARBOR
- BELL STAND
- BRICK CHIMNEY NEAR CENTER EASTERLY OF TWO HOUSES
- CHIMNEY, CENTER OF BROWN HOUSE
- CHIMNEY, CENTER OF BROWN SHINGLED HOUSE
- CUPOLA, GOVERNOR BRADFORD SCHOOL, 1935 (Landmark)
- FLAGPOLE, NORTHWEST CORNER OF TWO STORY HOUSE
- INNER END OF SOUTHERLY OF FOUR GROINS
- LOOKOUT TOWER, PEAKED HILL BAR COAST GUARD (Landmark)
- LOOKOUT TOWER, RACE POINT COAST GUARD (Landmark)
- LYLE GUN PLATFORM
- OUTER GABLE, COAST GUARD RELIEF STATION
- POLE ABOUT 20' HIGH
- SIGNAL MAST, RACE POINT COAST GUARD (Landmark)
- SOUTHWEST OF TWO CHIMNEYS ON STUCCO HOUSE
- STONE CHIMNEY ON SMALL HOUSE
- WEST CORNER OF SMALL DARK SHACK
- TIDAL BENCH MARK 6 (1933)
- TIDAL BENCH MARK 7 (1933)
- TIDAL BENCH MARK 8 (1933)
- ✓ TIDAL BENCH MARK 9 (1933)
- TIDAL BENCH MARK 10 (1933)
- TIDAL BENCH MARK 11 (1934)
- TIDAL BENCH MARK 16 (1889)
- TIDAL BENCH MARK 17 (1889)

Seven tidal bench marks that are within the limits of the Map Drawing have not been shown for the reasons discussed in the following paragraphs.

36 TIDAL BENCH MARKS:

35 HYDROGRAPHIC CONTROL: (cont'd)

TIDAL BENCH MARK XVIII (1889)

This Tidal Bench Mark has not been shown on the Map Drawing as the report on condition of bench mark (Form No. 685), submitted by the Field Inspection Party of 1941, with the date August 28, 1941, reads "Recommend this mark be classified as lost. No local information could be obtained and the only granite post that could be found in the vicinity had "C" cut in one side and "HL" in the other -- apparently a land bound. This post has almost fallen down and would be no good as a bench mark in case it should be the correct Bound." Even though it was not recovered, a position for this tidal bench mark was pricked on the field photographs, by the Field Inspection Party of 1941.

PEAKED HILL BAR, TIDAL BENCH MARK 1 (1933)

This tidal bench mark has not been shown on the Map Drawing as the report on condition of bench mark (Form No. 685), submitted by the Field Inspection Party of 1941, with the date August 28, 1941, reads: "This mark has been destroyed. The cistern in top of which the mark was placed is no longer in existence."

PEAKED HILL BAR, TIDAL BENCH MARK 2 (1933)

This tidal bench mark, the position of which is in the concrete footing of the signal mast of the Peaked Hill Bar Coast Guard station, was recovered by the Field Inspection Party of 1941, but has not been shown on the Map Drawing because of its proximity to the U. S. Coast & Geodetic Survey triangulation station, "PEAKED HILL BARS COAST GUARD, SIGNAL MAST, 1933, r.1941".

PEAKED HILL BAR, TIDAL BENCH MARK 3 (1933)

This tidal bench mark was recovered but not pricked on the field inspection photographs by the Field Inspection Party of 1941. It has not been shown on the Map Drawing because it is located on the same building as the temporary hydrographic station, "Lookout Tower on Coast Guard Barracks," which was pricked on the field photographs by the 1941 Field Inspection Party.

PROVINCETOWN, TIDAL BENCH MARK "NO. 1, M.S."

This tidal bench mark has not been shown on the Map Drawing because it was not recovered by the 1941 Field Inspection Party, and because it is located very near the triangulation station, "LONG POINT LIGHTHOUSE, 1877, r.1933, r.1941."

35 HYDROGRAPHIC CONTROL: (cont'd)

PROVINCETOWN, TIDAL BENCH MARK "NO. 2, M.S."

This tidal bench mark has not been shown on the Map Drawing because it was not recovered by the 1941 Field Inspection Party, and because it is located very near the recoverable topographic station, "BELL STAND".

PROVINCETOWN, TIDAL BENCH MARK 5 (1890)

This tidal bench mark was recovered by the 1941 Field Inspection Party and pricked on one of the field inspection photographs. It has not been shown on the Map Drawing, as it could not be identified and pricked on the office photographs.

36 LANDING FIELDS:

A landing field at approximately latitude $42^{\circ} 04' 10''$ and Longitude $70^{\circ} 13' 45''$ has been detailed and shown on the Map Drawing with a thin dashed black acid ink line. The limits of this field were not clearly visible on the photographs.

37 GEOGRAPHIC NAMES:

The geographic names for the area of Map Drawing, Survey No. T-5731 were taken from a special investigation of geographic names made in 1941 by Lieut. E. B. Lewey. Tabulated lists of the disputed and undisputed geographic names shown on the Map Drawing are submitted herein.

38 JUNCTIONS:

No junctions need be considered to the north, the west, and the south of the Map Drawing, since it is bounded on these sides by all water areas.

Junction with map drawing, survey No. T-5732, to the east, is in agreement.

39 RECOMMENDATIONS FOR FUTURE SURVEYS:

The planimetry shown on the Map Drawing is believed to be complete in all details of importance, and no additional surveys are recommended, by this Compilation Office.

The probable error of the relative positions of radial points and well-defined objects along the shore line and in the interior is believed not to exceed 1.0mm.

40 COMPARISON WITH EXISTING TOPOGRAPHIC SURVEYS:

The shore line and shore line structures as detailed on the Map Drawing are, in general, in disagreement with those which appear on Topographic Survey No. T-6033 (U.S.C.&G.S.). It is recommended, that Map Drawing, Survey No. T-5731 supersede Survey No. T-6033.

44 COMPARISON WITH EXISTING TOPOGRAPHIC QUADRANGLES:

Provincetown Quadrangle, 15', Massachusetts; U. S. G. S., published in July 1889, reprinted in 1934; scale 1:62,500.

Although the difference in scale between the Map Drawing and the above mentioned quadrangle was so great that small planimetric details could not be satisfactorily compared, the following large changes were evident.

The shore line in general has undergone many changes, particularly in the areas near Race Point and Long Point. Along the Provincetown waterfront and Pilgrim Beach many piers and groins have been added and others have been removed. House Point Island is no longer in existence. A dike now extends from the firm ground near Provincetown Inn to Long Point. A second dike crosses Hatches Harbor. The shore line of Pilgrim Lake has changed, particularly with regard to the marsh areas.

Three wrecks that do not appear on the quadrangle have been shown on the Map Drawing, one at approximately Latitude $42^{\circ} 04' 46''$ and Longitude $70^{\circ} 13' 17''$, another at approximately Latitude $42^{\circ} 12' 10''$ and Longitude $70^{\circ} 11' 43''$, and the third at approximately Latitude $42^{\circ} 12' 15''$ and Longitude $70^{\circ} 11' 40''$.

Two coast guard stations that do not appear on the quadrangle have been shown on the Map Drawing. The change in the position of a third coast guard station has also been shown on the Map Drawing.

Several highways and numerous buildings have been constructed in this area, and other buildings, particularly in the vicinity of Race Point and Long Point, have been destroyed.

Two railroad sidings that do not appear on the quadrangle have been shown on the Map Drawing, one at Mt. Ararat and one at approximately Latitude $42^{\circ} 13' 45''$ and Longitude $70^{\circ} 10' 40''$. The railroad no longer extends to the outer end of Town Wharf.

45 COMPARISON WITH NAUTICAL CHARTS:

Chart No. 580, U. S. C. & G. S.; published in April 1934, reissued in October 1938, corrected to June 6, 1941; scale 1:20,000.

Planimetry common to both the above-mentioned chart and the Map

45 COMPARISON WITH NAUTICAL CHARTS: (cont'd)

Drawing is in fair agreement with the following exceptions.

The shore line in general has changed, particularly in the vicinity of Race Point and Long Point. Many groins and piers that do not appear on the Chart have been shown on the Map Drawing. The marine way north of the Cape Cod Cold Storage Wharf has been destroyed, and other shore line structures have been altered. The piles awash just northeast of Town Wharf as shown on this Chart, have not been detailed on the Map Drawing because no field inspection data were submitted for them, and because they could not be identified on the photographs covering that area, none of which were taken at low tide.

Two wrecks that do not appear on the above mentioned Chart have been shown on the Map Drawing, one at approximately Latitude $42^{\circ} 12' 10''$ and Longitude $70^{\circ} 11' 43''$, and the other at approximately Latitude $42^{\circ} 12' 15''$ and Longitude $70^{\circ} 11' 40''$.

Numerous ponds that do not appear on the Chart have been shown on the Map Drawing. The marsh areas adjacent to the ponds shown on this Chart, those along the shore line of Pilgrim Lake, and those in the vicinity of Race Point and Long Point have all been shown somewhat differently on the Map Drawing from the way they appear on this Chart.

The positions of the highways as shown on the Map Drawing are somewhat different from the way they appear on this Chart.

Two railroad sidings that do not appear on this Chart have been shown on the Map Drawing, one at Mt. Ararat and one at approximately Latitude $42^{\circ} 13' 45''$ and Longitude $70^{\circ} 10' 40''$.

Chart No. 1208, U. S. C. & G. S.; published in November 1936, re-issued in July 1938, corrected to May 17, 1940; scale 1:80,000.

The large difference in scale between the Map Drawing and the above mentioned Chart prevented a ready comparison of planimetric details. However, planimetry common to both is in fair agreement with the same exceptions as those listed for Chart No. 580, and one additional exception.

Besides the two wrecks listed as not appearing on Chart No. 580, a third wreck that does not appear on Chart No. 1208 has been shown on the Map Drawing at approximately Latitude $42^{\circ} 04' 46''$ and Longitude $70^{\circ} 13' 17''$.

Respectfully submitted,
January 20, 1944

Mary Katherine Olthouse
Mary Katherine Olthouse
Photogrammetric Aid

Compilation and Descriptive
Report Reviewed by:

Harry R. Rudolph
Harry R. Rudolph
Sr. Photogrammetric Aid

Supervised by:

Walter E. Schmidt
Walter E. Schmidt
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Approved & Forwarded:
January 25, 1944

Fred. L. Peacock
Fred. L. Peacock
Chief, Air Photographic Party No. 2
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LIST OF GEOGRAPHIC NAMES

Undisputed

Atlantic Ocean
 **Black Water Pond
 Cape Cod
 Cape Cod Bay
 Clapps Round Pond
 Foster Pond (or 7 Bennett Pond on U.S.G.S.)
 Grassy Pond.
 Great Pond.
 Hatches Harbor
 Herring Cove
 Lobster Flane.
 Long Point
 *Long Point Light.
 Mt. Ararat (village)
 Mt. Gilboa
 Pasture Pond.
 Peaked Hill Bar C. & Station
 Pilgrim Beach
 *Pilgrim Monument
 Provincetown (town)
 Provincetown Harbor.

Race Point
 *Race Point Light
 ***Race Run
 Shank Painter Bar
 Shank Painter Pond.
 *Telegraph Hill
 Town Hill
 Wood End
 Wood End Bar
 *Wood End Light.

NAMES OF WHARVES

*Cape Cod Cold Storage Wharf
 Colonial Cold Storage Co. Wharf
 Dan Frank's Wharf
 Higgins Wharf
 Monument Wharf (formerly Sklaroff Wharf)
 Provincetown Cold Storage Wharf
 Town Wharf

*An asterisk indicates that the geographic name pertains to a feature which serves as a triangulation station. The name of the triangulation station rather than the geographic name of the feature has been shown on the Map Drawing.

**Although Black Water Pond is indicated on the U. S. G. S. Quadrangle, "Provincetown", it has not been shown on the Map Drawing because no field inspection data were submitted for it, and because it was not visible on any of the photographs.

***Not known locally.

LIST OF GEOGRAPHIC NAMES

Disputed

Clapps Pond.

Clapp Pond

Peaked Hill Bar Coast Guard (V.S.G. & P.C.S.V.A.)

Peaked Hill Bar Life Saving Station

Pilgrim Lake

East Harbor Pond

Moon Pond Meadow

Race Point Coast Guard

Race Point Life Saving Station

Webber's Pond

Duck Pond

GEOGRAPHIC NAMES

Survey No. 5731

1	Name on Survey	A	B	C	D	E	F	G	H	K	
✓	Atlantic Ocean	✓									1
✓	Massachusetts	✓									2
✓	Cape Cod	✓									3
✓	Cape Cod Bay	✓									4
✓	U.S. No. 6	✓		GAR	Highway						5
✓	New York, New Haven and Hartford R R			✓							6
											7
✓	Pilgrim Beach	✓		(see section sheets				USGB			8
✓	Pilgrim Lake	✓		420701-702)				"			9
✓	Mt Ararat	✓	(hill)								10
✓	Mt Gilboa	✓									11
✓	Mayflower Heights										12
✓	Provincetown	✓									13
✓	Provincetown Harbor	✓									14
✓	Town Hill	✓									15
✓	Pilgrim Monument	x									16
✓	Telegraph Hill	✓									17
✓	Long Point	✓									18
✓	Long Point Lighthouse										19
✓	Lobster Plane	✓									20
✓	Wood End	✓									21
✓	Wood End Coast Guard Station										22
✓	Wood End Lighthouse	✓									23
✓	Wood End Bar	✓	(if shown)								24
✓	Herring Cove	✓									25
✓	Hatches Harbor	✓									26
✓	Race Point	✓									27
✓	Race Point Lighthouse	x									28

GEOGRAPHIC NAMES

Survey No. T-5731

GEOGRAPHIC NAMES											
Survey No. T-5731											
2	Name on Survey	A	B	C	D	E	F	G	H	K	
✓	Provincetown Airport	?									1
✓	Race Point Coast Guard Station										2
✓	Great Pond	✓									3
✓	Pasture Pond	✓									4
✓	Clapps Round Pond	✓									5
✓	Clapps Pond	✓									6
✓	Snake Hills										7
✓	Shank Painter Pond	✓									8
✓	Shank Painter Bar	✓ (if shown)									9
✓	Webber Pond	✓									10
✓	Foster Pond	✓									11
✓	Grassy Pond	✓									12
✓	Oak Head	X									13
✓	Peaked Hill Bar	✓ (if shown)									14
✓	Peaked Hill Bar Coast Guard Station (inactive)										15
											16
✓	Cape Cod Cold Storage Wharf		✓								17
✓	Colonial Cold Storage Wharf		✓								18
✓	Monument Wharf	✓									19
✓	Town Wharf	✓									20
✓	Higgins Wharf	✓									21
✓	Dan Frank's Wharf	✓									22
✓	Provincetown Cold Storage Wharf	✓									23
											24
											25
											26
											27

Names underlined in red approved

by L. Hecht on 10/16/45

M 234

Names underlined in red approved

by L. Heck on 10/16/45

Division of Photogrammetry
Review of Planimetric Map T-5731

Radial Plot:

Adequate.

Field Inspection and Compilation:

Seventeen Massachusetts Geodetic Survey traverse stations have been plotted on the manuscript during the review. In addition, a number of minor changes in interior details have been necessary during the review.

Mean High Water Line:

Refer to page 8 of the descriptive report. As received from the photogrammetric office the mean high water line had been compiled from the 1943 field photographs, with the exception of a few places where the compiler had followed the 1941 field inspection recorded on the 1938 photographs. These places have been changed to agree with the 1943 photographs and the high water line is now as of the date of these photographs, April 13, 1943. Since these 1943 photographs were taken after the date of field inspection, the high water line has been interpreted without benefit of field inspection notes, and, therefore, is somewhat approximate. However, it is all of the same date and approximately correct as of that date, that is, April 1943.

Comparison with Previous Surveys:

T-5731 supersedes the following ^{of} order surveys over the common area:

T-616, 1:10,000, 1848-57. Hatches Harbor has now filled in almost completely with sand and marsh. The inlet just south of Herring Cove no longer exists. House Point Island, north of Wood End, is no longer in existence. East Harbor is now land bound and is known as Pilgrim Lake.

T-616a & b, 1:10,000, 1909. In the area at the west end of Pilgrim Lake the shoreline has advanced up to 150 meters on T-5731.

T-645, 1:10,560, 1833-35. Special survey by U. S. Engineers. Similar to T-616.

T-1982, 1:10,000, 1889. See comparison under T-616a & b.

H-2019, 1:10,000, 1890. Hydrographic survey with some topography. Only small differences.

T-6033, 1:20,000, 1933. Hatches Harbor has now filled in with marsh and sand. Area east of Wood End Bar has filled with sand and marsh. Detail along Provincetown waterfront is more complete on T-5731.

Comparison with Nautical Charts:

T-5731 was applied to Chart 580 in September 1944 prior to this review. Since changes in high water line have been made during the review, this sheet should again be compared with Chart 580 when that chart is taken up for correction.

Comparison with Provincetown Quadrangle, 1:31,680, 1941:

In general there is very good agreement. T-5731 shows somewhat larger marsh areas in Hatches Harbor and the details of high water line are different.

Reviewed by H. E. Rees under the direction of Ralph M. Berry - February 1945.

Review report prepared by B. G. Jones from reviewer's notes - December 1946.

APPROVED BY:

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