**Type of Survey**  Shoreline

**Field No.** Ph-114  **Office No.** T-11146

**LOCALITY**

**State.** New Hampshire

**General locality.** Portsmouth

**Locality.** Sagamore Creek to Great Bay

**DATE** November 14, 1958
PRELIMINARY
DATA RECORD

T - 11146

Project No. (II): Rh-114(53) Quadrangle Name (IV):

Field Office (II): Chief of Party:

Photogrammetric Office (III): Tampa, Florida Officer-in-Charge: J. E. Waugh

Instructions dated (II) (III):

Copy filed in Division of Photogrammetry (IV)

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:10,000 Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III):

None

Date received in Washington Office (IV): Date reported to Nautical Chart Branch (IV):

MAR 25 1952

Applied to Chart No. Date: Date registered (IV): 5/5/55

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N. A. 1927 Vertical Datum (III): M.H.W.

Reference Station (III): GREENLAND ORTHODOX CH TALL SPIRE, 1850, 1908.

Lat.: 49° 02' 11.932 (368.2 m), Long.: 70° 50' 01.922 (43.5 m.) Adjusted

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.
Field Inspection by (II):  NONE

Planetable contouring by (II):  

Completion Surveys by (II):  

Mean High Water Location (III) (State date and method of location):
   Air Photo Compilation
   (Office inspection only)
   2 July 1952

Projection and Grids ruled by (IV):  S. Rose (W.O.)
Date:  15 Feb. 1953

Projection and Grids checked by (IV):  H. D. Wolfe (W.O.)
Date:  17 Feb. 1953

Control plotted by (III):  R. E. Smith
Date:  3 Mar. 1953

Control checked by (III):  R. R. Wagner
Date:  3 Mar. 1953

Radial Plot and Stereoscopic

Stereoscopic Instrument compilation (III):  M. M. Slavney
   Pliametry
   Inapplicable
   Contours
   Date:  16 Mar. 1953

Manuscript delineated by (III):  R. Dossett
Date:  20 Mar. 1953

Photogrammetric Office Review by (III):  J. A. Giles
Date:  23 Mar. 1953

Elevations on Manuscript
checked by (II) (III):  None

Date:
PHOTOGRAPHS (III)

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Time</th>
<th>Scale</th>
<th>Stage of Tide</th>
</tr>
</thead>
<tbody>
<tr>
<td>DQW-10X-10</td>
<td>2 July 1952</td>
<td>11:15</td>
<td>1:10,000</td>
<td>2.35</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>12</td>
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<td>9X-136</td>
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<td>10:40</td>
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<td>137</td>
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<td>138</td>
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<tr>
<td>169</td>
<td></td>
<td>10:50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>170</td>
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<td>187</td>
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<td>11:00</td>
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</tr>
<tr>
<td>188</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Tide (III)

FROM PREDICTED TIDES

Reference Station: PORTLAND
Subordinate Station: DOVER PT

Washington Office Review by (IV):
Final Drafting by (IV):
Drafting verified for reproduction by (IV):
Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III):
Shoreline (More than 200 meters to opposite shore) (III):
Shoreline (Less than 200 meters to opposite shore) (III):
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II):
Number of BMs searched for (II):
Number of Recoverable Photo Stations established (III):
Number of Temporary Photo Hydro Stations established (III):

Remarks:

Form T-Page 4
Field instructions were issued for Ph. II-4 on 13 March 1933 to provide standard shoreline control for insuring hydrographic survey and to complied with the proposed federal work. The hydrographic work was accomplished by the Bureau of the Interior without benefit of field inspection. The work was revised to conform to the standard shoreline control for the harbor. A comprehensive report will be submitted to the proper authorities for publication in the Bureau archives.
PHOTOGRAMMETRIC PLOT REPORT.

21. AREA COVERED.

This photogrammetric plot was for Section A of RH-114 (53), comprising maps T-11139 to T-11147 inclusive. The maps cover the inland navigable waters in the area of Portsmouth, Newmarket and Dover, New Hampshire.

The sketch on Page 9 of this report shows the layout of maps, the identified control, photograph centers, index of control, adjoining map T-11148 of Section B, and 14 points common to the 1943 compilation and this plot.

22. METHOD.

Radial Plot:

Map Manuscripts: — The map projections are on acetate at 1:10,000 scale with the polyconic projection in black, the New Hampshire Grid and the Maine West Mercator Grid in blue and red. The map manuscripts are 3\(^{1}\)\(\text{\prime}\)5\(^{\circ}\) in latitude and 7\(^{\circ}\)30\(^{\prime}\) in longitude.

The base grids were vinylite with the 5,000 foot interval at 1:10,000 scale. The New Hampshire State Grid was on all the manuscripts so control was transferred to the grids by matching grid values and adjusting the scale differences.

Photographs: — The photographs were single-lens taken in July 1952 at 1:20,000 scale by Mark Hurd Mapping Company for the Production and Marketing Administration of the Department of Agriculture and enlarged to approximately 1:10,000 scale.

Templets: — Vinylite templets were made from the photographs using the distortion templet furnished by the Washington Office for photographs printed with the Saltzman projector.

Closure and adjustment to control: — All the control that could be transferred from the 1943 field prints was identified on the 1952 photographs; and fourteen points were selected from the 1:20,000 manuscripts, as suggested in Paragraph 5 of the Instructions, dated 20 February 1953; reference 73-a1. These points are indicated on the sketch by letters A to O and are discussed under Item 24.
A preliminary radial plot disclosed a control discrepancy in T-11111. The templet DQW-9k-179, the first laid in the area, was fixed plus a check station and would not hold all the control. After several trial laydowns it was decided that DOVER, PACIFIC MILLS RED BRICK STACK, 1943 (No. 1 on sketch) was in error. This is discussed further under Item 23.

On the final radial plot, fixed templets were laid as follows:

DQW-10k-12, 13, 14, 15, 22, 23, 24 and 25; then
DQW-9k-123, 124, 176, 179, 184, 186 and 189

No more trouble was encountered with control but discrepancies were noted in eleven (11) of the fourteen (14) points identified and scaled from the 1943 compilations. These discrepancies on fixed templets revealed that the points (A to O on sketch) could not be held to supplement the control. (See Item 24 for discussion). The plot was continued and bridged across progressively weaker areas.

The area along the junction of T-11112 and T-11113 required the most adjustment. The interruption of azimuths on the photographs centered in the water made the plot more difficult and probably this is the weakest part of the work.

The photogrammetric points were transferred from the plot to the various manuscripts by adjusting to similar coordinate values.

23. ADEQUACY OF CONTROL.

All the control that could be transferred from the 1943 nine-lens photographs to the 1952 photograph was used excepting a few stations in the Portsmouth area where a plethora of control was identified. Two stations, TANK WINDMILL, 1908 (No. 9 on sketch) on T-11114, and NEWMARKET NAKEM CHAPEL CO. STACK, 1943 (No. 14 on sketch) on T-11112, could not be found on the 1952 photographs. The latter station was not needed because NEWMARKET INDUSTRIAL ASSOCIATION TANK, 1943 (No. 13 on sketch) was used, but TANK WINDMILL, 1908 would have helped. One station, YELLOW CUPOLA HORIZONTAL STRIPES, 1943 (No. 11 on sketch) on T-11111 was "not recovered" in 1943 but a cupola on a building in the area was identified and tried on the plot where it held.
Control station DOVER PACIFIC MILLS RED BRICK STACK, 1943 (No. 1 on sketch) on T-11139, fell on one photograph DWM-9k-179. This photograph was rigidly fixed plus a check station. After repeated trial laydowns bridging to other control it was decided that the "STACK" was at fault. It is noted that the 1943 identification card for this station was originally labeled "DOVER LARGEST SMOKE CHIMNEY" then changed with a new sketch made in the compilation office. Both stations are "No Check" intersection stations. No photogrammetric position was possible for DOVER PACIFIC MILLS RED BRICK STACK but the one cut from DWM-9k-179 fell 0.8 mm (8 meters) northeast of the plotted position. As an additional check an attempt was made to identify DOVER, FIRST PARISH CONGREGATIONAL CHURCH SPIRE, 1943 (No. 2 on sketch) but it fell on the edge of DWM-9k-179 and could not positively transferred.

The adequacy of control for this plot is in doubt and is the subject of Item 26, ACCURACY AND RECOMMENDATIONS. (See paragraph 6, Instructions, dated 20 February 1953; reference 73-eal).

It is noted that some control plotted on the Ph-1114(53) manuscripts was listed "Not recovered" in 1943 although they appear on the 1943 manuscripts. They are:

\[ \begin{align*}
T-11141 & = OYSTER RIVER FLAG STAFF, 1908 \quad (\text{base recovered}) \\
T-11142 & = MARSH, 1908 \\
T-11143 & = POINT, 1908; TANK WINDMILL, 1908; BOILING ROCK, 1900; OLD WHARF WEST CORNER SPIRE, 1900; and SOUTH CHY. HOUSE OFF KITTY - JUNCTION R.R. STATION, 1900
\end{align*} \]

24. SUPPLEMENTAL DATA.

Fourteen (14) points, A to O on the sketch, common to the 1952 photographs and the 1943 compilations, were scaled off the 1943 manuscripts and plotted on the base grid for this plot. The 1943 office photographs were not available and only one pass point on the 1:20,000 manuscripts could be positively identified in the areas desired on the 1952 photographs; the other points are details on the 1943 manuscripts that could be identified on the 1952 photographs. Three of these points were held:
"M" on sketch is YELLOW CUPOLA HORIZONTAL STRIPES, 1908, discussed in Item 22.

"E" and "M" on sketch, which fell on one photograph each and whose cuts held.

The points A to O are described and the position differences with the 1943 1:20,000 compilation are as follows:

<table>
<thead>
<tr>
<th>POINT</th>
<th>MAP</th>
<th>DESCRIPTION</th>
<th>DISTANCE &amp; DIRECTION OF THE PH-114(53) POSITION FROM THE 1943 POSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>T-11140</td>
<td>NE corner of large building</td>
<td>0.7 mm (7 meters) E</td>
</tr>
<tr>
<td>B</td>
<td>T-11140</td>
<td>NE corner of large building</td>
<td>OK</td>
</tr>
<tr>
<td>C</td>
<td>T-11142</td>
<td>Intersection of roads</td>
<td>1.3 mm (13 meters) S</td>
</tr>
<tr>
<td>D</td>
<td>T-11145</td>
<td>Intersection of centerline of bridge and fender</td>
<td>1.8 mm (18 meters) E</td>
</tr>
<tr>
<td>E</td>
<td>T-11146</td>
<td>Intersection of road and R.R.</td>
<td>0.6 mm (6 meters) SW</td>
</tr>
<tr>
<td>F</td>
<td>T-11146</td>
<td>Intersection of roads</td>
<td>0.7 mm (7 meters) ESE</td>
</tr>
<tr>
<td>G</td>
<td>T-11143</td>
<td>E gable of large building</td>
<td>0.8 mm (8 meters) E</td>
</tr>
<tr>
<td>H</td>
<td>T-11143</td>
<td>E gable of large building</td>
<td>2.2 mm (22 meters) SW</td>
</tr>
<tr>
<td>J</td>
<td>T-11141</td>
<td>Cupola on building</td>
<td>OK (See Item 22)</td>
</tr>
<tr>
<td>K</td>
<td>T-11141</td>
<td>Intersection of road and R.R.</td>
<td>0.8 mm (8 meters) S</td>
</tr>
<tr>
<td>L</td>
<td>T-11141</td>
<td>N end of bridge fender</td>
<td>0.8 mm (8 meters) SE</td>
</tr>
<tr>
<td>M</td>
<td>T-11141</td>
<td>Intersection of roads and</td>
<td>OK (one cut)</td>
</tr>
<tr>
<td>N</td>
<td>T-11144</td>
<td>Intersection of R.R. overpass</td>
<td>1.0 mm (10 meters) ESE</td>
</tr>
<tr>
<td>O</td>
<td>T-11144</td>
<td>Center of bridge</td>
<td>0.9 mm (9 meters) SE</td>
</tr>
</tbody>
</table>

The 1952 photogrammetric position of these points are on the PH-114 manuscripts as pass points.
25. PHOTOGRAPHY.

The instructions for this project, dated 2/20/53, included T-11139, T-11140, T-11141, and T-11144 for compilation as part of Section A, but photographic coverage was marginal in T-11140, T-11141, and T-11144, and inadequate in T-11139. — see Supplement (p. 1)

The forward lap was approximately 60% and the side-lap varied from 20% to 45%.

The prints, enlargements on posotype paper using the distortion plate in the printer, were of good contrast and definition. Some tilt was noticed but not enough to merit special attention.

26. ACCURACY AND RECOMMENDATIONS.

The accuracy of this photogrammetric plot is in doubt because the scarcity of control was aggravated by the interruption of azimuths when several photograph centers fell in the water. (See sketch on page 7). Also the differences in 1943 compilation positions and the 1953 photogrammetric plot positions for the points tabulated in Item 24 must be considered in evaluating the accuracy of this plot notwithstanding the lack of any reports on the 1943 work. However, by all criteria the plot seemed very good. Furthermore, the intersections when cutting in detail points and the photo-hydro signals were checked and all were considered to be very good.

It is therefore recommended that the accuracy of this photogrammetric plot be checked by locating stations or substitute stations in the vicinity of the red circles shown on the sketch; that the points be cut in on the map manuscripts and then the field positions be plotted. If the radial plot positions of these points meet the required accuracy it is believed that the remainder of the plot is satisfactory, if not, the new control may be used in a new radial plot.

It is noted that of the proposed check points, "Circles 1, 2, 3 and 5 are in the area of triangulation stations shown on the 1943, and Ph-114 manuscript, although the control identification card of 1943 on 1, 3 and 5 lists them "Not recovered".

Circle 1 - OYSTER RIVER FLAG STAFF, 1908

Circle 2 - TANK WINDMILL, 1908, identified on the 1943 photographs, could not be identified on the 1952 photographs, perhaps a substitute station from the footings of the old windmill, preferably about 400 meters east of the station.
Circle 3 = MARSH, 1908
Circle 5 = POINT, 1908

27. GENERAL.

A final check was made to insure proper transfer of all pass points, control and photograph centers to the material limits of all map manuscripts. "Dog-ears" for the photograph centers needed for compilation were added to complete the preparation of the map manuscripts.

Dates of completion of the radial plot are as follows:

T-11140 and T-11141 = = 11 March 1953  
T-11143 = = 12 March 1953  
T-11142 and T-11144 = = 13 March 1953  
T-11145 and T-11146 = = 16 March 1953  
T-11147 = = 18 March 1953

Respectfully submitted

Milton M. Slavney
Cartographer,
Tampa Photogrammetric Office

APPROVED AND FORWARDED

J. E. Waugh, Chief of Party
SUPPLEMENT TO PHOTOGRAMMETRIC PLOT REPORT.

The 1953 Photogrammetric Plot for T-11139, using the four single-lens contact prints 51-J-5979 through 51-J-5982 flown in 1951, was not considered tight enough for final hydrographic control because the photographic coverage was inadequate. A preliminary radial plot by the field party was extended by planetable survey E. C. F. P. Ab 53 to provide hydrographic control up the Salmon Falls River.

Attempts to reconcile the shoreline of the planetable sheet with the office compilation of T-11139 and planetable positions of some hydrographic signals with photogrammetric positions failed.

When notice of the impending visit of Mr. B. G. Jones, Technical Assistant to Chief, Photogrammetry Division, was received, it was decided to wait until this could be discussed with him.

A new photogrammetric plot with adequate photographic coverage for T-11139 of Section A, Ph-114(53) was authorized in discussion with Mr. B. G. Jones and correspondence with Chief, Photogrammetry Division. See copy of letter which is included with this report.

The sketch on page 9 of this report shows the 1951 and the 1954 photographs, and the control used on the photogrammetric plot for T-11139.

The new photographs are single-lens taken on 29 April 1954 at approximately 1:20,000 scale with the Wild Camera. The prints are 2-diameter enlargements on acetate impregnated paper.

Vinylite templets were made from the prints. No provision was made for distortion correction.

Control and pass points used on the 1953 plot for T-11139 and T-11141 were transferred to the photographs used on this plot. Two triangulation stations, SOUTH BERMICK LARGE BLACK TANK, 1906, and SOUTH BERMICK ACADEMY LARGE STONE CUPOLA, 1908, were transferred from the 1943 field photographs to control the north end of the north-south flight.

The plot was run on the manuscripts by laying the two flights simultaneously. The north-south flight was started with photograph 54-W-1364 and ended with 54-W-1369. The east-west flight was started with fixed photograph 54-W-1372 and tied into the north-south flight with 54-W-1373.

All the control was held. PACIFIC MILLS RED BRICK STACK, 1943, which fall on the edge of one photograph on the 1953 plot and which was
10 March 1954

To: Officer-in-Charge
U. S. Coast and Geodetic Survey
Tampa Photogrammetric Office
P. O. Box 1689
Tampa, Florida

Subject: Additional photographs for map T-11139,
Project Ph-1114

Reference: Your discussions with Mr. B. G. Jones at Tampa

We find no available photography in T-11139 in addition to that already furnished you. However, we are going to schedule a short single-lens flight in this area to strengthen your plot of the shoreline. These photographs should be available about 1 May 1954.

Manuscript T-11139 should be held at Tampa for use of the new photography unless the Norfolk Office has some urgent need for the shoreline that will not permit waiting until May. Please inform me if you have any questions about this.

/s/ O. S. Reading

O. S. Reading
Chief, Div. of Photogrammetry
P. O. Box 592, Newburyport, Mass.

7 October 1953

To: The Director
   U. S. Coast and Geodetic Survey
   Washington 25, D. C.

Subject: Project Ph-114 (Area A)

Reference: Letter dated 30 April 1953 = 711-sal

Enclosed is a letter transmitting the manuscripts and photographs covering Area A of Project Ph-114; and the Form 2226-12 and computations of the various check points required by the reference letter.

A short commentary on each of the points located for test purposes follows:

TEST POINT NO. 1 — This point was located as a sub point for station "OTTER RIVER FLAGSTAFF 1908". This station was reported destroyed in 1943 but an investigation showed that the base of the pole was still in position even though the staff had been cut down. Consequently, this remnant of the station was used to locate a sub point which, when radially plotted, checked the computed position within 3 meters.

TEST POINT NO. 2 — This point was located, as requested by the Tampa Office, in the sidleap areas of Photos 139-9K-179 and 180. The traverse was run from station "TANK WINDMILL 1908". As the station, an intersected object, could not be occupied, and since no azimuth was visible from the ground, the traverse was based on a Polaris Observation taken between Points 1 and 2 of the traverse. The azimuth was then carried back to the first line, reversed by adding 180 degrees, and the traverse computed by Geographic Positions. The radial plot position of the sub point checked the computed position within 6 meters. The computation of this traverse has not been checked in the field and should be checked before the result is considered final. This was taken up with Capt. Reading on his visit here and it is with his permission that the traverse is submitted without having been checked.

TEST POINT NO. 3 — In order to locate Test Points 3, 4, and 5, single triangles were observed to establish marked stations, which were then used to establish positions for sub points. In this particular area, a marked triangulation station (WATSON 1953) was established, and the sub point was located by laying out a base at the station and observing on the sub point from both ends of the base. The computed position of the sub point checked the radial position almost exactly.
TEST POINT NO. 4 - A marked topographic station, WALK 1953, was established as a no check position from the two marked triangulation stations mentioned above, and the test point was computed as a sub point for this station. The computed position checked the radial plot position within 5 meters.

TEST POINT NO. 5 - This test point was established as a sub point for triangulation station "POINT 2 1953" which was located by single triangle. The sub point is also a pass point on the manuscript, and the computed position checked the plotted position with 4 meters.

The various stations numbered and required for identification on the diagram on Page 6 of Reference 3 of the reference letter, were identified with the exception of No. 14 which was found to have been destroyed.

Form 2226-12 for the following numbered stations were sent to Tampa for the compilation of sheet 11147 and should be secured from that office.

NO. 37 - STARK 145 1941
NO. 39 - FROST POINT 144 1941
NO. 40 - ODETTE POINT 143 1941
NO. 41 - FULFIT ROCK 142 1941
NO. 44 - RYE LEDGE 139 1941

A complete list of the recovery, identification and establishment of the stations in this area is enclosed with the field data.

Computations of Geographic Positions for the two permanently marked triangulation stations will be forwarded to the Division of Photogrammetry for submission to the Division of Geodesy.

With regard to sentence 2 of paragraph 3 of the reference letter, numerous sub points were selected during the field work in sheets 11147 and 11148, and should satisfy the stipulation for identified control in sheet 11168.

* * * * *

Respectfully submitted,

John O. Lejoye
Cartographer, USGS

An error in the traverse computation for Test Point No. 2 moved the geographic position to within about two meters of the radial plot position.
not held at that time, was held on this plot when the transfer was corrected.

It is noted that the triangulation symbol for Elliot Greenhouse #8 Stack, 1943, on the 1943 1:20,000 compilation T-8527, is shown around a "prick-hole" that is 73 meters 31°10' in azimuth from a "prick-hole" that is the true position of the STACK. Examination revealed that the published quadrangle DOVER EAST N.H., ME. shows the station symbol with the same error. This station falls on T-11111 of this project.

The photographs are sharp and of excellent contrast. Some tilt was observed but none severe enough to justify computation.

Agreement between the 1953 photogrammetric plot and this one varied from 0.0 mm in the western portion to 1.2 mm (12 meters) at the eastern limits of the 1953 plot.

It is believed that this plot meets the accuracy requirements.

There follows a comparison of the radial plot positions and the field positions for the five check points called for in Item 26 of the Photogrammetric Plot Report for Section A of Ph-1114(53). Reference letter dated 10/7/53 to the Director from Mr. J. C. Lajoie (copy attached).

<table>
<thead>
<tr>
<th>POINT</th>
<th>DISTANCE AND DIRECTION OF FIELD POSITION FROM PHOTOGRAMMETRIC POSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Point No. 1</td>
<td>7.114'y 3 meters south</td>
</tr>
<tr>
<td>Test Point No. 2</td>
<td>7.113'v 2 meters north</td>
</tr>
<tr>
<td>Test Point No. 3</td>
<td>7.114'v 0.0</td>
</tr>
<tr>
<td>Test Point No. 4</td>
<td>7.114'v 5 meters southeast</td>
</tr>
<tr>
<td>Test Point No. 5</td>
<td>7.114'y 4 meters west</td>
</tr>
</tbody>
</table>

Respectfully submitted,

Milton M. Slavney
Cartographer
Tampa Photogrammetric Office

APPROVED AND FORWARDED:

Ira R. Rubottom, Chief of Party
<table>
<thead>
<tr>
<th>STATION</th>
<th>SOURCE OF INFORMATION</th>
<th>DATUM</th>
<th>LATITUDE OR Y-COORDINATE</th>
<th>LONGITUDE OR X-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS</th>
<th>DATUM CORRECTION</th>
<th>N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
<th>FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RYE ORTHODOX CHURCH, TALL SPIRE, 1850</td>
<td>G.P's, Pge. 49</td>
<td>N.A. 1927</td>
<td>43 00</td>
<td>70 46</td>
<td>39.755</td>
<td>1226.8 (624.7)</td>
<td>556.0 (802.6)</td>
<td></td>
</tr>
<tr>
<td>GREENLAND ORTHODOX CHURCH, TALL SPIRE, 1880-1904</td>
<td>Pge 49</td>
<td></td>
<td>43 02</td>
<td>70 50</td>
<td>11.932</td>
<td>368.2 (1433.3)</td>
<td>43.5 (1311.8)</td>
<td></td>
</tr>
<tr>
<td>WHAE RADIO TOWER, 1941</td>
<td>Pge 393</td>
<td></td>
<td>43 03</td>
<td>70 46</td>
<td>02.532</td>
<td>78.1 (1771.1)</td>
<td>215.1 (1142.5)</td>
<td></td>
</tr>
</tbody>
</table>

1 FT. = .3048006 METER

PRELIMINARY

COMPILATION REPORT T-11146

PHOTOGRAMMETRIC PLOT REPORT.

This report will be submitted with this report at a later date.

31. DELINEATION.

The graphic method was used.

The photographs were of reasonably good scale. All detail points have been established by the intersection of three or more radial lines.

32. CONTROL.

Sufficient pass points were adequately located by the radial plot to accurately control each photograph.

33. and 34.

Inapplicable.

35. SHORELINE AND ALONGSHORE DETAILS.

The high-water line was located by stereoscopic study of the photographs and delineated accordingly.

The limits of alongshore areas, outside of the H. W. L., which may be shallow, shoal, grass-in-water, marsh, grass-and-mud or mud have been delineated approximately by a black dashed line. It is requested that these areas be investigated and properly classified.

All piers apparent on the photographs have been delineated.

36. OFFSHORE DETAILS.

None noted.
37. **LANDMARKS AND AIDS.**

These are to be located by the hydrographer.

38. **CONTROL FOR FUTURE SURVEYS.**

Recoverable topographic stations, Forms 524, located on T-8531 were examined; however, since none appeared to be usable as photo-hydro stations and since the field photographs on which these stations were identified in 1943 were not available no attempt was made to locate them on this survey.

Eleven (11) temporary photo-hydro stations are shown. These have been listed under Item 49.

39. **JUNCTIONS.**

Satisfactory junction has been made with T-11143 on the north and T-11145 on the west. T-11148 on the south has not been compiled. No shoreline details extend to the neat line to make junction with T-11147 on the east; however, in the northeast corner detail has been shown twenty seconds inside T-11168, scale 1:5,000, which will be compiled by the Washington Office.

40. **HORIZONTAL AND VERTICAL ACCURACY.**

Reference Photogrammetric Plot Report relative to horizontal accuracy.
46. **COMPARISON WITH EXISTING MAPS.**

Comparison was made with USGS Quadrangle T-8521 ( ).
No outstanding shoreline differences were noted.

47. **COMPARISON WITH NAUTICAL CHARTS.**

Comparison was made with USGS Nautical Chart 229, scale 1:30,000, published November 1914 and corrected to 26 January 1953. No outstanding discrepancies of shoreline were noted.

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

None.

**ITEMS TO BE CARRIED FORWARD.**

None.

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**Rudolph Dossett**,
Cartographic Photogrammetric Aid

APPROVED AND FORWARDED:

**J. E. Waugh**, Chief of Party
48. GEOGRAPHIC NAME LIST.

Only base map names have been shown. They were taken from USCG Nautical Chart No. 229.
49. **NOTES FOR THE HYDROGRAPHER.**

A number of temporary photo-hydro stations were selected in the Tampa Office for use by the hydrographer. The stations selected and pricked on the photographs consist principally of lone trees, bushes, gables of houses, tanks, chimneys, transmission towers, piers and the like. An effort was made to select stations about one-quarter of a mile apart; however, it was impossible in certain areas to prick any object whatsoever which could be positively recovered in the field. In small coves and inlets, wherever possible, photo-hydro stations were pricked at closer intervals in order that a fix might be obtained readily.

The number and description of each temporary photo-hydro station follows:

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>126</td>
<td>Lone tree in open area.</td>
</tr>
<tr>
<td>127</td>
<td>The most southerly bush of three in row, about 5 m. inshore.</td>
</tr>
<tr>
<td>128</td>
<td>Large lone tree in open area, about 55 m. inshore.</td>
</tr>
<tr>
<td>129</td>
<td>Lone tree in open area, about 10 m. west of bend in small stream.</td>
</tr>
<tr>
<td>130</td>
<td>Lone bush at east edge of open area.</td>
</tr>
<tr>
<td>131</td>
<td>Most northerly tree on point of land, at waters edge.</td>
</tr>
<tr>
<td>132</td>
<td>Lone bush, the most southerly of three, about 5 m. inshore.</td>
</tr>
<tr>
<td>133</td>
<td>Northeast corner of pier.</td>
</tr>
<tr>
<td>077</td>
<td>Center of roof, at north end of house.</td>
</tr>
<tr>
<td>078</td>
<td>Northeast corner of pier.</td>
</tr>
<tr>
<td>083</td>
<td>The most southerly tree in line of trees, along shore.</td>
</tr>
</tbody>
</table>

**Distances from estimated prior to addition of fringing marsh.**
PHOTOGRAMMETRIC OFFICE REVIEW
T. 11146


CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy M.M.S.  6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) J.G.  7. Photo hydro stations J.G.  8. Bench marks XX

ALONGSHORE AREAS
(Nautical Chart Data)


PHYSICAL FEATURES


CULTURAL FEATURES


BOUNDARIES

31. Boundary lines XX  32. Public land lines XX

MISCELLANEOUS


40. Jesse A. Miles
Reviewer

William A. Rasure
Supervisor, Review Section or Unit

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

Supervisor

43. Remarks:
DATA RECORD

T-11146
(Reference Preliminary Report for data not listed)

Project No. (II): Quadrangle Name (IV):

Field Office (II): NEWBURYPORT, MASSACHUSETTS
Photogrammetric Office (III): TAMPA, FLORIDA

Chief of Party: E. H. Kirsch
Officer-in-Charge: Ira R. Rubottom

Instructions dated (II) (III): Reference Preliminary Report
Supplement 1 - 26 March 1953
n 2 - 30 April 1953
n 3 - 6 May 1953
n 4 - 26 May 1953
n 5 - 25 June 1953

Method of Compilation (III):

Manuscript Scale (III): Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III):

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): Vertical Datum (III):
Mean sea level except as follows:
Elevations shown as (2) refer to mean high water
Elevations shown as (3) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III):

Lat.: Long.: Adjusted Unadjusted

Adjusted

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.
Areas contoured by various personnel
(Show name within area)
(II) (III)
DATA RECORD
(Reference Preliminary Report for data not listed)

Field Inspection by (II):

Date:

Planetary contouring by (II):

Date:

Completion Surveys by (II):

Date:

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

Projection and Grids ruled by (IV):

Date:

Projection and Grids checked by (IV):

Date:

Control plotted by (III):

Date:

Control checked by (III):

Date:

Radial Plot or Stereoscopic
Control extension by (III):

Date:

Planimetry

Stereoscopic Instrument compilation (III):

Contours

Date:

Manuscript delineated by (III): R. Dossett

Date: 15 March 1954

Photogrammetric Office Review by (III): J. A. Giles

Date: 19 March 1954

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

Date:
Reference Preliminary Report

Number | Date       | Time | Scale       | Stage of Tide |
--------|------------|------|-------------|---------------|
53-J-300| 22 April 1953 | 928  | 1:10,000    | 3.8           |
53-J-301|             | 929  |             |               |
53-J-302|             | 929  |             |               |

Tide (III)
From Predicted Tides

Reference Station: SAVVY ISLAND

Reference Preliminary Report

Ratio of Ranges | Mean Range | Spring Range
----------------|------------|----------------|
0.9            | 8.2        | 9.4

Date: 12 Dec. 1953

Remarks:
Eight (8) photo-hydro stations were established by the photogrammetric field party
PHOTOGRAVETRIC PLOT REPORT

with this report
Submitted under separate cover.

31. DELINEATION
Reference Item 31 of Preliminary Report.

32. CONTROL
Reference Item 32 of Preliminary Report.

33. SUPPLEMENTAL DATA
Reference Item 33 of Preliminary Report.

34. CONTOURS AND DRAINAGE
Reference Item 34 of Preliminary Report.

35. SHORELINE AND ALONGSHORE DETAILS
Reference Item 35 of Preliminary Report.

Shoreline changes in red were made from information obtained from a member of the hydrographic party which did the work in this area.

The low-water lines, as interpreted from the hydrographic sheet, were applied to the manuscript in red pencil, but no corresponding markings or lines were discernible on the photographs. The compiler inadvertently destroyed these lines while cleaning the surface of the map manuscript.

36. OFFSHORE DETAILS
Reference Item 36 of Preliminary Report.
37. **LANDMARKS AND AIDS.**

Reference Item 37 of Preliminary Report

38. **CONTROL FOR FUTURE SURVEYS**

Reference Item 38 of Preliminary Report.

Eight (8) additional photo-hydro stations were established by the photogrammetric field party and their positions checked in the Tampa Office with no changes noted. They have been listed under Item 49.

One (1) Form 524 is being submitted for a topographic station. It is listed under Item 49.

39. **JUNCTIONS**

Reference Item 39 of Preliminary Report

40. **HORIZONTAL AND VERTICAL ACCURACY**

Reference Item 40 of Preliminary Report

46. **COMPARISON WITH EXISTING MAPS**

Reference Item 46 of Preliminary Report

47. **COMPARISON WITH NAUTICAL CHARTS**

Reference Item 47 of Preliminary Report

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

None
ITEMS TO BE CARRIED FORWARD

None.

Rudolph Dossent
Carto Photo Aid

APPROVED AND forwarded.

William A. Reasons
for Ira R. Rubottom, Chief of Party
48. GEOGRAPHIC NAME LIST

BAYSIDE ROAD
BAYSHORE
BOSTON AND MAINE RAILROAD
BRACKETT BROOK
ELWIN ROAD
GREAT BAY
GREENLAND ROAD
GREENLAND STATION
LAFAYETTE ROAD
NEW HAMPSHIRE
NEWINGTON ROAD
PACKER BROOK
PEVERLY HILL ROAD
PICKERING BROOK
PIERCE POINT
SAGAMORE CREEK
SAGAMORE HILL
SHAW BROOK
SOUTH STREET CEMETERY
USL
WEEKS POINT
WINNICUT RIVER

Names approved
12-12-55. L. Heck
49. NOTES FOR THE HYDROGRAPHER

The following photo-hydro stations were established by the photogrammetric field party:

ROT  Center of rock
YAW  Cupola of white barn
TEE  South gable of white house
TAC  Incinerator stack
SID  End of dock
JUD  NW Gable of house  Sagamore Creek area
- Northeast gable of house
- Gable of red house extension

Reference Item 149 of Preliminary Report for other photo-hydro stations.

Form 524 is submitted for the following topographic station:

WEEK, 1953
PHOTOGRAMMETRIC OFFICE REVIEW


CONTROL STATIONS

ALONGSHORE AREAS
(Nautical Chart Data)

PHYSICAL FEATURES

CULTURAL FEATURES

BOUNDARIES
31. Boundary lines XX 32. Public land lines XX

MISCELLANEOUS

40. Jesse A. Giles
Reviewer

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

Supervisor

43. Remarks:
62. **Comparison with Registered Surveys:**

   T-2905  1:10,000  1908  Great Bay
   T-2375  1:10,000  1898-9, 1901  Portsmouth Harbor

Because of natural and cultural changes, T-11146 supersedes the older surveys for shoreline and planimetry.

63. **Comparison with Maps of Other Agencies:**

   USE Portsmouth Harbor, 1:25,000, 1944 (USGS compilation T-8531, 1944)

   The maps are in general agreement, except that T-11146 has a fringing marsh along much of the shoreline, and, because of the lack of field inspection, there are not so many buildings in the Weeks Point area where trees mask any building that may be there.

   Except for the buildings in the Weeks Point area T-11146 supersedes the quadrangle for charting.

64. **Comparison with Contemporary Hydrographic Surveys:**

   H-8092 (ECFP 1553)  1:10,000, 1953  Maine-N.H. bridge to Dover Pt.
   (Piscataqua River)
   H-8093 (ECFP 1653)  1:10,000, 1953  Squamscott River, Lamprey River, Great Bay

   T-11146 shoreline is the same as that on the hydrographic surveys.

65. **Comparison with Nautical Charts:**

   229  1:30,000,  Nov. 1914, corr. Jan. 1953

   Except for contours and the low bluff symbol in fast land areas,
   T-11146 supersedes the chart in their common area.

66. **Accuracy:**

   Interior delineation (except as noted in 63, Paragraph 2), meets
   the national standards of accuracy. Shoreline is delineated as accurately
   as office interpretation permits. It was plotted as well as
   reviewed by:

   Reviewed by: Lena T. Stevens

   Infra-red photography taken at
   the proper tide would reveal the
   shoreline more for all. It is suggested when
   (rev)
A plan is available this area in photographs with ultraviolet.

Leam
Chief, Review Section
Photogrammetry Division

14 Nov 1958

Chief, Photogrammetry Division

May E. Koback
Chief, Nautical Chart Branch
Charts Division

Chief, Coastal Surveys Division