

8077

Diag'd. on Diag. Cht. No. 78-3

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Air Photographic (Shoreline)

Field No. CS-283 Office No. T-8077

LOCALITY

State Virginia

General locality James River

Locality Crouch Creek - Grays Creek

1941-'42

CHIEF OF PARTY

E.B. Lewey

LIBRARY & ARCHIVES

DATE July 13, 1949

B-1870-1 (1)

8077

PART I

Form T-1

DATA RECORD

T- 8077

Quadrangle (II):

Surry, Va. (15') (U.S.G.S.)

Project No. (II):

CS-283

Field Office:

Air Photographic Party No. 2
Baltimore, Maryland

Chief of Party:

Fred. L. Peacock

L. W. Swanson

Compilation Office:

Air Photographic Party No. 2
Baltimore, Maryland

Chief of Party:

Fred. L. Peacock Div. H. Photogrammetry
Copy filed in Descriptive
Report No. T- (VI) Office Files

Instructions dated (II III):

March 26, 1942

Supplemental Instructions dated:

July 15, 1942, Sept. 30, 1942, Nov. 14, 1942

Completed survey received in office: 5 - 26 - 44

Reported to Nautical Chart Section:

Reviewed: 9-9-48

Applied to chart No.

Date:

Redrafting Completed:

Registered: 6/22/49

Published:

Compilation Scale: 1:10,000

Published Scale:

Scale Factor (III): none

Geographic Datum (III): North American 1927

Datum Plane (III): M H W
~~Mean Sea Level~~

Reference Station (III): JONES, ECC., 1932, 1938, r.1942

Lat.: 37° 10' 07.959" 245.4m Long.: 76° 45' 51.887" 1280.1m Adjusted
~~Unadjusted~~

State Plane Coordinates (VI): Virginia - South Zone

X = 2, 505, 683.89

Y = 308, 853.00

Military Grid Zone (VI)

- 2 -

<u>Number</u>	<u>Date</u>	<u>Time</u>	<u>Scale</u>	<u>Stage of Tide</u>
7669	11/25/41	2:04p.m.	1:10,000	1.0' above M. L. W.
73 to 7675Inc.	11/25/41	2:04p.m.	1:10,000	1.0' above M. L. W.
77 to 7700Inc.	11/26/41	10:00a.m.	1:10,000	0.7' above M. L. W.
7841	11/26/41	1:04p.m.	1:10,000	0.2' above M. L. W.

Projection and Grids ruled by (III)	J. O'Neill	date:	7/29/43
" " " checked by:	B. R. C.	date:	7/29/43
Control plotted by:	Margaret A. Velich	date:	Aug., 1943
Control checked by:	Donald M. Brant	date:	Aug., 1943
Radial Plot by:	Walter E. Schmidt	date:	Sept., 1943
Detailed by	Abraham L. Goncharsky (Shore line - rough draft)	date:	Nov., 1943
Reviewed in compilation office by:	Michael G. Misulia	date:	Nov., 1943
Elevations on Field Edit Sheet checked by:	None	date:	

PART I

- 3 -

STATISTICS (III)

Land Area (Sq. Statute Miles): $\frac{1}{2}$

Shoreline (More than 200 meters to opposite shore): 4.3 Statute Miles

Shoreline (Less than 200 meters to opposite shore): 14 Statute Miles

Number of Recoverable Topographic Stations established: 4

*Number of Temporary Hydrographic Stations located by radial plot: 27

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: *Refer to Item No. 35 in the Descriptive Report.

DESCRIPTIVE REPORT
OF THE
MAIN RADIAL PLOTS
FOR
THE AREAS OF SURVEYS NOS. T-8075 to T-8079 INCLUSIVE
JAMES RIVER, VA.
PROJECT NO. GS-203

Three combined plots were laid for the areas of Surveys Nos. T-8075 to T-8079, inclusive, by the radial celluloid template method. In addition to these, three individual plots were laid for each of the areas by the radial celluloid template method, and two individual plots were also laid for each of the areas by the radial method without the use of celluloid templates.

The combined area of the five surveys was well covered by photography. However, the flights were not well distributed, and it is believed that a better distribution would have been advantageous because of the difficulties encountered which are to be discussed in detail in the following paragraphs. The photographs, in general, were blurred in the extreme outer portions. A partial blackout of photographic detail at the extreme outer limits of some of the side marks, or wings, was also encountered, generally in those sections where photographic detail was most needed.

The horizontal control in the area of the five surveys consists mainly of triangulation stations established by the Bureau. In addition, there are a number of triangulation stations established by the United States Engineers, and also a number of United States Geological Survey traverse stations. "Field Inspection Points" selected in the field and identified on the photographs by means of their images, were substituted for many of the triangulation stations.

All of the positions of the above mentioned control, including those of the "Field Inspection Points", were plotted on the Map Drawings from geographic coordinates.

A few triangulation stations, although recovered in 1942 by the Field Inspection Party were not used to control the radial plots. The note "Not used" has been shown in conjunction with their names on the Map Drawings. The Field Inspection Party probably found it too difficult to determine their photographic positions satisfactorily and considered that other nearby control which had been definitely identified and the photographic positions of which were satisfactorily determined would be adequate. The names of the stations are as follows:

PROMINENT TREE, 1938, r.1942
BARRETT, 1934, r.1942
NEW PINE, U.S.E., 1938, r.1942
MUSEUM, U. S. E., 1938, r.1942
SCOTLAND, U.S.E., 1938, r.1942
BRAND, 1938, r.1942
SANDY POINT, U.S.E., 1938, r.1942
SLOOP, 1910, 1932, r.1942
SLOOP, U.S.E.D., 1932, r.1942
POTTERY, 1910, r.1942
DANCING PT. U.S.E., 1938, r.1942
JONES, 1869-70, 1910, 1942

The identification of the station marks and intersection stations was adequate. However, it is believed that in a few instances, the "Field Inspection Points" (F.I.P.'s) were erroneously identified, and it so happened that such points were generally in areas where either the number of control stations was insufficient or the pricking of the photographic positions of the triangulation stations was doubtful. Some of the images of the "Field Inspection Points," as selected and identified by the Field Inspection Party, were only definable on one or two photographs. In general, these points were trees along the shore line, stretches of which had a dense growth of vegetation, and it is therefore possible that the pricking of their images on the photographs was very doubtful. Mention was made in the season's Field Inspection Report of 1942 by Lieut. Ernest B. Lewey, for the James River area, about the difficulty encountered because of dense vegetation, in selecting hydrographic signals (trees) along the shore line, and pricking their images on the field photographs. He believed that the images of many of the signals could not be definitely pricked on more than one photograph. Therefore, it was assumed by this compilation office that the same difficulty was encountered in selecting and identifying trees for "Field Inspection Points" along the shore line.

Within the combined area of the five surveys there was an abundance of control. However, it was poorly distributed in so far as its use in laying radial plots from aerial photographs was concerned. Most of the control was established along both shores of the James River. There was an insufficient number of control stations in the interior.

Along the chamber junctions, other than the center chambers, of many of the photographs, either a double exposed or unexposed strip was present. This condition which was due to difficulties encountered with the transforming printer, was a topic of discussion during a visit to this Compilation Office by Commander J. S. Reading in September, 1943. The strips just mentioned formed a very slim triangle, the vertex of which was at the corner junction of the center chambers and side chambers, or wings, and the base of the triangle, which was approximately 0.5 to 0.8mm in length, coincided with the outer edges of the exposed photographs. It is also believed that there was distortion in the photographic paper.

When the first combined plot was laid, no corrections were made for the displacement of radials due to the above mentioned distortions. However, when additional plots were laid, celluloid templates which were traced from the master template (metal) furnished by the Washington Office, were used to correct the displacement of radials due to the distortions.

The following paragraphs contain comments and methods of treatment of triangulation stations and "Field Inspection Points," the photographic positions of which required special investigation while the plots were being laid.

F. I. P. "BOM", patch of grass, (At triangulation station BOMINY, 1938, r.1942).

The image of this "Field Inspection Point" was clearly definable on only one photograph; on others it was questionable. The point selected by the Field Inspection Party was probably the best one available. It was held to within 0.3mm. in the radial plots. Since there were other triangulation stations in the vicinity, the images of which were clearly definable on a sufficient number of photographs, the furnished Field Inspection data could have been conveniently omitted.

F. I. P. "LAND", tree, (At triangulation station DILLARD 2, U.S.E., 1910, 1938, r.1942).

The "Field Inspection Point" could not be held to within 6.0 mm. in the radial plots. It was necessary to disregard the photographic position (image) as pricked by the Field Inspection Party, and another image of a tree, which was thought to be the point, was pricked on the office photographs by this Compilation Office. The new photographic position was held to satisfactorily. However, the image of this newly selected tree was clearly definable on only two photographs; on others it was questionable.

F. I. P. "TIM", cypress on water line (At triangulation station MUD, 1938, r.1942).

The radial plots indicated that the geographic position of this "Field Inspection Point," as computed from the furnished Field Inspection data, was offshore from the water line. This was in disagreement with the notes of the Field Inspection Party. After investigation, it appeared that the angle which was shown on the field sketches as turned from the line MUD-JAMESTOWN MONUMENT in a clockwise direction to F. I. P. "TIM", should have been shown as being turned in a counter-clockwise direction. The geographic position of the point was recomputed, using the same measured distance furnished by the Field Inspection Party from triangulation station "MUD" to the point, the same magnitude of the angle, but with the direction of the angle reversed. The position was replotted and satisfactory results were obtained.

F. I. P. "HIC", tree (At triangulation station NEW CHICK, U.S.E., 1938, r.1942).

The image of the "Field Inspection Point" was clearly definable on only two photographs; on others it was questionable because of blurred photography. It could not be held to within less than 0.5mm. in the radial plots.

ROAD NORTHWEST OF TWO MAIL BOXES, r.1942 (U.S. Geological Traverse Station).

This station was not clearly definable on any of the photographs, and therefore was not used to control the radial plots. The Field Inspection Party recommended caution in the use of this station.

T. T. & W O, 1935, r.1942 (U.S. Geological Primary Traverse Station).

This station was not recommended for use to control the plots. The Field Inspection Party was very doubtful about the photographic position.

MARKLES STONE, CROSSROADS AT, r.1942 (U. S. Geological Traverse Station).

This station could not be held to within less than 0.5mm.in the radial plots. The pricked photographic position on the majority of the photographs was questionable, because of relief displacement of trees surrounding the crossroads.

FOB, 1938, r.1942 (U. S. Coast & Geodetic Survey triangulation station).

This station was held to within 0.3mm.in the radial plots. The images of reference points which were pricked on the field photographs and used in determining the photographic position of the station, were not clearly definable on more than one photograph. On all others, the pricking was doubtful.

F. I. P. "CYP", cypress bush (At triangulation station CYPRESS, 1938, r.1942).

This "Field Inspection Point" could not be held to within less than 4.0 to 5.0mm.in the radial plots. However, an attempt was made to prick the triangulation station "CYPRESS", direct, from the furnished description. Satisfactory results were then obtained.

control

All other horizontal/stations not mentioned in the preceding paragraphs were held to 100 per cent or within 0.2mm.in the plots.

A bulge in each celluloid projection sheet for the areas of the five surveys could not be eliminated. When it was smoothed out in one direction, it returned in another. The probable maximum displacement in the positions of secondary points, because of this bulge, is believed to be approximately 0.3mm.

The projection sheets could not be joined together 100 per cent along their respective junctions. The area of parallels (junctions) would not coincide where the projections were constructed on the same central meridian. There was also a disagreement of approximately 1.0mm (along their junctions) in an east and west direction of those projection sheets which were constructed on the same central meridian. When the sheets were joined together by matching corresponding grid lines, very few of the projection lines coincided, and vice versa. The grid lines on the base sheets were in excellent agreement with those on the projection sheets.

The difficulty encountered in joining the sheets together at their junctions, could be caused by the bulge previously mentioned, by unequal contraction and expansion of the celluloid, by stretching of the celluloid beyond its elastic limits, because of body weight of persons working on plots (very possible), or by errors in drawing projection and grid lines.

In general, the flight lines were held to satisfactorily.

The positions of all the photograph centers and secondary points were determined by averaging the positions of each as obtained from all of the plots laid.

Satisfactory junctions were made with the positions of common secondary points previously established by radial plots for the areas of Surveys Nos. T-8070 and T-8071.

No appreciable tilt was apparent in any of the photographs.

The averaged positions of the secondary points and photograph centers are believed to be within a relative accuracy of 1.0mm except those which are in the area between latitudes $37^{\circ} 17'$ and $37^{\circ} 18' 45''$ and longitudes $76^{\circ} 51'$ and $76^{\circ} 56'$. In this area (Chickahominy River) the relative accuracy is believed to be within 1.0 to 1.5mm.

REMARKS

At least one control station was needed which could be definitely identified on two or more photographs along the northern limits of Survey No. T-8075. At least one control station was needed which could be definitely identified on two or more photographs in the central section of Survey No. T-8079. At least one control station was needed which could be definitely identified on two or more photographs in the southwest section of the area of Survey No. T-8077.

The reasons the above mentioned additional control was believed to be necessary were that the transfer of the photograph centers was difficult and consequently doubtful, in the weakly controlled areas, that there was distortion of the photographic paper, and that there were errors in printing the positives.

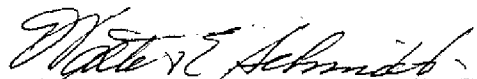
The corners, chamber junctions, and fiducial or collimating marks, as traced upon celluloid sheeting from the master template (metal) were in disagreement when the celluloid template so traced was revolved about the center of the master template and turned thru an angle of 90 degrees. It is the opinion of the undersigned that the celluloid templates which were traced from the master template and which were used to correct the displacement of radials due to the previously mentioned distortions, were faulty.

Photographs which have a dull finish are much more convenient to work upon than those which have a glossy finish.

CONCLUSIONS

It is believed that all conditions previously discussed, were treated in the best known possible manner, and the results obtained, although not entirely satisfactory, should be accepted until conclusive evidence has been produced by a future Field Party, or others, that the accuracy of the positions of radial points and details of importance shown on the Map Drawings, compiled at this time for the areas of Surveys Nos. T-8075 to T-8079, inclusive, is not within the limits of the allowable error for Coastal Survey maps.

Respectfully submitted,



Walter E. Schmidt
Asst. Photogrammetric Engineer

PART 2

Refer to Season's Report of 1942 previously submitted by Lieut. E. B. Lewey. Filed in Div. of Photogrammetry - General Files

PART 3

26 CONTROL:

The horizontal control shown on the Map Drawing consists of nine (9) U. S. Coast & Geodetic Survey Triangulation Stations, two (2) U. S. Engineers Triangulation Stations, and five (5) U. S. Geological Survey Traverse Stations. The U. S. Engineers Stations have been incorporated in the U. S. Coast & Geodetic Survey System of Triangulation, and shall be considered this Bureau's stations in this report. "Field Inspection Points" have been substituted for five (5) of the Triangulation Stations, and their positions indicated on the Map Drawing by small acid ink squares, their names preceded by the abbreviation "F.I.P." The positions of all the triangulation stations and F.I.P.'s, were either plotted directly on the Map Drawing from geographic coordinates, or transferred from adjoining map drawings, upon which they had been previously plotted. Plotted positions of stations have been indicated by the conventional triangulation symbol drawn in black acid ink, and transferred positions with the symbol drawn in red acid ink.

The following twelve (12) stations lie within the detail limits of the Map Drawing:

Seven (7) U. S. Coast & Geodetic Survey Triangulation Stations:

- SCOTLAND (U.S.E.) 1938, r.1942 (not used)
- FERRY, 1938, r.1942
- JONES, 1869-70, 1910, 1932, 1938, r.1942 (not used)
- JONES, ECC., 1932, 1938, r.1942 (F.I.P. "SUE")
- GOOSE HILL CHANNEL, FRONT RANGE LIGHT, 1937, r.1942 (~~LANDMARK~~)
- GOOSE HILL CHANNEL, REAR RANGE LIGHT, 1938, r.1942 (~~LANDMARK~~)
- SURRY, 1932 (no recovery in 1942) (R.M. No. 1 also F.I.P. "DIG")

Five (5) U. S. Geological Survey Traverse Stations:

- TT Wo 4 1935, r.1942 (not spotted close enough for control)
- ROAD CROSSING, 1917 (no recovery in 1942)
- CROUCH CREEK, CENTER OF HIGHWAY BRIDGE ~~OVER~~, 1917, r.1942
- PRIM. TRAV. STA. NO. 2, 1917 (no recovery in 1942)
- ROAD CROSSING, SECOND CLASS, 1917 (no recovery in 1942 -
pricked by Compilation Office).

26 CONTROL: (cont'd)

The following four (4) U. S. Coast & Geodetic Survey Triangulation Stations lie outside the detail limits of the Map Drawing:

UTILITY, 1938, r.1942 (F.I.P. "FEN")
WHITE HOUSE, WEST CHIMNEY OF FOUR, 1938, r.1942 (LANDMARK)
JAMESTOWN, 1869-70, 1910, r.1938, r.1942 (F.I.P. "JAM")
GOOSE (U.S.E.) 1938, r.1942 (F.I.P. "GOS")

In the U. S. Coast & Geodetic Survey Descriptions of Triangulation Stations, Pamphlet No. 326, the following incongruities were apparent:

Page 13 - "GOOSE HILL CHANNEL FRONT RANGE" is described as 90 meters southeast of Cobham's Wharf, and 23 meters offshore. According to air photo compilation, this light is approximately 685 meters southeast of Cobham Wharf and approximately 50 meters offshore.

Jones (J.B.B. 1869-1910) in the tabulation of angles and distances, the distance to "GOOSE HILL CHANNEL FRONT RANGE" is shown as 28.2 meters and to "GOOSE HILL CHANNEL REAR RANGE" as 249.8 meters. In the recovery by H.E.F. 1938, the station is said to be 450 meters from "GOOSE HILL CHANNEL FRONT RANGE LIGHT". According to air photo compilation, all these distances are in error.

JONES, ECC., (R.D.H. 1932), H.E.F. describes this station as 450 meters northwest of "GOOSE HILL CHANNEL FRONT RANGE LIGHT". This distance as scaled on the Map Drawing is approximately 365 meters.

*Noted
in Triang
Records.
R.D.H.
9/7/48*

27 RADIAL PLOT:

Refer to the report on the combined Radial Plot for the areas of Surveys Nos. T-8075 to T-8079 inclusive, submitted herein as an appendix. Refer also to the descriptive report for Map Drawing, Survey No. T-8078.

28 DETAILING:

Filed in Div of Photogrammetry -
General Files

The shore line and immediate adjacent culture of that part of James River and its tributaries, which lie within the area between Latitude 37° 07' 30" and Latitude 37° 11' 15", and Longitude 76° 45' 00" and Longitude 76° 52' 30" have been detailed and classified, in accordance with the data submitted by the Field Inspection Party of 1942, unless otherwise noted in this report.

The positions of detail points determined by radial intersections have been shown on the glossy side of the Map Drawing, with small single purple or green ink circles. Purple ink indicates positions which are considered relatively strong, and green ink indicates positions considered relatively weak.

28 DETAILING: (cont'd)

The number of photographs was adequate for the detail of topographic and hydrographic features in the northeastern portion of the Map Drawing. The portion of Grays Creek, west of Grays Landing, appears on only two photographs, and therefore, the positions of detailed features in this particular area are believed to be relatively weak.

All detail has been shown with the recommended conventional symbols, and any deviations therefrom, have been shown by descriptive notes.

The main bodies of water shown on the Map Drawing are portions of James River and Grays Creek, and all of Crouch Creek, and other small tributaries. The shores of James River consist mainly of narrow sandy beaches, behind which are tree-covered dirt bluffs. All bluffs and their heights have been symbolized and noted, in accordance with field inspection data. The shores of the tributaries are mainly low and marshy, and have been detailed, from the photographs, as interpreted by this Compilation Office.

Because of deep shadows and relief displacement, it was difficult to prick common detail points, and to determine the position of the Mean High-Water Line on the office photographs. The Field Inspection Party's delineation of the Mean High-Water Line was transferred to the photographs and detailed therefrom.

Grays Creek and Crouch Creek were only partially field inspected. The topography immediately adjacent to these creeks has been shown as interpreted by this Compilation Office, from examination of the office photographs. Hydrographic control has been located and described along Grays Creek as selected by this Compilation Office. There is a highway bridge at the entrance to Crouch Creek, the vertical clearance of which is 2.6 ft. at High-Water. It is therefore assumed that the creek is of no navigational interest. Although the area has been detailed, no hydrographic control has been located. This Compilation Office believes that no further field investigation is necessary, in these areas.

See report on additional work done in 1944. Part of this descriptive report.

Roads which have been shown are in accordance with the field inspection data.

It is believed that all houses, roads, and other details of importance, which were visible on the photographs, in the area immediately adjacent to the shore line, have been shown.

The location of the drainage shown was first outlined on the photographs by means of stereoscopic examination, and then transferred to the Map Drawing.

30 MEAN HIGH-WATER LINE:

The Mean High-Water Line (firm ground) has been shown on the Map Drawing, according to the field inspection data, with a full, heavy-weight black acid ink line, the center of which is believed to be the true position. A full light-weight line indicates the outer limits of marsh bordering the Mean High-Water Line, and is not to be considered the Mean High-Water Line, but only the outer limits of low wet land.

31 LOW-WATER AND SHOAL LINES:

The approximate outer limits of shoal areas have been shown with dashed light-weight black acid ink lines, and noted "Shoal". These limits are in accordance with the interpretation of the photographs by this Compilation Office. Such limits are for the use of hydrographic parties only, and should not be accepted as the Low-Water Line.

32 DETAILS OFFSHORE FROM THE HIGH-WATER LINE:

There is only one fish trap visible on the photographs, and its position and shape has been shown on the Map Drawing.

The positions of four (4) buoys, in the James River, approximately one mile northeast of Cobham Wharf, were radially plotted and have been shown with the buoy symbol. One of these buoys is outside the detail limits of the Map Drawing. This buoy was not shown on Map Drawing, Survey No. T-8070.

33 WHARVES AND SHORE LINE STRUCTURES:

All wharves, piers and other shore line structures, which were visible on the office photographs or the locations of which were outlined by the Field Inspection Party, have been detailed or indicated on the Map Drawing.

34 LANDMARKS, AIDS TO NAVIGATION, AND AERONAUTICAL AIDS:

See Chart Letter 917 (49) Copy enclosed.

Fixed Aids to Navigation

Two (2) ~~landmarks~~ are situated within the detail limits of the Map Drawing. These ~~landmarks are~~ triangulation stations, and therefore, Form No. 567 has not been submitted.

No new ^{fixed} aids to navigation have been recommended by the Field Inspection Party. There were no aeronautical aids recommended.

35 HYDROGRAPHIC CONTROL:

The positions of twenty-seven (27) Temporary Hydrographic Stations, and four (4) Recoverable Topographic Stations have been radially plotted,

35 HYDROGRAPHIC CONTROL: (cont'd)

and shown, with $2\frac{1}{8}$ mm. black acid ink circles, accompanied by their descriptions. The names of the Recoverable Topographic Stations were selected by this Compilation Office from the descriptions as furnished by the Field Inspection Party.

Thirteen (13) of the Temporary Hydrographic Stations, have been numbered and described by the Field Inspection Party. Fourteen (14) stations, on that part of Grays Creek which was not Field Inspected, have been described by this Compilation Office. Temporary Hydrographic Stations Nos. 289 and 290 could not be pricked on the office photographs. The position of these stations as shown on the Map Drawing have been determined by detailing from the field inspection photographs and by holding radially plotted points in the vicinity of each of the hydrographic stations. Temporary Hydrographic Station No. 285 could not be pricked on the office photographs and since the position could not be determined by the above method because of relief displacement, it does not appear on the Map Drawing.

Form No. 524 has been submitted for each of the following four (4) Recoverable Topographic Stations:

- No. 288 - WHARF, EAST CORNER
- No. 293 - EAST RAIL, S. E. END
- No. 296 - GABLE, OFFSHORE
- No. 305 - CYPRESS TREE

See report on additional work done in 1944. 9 Photo-Hydro Stations and one Recoverable Topographic Station added.

37 JUNCTIONS:

Junction satisfactory. Checked Aug 23, 1948

Since the compilation of the shore line and immediate adjacent culture, of Map Drawing, Survey No. T-8076, which is to the north, has not been completed as of the date of this report, junction will be made at a later time.

Satisfactory junction of detailed shore line and immediate adjacent culture was made with Map Drawing, Survey No. T-8070, to the east.

There are no contemporary surveys to the south or west.

38 RECOMMENDATIONS FOR FUTURE SURVEYS:

The Map Drawing is believed to be complete in all details of importance for charting, and no other surveys are considered necessary.

38 RECOMMENDATIONS FOR FUTURE SURVEYS: (cont'd)

The probable error in the relative positions of detail points, and of details of importance on and immediately adjacent to the shore line, is believed to be within the allowable limits of accuracy, except that part of Grays Creek which lies west of Longitude $76^{\circ} 49' 30''$. In this area the probable error may be as large as 1.5mm.

39 GEOGRAPHIC NAMES:

Names on the map manuscript approved by the Geographic Names Section.

Only a partial investigation of geographic names in the James River area was made by the 1942 Field Inspection Party. This information was submitted to this Compilation Office in the form of notes in a copy of the "U. S. Coast Pilot", and on the field inspection photographs.

The geographic names shown on the Map Drawing are in accordance with the field inspection data, except in areas not included in the investigation. In such areas, the names shown have been taken from various publications available in this Compilation Office.

The names have been alphabetically compiled into two lists (undisputed and disputed) and submitted herein.

40 BRIDGES:

Only one bridge has been shown on the Map Drawing, and it is accompanied by a descriptive note. This bridge is over Crouch Creek, at its entrance, and is of no navigational importance. The clearances as noted on the Map Drawing are from information furnished by the 1942 Field Inspection Party in Sketchbook (Form No. 274) Vol. 1. While the field notes do not state the vertical clearance reference, it is assumed by this Compilation Office to be Mean High-Water.

41 COMPARISON WITH EXISTING TOPOGRAPHIC QUADRANGLES:

Surry Quadrangle (15') U.S.G.S., 1919 edition, scale 1:62,500.

Because of the large difference in the scales of the quadrangle and the Map Drawing, small topographic and hydrographic details could not be readily compared. However, the following differences were apparent:

A wharf, at Scotland, is shown on the quadrangle. This wharf is now in ruins and a new wharf has been built approximately 75 meters to the northwest.

44 COMPARISON WITH EXISTING TOPOGRAPHIC QUADRANGLES: (cont'd)

The railroad running to Scotland Wharf, as shown on the quadrangle, has been removed according to field inspection data.

Cobham Wharf, which appears on the quadrangle, is now in ruins.

Approximately 350 meters southeast from Cobham Wharf, are the ruins of Jones Wharf. This does not appear on the quadrangle.

Southeast of and approximately one mile from Cobham Wharf, there are ruins of a wharf. These ruins do not appear on the quadrangle.

B. M. 7 shown on the quadrangle, has not been located on the Map Drawing.

45 COMPARISON WITH NAUTICAL CHARTS:

Because of the differences in the scales of the Map Drawing and the U. S. C. & G. S. Charts listed below, small topographic and hydrographic details could not be readily compared. However, the following differences were apparent:

Chart No. 529, published September 1940, corrected November 20, 1941, and March 25, 1942, scale 1:40,000.

The ruins of a small wharf, approximately one mile southeast of Cobham Wharf, do not appear on this Chart.

This Chart does not show a road running to ruins of Cobham Wharf.

Houses, in the area of the Map Drawing, have not been shown, on this Chart.

A road to Jones Wharf, as shown on this Chart, is not visible on the photographs.

Chart No. 530, published September 1940, corrected November 26, 1941 and March 25, 1942, scale 1:40,000.

This Chart does not show a road running to Scotland Wharf.

Houses, in the area of the Map Drawing, have not been shown on this Chart.

The wharf southeast of Scotland Wharf is now in ruins.

✓
ch 520
WAB
7/12/47

45 COMPARISON WITH NAUTICAL CHARTS: (cont'd)

Chart No. 78, published January 1941, corrected January 14, 1943, and February 13, 1943, scale unknown.

The wharf shown on this Chart, at Sootland is now in ruins and a new wharf is not shown. The railroad shown running to the ruins has been removed.

Cobham Wharf is now in ruins.

Respectfully submitted,
December 14, 1943

Abraham L. Goncharsky
Abraham L. Goncharsky
Sr. Engineering Draftsman

Compilation and Descriptive
Report Reviewed by:

Michael G. Misulia

Michael G. Misulia
Jr. Topographic Engineer

Supervised by:

Walter E. Schmidt
Walter E. Schmidt
Asst. Photogrammetric Eng.

Approved & Forwarded
December 16, 1943

Fred. L. Peacock
Fred. L. Peacock
Chief, Air Photographic Party No. 2

ADDITIONAL WORK

1944

See "Report on Field Inspection of Air Photographs, James River, Virginia," by Dale E. Sturmer dated April 11, 1944. Filed in Div. of Photogrammetry, General Files.

SUPPLEMENTAL DATA RECORD

Form T-1

T- 8077

Quadrangle (II);
Surry, Va. (15')(U.S.G.S.)

Project No. (II); C.S. 283

Field Office:
Air Photographic Party No. 2

Chief of Party;
Fred. L. Peacock

Compilation Office;
Baltimore, Maryland

Chief of Party;
Fred. L. Peacock

Instructions dated (II III);
March 26, 1942
Supplemental Instructions dated
July 15, Sept. 30, Nov. 14, 24, 1942
Completed survey received in office;

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

Reported to Nautical Chart Section;

Reviewed; Applied to chart No. Date;

Redrafting Completed;

Registered;

Published;

Compilation Scale: 1:10,000

Published Scale;

Scale Factor (III): None

Geographic Datum (III): North American 1927 Datum Plane (III): Mean Sea Level

Reference Station (III): JONES, ECC., 1932, 1938, r. 1942

Lat.: 37°10' 07.959" 245.4m Long.: 76°45' 51.887" 1280.1m Adjusted
~~Unadjusted~~

State Plane Coordinates (VI);

X =

Y =

Military Grid Zone (VI)

PHOTOGRAPHS (III)

<u>Number</u>	<u>Date</u>	<u>Time</u>	<u>Scale</u>	<u>Stage of Tide</u>
7674	11/25/41	2:04 P.M.	1:10,000	1.0' above M.L.W.
7675	11/25/41	2:04 P.M.	1:10,000	1.0' " "
7698	11/26/41	10:00 A.M.	1:10,000	0.7' " "
7699	11/26/41	10:00 A.M.	1:10,000	0.7' " "

Tide from (III): Predicted tide tables, Reference Station Hampton Roads, Virginia
with time corrections to Jamestown Island, Virginia.

Mean Range: 2.0'

Spring Range: 2.3'

Camera: (Kind or source) U.S. Coast & Geodetic Survey nine lens camera (focal Length $8\frac{1}{4}$ ")
All negatives are on file in the Washington Office.

Field Inspection by: (Additional)
Lieut. Dale E. Sturmer

date:
March 1944

Field Edit by:

date:

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

November 25 and 26, 1941

Projection and Grids ruled by (III)

date:

" " " checked by:

date:

Control plotted by:

date:

Control checked by:

date:

Radial Plot by:

date:

Additional Hydrographic Stations
Detailed by: Margaret F. Walworth
Additions

date: May 22-24, 1944.

Reviewed in compilation office by: J. Steinberg

date: May 24, 1944

Elevations on Field Edit Sheet
checked by:

date:

STATISTICS (III)

Land Area (Sq. Statute Miles);

Shoreline (More than 200 meters to opposite shore);

Shoreline (Less than 200 meters to opposite shore);

Number of ^{Additional} Recoverable Topographic Stations established: 1

Number of ^{additional} Temporary Hydrographic Stations located by radial plot: 9

Leveling (to control contours) - miles;

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:

ADDITIONAL WORK - 1944

In accordance with the original instructions for Project C.S. 283 and various supplemental instructions, the field inspection of the lower part of the James River did not at first include complete field inspection of tributary streams. The field inspection of the main river and the mouths of all tributary streams was first completed to Richmond. The completion of the field inspection of tributaries was then carried on from the upper river toward the lower river. The field inspection of tributary streams was completed in the spring of 1944.

In order to assure shore line and hydrographic information in advance of the needs of operating hydrographic parties working in the main river, map drawings for the areas of ten surveys were submitted in advance of completion with respect to tributary streams. Survey No. 8077 is one of these ten.

The shore line and immediate adjacent culture of that part of the James River and its tributaries, which lie within the limits of this Map Drawing was originally completed in November 1943. Since its completion, the Compilation Office has received the identification of additional Hydrographic Stations, on 1:10,000 field photographs in the area of Crouch Creek. These stations were transferred to the 1:10,000 office photographs and radially plotted on the Map Drawing.

Identified by the 1944 Field Inspection Party were nine (9) ✓ Hydrographic Stations and one (1) Recoverable Topographic Station, the positions of which have been radially plotted and shown with $2\frac{1}{2}$ mm. black acid ink circles, accompanied by their descriptions.

Form No. 524 is being submitted for the following Recoverable Topographic Station:

No. 258 - WEST GABLE, GREY HOUSE

The Map Drawing is now believed to be complete in all details of importance for charting, and no other surveys are considered necessary.

Respectfully submitted:
May 25, 1944

Margaret F. Walworth
Margaret F. Walworth
Ass't. Photogrammetric Aid

Additional work reviewed and
supervised by:

Joseph Steinberg
Joseph Steinberg
Ass't Photogrammetric Engineer

Approved and Forwarded:
May 26, 1944

Fred. L. Peacock
Fred. L. Peacock
Chief, Air Photographic Party No. 2

PART 5

LIST OF GEOGRAPHIC NAMES

Undisputed

- | | |
|--------------------------|-------------------------|
| ✓ Clarks Landing . | ✓ James River . |
| ✓ Cobham Wharf (Ruins) . | ✓ Jones Wharf (Ruins) . |
| • Cross Creek . | ✓ Judkins Landing . |
| • Cross Creek Landing . | ✓ Scotland . |
| ✓ Crouch Creek . | ✓ Scotland Wharf . |
| ✓ Grays Landing . | ✓ Timber Neck . |

Disputed

- | | |
|-----------------|---|
| • Grays Creek . | Gray's Creek (by Field
Inspection Party) |
|-----------------|---|

• = Name approved
a.g.w.
9/8/48

JAMES RIVER, VIRGINIA
Crouch Creek - Grays Creek
PART OF PROJECT No. CS-283

List of numbers, and descriptions of the
temporary hydrographic stations appearing on Map
Drawing Survey No. T-8077.

Number of temporary hydrographic stations 36

Listed by:

Checked by:

Charles Theurer

A. L. Goncharsky

Stations numbered and described in the office.

- No.
- 302-A Innermost end of a small bight on North point of marsh on South side of Grays Creek.
 - 302-B Point of marsh on South side of entrance to stream on East side of Grays Creek.
 - 302-C Outermost end of small landing on South side of Grays Creek.
 - 302-D East gable of large barn-like structure approximately 250 meters south of Grays Creek.
 - 302-E Most westerly point of marsh on East side of entrance to stream on South side of Grays Creek.
 - 302-F Point of marsh on South side of Grays Creek opposite Judkins Landing.
 - 302-G East gable of larger and southerly of two houses at Clarks Landing approximately 135 meters South of Grays Creek.
 - 302-H Point of marsh on West side of entrance to stream on South side of Grays Creek, North of Clarks Landing.
 - 302-I Point of marsh on South side of entrance to stream on West side of Grays Creek midway between Judkins and Clarks Landings.
 - 302-J Point of marsh on South side of entrance to stream on Northeast side of Grays Creek.
 - 302-K Point of marsh at West side of entrance to Cross Creek.
 - 302-L Tree on East side of Grays Creek on edge of marsh and approximately 50 meters South of woods.
 - 302-M Innermost point of a bight in marsh on North side of and approximately 60 meters East of a bend in Grays Creek.
 - 302-N Point of marsh on West side of entrance to stream on North side of Grays Creek.

Stations numbered and described in the field.

- 259 Most southerly cypress tree on East side of bank- 25 ft. high.
- 260 Southeast tip of tall grass at open spot in grass
- 261 25 ft. tree, 5 meters back of marsh line.

No.

- 262 Northeast tip of grass in open spot in grass.
- 263 Northwest tip of grass in open spot in grass.
- 264 Base of pine tree leaning over water.
- 265 Bushy cypress tree at waters edge.
- 266 Northwest tip of grass at forks of stream.
- 267 Northwest tip of grass on rounding stream.
- 286 Northwest corner of piling constituting remains of wharf.
- 287 Blaze on large spruce tree on beach. Just East of a point and in front of a narrow marsh. Trunk of tree shows white.
- 287 $\frac{1}{2}$ Water tank with broken windmill over it.
- 289 Blaze on cypress at waters edge. A sycamore tree leans over it.
- 290 Blaze on sycamore at waters edge and just North of a small, sharp, rocky point.
- 291 Chimney on North gable prominent white house over terraced lawn.
- 292 White chimney on small white house in clearing on bluff. Green roof.
- 294 Blaze on southerly of 2 cypress trees in water.
- 295 Offshore gable screened house on beach. First house on beach South of inner end of ferry wharf.
- 297 Blaze on prominent umbrella-like pine tree half-way up bluff.
- 302 Blaze on low cypress at water line southwesterly of several small cypress trees here.
- 303 Stake on point of marsh on West side of Grays Creek and on South side entrance of small stream. Marked by cloth.
- 304 Westerly of 5 trees in marsh.

285 Northeast tip of grass in open spot in grass.
286 Northwest tip of grass in open spot in grass.
287 Base of pine tree leaning over water.
288 Bushy cypress tree at waters edge.
289 Northwest tip of grass at forks of stream.
290 Northwest tip of grass on rounding stream.
291 Northwest corner of piling constituting remains of wharf.

292 Blaze on large spruce tree on beach. Just East of a point and in front of a narrow marsh. Trunk of tree shows white.

293 Water tank with broken windmill over it.
294 Blaze on cypress at waters edge. A sycamore tree leans over it.

295 Blaze on sycamore at waters edge and just North of a small, sharp, rocky point.

296 Chimney on North beach

* #47 Adequacy of Compilation
Field inspection was adequate for compilation of the shoreline. In the future this area will be covered more completely by topographic map 8319.

but on a smaller scale

KTA

K.H.M.
6/24/49

297 Blaze on prominent umbrella-like pine tree half-way up bluff.

298 Blaze on fir cypress at water line southwesterly of several small cypress trees here.

299 Stake on point of marsh on West side of Grays Creek and on South side entrance of small stream. Marked by cloth.

300 Westerly of 5 trees in marsh.

Division of Photogrammetry
Review Report of
Shoreline Map Manuscript T-8077

Subject numbers not used in this report have been adequately covered in other parts of the Descriptive Report.

28. Detailing.- Estimated bluff elevations along the shoreline were changed to conform with elevations obtained by field methods on previous surveys.

37. Photo - Hydro Stations.- A list of descriptions of photo - hydro stations was prepared and made a part of the descriptive report.

Numbers were assigned to the photo - hydro stations along Grays Creek.

44. Comparison with Existing Topographic Surveys:

USGS	Surry Quadrangle	1:62,500	1919 Reprinted 1945
T - 1290	1:20,000		1873-74
T - 1290a	1:20,000		1910

Common features on these surveys are superseded by the map manuscript in all common areas.

45. Comparison with Nautical Charts:

Chart No. 529	1:40,000	1944 Corr. 1947
Chart No. 530	1:40,000	1940 Corr. 1946

* 47.

The fish trap shown on the map manuscript at Lat. $37^{\circ}09.4'$, Long. $76^{\circ}45.0'$ is not shown on Chart No. 529.

51. Application to Nautical Charts.-The map manuscript has not been applied to the nautical charts.

Reviewed by:

Charles Theurer
C. Theurer 9/9/48

APPROVED BY:

S. V. Griffith
S. V. Griffith
Chief, Review Section

W. M. Scatena
Chief, Nautical Chart Branch
Division of Charts

K. T. Adams
Chief, Div. of Photogrammetry

W. M. Scatena
Chief, Div. of Coastal Surveys

November 8, 1949

**TO BE CHARTED
TO BE DELETED**

The positions given have been checked after listing by C. Thaurer

S **V** **Chief of Party.**

[illegible]

... .. and nonfloating