8335

Diag. Cht. No. 78-4

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. CS-289-W1 *Office No.* T-8335

LOCALITY

State Virginia

General locality James River

Locality Providence Forge

19~~4~~53

CHIEF OF PARTY

F. E. Peacock, Chief of Field Party.
Div. of Photogrammetry, Wash., D. C.

LIBRARY & ARCHIVES

DATE September 29, 1955

8-1870-1 (1)

8335

56

DATA RECORD

T -8335

Project No. (II): CS-289W1

Quadrangle Name (IV): Providence Forge

Field Office (II):

Chief of Party: F. E. Peacock

Photogrammetric Office (III): Washington, D. C.

Officer-in-Charge: Lou Reed, Chief, Stereoscopic Mapping Section

Instructions dated (II) (III): #17 - 15 September 1947

Copy filed in Division of Photogrammetry (IV) Office Files

Method of Compilation (III): Reading Plotter

Manuscript Scale (III): 1:20,000

Stereoscopic Plotting Instrument Scale (III): 1:20,000

Scale Factor (III): 1:1

Date received in Washington Office (IV): 6-29-50

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV): SEP 2 1955

Publication Scale (IV): 1:24000

Publication date (IV):

Geographic Datum (III): NA 1927

Vertical Datum (III):

Mean sea level except as follows:
Elevations shown as (25) refer to mean high water
Elevations shown as (5) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III): MINTREE, 1934

Lat.: N 37-28-08.042

Long.: W 77-02-00.480

Adjusted

~~Unadjusted~~

Plane Coordinates (IV):

State: Virginia

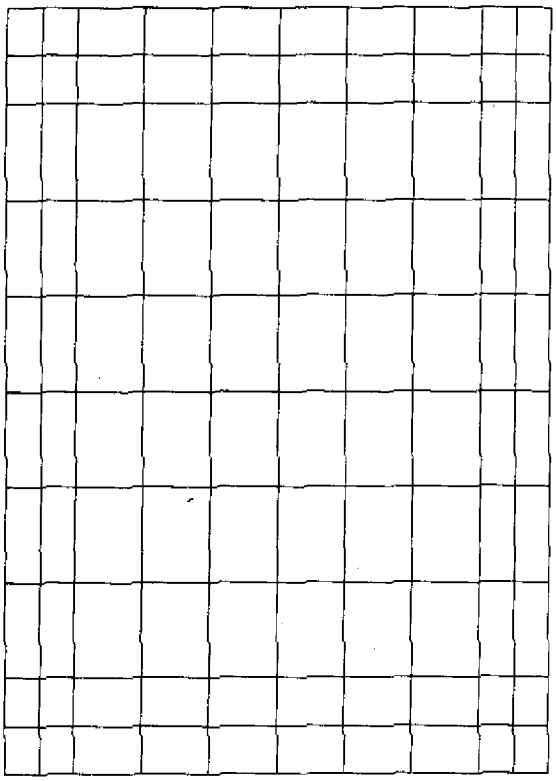
Zone:

Y= 416,746.03'

X= 2,425,601.93'

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)

85% by Orvis N. Dalbey
15% by Clarence E. Misfeldt
on the Reading Plotter

DATA RECORD

Field Inspection by (II): Fred L. Peacock Date: 1944-5

Planetable contouring by (II): None Date:

Completion Surveys by (II): E. T. Jenkins Date: April 1953

Mean High Water Location (III) (State date and method of location): The short section of shoreline at the head of the Chickahominy River is dated March 1948 since it was delineated from photographs taken then. This shoreline was not field inspected. It is above tidal water.

Projection and Grids ruled by (IV): Ruling Machine Date: Dec. 48

Projection and Grids checked by (IV): Wheatley E. Ward Date: Dec. 48

Control plotted by (III): John B. McDonald Date: 11 Feb. 49

Control checked by (III): Louis J. Reed Date: 11 Feb. 49

Radial Plot ~~or Stereoscopic Control extension~~ by (III): Graphic Compilation Section Div. of Photogrammetry, Wash.D.C. Roscoe J. French Date: 10 Jan. 49

Stereoscopic Instrument ~~compilation~~ delineation (III): Planimetry Orvis N. Dalbey Date: 11 Apr. 49

Contours Date:

Manuscript ~~delineated~~ compilation by (III): John B. McDonald and Robert L. Sugden Date: 22 June 50

Photogrammetric Office Review by (III): Louis J. Reed Date: 29 June 50

Elevations on Manuscript checked by ~~(1)~~ (III): Louis J. Reed Date: 29 June 50

Camera (kind or source) (III): USC&GS Nine-lens Camera, 8¼"F

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
Compilation Photography				
22255-57		11:56	1:20,000	
22274-76	30 March 1948	12:23	1:20,000	
22282-84		12:31	1:20,000	

Single lens Photos 50-0-3, 597 were used by the Field Editor.
Original Field Inspection was done on nine lens photos 13026 thru 13031 & 13011

Tide (III)

Reference Station:
Subordinate Station:
Subordinate Station:

~~The periodic tide is less than~~ There is no tidal water.

Ratio of Ranges	Mean Range	Spring Range

Washington Office Review by (IV): C. Theurer Date: April 1, 1954

Final Drafting by (IV): Date:

Drafting verified for reproduction by (IV): Date:

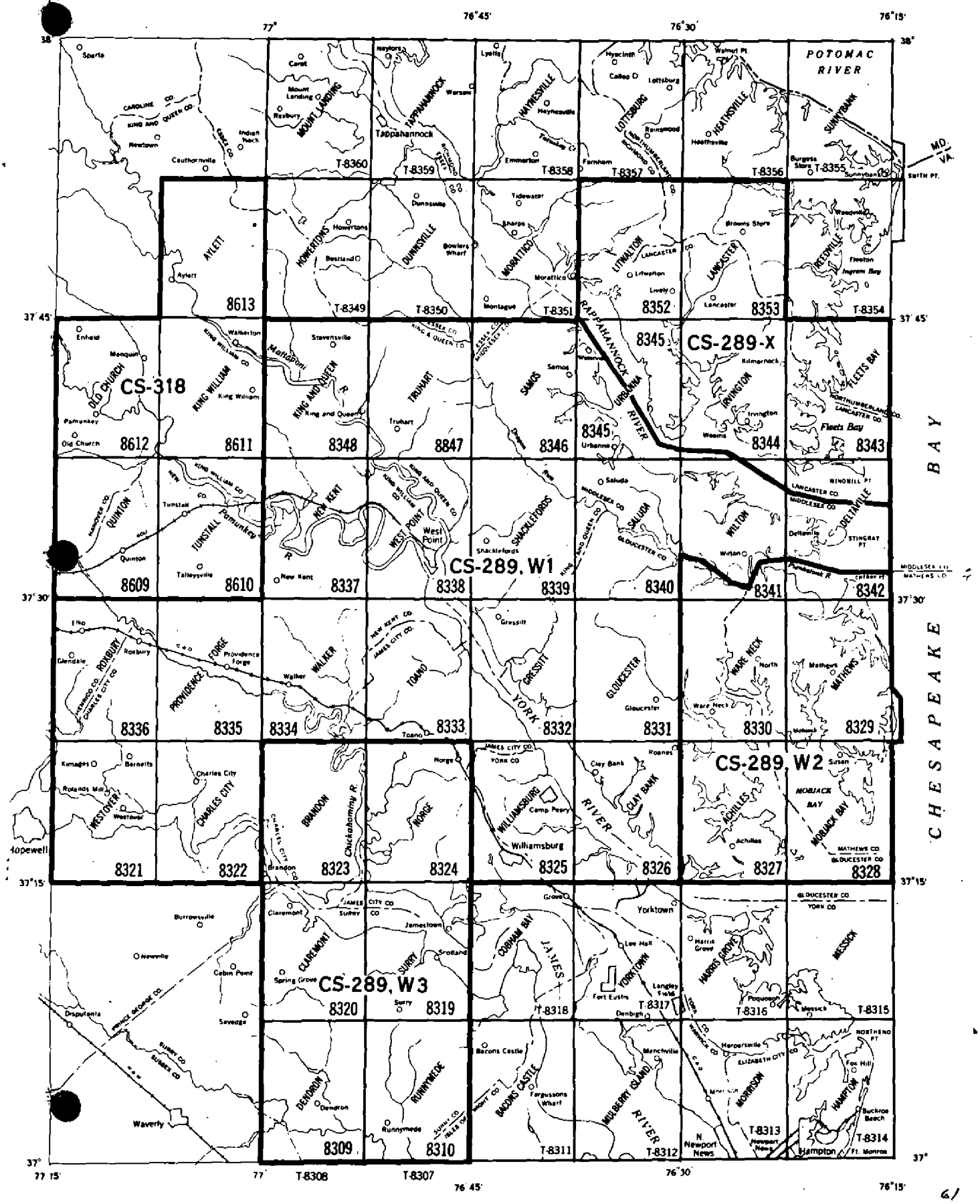
Proof Edit by (IV): Date:

Land Area (Sq. Statute Miles) (III): 60
Shoreline (More than 200 meters to opposite shore) (III): none
Shoreline (Less than 200 meters to opposite shore) (III): none
Control Leveling - Miles (II): 59
Number of Triangulation Stations searched for (II): 2 Recovered: 2 Identified: 2
Number of BMs searched for (II): (16) Recovered: Identified:
Number of Recoverable Photo Stations established (III): none
Number of Temporary Photo Hydro Stations established (III): none

Remarks:

TOPOGRAPHIC MAPPING PROJECT CS-289-318 (47)

VIRGINIA, Rappahannock River to James River



61

Summary T-8335

Topographic mapping Project CS-289 is divided into six subprojects: CS-289a, b, x, W-1, W-2, and W-3. Information concerning Project 289 in its entirety will be included in the Project Completion Report. T-8335 is one of seventeen standard 7.5 minute quadrangles and parts of three quadrangles that are included in CS-289 W-1. This area was compiled by the Reading Plotter.

This subproject covers an area between the Rappahannock and the James Rivers including the York, Pamunkey, Mattaponi and Piankatank Rivers. Principal cities of the area are West Point and historically important Williamsburg and Yorktown.

The portion of CS-289 W-1 north of latitude 37°30' was completed in 1947 through 1949 and the maps were published by the Geological Survey 1949 through 1951. The compilation of the southern part of this subproject was resumed and completed in 1952. It will be field edited in 1952 and 1953. The Army Map Service published preliminary copies of T-8325, T-8326, and T-8332 that will be revised when field edit is complete.

The maps of this project are to be published at 1:24,000 scale by the Geological Survey. A cloth-backed lithographic print of the original map manuscript at compilation scale, 1:20,000 and a cloth-backed color print of the published quadrangle, together with the descriptive report, will be filed in the Bureau Archives.

Field Inspection Report
~~Descriptive Report~~ to Accompany

Quadrangle T8335

Project CS 289 W - 1

Virginia

Harland R Cravat, Chief of Field Party

5. Vertical Control:

Date Started 11-13-45

Date Completed 3-15-46

Linear miles 4th order levels 48

Linear miles 3rd order levels 7

Recovery

Existing vertical control was recovered and pricked in the spring of 1944 by the War Mapping Field Party. No attempt was made to determine the adequacy of the work; it was felt the field edit party would pick up any discrepencies which might exist.

The following new 3rd order bench marks were pricked and described as the leveling progressed

W 294	Z 296
X 294	A 297
	B 297

Methods

3rd Order

About seven linear miles of 3rd order levels were completed by Messers Alfred R. Knaack, Engineering Aid, and Robert R. Kim, Engineering Aid, using instruments and methods as prescribed by the Division of Geodesy.

At one mile intervals along level lines, permanent bench marks were marked and described. Intermediate spot elevations were also established. The 3rd order spot elevations are segregated from the 4th order by the dode letters and numbers being suffixed by the small letter a.

4th Order

About 48 linear miles of 4th order levels were completed by the following personnel.
A. Faulds, Washington Office Employee
Jerry R. Valenstein, Engineering Aid
Elmer L. Williams, Engineeringi Aid
Matthew A. Stewart, Engineering Aid

The quadrangle served as a training quad. and furnished the basis to giving levelmen experience in trigonometric leveling. In the course of the leveling and the shifting of personnel the field notes became a jumbled mess, with some loops being run 3 and 4 times with no pair in agreement.

The Field notes were analyzed by Mr. Harland R. Cravat, and under his direction recopied in an effort to make them more understandable. (All notes, however are being forwarded).

After the notes were re-copied and appeared to be in good form the levles were checked by wye level methods. The original work was accomplished by trigonometric methods using a 4½ inch Kern Theodolite equiped with stadia hairs and Simmons Adams leveling rods. Computations were made to the nearest 1/10 of a foot using a stadia slide rule.

All spot elevations tested by wye level methods have the elevations indicated on the photographs in red ink, under the trigonometric spot elevations. For all use the elevations entered in red ink are to be considered correct. The blue may be stricken out after the office has had an opportunity to inspect the values.

All trigonometric level information appears on the photos in blue ink. The code letters PF prefix all spot elevations. The following code was used to segregate the closed elevations from the unclosed elevations.

1. Elevations circled indicate the loop was not closed on a known elevation or an extra inclined or declined foresight.

2. Elevations underscored by a solid line indicate the loop and spot elevations were closed on a previously determined elevation or existing bench mark.

Submitted with the photos is a layout showing the approximate position of the spot elevations. Also on the first page of each volume is the following information: Loop (spot Elevation), page, closure, Linear Miles, Field notes checked by, Adjustment checked by, Inked on Photo #, Copy checked by, and Remarks.

Respectfully Submitted
March 29, 1946

Harland R Cravat

Harland R Cravat
Photogrammetric Engineer

Radial Plot Descriptive Report to Accompany
Quadrangle T-8335 & T-8336

Project CS 289W-1

1. General Description.-Surveys T-8335 and T-8336 are part of a series of 7½ minute topographic quadrangles which are being mapped by means of the radial line plot and the Reading stereoplotter using metal mounted nine-lens photographs at 1:20,000 scale.

The area being mapped lies SE of Richmond, Virginia north of the James River and in the vicinity of the Chickahominy River.

It will be compiled by both graphic and stereoplotting photogrammetric methods and be in accordance with Instructions No. 17 dated September 15, 1947.

2. Layout Sketch.-A photostat showing the layout of the map quadrangles, the horizontal ground control used to control the plot, and the photograph centers is attached to this report. A red inl check on the control used gives a picture of the distribution of horizontal control over the area.

3. Photographs.-The photographs used in this radial line plot were taken with the USC&GS nine-lens camera with 8¼ inch focal length at 1:20,000 scale.

They were flown March 29 and 30, 1947, at near noon at a time when very little foliage was on the hardwood trees, and ground detail is exceptionally clear and identifiable.

With the exception of a partial vacuum failure in a few instances the photographs were satisfactory for radial line plotting and no rectification was deemed necessary preceding the final laydown of the plot.

Nineteen photographs were mounted on Alcoa Aluminum sheeting in the regular manner and are listed in flights as follows:

22252 to 22257, Incl.	N to E
22273 to 22279, Incl.	E to W
22280 to 22285, Incl.	W to E

The flights run east and west as noted and the number and distribution of the photographs is satisfactory.

The photographs were prepared for radial plot purposes in the following manner:

Azimuth and cross azimuth lines were drawn to con-

jugate centers as indicated on the attached index. All horizontal control stations recovered and identified on the field inspection photographs were pricked on all the office photographs on which they could be identified.

A number of well defined points were selected and pricked on the office photographs to be used as secondary pass points and among those chosen were many points whose elevation was determined by levels by the field inspection party in 1944. Close inspection and reference to the annotated field photographs made possible the choice of enough secondary pass points whose elevations were known to give sufficient radial plot positions for subsequent rectification templet construction.

Perhaps more of these secondary pass points with elevations were chosen than will be needed in the construction of the rectification templet, but their value will show up when the contouring is done on the Reading plotter. These points are indicated with white pigment ink.

Additional secondary pass points were chosen to increase the density sufficient enough to give coverage within the quadrangle limits or an average of every four inches in all directions.

Secondary passpoints outside the quadrangle limits (as shown on the attached index) are confined to those of known elevation and to common points as determined by previous plots to the south (T-8321) and multiplex T-8609, T-8610, and T-8337 to the north of the quadrangle area.

Secondary pass points in the junction areas of adjoining manuscripts were chosen for their value in making satisfactory junctions between quadrangles.

4. Control.-Twenty-eight horizontal control stations were used to control the radial line plot.

Three USC&GS triangulation stations and one transit traverse station were recovered for use within the quadrangle limits of this survey. The remainder of the stations recovered and chosen for use to control the plot were twenty-two USC&GS triangulation stations and two transit traverse (unclosed) stations. All ground triangulation stations with the exception of Cypress, 1934 had substitute stations identified by the field inspection party. These positions were computed from data on the Control Identification Card furnished by the field inspection party and are shown on Form T-2300-12 attached to this report.

One previously established triangulation station Hazall, 1942, in quadrangle T-8336 was not recovered for use in controlling the plot.

All of the stations recovered were held to tangentially or better with the exception of Reeves, 1932 substitute station and Cypress, 1934. Both of these stations had other control in proximity that held good. The tolerances are listed on an attached sheet with this report and are not excessive in the instances mentioned. There is no explainable reason for Reeves, 1932 substitute station not holding position, but Cypress, 1934 was identified by only two distances, and the small angle between them rendered the pricking rather weak for 1:20,000 scale photographs. The two measurements given from identifiable objects were short, but the transfer of points could easily have been misidentified on the office photographs by an amount listed as the tolerance.

5. Templets.-Vinylite templets were used for the nineteen metal mounted photographs used in laying the plot with the aid of Master templet No. 21682 which was prepared in the Washington Office. Care was taken to adjust each chamber to the master templet in an attempt to correct for any minor errors in the transforming and printing of the photographs.

Craftint No. 111 red ink was used to draft the radial lines and was found to be generally satisfactory for this purpose. Among its qualities for use in this step are the following: (1) the ink, being of a powdery nature when dry, can be removed with a dampened rag with Craftint No. 111 thinner, and (2) the surface is thereby salvaged intact for use on subsequent plots. The ink does not eat into the vinylite plastic surface and can be either scraped off with a sharp knife or wiped with the dampened rag as in (1) above.

6. Preparation of the Base Grid.-The base grid was ruled on the projection ruling machine at intervals of 6.0 inches for X and Y, and assigned 10,000 foot values. The grid is in four sheets numbered one to four and its position is shown on the attached sheet layout. The material is called "Copyrite", the trade mark name used, and is a vinylite plastic which holds scale well.

All of the plane coordinate positions of the stations listed and used in the plot were plotted and checked by converting the feet to meters and then plotted with the 1:10,000 scale meter bar. These figures are shown in the extreme right hand column on the geographic position form attached to this report.

Only the substitute station positions and intersection station positions were plotted on the base grid for use in controlling the plot. The four base grids were matched at their common X and Y values and joined together with scotch masking tape, and diagonals were checked to assure a good junction.

7. Details of Radial Plotting.-

Upon examination of the location of the horizontal control stations available for control of the photographs used in this radial plot, it was decided to start the plot by laying templet 22278 and holding to the fix it had from six control stations and build from there on down the center flight 22277, 76 etc. to 22273.

Inasmuch as the three flights ran east and west the laying of the center flight proved satisfactory procedure as the side flights reached out to control along the James River to the south and to control at Henrico, Tunstall and New Kent to the north.

Three laydowns were made in an attempt to get a succeedingly better plot each time. The plot did not improve appreciably the third laydown over the second whereupon it was decided to fade Reeves, 1932 sub. sta. and Cypress, 1934 and still hold other control and preserve the 4, 5, and 6 ray intersections in the manner desired throughout the plot.

Good intersections were obtained on all pass points, bench mark points, and photo points incidental to the plot.

A small number 80 drill was used to drill as near a vertical hole as possible through the several thicknesses of vinylite and the base grid. An attempt was made to drill the holes as nearly tangent or better to all rays concerned in the intersections.

Although the photographs have tilt, it was not considered enough to compute for the location of an isocenter and the subsequent redrafting of templets for an increased accuracy of the radial plot positions obtained.

The whole laydown was disassembled and the points were drafted with 3.5 mm. diameter blue acid ink circles.

The results of this plot are believed to be such that the compiler can obtain satisfactory accuracy in the compilation of the map manuscript and be well under 0.5 mm. of true geographic position.

8. Remarks.-Special effort was made in preparing the photographs and templets with the idea of obtaining a precise plot with a minimum of additional work needed to prepare the photographs for the Reading plotter.

As has been mentioned in this report, secondary pass

points with known elevations are now part of the radial line plot, and it should be possible to make rectification templets without further preparation of the photographs.

It does not take appreciably longer to select points in this manner providing the field party has chosen field stations satisfactory for use as photo points in the preparation of the office photographs.

Respectfully submitted,

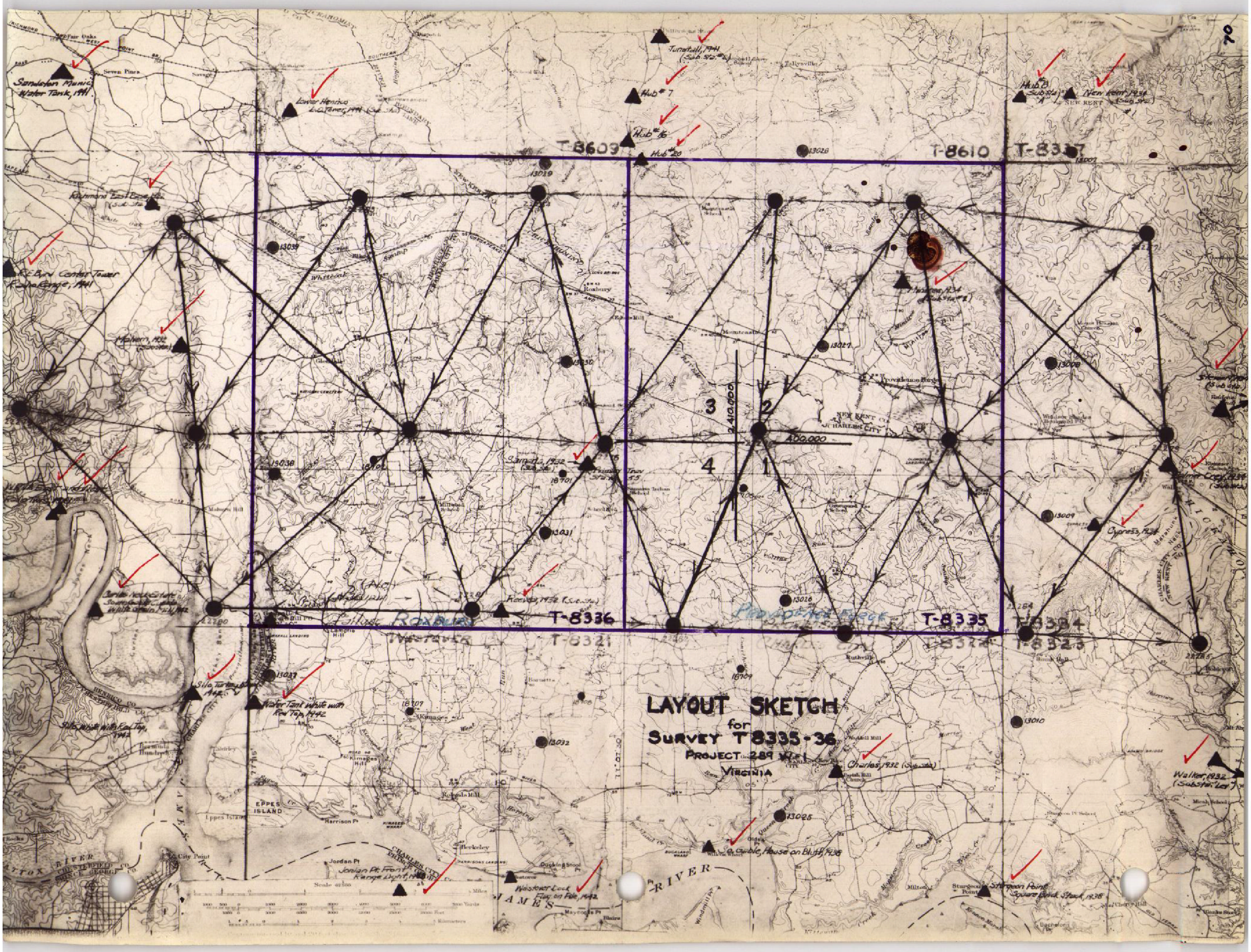
Roscoe J. French

Roscoe J. French
10 January 1949

Approved and forwarded
7 February 1949

L. C. Lande

L. C. Lande, Chief
Graphic Compilation Section
Washington Office


LAYOUT SKETCH
for
SURVEY T8335-36
PROJECT 289 W-1
VIRGINIA
T-8609
T-8610
T-8337
T-8336
T-8321
T-8335
T-8334
T-8323
3
2
4
1
2,410,000
400,000
Sandston Munic. Water Tank, 1941
Lower Henrico
Tunstall, 1941
Hub #7
Hub #16
Hub #20
Hub B
New Kent 1934
Malvern, 1932
Reeves, 1932
Samaria, 1932
Cypress, 1934
Charles, 1932
Walker, 1932
Westover Cook Flag on Pole, 1942
Jordan Pt. Front Range Light
Water Tank White with Red Top, 1942
Eppes Island
James River
Sturgeon Point
70

IDENTIFICATION REPORT
HORIZONTAL CONTROL
Project CS 289W-1

Station Name	Recovery Photo	Recovery Date	Method Pricking Data	Remarks Sketch	Tolerance	Remarks
T-8335						
Mintree, 1934	13027 45C1911	3-14-45	Card	Sketch	0.3mm.	Sub. Sta. #2 Fell E. of sub. sta.
Hub #20 (Tunstall Trav. 1944)	45C464 45C2013-17	4-20-45	Card	Sketch	Held	2 Cuts-tangent
T-8336						
Reeves, 1932	7643-44	8-20-42	Book 5	Sketch	0.3mm	Fell E. of sub. sta.
Samaria, 1932	13031	4-13-44	Card	Sketch	Held	Sub. Sta.
N. of T-8335						
New Kent, 1934	13007	4-26-44	Card	Sketch	Held	2 cuts Sub. Sta. #1
Hub #8 A (New Kent Trav.)	45C268	3-27-45	Card	Sketch	Held	2 cuts
E. of T-8335						
Stewart, 1934	12986	6-20-45	Card	Sketch	Held	2 cuts
Walker, 1932	7536	9-4-42	Book 5	Sketch	Held	2 cuts S.S. "Lev"
Cypress, 1934	7811	2-9-43	Card	Sketch	0.3mm	Fell E. of Station
Palmer Grey, 1934	12986	6-20-45	Card	Sketch	Held	Sub. Sta.
So. of T-8335						
Charles, 1932	7545-6 13010	8-20-42	Book 5	Sketch	Held	Sub. Sta. "Hen"
So. Gable, House on Bluff 1938	7532	8-12-42	Book 4	No Sketch	Held	2 cuts
Sturgeon Pt. Square Brick Stack, 1938	7545	7-29-42	Book 4	No Sketch	Held	2 cuts
N. of T-8336						
Lower Hennico L. O. Tower, 1941	13039 45C2045	5-9-44	Card	Sketch	Held	2 cuts
Tunstall, 1941	13029 45C466-2018	4-20-44	Card	Sketch	Held	2 cuts Sub. Sta.
Hub 16 (Tunstall Trav.)1945	45C464-2013	4-20-45	Card	Sketch	Held	2 cuts

12

Hub 7 (Tunstall Trav.)1945	45C2013	4-20-45	Card	Sketch	Held	2 cuts
W. of T-8336						
Malvern, 1932	13039 7625	4-12-44	Card	Sketch	Held	Sub.Sta.(USGS 344)
Richmond East Base, 1932	13039	4-13-44	Card	Sketch	Held	Sub.Sta.
Sandston Municipal W.T., 1941	47C1272	1947	-	-	Held	OP 347 Recovery
Richmond, Richard E. Byrd Center Radio Range Tower,1941	47C1274	1947	-	-	Held	OP 347 Recovery
Edgeworth WRVA East &	7624	3-18-43	Card	Sketch	Held	-
West Radio Towers, 1941	7624	3-18-43	Card	Sketch	Held	-
Curles Neck Estate, White Grain Mill SE Gable, Cupola 1942	7628	3-25-43	Card	Sketch	Held	-
Silo Turkey Island, 1942	7641	3-25-43	Card	Sketch	Held	-
Water Tank, White with Red Top, 1942	7641	3-11-43	Card	Sketch	Held	
S. of T-8336						
Jordan Pt. Front Range Lt. 1938		8-10-42	Book 4		Held	2 cuts
Westover Dock, Flag on Pile, 1942	7530	8-12-42	Book 4	No Sketch	Held	2 cuts

Photogrammetry

8335
MAP T- 8336 PROJECT NO. CS-289W1 SCALE OF MAP 1:20,000 SCALE FACTOR 1.0000

STATION	GP page Desc.page SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE LONGITUDE OR x-COORDINATE	Lambert Grid DISTANCE FROM GRID IN FEET	DATUM CORRECTION	Polyconic N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	Lambert DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
Reeves, 1932	P. 27 No.327 P. 9-21	NA 1927	37 22 46.861	2,387,387.88		1444.6	405.1		
			77 10 00.243	383,692.10		6.0	1470.2		
Reeves, 1932 S. Sta.		"	37 22 47.16	2,387,428.85		1453.977	395.723	2264.31	1783.69
			77 09 59.73	383,722.92		1469.634	6.566	1134.75	1913.25
Samaria, 1932	P. 56 No.327 P.39-10	"	37 25 07.372	2,395,389.11		227.3	1622.4		
			77 08 18.561	398,018.70		456.4	1018.9		
Samaria, 1932 S. Sta.		"	37 25 06.283	2,395,312.35		193.7	1656.02	1619.2	1428.8
			77 08 19.532	397,907.44		480.3	995.1	2410.2	637.9
Malvern, 1932	P 26 No.327 P.12-27	"	37 26 55.823	2,355,917.71		1721.0	128.7		
			77 16 26.131	408,447.29		642.3	832.5		
Malvern, 1932 S. Sta.		"	37 26 55.20	2,355,851.70		1701.7	148.0	1783.6	1264.4
			77 16 26.96	408,383.43		662.7	812.1	2555.3	492.7
Richmond East Base, 1932	P.26 No.327 P12-37	"	37 29 08.275	2,353,889.54		255.1	1594.6		
			77 16 49.138	421,818.21		1207.2	266.9		
Richmond East Base, 1932, S.Sta.		"	37 29 08.502	2,353,508.52		262.1	1587.64	1069.4	1978.6
			77 16 53.862	421,836.26		1323.3	150.8	559.7	2488.3
Edgeworth W.R.V.A. East Radio Tower, 1941	P.402 No.728 P.9	"	37 24 17.318	2,344,331.12				1320.1	1727.9
			77 18 52.325	392,267.08				691.0	2357.0
Edgeworth WRVA West Radio Tower 1941	P.402 No.728 P.9	"	37 24 14.288	2,344,016.03				1224.1	1823.9
			77 18 56.278	391,956.66				596.4	2451.6
Curles Neck Estate White Grain Mill, S.E. Gable Cupola	P.676 No.327 P.31	"	37 23 24.823	2,350,622.81				189.8	2858.2
			77 17 35.182	387,037.17				2144.9	903.1
Lower Henrico 1942 Lookout Tower, 1941	P.397 No.327 P.398	"	37 30 37.603	2,365,743.82		1159.3	690.5	50.7	1297.6
			77 14 20.551	431,009.35		504.7	968.9	307.6	2741.0

1 FT. = .3048006 METER

COMPUTED BY: R. J. French DATE: November 1948 CHECKED BY: R. Williams DATE: November 1948

M-2388-12

Photogrammetry

MAP T- 8335 / 8336 PROJECT NO. CS 289 W1 SCALE OF MAP 1:20,000 SCALE FACTOR 1.0000

STATION	GP page Desc. page SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE	Lambert Grid DISTANCE FROM GRID IN FEET.	DATUM CORRECTION	Polyconic N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	Lambert FACTOR DISTANCE FROM GRID IN METERS FORWARD	(BACK)
Turkey Island Silo, 1942	P.675 No.327 P.30	NA 1927	37 21 24.369	2,358,182.50				2494.0	553.9
			77 16 03.470	374,951.43				1509.2	1538.8
Mintree, 1934	P.143 No.389 P.3	"	37 28 08.042	2,425,601.93		247.92	1601.81		
			77 02 00.480	416,746.03		11.79	1462.56		
Mintree, 1934 #2 Sub. Sta.	T8609 DR	"	37 28	2,425,599.37		353.8	1495.8	1702.1	1341.6
			77 02	417,093.63		12.6	1461.8	2162.7	886.1
Tunstall, 1941	P395 No.728 P.7	"	37 31 57.019	2,401,160.33		1757.84	91.9		
			77 06 59.486	439,538.35		1460.86	12.7		
Tunstall, 1941 S. Sta. No. 2	~~P 395~~	"	37 31 57.414	2,401,391.94		1770.04	79.7	424.3	2623.7
			77 06 56.603	439,581.70		1389.71	83.8	2920.5	127.5
Water Tank, White with Red Top, 1942	P.675 No.327 P.30	"	37 21 21.043	2,363,330.29		1648.7		1015.1	2032.9
			77 14 59.757	374,682.40		1470.6		1427.2	1620.7
House on Bluff So. Gable, 1938	P.8-21	"	37 19 05.617	2,408,099.19				2468.6	579.4
			77 05 47.732	361,614.05				492.0	2556.0
Tunstall Trav., Hub #7, 1944		"	37 30 57.415	2,399,157.85		1770.0	79.7	2791.3	256.7
			77 07 25.440	433,480.08		625.0	848.8	1060.7	1987.2
Tunstall Trav., Hub #~~16~~ 1944		"	37 30 13.207	2,398,284.13		407.1	1442.6	2525.0	523.1
			77 07 37.093	428,995.69		912.5	561.3	2741.9	306.2
Charles, 1932	P.27 No.327 P.6	"	37 20 21.087	2,419,780.16		650.1	1199.6		
			77 03 21.665	369,423.86		533.3	943.7		
Charles, 1932 S.Sta. "Hen"		"	37 20 20.867	2,419,764.43		643.3	1206.39	2976.2	71.8
			77 03 21.864	369,401.37		538.2	938.8	2865.5	182.5
Cypress, 1934	P.161 No.389 P.2		37 24 17.795	2,445,241.6				1597.6	1450.4
			76 58 01.523	393,768.3				1148.6	1899.4

1 FT. = .3048006 METER

COMPUTED BY: R. J. French DATE November 1948 CHECKED BY: R. Williams DATE November 1948

M-2388-12

Photogrammetry

MAP T-8335-36 PROJECT NO. CS 289 W1 SCALE OF MAP 1:20,000 SCALE FACTOR 1.0000

STATION	GP page Desc.page SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE LONGITUDE OR x-COORDINATE	Lambert DISTANCE FROM GRID IN FEET	DATUM CORRECTION	Polyconic N.A. 1927 - DATUM DISTANCE FROM PROJECTION LINE IN METERS FORWARD	(BACK)	Lambert DISTANCE FROM GRID IN METERS FORWARD	(BACK)
Charles, 1932 S.Sta."Hen"		NA 1927	37 20 20.867	2,419,764.43		643.3	1206.39	2976.2	71.8
			77 03 21.864	369,401.37		538.2	938.8	2865.5	182.5
Cypress, 1934	P.161 No.389 P.2	"	37 24 17.795	2,445,241.6				1597.6	1450.4
			76 58 01.523	393,768.3				1148.6	1899.4
Westover Dock Flag on Pile, 1942	P.524 No.327 P.2-23	"	37 18 34.513	2,393,145.59		1064.0		2958.9	2089.2
			77 08 53.428	358,249.75		1315.7		2514.5	533.5
New Kent, 1934	P.143 No.389 P.3	"	37 31 02.773	2,441,077.17				328.3	2719.7
			76 58 44.964	434,655.32				1418.9	1629.1
New Kent, 1934 S. Sta. #1		"	37 31 02.77	2,441,088.68		89.1	1760.65	331.8	2716.2
			76 58 44.96	434,720.64		1109.9	363.6	1438.8	1609.2
Haxall, 1942	P.671 No.327 P.37	"	37 22 32.482	2,365,021.69		1001.4	848.3		
			77 14 37.618	381,930.93		925.6	550.7		
Hub #8, New Kent Trav. S.Sta."A"	T8609 D.R. & 725 d	"	37 31 0.670	2,436,329.88		20.7	1829.1	1929.3	1118.7
			76 59 43.937	434,379.21		1079.0	394.5	1334.8	1713.2
Hub #20 (Tunstall Trav.)	T08609 D.R. & 725 d	"	37 29 52.598	2,399,479.15		1621.5	228.2	2889.2	158.8
			77 07 22.638	426,941.77		556.1	917.7	2115.8	932.2
Palmer Crey 1934	161-63 No.389 P.2	"	37 25 14.383	2,451,672.44				509.7	2538.3
			76 56 40.642	399,597.46				2925.3	122.7
Palmer Crey, 1934 S. Sta.	T-8337 D.R.	"		2,451,644.77				501.3	2546.7
				399,527.76				2904.1	143.9
Sturgeon Point Square Brick Stack, 1938	No.327 P.3	"	37 18 26.266	2,434,555.36		809.7	1040.0	1388.5	1659.5
			77 00 20.958	358,039.82		516.1	961.4	2450.5	597.5
Richmond, Richard E. Byrd AP, Center Radio Range Tower, 1941	P.401 No.728 P.9	"	37 28 16.000	2,337,334.83		493.3	1356.5	2235.6	812.4
			77 20 15.358	416,321.87		377.4	1097.0	1926.9	1121.1

1 FT. = .3048006 METER

COMPUTED BY: R. J. French DATE: November 1948 CHECKED BY: R. Williams DATE: November 1948

M-2388-12

Photogrammetry

MAP T- 8335 - 36 PROJECT NO. 289W-1 SCALE OF MAP 1:20,000 SCALE FACTOR 1.0000

STATION	G.P. page Desc, page SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE LONGITUDE OR x-COORDINATE	Lambert Grid DISTANCE FROM GRID IN FEET.	DATUM CORRECTION	Polyconic N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	Lambert FACTOR DISTANCE FROM GRID IN METERS FORWARD	(BACK)
Sandston Municipal Water Tank, 1941	P.398 No.728 P.8	NA 1927	37 31 18.751	2,343,887.80		578.1	1271.7	1185.0	1863.0
			77 18 51.184	434,888.16		1256.9	216.5	1489.9	1558.1
Walker, 1932	P.27 No.327 P.1	"	37 19 59.355	2,465,480.04					
			76 53 56.152	367,962.78					
Walker, 1932 Sub.Sta."Lev"		"	37 19	2,465,464.34				1665.5	1382.5
			76 53	367,888.30				2404.3	643.7
Jordan Pt. Front Range Lt., 1938	P.525 No.327 P.10	"	37 18 30.68	2,380,758.58				231.2	2816.8
			77 11 26.84	357,687.15				2343.0	705.1
Stewart, 1934	P.143 No.389 P.3	"	37 25 50.831	2,472,218.15					
			76 52 25.125	403,630.53					
Stewart, 1934 Sub. Sta.		"	37 25	2,472,247.75				685.1	2362.9
			76 52	403,643.13				1110.4	1937.6

1 FT. = .3048006 METER

COMPUTED BY R. J. French DATE Nov. 1948 CHECKED BY R. Williams DATE November 1948

M-2388-12

COMPILATION REPORT

26. Control:

Details are available in Radial Plot Report to accompany Description Report, T-8336, which includes a list of all control used and remarks as to how each station was held to. Control stations located within the limits of this quadrangle and shown on the manuscript are listed on a separate page in this report.

Vertical control was furnished as outlined in paragraph 5, this report, and served as a datum basis for contour compilation. Used as such, level line TU-83 to TU-92 could not be checked consistently on the compilation instrument and was not held to; and investigation of this line in the field level-book proved the line to be in error of closure by 4.6 feet. However, the quantity and dispersion of usable elevations furnished was quite adequate for the purpose served. Elevations along this level line were checked and corrected by the Field Editor.

27. Radial Plot:

See Radial Plot Report to accompany Descriptive Report for quadrangle T-8336.

28. Detailing:

Planimetry and contours were compiled on the Reading Plotter from rectified metal-mounted nine-lens prints of the original photographs used in laying the radial plot. Cultural details were delineated on the instrument guided by data from field inspection photographs. The field inspection was accomplished in 1944 and 1945 and was quite obsolete at the time of compilation as evidenced by new highways and woodland changes apparent in the compilation photographs dating 1947. A thorough field edit will be required to verify the details not covered by the field inspection.

The photography used in compilation was quite adequate for the required purpose.

37. Quadrangle Junctions:

This manuscript is in good agreement along junctions with quadrangles T-8610 to the north and T-8336 to the west, both of which have been previously compiled as a part of this same project, 289-W1. To the east and south, T-8334 and T-8322 respectively are also part

of this project but as yet not completed. When compiled, the corresponding edges will be junctioned to this manuscript. Junctions checked during review

38. Quality of Contours:

All contours on this manuscript conform to the national map standards of accuracy for a contour interval of 20 feet.

See Review Report for comparisons with other surveys.

Louis J. Reed
Chief, Stereoscopic Mapping Section

Virginia

MAP T- 8335 PROJECT NO. CS-289 W-1 SCALE OF MAP 1:20,000 SCALE FACTOR 1.00

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD (BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)
MINTREE, 1934	GP page Desc. No. 389 p.143 p.3	NA 1927	37 28 08.042 77 02 00.480	2,425,601.93 416,746.03		247.9 (1601.8) 11.8 (1462.6)	

1 FT. = .3048006 METER

COMPUTED BY: R. J. French DATE Nov. 1948 CHECKED BY: Robt. Williams DATE Nov. 1948

M-2388-12

GEOGRAPHIC NAMES

Survey No.

T-8335

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Bethany Church	— Alpine Sch.									1
Bethany Road										2
Binns Store	Cedar Grove Ch									3
Bradley Run										4
Charles City County	— Chapel ~~Methodist~~ Ch. & Cem.									5
Charles City Road										6
Chesapeake and Ohio										7
~~Chickahominy District~~										8
Chickahominy River										9
Collins Run										10
Courthouse Creek										11
~~Cumberland District~~										12
Dockman Swamp										13
East Run										14
Emmaus Ch & Cem										15
Fire Tower										16
Glebe Creek										17
Greenyard Swamp										18
~~Harrison District~~										19
Holly Landing										20
~~Hubbard Family Cem~~										21
Jones Run										22
~~Jordans~~ Jerdones	Big Woods									23
Little Elam Chapel	— Little Elam Sch.									24
Menoah Ch & Cem										25
~~Mintree Branch~~	Minitree Branch									26
~~Mintree Hill~~	Minitree Hill									27

M 234 80

GEOGRAPHIC NAMES

Survey No.

T-8335

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Mountcastle										1
Mountcastle School										2
Mt Calvary Ch & Cem										3
Mt Zion ~~Ch~~ & Cem										4
New Kent County										5
New Kent Road										6
Old Forge Pond Oldhouse Landing										7
Olivet Ch & Cem										8
Parish Hill Creek										9
Piney Branch										10
Pocahontas Trail										11
Possum Run										12
Providence Forge										13
~~Richmond Club Pond~~										14
Roaches Corner										15
Rumley Marsh										16
Ruthville Road										17
Sandy Bottom Church										18
Schiminoe Creek										19
Stony Run										20
~~St Peters District~~										21
Tator Run				GEOGRAPHIC NAMES						22
Toe Ink ~~Ins~~ Swamp				underlined in red						23
Tonyham Swamp				are approved.						24
~~Tyler District~~				11/21/52						25
— Union Cem.										
Winns Landing										26
Cedar Grove Cem.				Checked & approved						27
U.S. #60				3-31-54 a.l.c.						

Form T-2

PHOTOGRAMMETRIC OFFICE REVIEW

T-8335

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

CONTROL STATIONS

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

✓ = checked
N = non-existant

ALONGSHORE AREAS
(Nautical Chart Data)

12. Shoreline ✓ 13. Low-water line N 14. Rocks, shoals, etc. N 15. Bridges ✓ 16. Aids to navigation N 17. Landmarks N 18. Other alongshore physical features N 19. Other alongshore cultural features ✓

PHYSICAL FEATURES

20. Water features ✓ 21. Natural ground cover ✓ 22. Planetable contours N 23. Stereoscopic instrument contours ✓ 24. Contours in general ✓ 25. Spot elevations ✓ 26. Other physical features ✓

CULTURAL FEATURES

27. Roads ✓ 28. Buildings ✓ 29. Railroads ✓ 30. Other cultural features ✓

BOUNDARIES

31. Boundary lines ✓ 32. Public land lines N

MISCELLANEOUS

33. Geographic names ✓ 34. Junctions ✓ 35. Legibility of the manuscript ✓ 36. Discrepancy overlay ✓ 37. Descriptive Report ✓ 38. Field inspection photographs ✓ 39. Forms ✓
40. _____ Louis J. Reed, Chief, Stereoscopic Mapping Section.
Reviewer — 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:

M-2623-12

FIELD EDIT REPORT
Quadrangle T-8335 (Providence Forge)
Project CS-289
J. C. Sammons, Chief of Party

51. METHODS -- The quadrangle was inspected by riding over all passable roads to check their classification, to classify buildings, to examine questioned areas and to visually check contours and planimetry. Trails, to be shown, were checked by walking over them and by utilizing local information. Standard surveying methods were used for corrections, additions and checking.

All additions, corrections and deletions have been either indicated on the field edit sheet or cross referenced to the photographs. Red ink was used for additions and corrections and green ink for deletions. No legend is shown on the field edit sheet or photographs.

Field edit information is shown on one double weight matte print, used as a field edit sheet, cut into four sections and numbered 1, 2, 3 and 4, one discrepancy print, four nine lens 1:20,000 scale photographs numbered 22255, 22256, 22274, 22275 and three 1950 single lens contact prints numbered 3, 5 and 7.

52. ADEQUACY OF COMPILATION -- The map compilation is near adequate and will be complete with the application of the field edit data.

53. MAP ACCURACY -- The horizontal positions of the mapped details appear to be good. No vertical accuracy test was made of the contours. In general testing of the map approximately 75 points on various contours were checked with no error being found greater than 1/2 a contour interval.

54. RECOMMENDATIONS -- None offered.

55. EXAMINATION OF PROOF COPY -- No one was requested to examine a proof copy of this map.

The pond located at Providence Forge is not known as Richmond Club Pond. Reliable local information discloses that the pond was built for the old forge and mill that once stood near the ponds dam. All persons contacted concerning the proper name for the pond believes it should be named "Old Forge Pond".

A list of names of persons living in the area is shown on the discrepancy print if more information is desired.

56. Several roads in this area are known as forest fire trails. Local information discloses that they are graded once a year by the Virginia Forest Service and are not regularly maintained by the State. These roads in the winter season often become impassable and are seldom traveled. A class 7 is recommended for them..

Respectfully submitted,
28 April 1953

Elgan T. Jenkins
Elgan T. Jenkins
Cartographic Survey Aid

Review Report T-8335
Topographic Map
April 1, 1954

62. Comparison with Registered Topographic Surveys.-

T-1337b	1:20,000	1873-75
T-8082	1:10,000	1943

This map supersedes these surveys for nautical charting purposes. There is no tidal water on this quadrangle since the tide has no effect upstream from Walkers Dam across the Chickahominy River. See T-8334.

63. Comparison with Maps of other agencies.-

USGS Charles City Quad 1:62,500 1944

The construction of U.S. Highway 60 is the most prominent cultural change shown on the map manuscript.

64. Comparison with Contemporary Hydrographic Surveys.-

There are no contemporary hydrographic surveys.

65. Comparison with Nautical Charts.-

Nautical Chart 530 1:40,000 1940

No major differences were noted.

66. Adequacy of Results.-This map complies with the National Standards of Map Accuracy. See Field Edit Report, Item 53.

Reviewed by:

Charles Theurer
C. Theurer

APPROVED

R. C. Landy
Chief, Review Branch
Div. of Photogrammetry

H. McEdwards
Chief, Nautical Chart Branch
Division of Charts

Chief, Div. of Photogrammetry

Earl O. Hanson
Chief, Div. of Coastal Surveys

27 Sept. 1955