8353

Diag'd. on diag. ch. No. 78-3

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey: Topographic Quadrangle

~~Field No.~~ Lancaster Office No. T-8353

LOCALITY

State: Virginia

General locality: Lancaster & Northumberland Counties

Locality: Lancaster and vicinity

1945

CHIEF OF PARTY

LIBRARY & ARCHIVES

DATE Dec 29-1947

B-1870-1 (1)

8353

Form T-1

DATA RECORD

T-8353

Quadrangle (II): Lancaster Project No. (II): CS 289-X

Field Office: Washington Chief of Party: K. T. Adams

Compilation Office: Washington Chief of Party: R. W. Knox

Instructions dated (II III): February 29, 1944 (new instr for FE) ~~Copy filed in Descriptive Report No. T-~~ (VI)

~~Completed survey received in office~~: Survey completed in office: July 5, 1945
Aug 24, 1945 (FE)
Sept 30, 1945 (revis)

Reported to Nautical Chart Section:

Reviewed: Feb. 15, 1946 Applied to chart No. Partially applied to Chart # 534 - April 15, 1945 Date:

Redrafting Completed: 6/18/46

Registered: 10/47 Published:

Compilation Scale: 1:10,000 Published Scale: ~~1:31,680~~ 1:24 000

Scale Factor (III):

Geographic Datum (III): NA 1927 Datum Plane (III): Mean Sea Level

Reference Station (III): Wicomico, 1942 (2nd order)

Lat.: 37°48'53."549 Long.: 76°22'44."931 Adjusted ~~Unadjusted~~
Polyconic projection in sepia on sepia print

State Plane Coordinates (VI): Va. S. Grid (On black on manuscript which is a sepia print)

X = 2,612,634.67 Ft. Y = 546,296.67 Ft.

Military Grid Zone (VI) Zone "A"
Plotted by M. G. Misulia
Checked by H.R. Brooks
(On red on manuscript which is a sepia print.)

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
45C 249 to 259 44C 436 to 560 44C 615 to 724	This list includes photographs for the entire project of five quadrangles. Date and time are shown on each photograph. Area photographed in February 1944.			

Tide from (III): 1.9 to -0.1

Mean Range: Spring Range:

Camera: (Kind or source) Single lens - No. C.

Field Inspection by: R. L. Schoppe (for 249X) date: 249X Mar - June 1944

Field Edit by: A. LaFave & H. R. Crowell date: Oct 22 - Nov. 16, 1945

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

Projection and Grids ruled by (III) Ruling Machine date:

" " " checked by: " " date:

Control plotted by: J. N. Henningson date: August, 1944

Control checked by: S. W. Trow date: August, 1944

~~Radial Plot by:~~ date:

Detailed on multiplex by: S. W. Trow & J. P. Webb date: Sept. 1944 to May, 1945

Reviewed in compilation office by: S. W. Trow, J. P. Webb, A. LaFave date: May, June 1945

Elevations on manuscript ~~Field Edit Sheet~~ checked ~~by~~ against elevations on field photographs by: S. W. Trow, J. P. Webb, A. LaFave date: May, June 1945

STATEMENT TO ACCOMPANY DESCRIPTIVE REPORT T-8353

1. T-8353 and the adjoining quadrangles will be smooth drafted, published, and distributed by the Geological Survey in accordance with the agreement of March 25, 1947.

2. The following data for T-8353 may be needed from time to time either in the U. S. Geological Survey or the Coast and Geodetic Survey. They are filed and may be obtained as follows:

(a) The 1:20,000 scale manuscript corrected after field edit. - The manuscript is being forwarded to the Geological Survey at this time for smooth drafting. It will be eventually returned to the Coast and Geodetic Survey and will be filed in the Division of Photogrammetry. Meanwhile, it may be obtained from the Geological Survey if needed for nautical chart correction or other purposes.

(b) Field edit sheet. - The field edit sheet is filed in the Division of Photogrammetry. It will be loaned to the Geological Survey or other Divisions of the Coast and Geodetic Survey upon request. (At this date, 2 October 1947, the field edit sheet for T-8353 has been misplaced and is not available. However, all field edit corrections have been applied to the manuscript.)

(c) Descriptive report. - The descriptive report together with a 1:20,000 scale photographic print of the manuscript (a above) is being registered in the Coast and Geodetic Survey archives at this time. When T-8353 is published, a cloth-backed colored print will also be registered. The descriptive report will be withdrawn from the archives and loaned to the Geological Survey upon request.

B. J. Jones

B. J. Jones
Technical Assistant to the
Chief, Div. of Photogrammetry

OUTLINE OF OPERATIONS

PROJECT CS 289X

(INCLUDING QUADRANGLE T- 8353)

This project, CS 289X, of which T-8353 is a part, originally was part of war mapping project CS 289 which involved the production of 7½-minute topographic quadrangles by photogrammetric methods using nine-lens photographs, but with all contouring by planetable.

In the winter of 1943-4 it was decided by the War Department that all field work would be discontinued July 1, 1944. Since the entire project CS 289 could not be completed by that date, it was subdivided and subproject CS 289X was designated as a test project for topographic mapping by multiplex. Subproject CS 289X was rephotographed with the single-lens camera, and new instructions for field work were issued February 29, 1944. A copy of these instructions is filed in the Photogrammetric Section.

By arrangement with the War Department, field work on subproject CS 289X was started in March 1944 and continued until some time in June 1944. Commander R. L. Schoppe was in charge of the field party.

The field work accomplished prior to July 1, 1944 on this project included the identification of horizontal control, the establishment of additional horizontal control for the multiplex, the establishment of supplemental levels for the multiplex, field inspection for the clarification of photographic details, and planetable contouring of flat areas along the Rappahannock River which it was assumed could not be satisfactorily contoured on the multiplex.

As originally planned under project CS 289, this area was to have been compiled from nine-lens photographs using the existing triangulation. For control of the multiplex, it was necessary on subproject CS 289X to establish 6 additional triangulation stations and about 66 miles of third-order traverse. A report on the triangulation and a separate report on each traverse line are filed in the Photogrammetric Section.

For vertical control of the multiplex mapping of the entire project CS 289X about 298 statute miles of supplemental levels were run.

The field inspection report for the entire subproject

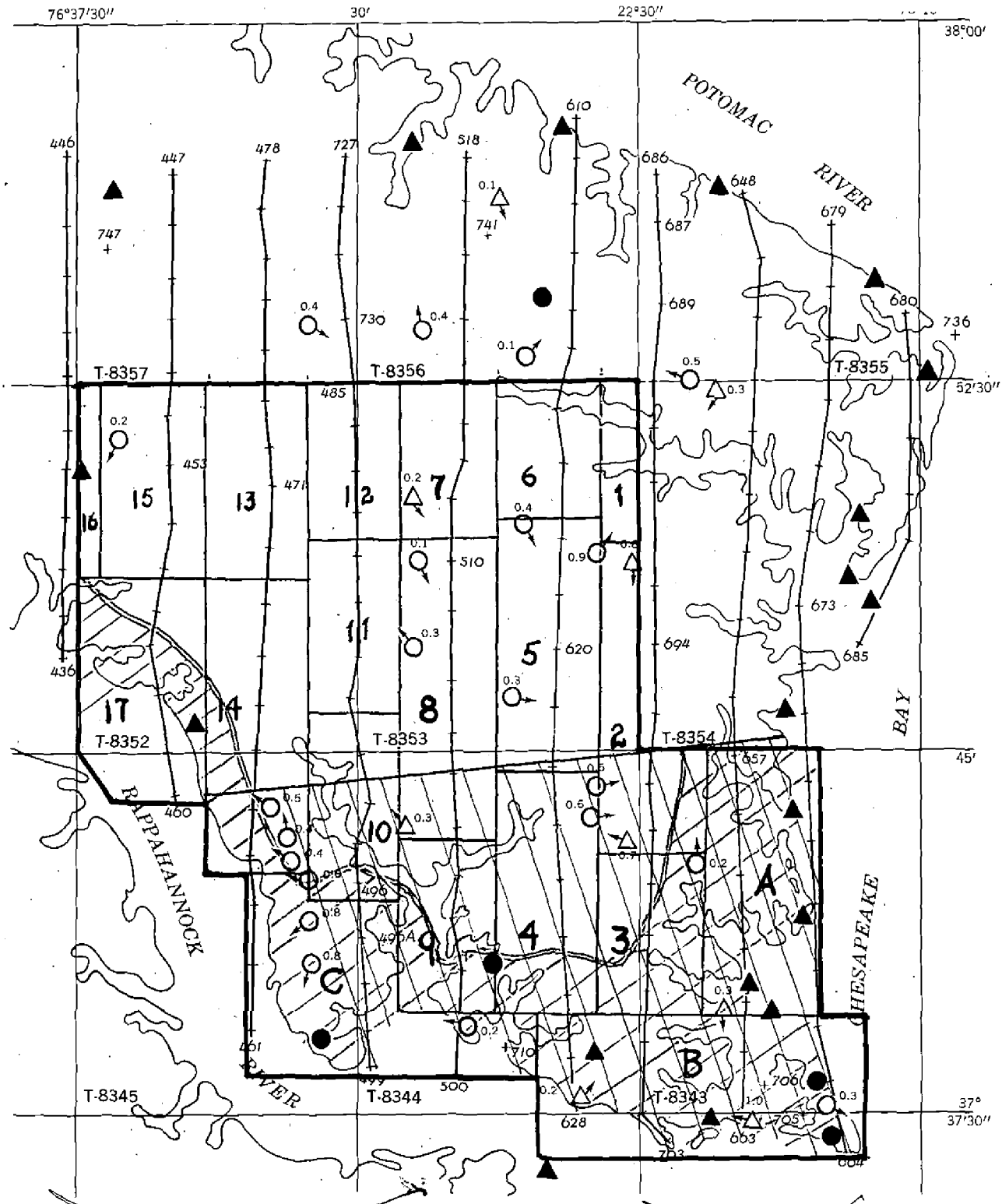
CS 289X ~~is filed in the Photogrammetric Section.~~ form part of the Project Completion Report.

The planetable contouring of flat areas along the Rappahannock River was accomplished on 1:10,000 scale single-lens ratio prints, This was done to obtain a comparison wiht contouring on 1:20,000 scale nine-lens photographs on most of the war mapping work. The report on this contouring is contained in the field inspection report.

Compilation of five quadrangles on this project was taken up in the Washington Office in September 1944 and completed in July 1945. Operation of the multiplex was not continuous, the instrument having been taken off of productive mapping for training purposes and the personnel also interrupted on several occasions for other special work. Field edit and completion surveys will be made in 1945 by a field party in charge of Mr. Harland R. Cravat and under the direction of the Chief, Section of Topography, Division of Coastal Surveys.

B. G. Jones

B. G. Jones
Chief, Photogrammetric Section
July 17, 1945



Radial Plot made for break down of horizontal control

Project 289-X-1

3 Multiplex Sheet + Number

Area: Planimetry by Multiplex

Contours by Planetable

COMPILATION REPORT

to accompany

Project CS 289-X-1

Sheets T-8352, T-8353, T-8343, T-8344,
T-8345 (in part), and T-8342 (in part)

The Multiplex Method:

This project is the first area mapped by multiplex by the U. S. Coast and Geodetic Survey. A description of the method used is given here as a matter of record for multiplex instrument as well as for the project.

The compilation of Project CS 289-X was made with the multiplex mapping equipment in the Washington, D. C., office at the scale of 1:10,000 between September, 1944, and July, 1945. The planimetry for the entire project was accomplished with multiplex. The contouring for the northern part comprising about 80% of the area (see sketch) was done with multiplex, while the remaining flatter areas was done by field parties on 1:10,000 scale ratio prints and transferred to the multiplex planimetry by tracing.

On sheet T-8353 and small parts of the other sheets, the multiplex used horizontal control in the customary manner. Traverses were run in the field in such a manner that two or more stations appeared in the first pair of photographs in each strip, and one or more appeared in the last pair, a maximum of six projectors being employed for horizontal control bridging between the pairs.

The Use of Radial Plots:

In most of the area south of 37°45' (see sketch) where water areas broke the continuity of traverses as well as the bridging process, a radial plot was made with 1:10,000 scale ratio prints on low shrink paper and using transparent hand templets. The positions of features as determined by the plot were then utilized by the multiplex as horizontal control. The plot positions were not strictly adhered to, but the entire multiplex strip model was adjusted to fit a majority of the points. The position for details as determined by the multiplex after adjustment was considered as final, since the multiplex method is regarded as being of greater accuracy than a radial plot.

An insufficient amount of traverse was run on sheet T-8352 for multiplex control, but positions were obtained from another radial plot. An experimental plot of all Project CS 289-X-1 was made with 1:15,840 scale ratio prints on low shrink paper using steel templets on acetate base sheets. The positions were transferred to the larger scale multiplex sheets by means of the vertical reflecting projector. This control was not so consistent as that obtained with the other 1:10,000 scale hand templet radial plot. This area had also been plotted from nine-lens photographs using hand templets in the Tampa Office at the scale of 1:20,000. An attempt to use this data was not satisfactory because the discrepancies were large and inconsistent, due partly to the enlargement of the plot positions. (The sheet had been plotted at Tampa at 1:20,000 scale but not compiled.)

Operational Procedure:

The multiplex operator plotted the planimetry in pencil for an entire strip and then inked the work. A draftsman often helped with the inking. The contouring was then plotted with the multiplex in pencil for the whole strip or sheet and a draftsman inked the lines. The multiplex sheets were completed outside the multiplex room either by the operators when they were not operating the instrument or by some other one who thoroughly understood the work. Data as indicated by the field inspection photographs were added. Some wood lines and buildings were traced from ratio prints by holding to the multiplex planimetry. The contours and streams were inspected for discrepancies by means of a mirror stereoscope which exaggerated the appearance of relief.

The multiplex work was done on 20 vinylite base projection sheets (see sketch) which had a very small differential shrinkage with change in humidity. Since the multiplex room has no humidity control, the use of vinylite sheeting was essential. A separate sheet was used for each strip or "bar". The type of vinylite used was "Dyrite". "Virginia Plak" vinylite was also used but has a surface not well adapted to multiplex work.

Personnel

Mr. Stanley W. Trow and Mr. James P. Webb did all the multiplex plotting in the area. Mr. Reynold E. Ask made all the diapositives, and Mr. Aziel LaFave completed and checked most of the sheets.

The multiplex operators worked two shifts on most of the plotting work. The shifts were arranged so that the operator who had a late shift would also have the following early shift. In this manner there is little or no lost motion in changing shifts. The work was interrupted on numerous occasions by other work such as special chart compilation for the Navy Department, and the training periods for South American students.

Plotting Rate:

The average rate of mapping (contours and planimetry) was 0.72 square miles per shift while the maximum rate for one month was 0.83 square miles per shift.

Multiplex Discrepancies:

The placing of contour lines in a few small areas was referred to the field edit party for completion and verification. Such areas are indicated by dashed contour lines. The causes for these doubtful circumstances usually was due to (1) a poor or warped "model" which the operator was unable to "clear" and "level", (2) heavily wooded areas far out at the sides of the model where the view of the ground was obliterated by trees, or (3) hilltop contours, the presence of which the operator was not quite certain since it involved the perception of an elevation difference smaller than it is possible to detect with the multiplex. The only large area in which the model was badly "warped" comprised about one square mile on the north edge of sheet T-8352, multiplex sheet 15, photographs 45-C-451 and 452. The reason for the discrepancy was evidently a mechanical failure of the vacuum device in the air camera, allowing the film to be other than flat. The drawing of contours in this area was not attempted.

Comments on Photography:

The photography for this project was barely adequate for the maintenance of standard map accuracy requirements for contouring. (1) According to the U. S. Geological Survey formula the flying height for this camera and contour interval should have been 9200 feet while the actual flying height was 12000 feet. More recent flying at 10,000 feet is much easier to use. The presence of trees and areas of low relief increased the relative importance of this feature. (2) An attempt was made to decrease the forward overlap of the photographs to increase the base-height ratio and thus make it possible to detect smaller changes in elevation, as well as to reduce the number of photographs and control points. This was perhaps false economy since the sharpness of images is poor near the edges of the photographs, the

identification of control near the edges was difficult and subject to greater error, and the number of required vertical control points was increased because of the impossibility of finding a suitable image in the common overlap of six photographs. The best overlap is probably 58%. A decrease in this value is much less desirable than an increase since it breaks the continuity of the multiplex process. On the other hand, an increase beyond 62% tends to weaken the process. (3) The presence of large wooded areas created a difficulty which also argues for a lower flying height and a smaller base-height ratio. The images of trees appears as a blur from 12,000 feet while they appear as individual trees from 10,000 feet, about and through which can be recognized ground features. (4) The photographs were taken in January when the leaves were supposedly fallen. It is pointed out by our operator as well as those of other agencies that oak trees keep their leaves until they are pushed off by new spring buds. Consequently, the ground would have been easier to see if the photographs had been made in March when greater ground illumination also exists. This feature is born out in an outstanding manner by more recent photography in the same vicinity: 45-C-264 to 580 taken on January 18, and 45-C-1911 to 2111 taken on March 23. (Project 318) (5) An operator has a keener perception of difference in elevation in steeper areas than in flatter areas. The project may be classed as an area of low relief. This is an additional reason the operator worked at his limit of stereoscopic perception to maintain accuracy, and another reason to justify lower flying in areas of this terrain and cover. (6) A re-flight was made for part of one strip of the project because on the original photographs the forward overlap was insufficient and the definition was poor. The re-flown area was on sheets T-8344, 8345, and 8353, and on multiplex sheets 2 and 3. The new photographs 45-C-249 to 259 were used in place of the earlier ones 44-C-693 to 701. The new flight was made at the altitude of 10,000 feet (instead of 12,000) and the plotting scale was maintained at the scale of 1:10,000 although the multiplex was not operating at the plane of optimum definition.

Multiplex Records:

A record of the plotting procedure for each multiplex sheet was kept on a special form "Check List Multiplex Mapping". The twenty forms are filed in the Photogrammetric Section.

26. Control:

Horizontal Control. The horizontal control consisted of:

NOTE:

The cause for the discrepancies was not determined definitely because (1) there was no question concerning the accuracy of the plot since the traverse as a whole fit well, as did all other control, (2) investigation disclosed that no error had been made in re-identifying the points on the office photographs from the field photographs, nor in the computations, (3) the points were each in error about 1 mm but in different directions, (4) the points were not sharp images but were road Y-intersections, and (5) the method of field measurement made it entirely possible for any such intermediate offset station to be in error without affecting the measurements or closure of the traverse itself.

Tewinkel

1. The recovery and identification of nine C.& G.S. triangulation stations.

2. Six additional third order triangulation stations established for this mapping project.

3. About 66 miles of third order traverse comprising 97 stations established for this mapping project.

Vertical Control.

About 298 statute miles of levels were run to furnish vertical control for the multiplex work.

Both types of control were adequate. If more horizontal control had been requested and obtained, the making of radial plots would have been eliminated, but the cost of the plots was comparatively small. In a few instances the field parties failed to obtain elevations in isolated locations where they had been requested. Since these instances were scattered, the difficulty caused was of minor importance and the map accuracy was probably not affected.

The three traverse stations PP1G, 3G, and 5G could not be held in either radial plot. They were in the traverse "Station Tawles 3 (1942) to Washington-Norfolk Airway Beacon No. 6 (1942)". The cause for the discrepancy was not determined. See note on opposite page

27. Radial Plots:

Data from two radial plots were used to supplement the multiplex work. This probably was not absolutely necessary - the multiplex perhaps could have been carried out with equal accuracy without them. But the use of the plots did transfer work from the multiplex room and operators to other space and personnel, leaving the multiplex for topographic work rather than for the adjustment of optical triangulation.

The Hand Templet Plot

One plot was made with transparent acetate templets covering most of the area south of latitude 37°45', using ratio prints enlarged 2.4 x to 1:10,000 scale, printed on low shrink paper. The usual method was employed in preparing the photographs, making the templets and adjusting the plot. About two special detail points per photograph were selected which were sharply and unmistakably identifyable with the multiplex. The radial lines for these special points appeared on the templets and the positions established

with the original plot. The plot held well all over in the final adjustment, except for the traverse points 1G, 3G, and 5G mentioned above. Difficulty was encountered at first with several of the new triangulation points along the east coast line, but an error in the computation was discovered and corrected which made the templets fit very well.

The control was adequate. The control identification was very good. The photographs were favorable. The closure and adjustment were very good. There were no areas for which there is reason to question the accuracy.

The Steel Templet Plot A report on this plot is attached to the "Compilation Report"

An experimental plot was made of the entire project for testing the relative accuracy of the steel templet method. Originally this plot was not intended for use with the multiplex but later was used for that purpose. The plot was made at the scale of 1:15,840 with ratio prints of about 1.3 X on low shrink paper. The photographs were prepared in the customary manner for steel templet plots. Only control points, test points, and pass points were utilized. The resulting positions as indicated by the test points (points whose positions were withheld from the personnel until after the plot was completed) showed that the plot was good except in the region of the traverse mentioned in paragraph 26 in sheet T-8347 as mentioned above. The only area of the steel plot which was used in connection with multiplex work was on sheet T-8352. The positions from this plot however were not so consistent as those from the hand templet plot, as indicated by the subsequent multiplex positions. The reason is probably that (1) steel templets are not quite so accurate as hand templets and (2) the positions were enlarged from 1:15,840 to 1:10,000 for use with the multiplex.

Photographs:

The following single lens photographs were used in the radial plots, having been taken in January, 1944, with the C. & G. S. aerial camera "C" of 6 inch, 90° metrogon lens:

44-C-436 to 560
44-C-615 to 724.

28. Detailing:

The detailing was done largely with the multiplex. Some woods lines and buildings were added to the multiplex planimetry directly from the photographs. Field inspection

data were added to the multiplex sheets outside the multiplex room.

29. Supplemental Data:

No information was used to supplement the work of the multiplex plotting and the field inspection.

30. Mean High-Water Line:

The mean high-water line was indicated in many places on the field inspection photographs. It was plotted with the multiplex and checked against the field inspection. The stage of the tide at time of the photographs used for shoreline delineation varied from -0.1' to + 0.8 feet

35. Hydrographic Control:

Hydrographic stations were selected by the field inspection party and described on Form 524. These stations were ~~not~~ located by means of the multiplex ~~set~~ or were "cut in" radially from three or more photographs and will be shown as a dot and small circle on the manuscript.

36. Landing Fields and Aeronautical Aids:

The only aeronautical facilities in the project consist of the Washington-Norfolk Airway Beacon No. 6 and the emergency landing strips nearby near the southern edge of sheet T-8352. Has been reported to aero. chart Branch.

44. Comparison with Existing Quadrangles:

The project is covered by parts of the U. S. Geological Survey quadrangles, 1:62,500, 20 foot contour interval, 1918:

Urbanna
Morattico
Kilmarnock
Heathsville

These quadrangles were used principally as planning sheets. Comparison does not indicate any outstanding discrepancies which are not due to (1) the smaller scale of the old quadrangles, (2) the change in cultural features since they were made, and (3) the comparative completeness and shapes characteristic of the multiplex method.

45. Comparison with Nautical Charts:

A comparison with C. & G. S. charts 534, of April, 1933, and 535 of October, 1932, both at 1:40,000 scale, shows no large shoreline changes. This quadrangle, T-8353, shows new details for chart correction including small piers, small changes in shoreline.

Miscellaneous:

The several multiplex sheets as shown on the diagram are being assembled into quadrangles in the Reproduction Branch.

The field edit and office review work will be accomplished on these assembled 1:20,000 scale quadrangles.

The field edit will include vertical accuracy tests by planetable. Due to the density of horizontal control and the methods used the horizontal accuracy of these maps is believed to be within the map accuracy standards and no horizontal accuracy tests are planned.

G. C. Tewinkel

✓ B.G. Jones

FIELD EDIT REPORT

T-8353, Lancaster Quadrangle, (3745.0/7622.5/7.5)

Project 289-X

Harland R. Cravat, Chief Of Party

The field edit survey was made by Mr. Aziel LaFave, Photogrammetric Engineer, from October 22, 1945 to November 16, 1945 in accordance with the Director's Field Edit Instructions dated August 24, 1945. During this time, vertical accuracy tests were also made (see item 48).

46. Methods
Roads, buildings, contours and drainage were checked by riding in a truck over every passable road or traversing an area on foot when no adequate road existed. Elevations were checked by hand level or plane table methods. Geographic names were checked with posted signs or by consulting local residents. Road numbers were checked with sign posts and with county maps. Political boundaries were checked by consulting the county clerks' offices of Lancaster and Northumberland Counties.

All results ofthe field edit survey are shown on the field edit sheet.

Information obtained during the field edit survey and supplementing the 1944 Field Inspection and Compilation Reports for Project CS 289-X follows:

4. Horizontal Control
The 1944 Field Inspection Report lists Station P.T.S. No. 9, 1916. This station has been damaged to the extent that it can no longer be used for horizontal or vertical control.

5. Vertical Control.
B. M. 8 271, 1942 was added to the field edit sheet. The location of B. M. Tn271, 1942 was changed to a position about 1,000 feet farther South.

6. Contours and Drainage
All contours visible from the roads and in all cleared areas were examined. Whenever a descrepancy appeared between a contour and the existing land forms or elevations, the contours were checked and, if necessary, corrected by hand level or plane table methods. No attempt was made to examine all contours in all wooded areas but many of these were checked while walking over impassable or inadequate roads.

Several minor contour changes were made in order to better represent the existing ground forms, but no major changes were necessary. In most of these instances, the contours in error were on nearly flat ground near a contour interval or within a dense growth of woods, or both.

The drainage pattern is satisfactory and complete. The positions of streams were checked by plane table during vertical accuracy tests and in all instances these checked within a few tenths of a millimeter. Several areas of marsh, not heretofore indicated, were delineated by observetion in the field.

9. Wharves and Shoreline Structures
Two docks, one in good condition and the other partially in ruins, located on the south bank of the Greater Wicomico River, were added to the sheet. The former can accomodate shallow draft motor launches.

11. Landmarks and Aids to Navigation
Three abandoned buildings on the south bank of the Greater Wicomico River, still standing, were added as aids to navigation.

The Heathsville-Miskimon Fire Lookout Tower, a prominent landmark near Miskimon Post-Office, is 106 feethigh;total height, 233 feet above sea level. This is reported on Form 567 in the 1944 Field Inspection Report as being 75 feet high.

14. Road Classification
Several road classifications were changed from "4" to "3" in order to comply with general instructions dated June 30, 1945. Many roads were deleted because they did not come up to the specifications for the lowest road classification contained in the above mentioned instructions. A few roads, somewhat under the minimum specifications, were left on solely because they provided the only means of entry into an isolated cultivated field.

16. Buildings and Structures
There were approximately 570 buildings on this sheet. Of these, 24 (4.2%) were deleted for the following reasons:

1. Difference of opinion between field edit party and field inspection party.
2. Destroyed since field inspection.
3. Buildings added by reviewers or compilers which were thought to have been missed on field inspection but which proved to be something else.

Fourteen buildings (2.7%) were added for one of the following reasons:

1. Newly constructed
2. Overlooked in field inspection
3. Overlooked in compilation

Three buildings (circled in green) were added solely as aids to navigation (see item 11).

17. Boundary Monuments and Lines

It is recommended that the political boundaries in this area be subdivided no farther than Magisterial Districts inasmuch as Precincts are not recognized as permanent political boundaries but are subject to be changed at any time by the Virginia State Legislature.

No descrepancies were found in the County and District boundaries in this quadrangle.

18. Geographic Names
It is recommended that the unnamed pond in the southeast corner of this quadrangle be named "Camps Mill Pond" according to Mr. E.B. Richards, a retired state highway employee of Kilmarnock, Va. Other local residents also attest that it is so called.

No other descrepancies were found.

19. Telephone and Power Lines
All roadside power and telephone lines have been shown, in accordance w with previous verbal instructions by the Chief of Photogrammetry. These are relatively few in number, being found mainly along State Highways 3, 201, 609, and 615.

47. Adequacy of the Compilation
The compilation was satisfactory and complete. Whenevernopportunities arose to check the compilation by field methods, no serious descrepancies were found.

48. Accuracy Tests (Vertical)
Two vertical accuracy tests were made on the quadrangle by plane table traverse methods. A brief discussion of each follows:

Test #1 is located in the vicinity of Lat. 37-47-30 and Long. 76-30-00. The test was made on November 12, 1945 by Mr. Aziel Lafave. About 1.3 miles of plane table profile levels were run. The area varied from steeply wooded slopes to rolling fields. The test was started at"A" and completed at "B." The vertical closure was 1.9 feet low and the horizontal closure was off 0.35 mm west.

RESULTS

21 points tested
17 points in error less than 10 feet.
4 points in error from 10 to 20 feet
0 points in error over 20 feet

81% of points tested in error less than ½ contour interval

Test #2 is located in the vicinity of Lat.37-50-45 and Long. 76-29-00. The test was made on November 15, 1945 by Mr. Aziel LaFave. About 0.9 miles of plane table profile levels were run. The area was about equally divided between nearly flat,open fields and steep, wooded drains. The test was started at "C" and completed at "D". The vertical closure was 0.7 feet high and the horizontal closure was 0.2 mm short.

RESULTS

19 points tested
15 points in error less than 10 feet
3 points in error from 10 to 20 feet
1 point in error over 20 feet.

79% of points tested in error less than ½ contour interval.

RESULTS OF THE TWO VERTICAL ACCURACY TESTS

40 points tested
32 points in error less than 10 feet
7 points in error from 10 to 20 feet
1 point in error over 20 feet
80% of points tested in error less than ½ contour interval

In arriving at the above results the apparent vertical error has not been decreased by assuming a horizontal displacement within the permissable horizontal error for the map scale. Had this been done, the vertical accuracy test would have given results equal to the requirements of the national standards of accuracy.

(Horizontal)
No horizontal accuracy tests.

49. Review of First Proof
Mr. H. B. Chase, whose address is Kilmarnock, Va. has expressed a willingness to review one of the first proofs of this quadrangle.

Mr. Chase is believed to be qualified to make the review as he is a life-long resident of this section, was local surveyor for many years, and was also a school teacher in Kilmarnock.

Respectfully submitted Nov. 26, 1945

Harland R. Crevat

Harland R. Crevat
Photogrammetric Engineer

applied to manuscript M. Mianlia

The foregoing right of 0.6 mm at 1:20 000 manuscript was applied in examining these tests in Washington this map and 100 points were put within ½ interval. Jeff.

Division of Photogrammetry

Review Report of

Topographic Survey T-8353

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

26. Control.

The horizontal control shown on the manuscript T-8353 consists of 3 U. S. Coast and Geodetic Survey triangulation stations, 1 U. S. Geological Survey traverse station, and 12 Virginia Fisheries Commission triangulation stations. (Unmarked traverse points shown by a triangulation symbol on the manuscript which served only as substitute stations are not to be shown on the final drawing.)

The following horizontal control stations were plotted during the office inspection and review of the manuscript:

One (1) U.S.C.& G.S. triangulation station
Wicomico, 1942
One (1) U.S.G.S. Primary Traverse Station
P.T.S. 6, 1916
Twelve (12) Virginia Fisheries Commission triangulation stations were all established and observed in 1931 by the Commission and computed by the U.S.C.& G.S. These stations are listed as third-order triangulation in the list of geographic positions, although the western extremity of this net of triangulation was not tied to another triangulation net. The stations are as follows:

Alfred	Holland
Black	Island Point
Cedar Point	Mill
Cowpen	Sam
Cox	South
House	Richardson

The field edit party noted that U. S. Geological Survey P.T.S. No. 9, 1916 has been damaged and can no longer be used for horizontal or vertical control. It has been deleted from the manuscript.

28. Detailing.

All of the planimetric and topographic details shown on manuscript T-8353 were corrected where necessary in accordance with ~~the nine and single lens U.S.C.& G.S. photographs, taken November 1942 and February 1944 respectively, the field inspection data of 1943 and 1944, and~~ the field edit of 1945.

The assembled quadrangle manuscript is a sepia print on metal-mounted paper. All of the reviewer's corrections were made in black ink on this print. field edit corrections have not been made on the original multiplex sheets.

35. Hydrographic Control.

Three topographic stations were cut in radially from three or more photographs, on the original multiplex sheets, after the sepia was prepared. The stations have been plotted and checked on the sepia and are as follows:

Vol, 1944
Oak, 1943
BM - G270, 1942

44. Comparison with Existing Topographic Surveys.

In general, common planimetric details were found to be in good agreement with the following topographic surveys:

500	1:20,000	1850
2956	1:20,000	1908-9

The contours shown on survey 2956 differ considerably from those shown on the present manuscript, principally in inaccessible areas.

The present manuscript supersedes both of the above-mentioned surveys and should be applied to chart 534, scale 1:40,000, published April 1933 and re-issued April 1939. The survey has been partially applied to chart 534 (April 1945).

Comparison with Hydrographic Surveys.

Comparison was made with the following hydrographic surveys:

1001	1:20,000	1869
1003	1:20,000	1869
3012	1:20,000	1909

No contemporary survey exists within the area of manuscript T-8353. In general, common planimetric details of the older surveys are in good agreement with this map.

Junctions.

The U.S.C.& G.S. quadrangles Heathville and Reedville were published in 1944, the same quadrangles were re-issued by the War Department in 1946. The U.S.C.& G.S. issues junction accurately with this map manuscript except for very minor differences. However, the War Department issues do not junction. The reason for this discrepancy seems to have resulted from the War Department having revised their issues to junction with the 1:62,500 U.S.G.S. quadrangle published in 1917.

From the results of vertical accuracy tests, the adequacy of horizontal and vertical control, and excellent photograph coverage, it is concluded that this map complies with the National Map Accuracy Requirements.

Reviewed by:

Michael G. Misulia
by Harland R Brant
Michael G. Misulia
Photogrammetrist

Reviewed under direction of:

S. V. Griffith
S. V. Griffith 5/16/47
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GEOGRAPHIC NAMES

Survey No. T-8353

LANCASTER 7½' quadrangle

1 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	
Virginia										1
Lancaster County			Mantua District							2
Northumberland County			Wicomico, Heathsville and Fairfield Districts							3
State Nos. 3, 200, 201										4
County roads Nos. 600, 602, 603, 604, 605, 606, 609, 610, 611, 614, 615, 616,										5
619, 642, 678, 688										6
										7
Great Wicomico River										8
Mill Creek										9
CampsMillpond										10
Brookvale										11
White Marsh Church										12
Lankford Corner										13
Milestone										14
Richtown										15
Willie Chapel										16
Regina Road										17
Lancaster										18
New Lancaster School										19
W. Branch Corrotoman River										20
Belwood Swamp										21
McMahon Swamp										22
Newtown										23
McNeals Corner										24
Davis Mill										25
Davis Mill Road										26
Davis Mill Pond										27

M 234

GEOGRAPHIC NAMES

Survey No. T-8353

2

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	
Regina										1
Beanes Corner										2
Browns Store										3
Browns Corner										4
Booker T Washington School										5
Chestnut Grove										6
Oak Grove										7
Sampson Wharf Road										8
Knight Run										9
Georgetown										10
Georgetown Road										11
Head River Branch										12
Miskimon										13
Miskimon Lookout Tower										14
Smyrna Church										15
Providence Church										16
Howland										17
First Baptist Church										18
Deep Landing										19
Betz Lending										20
Crawley Creek	(as on new Heathsville quad)									21
Indian Point										22
Cedar Point										23
Sampson Wharf										24
Sampsons Wharf P.O.										25
Blackwells Creek										26
Mooreland Church										27

M 234

GEOGRAPHIC NAMES

Survey No. T-8353

3 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	
Balls Creek		(USGB decision)								1
Tipers Road										2
Tipers Creek										3
Hardins Corner										4
Wicomico Church		(village)								5
										6
		Names underlined in red approved by L Heck 8/8/46								7
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M 234

NAUTICAL CHARTS BRANCH

SURVEY NO. 8353

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
3/18/49	534	C.S. Edwards Jr	Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.