

9815
9816

ORIGINAL

Diag. Cht. No. 77-5

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey **Topographic**

Field No. Office No. **T-9815**
T-9816

LOCALITY

State **Virginia**

General locality **Fairfax County**

Locality **ANNANDALE**

194 51

CHIEF OF PARTY

Hubert A. Paton, Chief of Field Party
Div of Photogrammetry, Washington DC

LIBRARY & ARCHIVES

DATE **Dec 21 - 1951**

9815 9816

DATA RECORD

T-9815 and T-9816

Project No. (II): **Ph-70B(51)** Quadrangle Name (IV): **T-9815 = ANNANDALE NORTH**
T-9816 = ANNANDALE SOUTH

Field Office (II): **Fairfax, Virginia**Chief of Party: **George Varnadoe**Photogrammetric Office (III): **Washington, D.C.**Officer-in-Charge: **Louis J. Reed, Chief,
Stereoscopic Mapping Section**

Instructions dated (II) (III):

Copy filed in Division of
Photogrammetry (IV)**Letter, 9 Mar 51, Ref No 711-lmh**Method of Compilation (III): **Stereoscopic Plotting Instrument (Stereoplanigraph,
Kelsh Plotter A, and Kelsh Plotter-B).**Manuscript Scale (III): **4800**

Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): **Photograph; Stereoplanigraph; Kelsh; Pantograph; manuscript.**
8000 : 4800 : 1600: 4800 : 4800 :Date received in Washington Office (IV): **20 Apr 51** Date reported to Nautical Chart Branch (IV): **20 Apr 51**

Applied to Chart No.

Date:

Date registered (IV): **11-27-51**

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): **NA 1927**Vertical Datum (III): **MSL**

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):

Lat.:

Long.:

Adjusted

~~Coordinates~~

Plane Coordinates (IV):

State:

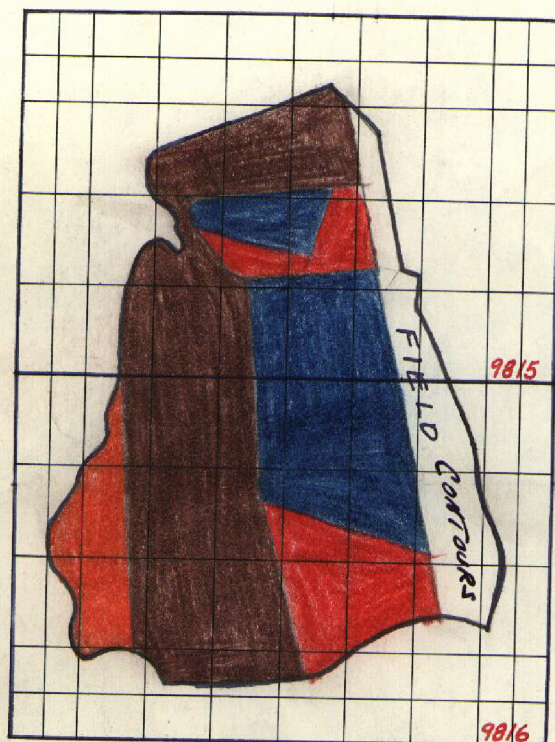
Zone:

Y=

X=


**Polyconic Projection
and****2000 ft lambert grid, Virginia North**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)

~~XX~~ (III)

 = Stereoplanigraph;
Operator = Michael G. Misulia

 = Kelsh Plotter A;
Operator = Stanley W. Trow

 = Kelsh Plotter A;
Operator = Bernard J. Colner

 = Kelsh Plotter B;
Operator = Bernard J. Colner

DATA RECORD

Field Inspection by (II): ~~None~~ Partial - by various parties Date: Jan - Feb 1951

Planetable contouring by (II): ~~None~~ See sketch, page 2 Date:

Completion Surveys by (II): ~~None~~ Partial - by various parties Date: Jan - Feb 1951

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

None

Projection and Grids ruled by (IV): Ruling Machine Date: 12 Feb 51

Projection and Grids checked by (IV): Theodore L. Janson Date: 12 Feb 51

Control plotted by (III): John B. McDonald Date: 7 Mar 51

Control checked by (III): Michael G. Misulia Date: 7 Mar 51

Stereoplanigraph

~~Radex Model SX-1000~~ by Michael G. Misulia Date: 12 Mar 51

Control extension by (III):

Planimetry Michael G. Misulia Date: 31 Mar 51
Stereoscopic Instrument compilation (III): and Stanley W. Trow 31 Mar 51
Contours Bernard J. Colner Date: 31 Mar 51

Manuscript delineated by (III): John B. McDonald Date: 18 Apr 51

Photogrammetric Office Review by (III): Louis J. Reed Date: 20 Apr 51

Elevations on Manuscript Louis J. Reed Date: 20 Apr 51
checked by (II) (III):

Summary to Accompany Descriptive Report
for T-9815 and T-9816

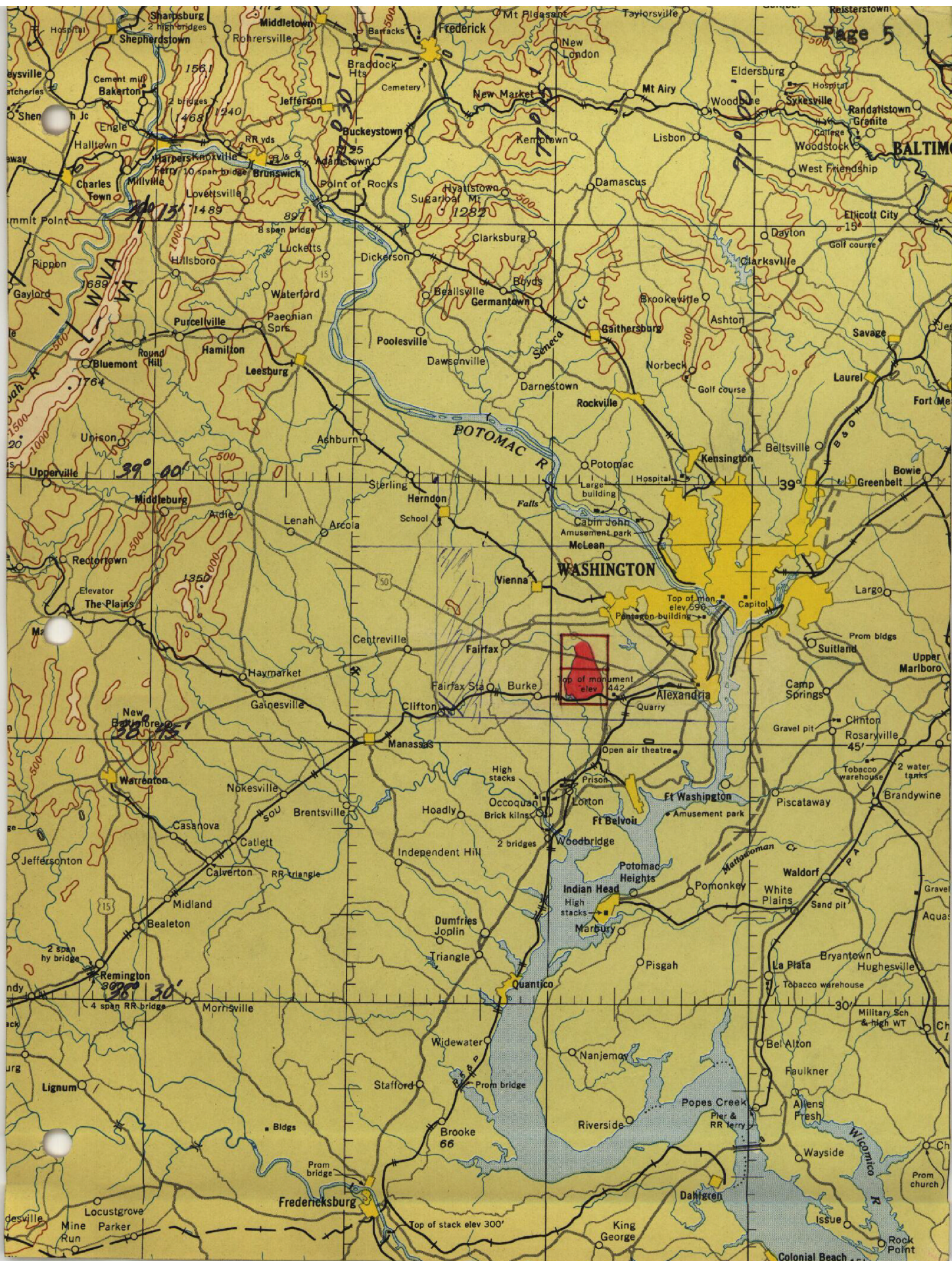
Topographic maps T-9815 and T-9816 comprise project Ph-70B(51), which is located in the vicinity of Annandale about 5 miles west of Alexandria, Virginia. The field operations consisted of the recovery and establishment of horizontal and vertical control. In addition to this, planetable and field inspection work was carried out in those areas which could not be accomplished satisfactorily by the stereoscopic mapping instruments. Only those positions of the map were field-edited on which the contour work was done by the stereoscopic mapping section.

This special work was initiated by and executed for the CAA within the limits of the area designated by them, and chiefly for the purpose of obtaining 5-foot contour intervals at a scale of 1:4800. These maps will not be published. Each sheet is 2' in latitude by $3\frac{1}{2}$ ' in longitude.

No specific field project instructions were written; the organization of the work, including general supervision and other related phases, were directed by the Washington Office. No field inspection, field edit or other special reports were submitted from the field.

The registered copies under T-9815 and T-9816 will include one cloth-back copy of each map manuscript.

Charles Hanavich
Charles Hanavich



FIELD INSPECTION REPORT

No field inspection report is available at the time of this compilation; no field inspection has been accomplished.

The only field work in connection with this project prior to compilation has been the work necessary for the establishment and identification of control, both horizontal and vertical. Resulting data has been delivered to this office and used as a basis for this compilation.

Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer

Louis J. Reed

RADIAL PLOT REPORT

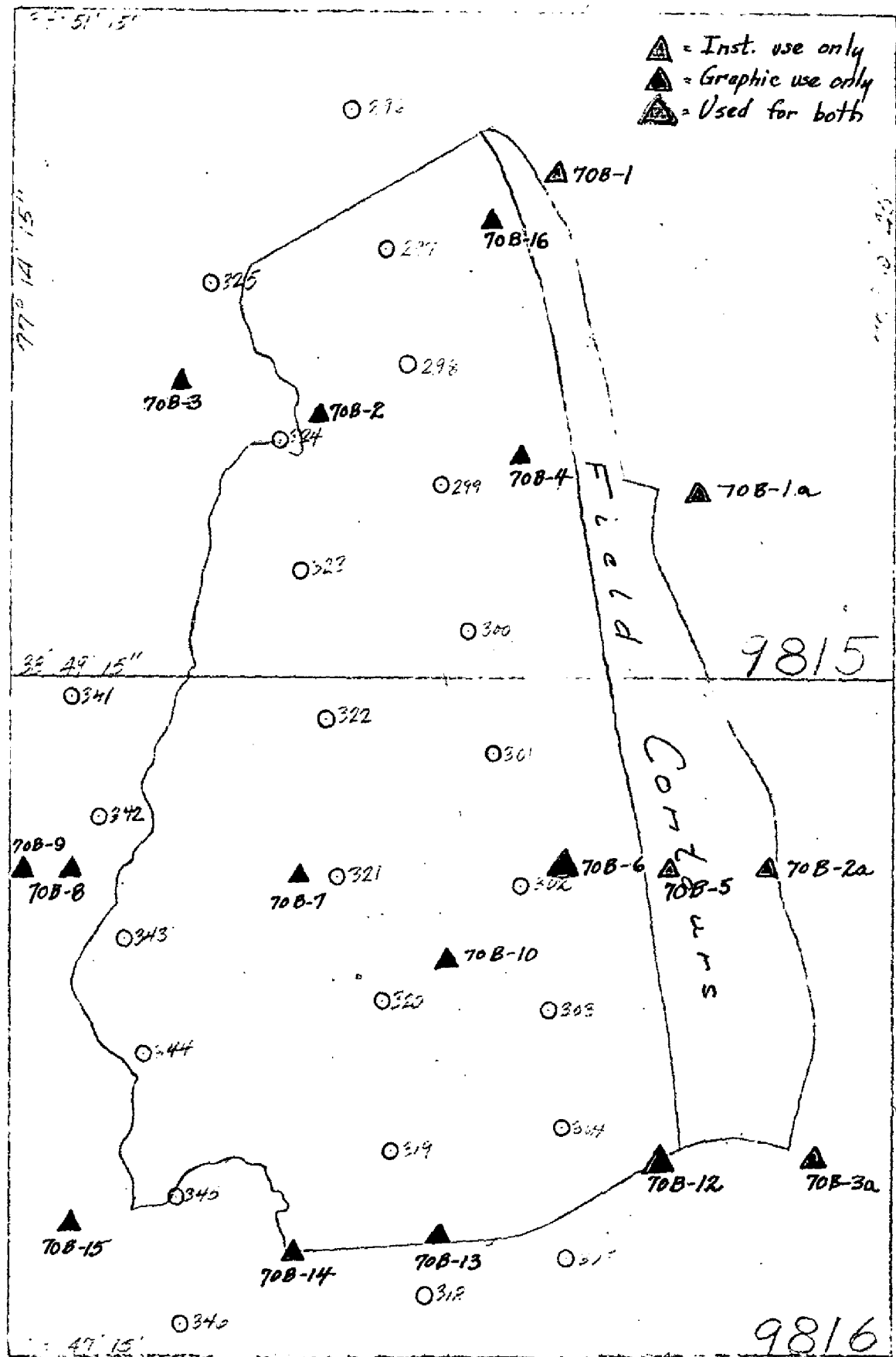
A radial plot was not made on this project and therefore a radial report is not called for.

However, serving the same purpose as a radial plot, control was extended into every stereoscopic model of the project by means of the stereoplanigraph. No particular difficulty was encountered in the extension.

For Phase II, see page 12a

Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer

Louis J. Reed



COMPILATION REPORT

31. Delineation:

Three stereoscopic plotting instruments were employed on this compilation, the Zeiss Stereoplanigraph and two Kelsh Plotters. An extension of horizontal control for the entire project was first accomplished by the stereoplanigraph, after which, all three instruments were used simultaneously in the compilation phase. Areas compiled by each are indexed in the data records, page 2.

see
page
12a

Several areas of questionable contours were indicated by dashed lines where heavy coniferous timber did not permit good visibility of the ground. One stand of such timber was just too big and dense to permit drawing approximate contours. It is located near the reservoir on T-9816. Another is on T-9815 SE of Annandale.

A narrow strip along the east edge of this project was not covered by photography of suitable quality for use in stereoscopic plotting instruments. It is to be accomplished by ground methods and added to the manuscript of this report. (See page 12a)

No field inspection was made prior to this compilation and therefore the manuscripts represent only what the instrument operators have interpreted from the photography.

32. Control:

Horizontal control was selected in this office on the plotting photography and therefore it was adequate as to density and placement. Picture points to become control stations were actually selected in the field guided by the general office location, they were identified on the 1:4800 scale photographs in the field, and then they were tied to a traverse network in the field run for the specific purpose of procuring coordinates of these points. Pricking cards (form M-2226-12) were produced in the field, one for each of the ^{seventeen} stations established. Of this number, ^{five} fell outside the working area of the stereoscopic models required to cover the compilation area and therefore served no useful purpose. The balance of thirteen stations were all held during aere-triangulation by the stereoplanigraph when a minimum of six horizontal control points were established for each working model. Actually, all thirteen stations did not fall inside the compiled area. ~~but since they had to be plotted on the manuscripts anyway, they have been left there in proper symbol and name. Any other existing control in the area has not been plotted.~~

Vertical control was likewise generally selected in the office on the photographs but actually located and elevations determined in the field. The normal density was a minimum of four elevations for each model, one toward each of the four corners of the model. They were identified on a separate set of photographs in the field by marking them on the image surface and describing them on the back surface. Some questions arose during compilation as to exact locations and descriptions of these vertical control points, and in a few cases the elevations were also held in doubt when the first attempt ^{to use} them was made. However, all were eventually used after the initial misunderstanding was dissolved. In this light it is recommended that in future projects of this type more attention be given to the selection of better and more self-evident points on which to establish elevations, and finally, to describe the points in somewhat more detail on the back of the field identification Photographs.

33. Supplemental Data:

Compilation Photography: 2/2/51 Q 296 thru 346.

34. Contours and drainage:

Compilation photography was furnished at a contact scale of 1:8000. This is a much larger scale than normally used and therefore the details appeared very large and adequate. Actually the photography was very good in quality.

An additional flight to that listed in side-heading 33 above was accomplished on the same mission. It covered the eastern portion of the area, a narrow north-south strip just inside the area limits, but the usual endlap of 50% or more had not been complied with making it useless for aero-triangulation and eventual complete compilation purposes.

No particular difficulty was encountered during the aero-triangulation on the stereoplanigraph.

corrected during field ed.t. C.H. A few areas of questionable contours are left for the attention of the field editor. They can be identified on the manuscript as broken penciled contours. It will be discovered that these areas are patches of evergreen trees, in most cases, thru which the operator was not able to be sure his floating mark was being held in contact with the ground. In addition, ^{the} ~~the~~ blank areas will be noted in the ~~SE corner of T-9816~~ where field completion will be required.

35. Shoreline and Alongshore Features: Not applicable.

36. Offshore Details: Not applicable:

37. Landmarks and aids: Not applicable.

38. Control for future surveys: Not applicable.

39. Junctions:

The one common junction line between the two sheets of this survey is in agreement.

40. Horizontal and vertical accuracy: *See side heading 66 of Review Report and Page 12 A of this report.*

The accuracy of this topographic survey is considered to be standard except in the small areas of questionable contours described in side-heading 34 above, and in the N-S strip along the E edge where the contours were field drawn.

46. Comparison with existing maps:

The latest compilation of this area for comparison purposes is: USGS, ANNANDALE QUADRANGLE, edition of 1945, scale 1:31,680, 10 ft contour interval, original survey of 1913-15, revised in 1941-42. Only a general comparison has been possible because of the spread in scales.

47. Comparison with nautical charts: Not applicable.48. Geographic name list: See separate form following.49. Notes for the hydrographer: Not applicable.50. Compilation office review: See separate forms following.

Submitted by:

Michael G. Misulia Stanley W. Trow
 Michael G. Misulia Stanley W. Trow
 Cartographers- Photogrammetric

Approved and Forwarded by:

Louis J. Reed
 Louis J. Reed, Chief
 Stereoscopic Mapping Section
 Photogrammetric Engineer

41. Graphic Compilation:

A N-S strip along the eastern limits of this project was added after the instrument compilation; see page¹⁰³, side-heading 31. Contours were applied to photos in the field and transferred to the two manuscripts by graphic compilation following a hand-templet radial plot of the single strip of photos covering the area. The strip of photos was taken with a normal-angle camera (D) of 12 inches focal length and therefore not usable in the plotting instruments.

This radial plot was controlled by seven triangulation stations, two of which were also held to during aerotriangulation by the stereoplanigraph. Refer to the sketch on page 9. The photos were numbered 3110-51 D 246 thru 252 and were ratioed from 8,000 contact scale to 4,800 map scale.

Sufficient points were selected and transferred to adjacent photos, including the field photos to which the contours had been applied, and then these points were cut in on the manuscripts. From here it was a matter of compiling the detail and contours thru the vinylite manuscripts and inking the results to conform with the balance of the work already inked.

Slight discrepancies were noted between the field and instrument contours where they joined and overlapped a little. Several spot elevations had been placed on the photos by the field man to guide him in shaping his contours, and those spot elevations that fell near the match area were given full weight in compiling the junction. The field contours absorbed most of the shifting of contours that was necessary to make the junction.

The field party contoured the two areas where the instruments could not complete the contours because of too dense foliage. It was done at about the same time the east-edge strip was worked and therefore was available for office compilation at about the same time. The work was applied to the manuscripts in a manner similar to that used for the east-edge strip, except that more detail points were required because the contours were applied to 6-inch photography where considerable tilt and scale difference existed.

Finally, before office completion of these two manuscripts, normal completion status, field inspection of planimetry and approximate contours was made available to this office and applied to the manuscripts. Therefore, previous statements in this report as to comparative times of field inspection and compilation are contradicted and brought up to date here to represent the status of the two maps as they leave this section.

Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer

MAP T. 9615 PROJECT NO. Ph-70B(51) SCALE OF MAP 1:4800 SCALE FACTOR 635001

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y -COORDINATE LONGITUDE OR x -COORDINATE	Va North Grid DISTANCE FROM GRID IN FEET 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)
70 B-1	Adjusted Field Comps	NA 1927		2,369,606.9 432,037.8			
70 B-2				2,365,463.2 427,447.3			
70 B-3				2,362,732.5 428,147.4			
70 B-4				2,368,957.0 426,882.5			
70 B-16				2,368,738.5 431,123.7			
70 B-1a				2,371,738.8 426,656.2			
TT 19T, USGS, 1940	USGS Pub.	NA 1927	38 49 55.62 77 11 36.59				
TT 20T, USGS 1940	"	"	38 50 32.68 77 12 01.75				
TT 31T, USGS 1940	"	"	38 49 58.74 77 12 40.31				

MAP T. 9616 PROJECT NO. Ph-708(51) SCALE OF MAP 1:4800 SCALE FACTOR .63500125

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR μ -COORDINATE LONGITUDE OR x -COORDINATE	Virginia North Grid DISTANCE FROM GRID IN FEET CELESTIAL COORDINATE		N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS	
				FORWARD	(BACK)	FORWARD	(BACK)	FORWARD	(BACK)
70 B-6	Adjusted Field Comps	NA 1927		2, 370,331.6					
70 B-7				419,541.5					
70 B-8				2,365,515.5					
70 B-9				419,346.3					
70 B-10				2,360,846.0					
70 B-11				419,346.0					
70 B-12				2,359,419.1					
70 B-13				419,161.6					
70 B-14				2,367,752.9					
70 B-15				417,834.3					
70 B-16				2,371,138.6					
70 B-17				413,759.1					
70 B-18				2,367,883.8					
70 B-19				412,786.8					
70 B-20				2,365,483.8					
70 B-21				412,603.7					
70 B-22				2,361,081.0					
70 B-23				413,004.7					
70 B-24				2,371,895.9					
70 B-25				419,590.2					
70 B-26				2,374,074.8					
70 B-27				419,739.0					
70 B-28				2,375,185.8					
70 B-29				414,157.6					

1 FT. = 3048006 METER

COMPUTED BY

DATE

CHECKED BY

DATE

MAP T. 9816 PROJECT NO. Ph-70B(51) SCALE OF MAP 1:4800 SCALE FACTOR

SCALE OF MAP 1:4800

PROJECT NO. Ph-70B(51)

MAP T- 9816

SCALE FACTOR

[illegible]

Page 16

T-9815 and T-9816

A	B	C	D	E	F	G	H	K
On Chart No.	On previous survey	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	

[illegible]

PHOTOGRAMMETRIC OFFICE REVIEW

T. 9815

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) ☒ 7. Photo hydro stations ☒ 8. Bench marks ☒ 9. Plotting of sextant fixes ☒ 10. Photogrammetric plot report ☒ 11. Detail points ☒

ALONGSHORE AREAS

(Nautical Chart Data)

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

PHYSICAL FEATURES

20. Water features ☒ 21. Natural ground cover ☒ 22. Planetable contours ☒ 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 ☒

MISCELLANEOUS

33. Geographic names ☒ 34. Junctions ☒ 35. Legibility of the manuscript ☒ 36. Discrepancy overlay ☒ 37. Descriptive Report ☒ 38. Field inspection photographs ☒ 39. Forms ☒ 40. ☒

41. Remarks (see attached sheet)

Supervisor, Review Section or Unit

Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer

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:

PHOTOGRAMMETRIC OFFICE REVIEW

T-9816

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) ☒ 7. Photo hydro stations ☒ 8. Bench marks ☒ 9. Plotting of sextant fixes ☒ 10. Photogrammetric plot report ☒ 11. Detail points ☒

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Supervisor, Review Section of Unit

Louis J. Reed, Chief

Stereoscopic Mapping Section
Photogrammetric Engineer

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:

Review Report T-9815 and T-9816
Topographic
31 May 1951

62. Comparison with Registered Topographic Surveys

No prior surveys of this area were made by the Bureau.

63. Comparison with Maps of other Agencies

USGS, ANNANDALE QUADRANGLE, edition of 1945,
scale 1:31,680

64. Comparison with Contemporary Hydrographic Surveys

None

65. Comparison with Nautical Charts

Inapplicable since this is an inland survey.

66. Adequacy of Results and Future Surveys

Field edit corrections were applied during final review. Vertical accuracy tests were run on both maps and found to comply with the standard accuracy requirements. The inconsistency in expression to be found between the office and field contours is due to the irregularities (minor bends and turns around bushes, clumps, etc.) introduced into the contours by the stereoscopic plotting section and which are not expressive of the terrain to be found in the area. No attempt was made to smooth out all these irregularities - except for the more glaring ones - as this would have entailed considerable stereoscopic re-checking for the correct expression and re-drafting. On the whole the irregularities in the contours do not indicate any excessive horizontal displacements wherein the contours would fail to comply with the standards of accuracy required. A similar fault (office contouring of isolated bushes, etc.) was the indication of numerous small isolated pseudo-contours. These were removed.

These maps comply with the National Standards of Accuracy.

Reviewed by:

Charles Harnick

Approved by:

S. V. Griffith

H.R.B. 12/5/51 Chief, Review Section

O. S. Reading
Chief, Div. Photogrammetry