5676

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic }
Hydrographic Sheet No. T- 5676

State _____ MARYLAND

LOCALITY

CHESAPEAKE BAY

Aberdeen and vicinity

~~BUSH RIVER~~

date of photos : 1937

1938

CHIEF OF PARTY

L. W. Swanson

Applied to EMS 572 - Apl. 1940. JK.J.J.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. __T-5676__

REGISTER NO. T5676

State _____ **Maryland** _____

General locality _____ **Chesapeake Bay** _____

Locality _____ ~~Bush River~~ *Aberdeen* _____

Scale ____ **1:10 000** ____ Date of ~~survey~~ Photographs ____ **Apr. 30 & May 1, 1937** ____

~~Vessel~~ _____ **Air Photographic Survey Party No. 2** _____

Chief of party _____ **L.W.Swanson** _____

Surveyed by Field Inspection ————**E.L.Jones, W.C.Russell & D.A.Jones**
Compilation ————**D.A.Jones**

Inked by _____ **D.A.Jones** _____

Heights in feet above ____ ******* ____ to ground to tops of trees

Contour, Approximate contour, Form line interval __*******__ feet

Instructions dated _____ **May 13,** _____, 19 **38**

Remarks: _____

Date of Survey

The field inspection was for the purpose of interpreting
the photographs. The detail of T-5676 is of the date of
the photographs, April 30, 1937, except for information
obtained during the field inspection and information
from other sources as noted in the following paragraph:

1.   Location of U. S. Reservation Line of
     the Aberdeen Proving Ground was obtained
     from information furnished by the War
     Department as noted on page 4 of the des-
     criptive report. The boundary line is
     shown only on the confidential copies of
     T-5676.

2.   The moving of Air Beacon 62A from Boothby
     Hill to vicinity of Aberdeen (new location
     not on T-5676) was obtained from Weekly
     Notice to Airman, May 10, 1938, and Chart
     Letter 344 (1938).

STATISTICS

AIR PHOTOGRAPHIC SURVEY SHEET NO. T-5676
STATE OF MARYLAND
CHESAPEAKE BAY, ~~BUSH RIVER~~ *Aberdeen*

AIR PHOTOGRAPHS

1272	1303	1286	Date of Photographs: ~~May 1, 1937~~
1302	1304	1287	*see below* ~~and~~ April 30, 1937
		1288	Time of Photographs: ~~unkown~~

± 1272 at 2:30 PM, others at 2:45 P.M.

SCALE FACTOR ---------- J.C.Partington ---------------------- 1 : 9650

PROJECTION ------------ Ruling Machine ----------- Washington Office

PROJECTION CHECKED ---------------------------------- Washington Office

CONTROL PLOTTED BY ------ W.C.Russell -------------------- Mar.21, 1938

CONTROL CHECKED BY ------ J.C.Partington --------------- Mar. 22, 1938

RADIAL LINE PLOT -- J.C.Partington, L.W.Swanson,
     E.L.Jones, and W.C.Russell -- Mar. 22 to 23, 1938

RADIAL POINTS PRICKED BY---E.L.Jones, ADDITIONAL POINTS BY-D.A.Jones

SHORE LINE INKED BY----D.A.Jones, DETAIL INKED BY****-D.A.Jones ----

AREA (land) ----------- 36.0 square statute miles ---------------------

AREA (shoals) --------- 0.0 " " " ----------------------

SHORELINE (more than 200 meters from opposite shore) -- 4.6 statute mi.

SHORELINE (creeks) ----------------------------------- 28.6 " "

ROADS, STREETS, TRAILS & RAILROADS --------------------- 95.0 " "

DATUM **--North American 1927

REFERENCE STATION ----------------------------- Osborns Ruins-2, 1933
       Latitude 39 27'54.615" 1684.3 m. ✓ *adjusted*
       Longitude 76 16'53.785" 1285.7 m.

PRELIMINARY REVIEW -------------------------------- L.W.Sawson -----

$x = 1,002,832 \text{ FT}$

$y = 595,098 \text{ FT}$

Tide, (predicted) at Time of photos = 0.3 ft. above low
Mean range at head of Bush River approx. 1 ft.

Photo	Date	Time
1272	4-30-37	2:30
1286-88	"	2:40-2:42
1302-04	"	2:51-2:53

DESCRIPTIVE REPORT
to accompany
AIR PHOTOGRAPHIC SURVEY SHEET NO. T-5676
State of Maryland
CHESAPEAKE BAY, ~~BUSH RIVER~~ *Aberdeen*

GENARAL INFORMATION.

The field inspection of the shore line and land areas was
made during April and May, 1938 by Air Photographic Survey Party
No. 2 of Baltimore,Maryland.

The photographs were taken by the U.S. Coast and Geodetic
Survey Nine Lens Camera (Aerial) by the U.S. Army Air Corps on
April 30 and May 1, 1937.

CONTROL.

The control for this survey consisted of triangulation
stations "Osborns Ruins-2"and"Air-way Beacon No. 62-A" estab-
lished by R.D.Horne in 1933 and triangulation station "Aberdeen
Standpipe, 1898" from Special Publication No. 114, "Triangulation
in Maryland". *(Air Way Bn. 62-A destroyed May 1938,
Bn. / moved to a point near Aberdeen)*

RADIAL PLOT.

The radial plot for this sheet was made in conjunction with
the radial plots of sheets T-5674, T-5675, T-5677 and T-5678.
The five sheets were plotted by the template method. Dummy sheets
with control plotted on them were laid down on a large table.
The sheets were matched and secured together with Scotch Tape.
The templates were then laid over the dummy sheets and were held
by the control and the centers of adjacent pictures. The templates
were secured together by scotch tape.

Radials to the centers of the adjacent photographs were shown
on the templates and were used to supplement the control. The
celluloid templates were corrected for the paper distortion of the
photographic prints. This distortion in many cases was extremely
large and was due to the poor quality of the printing paper and to the
drying process during printing. *Method of correction is explained on
next page.*

Radial points were pricked, in general, about every two inches
along the shoreline, and on the inshore areas about four radial points
to every square mile were pricked.   These radial points formed the
basis of the control.   Many additional radial points were radial
plotted during the process of detailing particularlly in areas in
which there were differences of elevation and where the photographs
were off scale.

After the templates were adjusted to the control and good
intersections were obtained, the map drawings were placed over the
templates and joined together in the same manner as the dummy sheets.
They were matched up so that the control on the dummey sheets and the
map drawings coincided.

The radial line intersections were then pricked on the map
drawings.   All intersections of three lines or over were circled in blue
on the back of the map drawings. All two line intersections or
intersections which were a little doubtful were circled on the back

in green. Additional points radial plotted during detailing
were circled by smaller blue circles.

The above method of radial plotting sheets proved to be
very satisfactory. Very good intersections were obtained.
By joining sheets together additional control for the photo-
graphs on individual sheets was obtained and lines of flights
were carried through with good junctions. It is belived by
this office that the template method is superior to the re-
gular method of running radial plots with nine lens photo-
graphs because it is faster, paper distortion can be eliminat-
ed, better junctions are possible, and less control is
necessary.

All the control falling on the five sheets that was
available and could be located on the photographs was used.

The following difficulties were encountered.

(a) Extremely large distortions were taken on
by the photographic prints during the drying
process. The prints were in general, large on
one edge and small on the opposite edge. To
correct for this a celluloid template was prepared
from a standard template and revolved about the
principal point until the best adjustment of the
corners of the photographs was obtained. The
corrections were then drawn on the photograph.

(b) Tilt.
The tilt occuring on the photographs used in
making the radial plot was too small to cause any
relatively great displacement of the plumb point from
the principle point. It did,however,cause large
cause large differences of scale near the border
of a few of the photographs.

(c) Relief
There are but few large differences of relief on
this sheet. Most of the differences occur along the
north west limits of the detailing. The highest
elevation as taken from the U.S. Geological Survey
quadrangle maps is approximately 250 feet.

The outside flight of photographs (1302, 1303, & 1304) on
this sheet were flown to far out to provide sufficient overlap with
the adjoining flight (1286, 1287, & 1288). Hence,it was inpossible to
get good radial control beyond the north west edge of the detailing
on this sheet because of the lack of photographs.

FIELD INSPECTION.

Although the area covered by this sheet was field inspected
prior to the receipt of instructions for field inspection and detail-
ing of Chesapeake Bay Sheets, May 13, 1938, the field inspection was
complete enough to allow the compiler to detail in accordance with
those instructions.

DETAIL.

Additional radial points shown by small blue circles were established during the detailing in areas where the photographs were off scale and /or where there were large differences in relief. Adjustments of several meters per hundred were not uncommon in these areas.

Due to insufficient overlap on the outside flight of photographs poor radial control caused the detailing to stop along a line inside or to the south of the line of centers of photographs 1302, 1303 & 1304.

In general all the detail was shown on the sheet in accordance with the instructions regarding detailing of Chesapeake Bay Sheets of May 13, 1938 except in the extreme south east section of the sheet which was detailed prior to receipt of the instructions. In this area a number of the farm lanes were shown by double dashed lines instead of by a single dashed line. Bluffs and R.R. cuts of less than approximately 25 feet were not indicated. Very small sheds and out buildings were not shown. Marsh areas were shown in accordance to Field Memorandum No. 1, 1938.

Photograph No. 1285 was tilted to such an extent that it could not be used for detailing on this sheet. Photograph No. 1305 is greatly out in scale and tilted somewhat and likewise could not be used. These two photographs could have been used to great advantage along the edges of the sheet. Also, due to the layout of this sheet (that is, the layout was made with the edges of the sheet running north and south and east and west without regard to the flight lines) at least three additional photo centers fell just off the edges of the sheet. These additional photographs would have increased greatly the strength of detailing along the edges of the sheet in as much as additional radial cuts could have been constructed during detailing. Celluloid tabs or ears were fastened to the edges of the sheet so that these additional photographs could be used, however, they do not prove to be satisfactory.

A copy of the boundary line survey of the U.S. Reservation at the Aberdeen Proving Ground was obtained from the War Department. The boundary line was plotted to the scale of the sheet on an overlay. By field inspection it was known that several of the Reservation's bounds fell along fence lines and roads. Adjusting the overlay so that the correct bounds fell along fence lines, roads and thru known points detailed on the sheet a very close approximation of the Reservation Property line was found. Along the U.S. Army highway leading from Aberdeen to the Proving Grounds the southern property line of the Reservation has been exaggerated on the sheet because of the railroad along the line. The railroad is shown in its true position.

Except for the control and the U.S. Reservation Line all information shown on this sheet was taken from the field inspection and from the photographs.

5.

COMPARISONS WITH PREVIOUS SURVEYS.

A comparison between this sheet and a bromide enlargement
of Plane Table Sheet T-3282, 1899, shows good agreement in the island areas
inland areas along roads, houses, creeks, railroads, fences
and wooded areas. Considering the scale of the 1899 survey,
1/20,000, and the difficulties encountered in a plane table
survey of this inland area the discrepancies are few.

T-3282,1899, does not include the shoreline in upper
Bush River.

COMPARISON WITH CHART NO. 1226   Corrected to Feb. 24,1938.

Very little of the area detailed on this survey is shown
on the above chart.

JUNCTIONS.
Junctions were made with the following sheets T 5674, T
5677 and T 5678. This sheet joins T 5675 and T 5679, but these
two sheets are not sufficiently detailed for junction s to be
made.

GEOGRAPHIC NAMES.
Geographic Names shown on this sheet are listed on form M234
herewith.

LANDMARKS.
One landmark (STANDPIPE, ABERDEEN, 1898) is recommended to
be charted on the attached form No. 567.

RECOMMENDATION FOR FUTURE SURVEYS.
This sheet is believed to be complete in all detail of impor-
tance for charting and no additional surveys are required.

The probable error is not greater than 5 meters for all radial
points and well defined objects along the shoreline and inthe areas
well controlled. The error of the other detail of importance on the
sheet is probably not greater than 10 meters.

Respectfully,submitted,

Don A. Jones,
Draftsman.

Forwarded approved

L. W. Swanson
Chief of Party

Notes in blue ink by T.M. Price, Fld. Rec.Sect, Jan.3, 1940 at time
of review.

--NOTE--

It has been requested by the authorities at the Aberdeen Proving Grounds that the detail inside their property lines not be charted. It was also their request, that the area be detailed and that several prints be made for their use. This office has complied with the above request and has detailed the area. The property line is shown on all sheets affected.

There is a small area on sheet T 5676, longitude 76 09 to 76 10 and Latitude 39 27.

L. W. Swanson,
Chief of Party, C & G Survey.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

TO BE CHARTED }
~~TO BE DELETED~~ } STRIKE OUT ONE

———— Baltimore, Maryland ———— ———— August 11 ————, 1938

I recommend that the following objects which ~~have~~ (have not) been inspected from seaward to determine their value as landmarks, be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing.

———— L. W. Swanson ————

Chief of Party.

GENERAL LOCALITY		POSITION									CHARTS AFFECTED
	NAME AND DESCRIPTION	LATITUDE			LONGITUDE			DATUM	METHOD OF LOCATION	DATE OF LOCATION	HARBOR CHART
		°	'	D. M. METERS	°	'	D. P. METERS				
STANDPIPE, ABERDEEN, 1898		39	30	1537.5	76	10	919.3	NA1927	Tri.	1898	INSHORE CHART X
											OFFSHORE CHART 572, 1226

This form shall be prepared in accordance with 1934 Field Memorandum, "LANDMARKS FOR CHARTS." The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

	Remarks	Decisions
1		394762
2		393762
3		394762
4		"
5		"
6		"
7		"
8		"
9		"
10		395761
11		394762
12		"
13		"
14		"
15		394761
16		" U S G B
17		394762
18		"
19		"
20		"
21		
22		
23		
24		
25		
26		
27		

M 234

GEOGRAPHIC NAMES

Survey No. T5676

Name on Survey		A On Chart No. 1226	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	
Bush Point	✓	✓			✓						1
Bush River	\	✓		✓	✓						2
Church Creek	✓	✓		✓	✓						3
Church Point	✓	✓									4
Bush	✓			✓	✓						5
Belcamp Beach	✓				✓						6
Otter Point Creek	\	✓		✓							7
Bynum Run	✓			✓	✓						8
Abingden	✓			✓	✓						9
Aberdeen	✓		T-3283 ✓	✓	✓	c					10
Perryman	✓		T-3283 ✓	✓	✓						11
Sewell Depot	✓			✓	✓						12
Belcamp Depot	✓			✓	✓						13
Stepney	✓										14
Short Lane	✓			U.S.G.S. Short Line							15
Boothby Hill	✓										16
Grays Run	✓										17
Cranberry Run	✓		.								18
James Run											19
Bush Creek		✓									20
											21
			Names underlined in red approved								22
			by L. Heck on 8/31/39								23
											24
											25
											26
											27

M 2344

REVIEW OF AIR PHOTO COMPILATION NO.

Chief of Party: Compiled by:

Project: Instructions dated:

1. The charts of this area have been examined and topographic
    information necessary to bring the charts up to date is shown
    on this compilation. (Par. 16a, b, &, d, e, g and i; 26; and 64)

- 2. Change in position, or non-existence of wharfs, lights, and
    other topographic detail of particular importance to naviga-
    tion which affect the chart, is discussed in the descriptive
    report. (Par. 26; and 66 g, n)

3. Ground surveys by plane table, sextant, or theodolite have been
    used to supplement the photographic plot where necessary to
    obtain complete information, and all such surveys are discussed
    in the descriptive report. (Par. 65; and 66 c, e),

    No ground surveys made.

4. Blue-prints and maps from other sources which were transmitted
    by the field party contain sufficient control for their applica-
    tion to the charts. (Par. 28)

    None

5. Differences between this compilation and contemporary plane
    table and hydrographic surveys have been examined and rectified
    in the field before forwarding the compilations to the office
    and are discussed in the descriptive report.

    *No contemporary plane table survey –
    No comparison made with present hydro. survey.*

6. The control and adjustment of the photo plot are discussed in the
    descriptive report. Unusual or large adjustments are discussed
    in detail and limits of the area affected are stated. (Par.
    12b; 14; and 66 c, H, i)

7. High water line on marshy and mangrove coast is clear and ade-
    quate for chart compilation. (Par. 16a, 43, and 44)

NOTE: Strike out paragraphs, words or phrases not applicable and
modify those requiring it. Paragraph numbers refer to those in the
Topographic Manual. Refer also to the pamphlet "Notes on the Compila-
tion of Planimetric Line Maps from Five Lens Air Photographs."

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. ~~36, 37, 38, 39~~, 40, 41)

9. Recoverable objects have been located and ~~described on Form 524 in accordance with circular 30, 1933, circular letter of March 3, 1933, and circular 31, 1934.~~ (Par. ~~29, 30~~, and ~~57~~)

10. A list of landmarks was furnished on Form 567 and instructions in the Director's letter of July 16, 1934, Landmarks for Charts, complied with. (Par. 16d, e; and 60)

11. All bridges shown on the compilation are accompanied by a note stating whether fixed or draw, clearance, and width of draw if a draw bridge. Additional information of importance to navigation is given in the descriptive report. (Par. 16c)

      None

12. Geographic names are shown on the overlay tracing. The accepted local usage of new names has been determined and they are listed, in the report, together with a general statement as to source of information and a specific statement when advisable. Complete discussion of place names differing from the charts and from the U. S. G. S. Quadrangles is given in the descriptive report, together with reasons for recommendations made. (Par. 64, and 66k)

13. The geographic datum of the compilation is *N.A. 1927* and the reference station is correctly noted.

14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j)

15. The drafting is satisfactory and particular attention has been given the following:

      1. Standard symbols authorized by the Board of Surveys and Maps have been used throughout except as noted in the report.

      2. The degrees and minutes of Latitude and Longitude are correctly marked.

3. All station points are exactly marked by fine black dots.

4. Closely spaced lines are drawn sharp and clear for printing.

5. Topographic symbols for similar features are of uniform weight.

6. All drawing has been retouched where partially rubbed off.

7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground.

(Par. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48)

16. No additional surveying is recommended at this time.

17. Remarks:

18. Examined and approved;

_____
Chief of Party

19. Remarks after review in office:

PLANE COORDINATE GRID SYSTEM

Positions of grid intersections used for fitting the grid to
this compilation were computed by Division of Geodesy and the compu-
tation forms are included in this report.

Positions plotted by *H. D. Reed, Jr.*

Positions checked by _____ *"* _____

Grid inked on machine by _____ *"* _____

Intersections inked by _____

Points used for plotting grid:

x = 1,005,000 FT
y = 595,000 FT

x 1,020,000
y 605,000

x 1,005,000
y 615,000

x
y

x 1,035,000
y 595,000

x
y

x 1,035,000
y 615,000

x
y

Triangulation stations used for checking grid:
x = 1,002,832 — y = 595,098

1. *Osborns Ruins 2, 1933* (Ref 5. _____
x = 1,037,221 — y = 602,622 *sta.*)
2. *Airway Bn No 62A*   6. _____

3. _____   7. _____

4. _____   8. _____

Plane coordinates on Lambert projection

$x =$ ~~2,220,000~~ 1,020,000

State **Md.** Station $y = 605,000$

$\phi = 39° 29' 31.09'' \qquad \lambda = 76° 13' 13.82''$

Tabular difference of R for 1'' of ϕ = _____

		For machine computation			For machine computation	
R (for min. of ϕ)				y' (for min. of ϕ)		
Cor. for sec. of ϕ	−			Cor. for sec. of ϕ	+	
R		25,765,051		y'		604,062 −4
				y'' (=2R sin² $\frac{\theta}{2}$)	+	939
		° ′ ″		y		605,001
θ (for min. of λ)						
Cor. for sec. of λ	−					° ′ ″
θ		+0 29 21.2543	$\frac{\theta}{2}$			
θ''		″		log θ''		.0000364554
log θ''				colog 2		9.69897000
S for θ				S for $\frac{\theta}{2}$		
log sin θ — sin θ		.0085386980		log sin $\frac{\theta}{2}$ — sin $\frac{\theta}{2}$		
log R				R sin $\frac{\theta}{2}$		
log x'				log sin² $\frac{\theta}{2}$ — R sin² $\frac{\theta}{2}$		
x' — R sin θ		820,000.00		log R		
		2,000,000.000		log 2		0.30103000
x		~~2,220,000~~ 1,020,000		log y''		

x = 2,000,000.00 + R sin θ

y = y' + 2R sin² $\frac{\theta}{2}$

y' = the value of y on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine

(see log tables)

R, y', and θ are given in special tables

Grid Applied
5-10-39
(R 340)

Plane coordinates on Lambert projection

$x = \cancel{2,235,000}$ *1,035,000*

State **Md.** Station $y = 615,000$

$\phi = 39°\,31'\,08.61$ $\lambda = 76°\,10\,01.34$

Tabular difference of R for 1″ of $\phi =$

	For machine computation			For machine computation	
R (for min. of ϕ)			y′ (for min. of ϕ)		
Cor. for sec. of ϕ	−		Cor. for sec. of ϕ	+	
R		25,755,184	y′		613,929. −3
			y″ (=2R sin² $\frac{\theta}{2}$)	+	1,072
θ (for min. of λ)		° ′ ″	y		615,001
Cor. for sec. of λ	−				
θ		+ 0 31 22.0614	$\frac{\theta}{2}$		° ′ ″
θ″		″			
log θ″			log θ″		,00004 16280
S for θ			colog 2		9.69897000
log sin θ	sin θ	.009 1243645	S for $\frac{\theta}{2}$		
log R			log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$	
log x′			R sin $\frac{\theta}{2}$		
x′	R sin θ	800,000.00	log sin² $\frac{\theta}{2}$	R sin² $\frac{\theta}{2}$	
		−2,000,000.00	log R		
x		2,235,000	log 2		0.30103000
		1,035,000	log y″		

x = 2,000,000.00 + R sin θ

y = y′ + 2R sin² $\frac{\theta}{2}$

y′ = the value of y on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine
   (see log tables)

R, y′, and θ are given in special tables

Plane coordinates on Lambert projection

$x = \frac{1,035,000}{2,235,000}$

$y = 595,000$

State __Md.__ Station

$\phi = 39° 27' 50.94$ $\lambda = 76° 10' 03.66$

Tabular difference of R for 1" of $\phi =$

	For machine computation	° ' "		For machine computation	
R (for min. of ϕ)			y' (for min. of ϕ)		
Cor. for sec. of ϕ	−		Cor. for sec. of ϕ	+	
R		25,775,185	y'		593,928.4
			y" (=2R sin² $\frac{\theta}{2}$)	+	1,071.3
θ (for min. of λ)		° ' "	y		595,000
Cor. for sec. of λ	−				
θ		+ 0 31 20.6053	$\frac{\theta}{2}$		° ' "
θ"		"	log θ"		.00004 15635
log θ"			colog 2		9.69897000
S for θ			S for $\frac{\theta}{2}$		
log sin θ	— sin θ	.00.9 1173054	log sin $\frac{\theta}{2}$	— sin $\frac{\theta}{2}$	
log R				R sin $\frac{\theta}{2}$	
log x'			log sin² $\frac{\theta}{2}$	R sin² $\frac{\theta}{2}$	
x'	R sin θ	800,000.00	log R		
		−2,000,000.00	log 2		0.30103000
x		2,235,000	log y"		
		1,035,000			

x = 2,000,000.00 + R sin θ

y = y' + 2R sin² $\frac{\theta}{2}$

y' = the value of y on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine

   (see log tables)

R, y', and θ are given in special tables

(R 340)

Plane coordinates on Lambert projection

$1, 005, 000$

$x = 2,205,000$

State __Md.__ Station $y = 595,000$

$\phi = 39° 27' 53.47''$ $\lambda = 76° 16' 26.16''$

Tabular difference of R for 1'' of $\phi =$ _____

	For machine computation			For machine computation	
R (for min. of ϕ)			y' (for min. of ϕ)		
Cor. for sec. of ϕ		−	Cor. for sec. of ϕ		+
R		25,774,929	y'		594,184. 4 +
			y'' (=2R sin² $\frac{\theta}{2}$)		815 2 +
θ (for min. of λ)		° ' ''	y		595,000
Cor. for sec. of λ		−			
θ		+ 0 27 20.5352	$\frac{\theta}{2}$		° ' ''
θ''	For machine computation	''		For machine computation	
			log θ''		.0000316293
log θ''			colog 2		9.69897000
S for θ			S for $\frac{\theta}{2}$		
log sin θ	sin θ	.0079534552	log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$	
log R				R sin $\frac{\theta}{2}$	
log x'			log sin² $\frac{\theta}{2}$	R sin² $\frac{\theta}{2}$	
x'	R sin θ	800,000.00	log R		
		−2,000,000.00	log 2		0.30103000
x		2,205,000	log y''		
		1, 005, 000			

x = 2,000,000.00 + R sin θ

y = y' + 2R sin² $\frac{\theta}{2}$

y' = the value of y on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine

(see log tables)

R, y', and θ are given in special tables

Plane coordinates on Lambert projection

$x = 2,205,000$ *1,205,000*

$y = 615,000$

State __Md.__ Station

$\phi = 39° 31' 11.13 \quad \lambda = 76° 16' 24.13$

Tabular difference of R for 1" of $\phi =$

R (for min. of ϕ)			y' (for min. of ϕ)		
Cor. for sec. of ϕ	−		Cor. for sec. of ϕ	+	
R		25,754,929	y'		614,184 −3
		° ′ ″	y'' (=2R sin² $\frac{\theta}{2}$)	+	816
θ (for min. of λ)			y		615,000
Cor. for sec. of λ	−				° ′ ″
θ		+ 0 27 21.8093	$\frac{\theta}{2}$		

θ''	For machine computation	″		For machine computation	
			log θ''		.0000316785
log θ''			colog 2		9.69897000
S for θ			S for $\frac{\theta}{2}$		
log sin θ	sin θ	.0079596321	log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$	
log R				R sin $\frac{\theta}{2}$	
log x'			log sin² $\frac{\theta}{2}$	R sin² $\frac{\theta}{2}$	
x'	R sin θ	205 000 *800,000.00*	log R		
		−2,000,000.00	log 2		0.30103000
x		2,205,000 *1,005,000*	log y''		

$x = 2,000,000.00 + R \sin \theta$

$y = y' + 2R \sin^2 \frac{\theta}{2}$

y'= the value of y on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine

(see log tables)

R, y', and θ are given in special tables

(R 340)

Plane coordinates on Lambert projection

State _Md._   Station _Osborns Ruins 2_

$\phi = 39° 27' 54.615''$ $\lambda = 76° 16' 53.785''$

Tabular difference of R for 1" of $\phi =$ _____

	For machine computation				For machine computation	
R (for min. of ϕ)			y' (for min. of ϕ)			
Cor. for sec. of ϕ		−	Cor. for sec. of ϕ	+		
R		25,774,813	y'			594,300
			y'' (=2R sin² $\frac{\theta}{2}$)	+		798
		° ' ''	y			595,098
θ (for min. of λ)						
Cor. for sec. of λ	−					° ' ''
θ		+ 0 27 03.1968	$\frac{\theta}{2}$			
θ''		''				
			log θ''			.0000309638
log θ''			colog 2			9.69897000
S for θ			S for $\frac{\theta}{2}$			
log sin θ	sin θ	.0078693990	log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$		
log R				R sin $\frac{\theta}{2}$		
log x'			log sin² $\frac{\theta}{2}$	R sin² $\frac{\theta}{2}$		
x'	R sin θ		log R			
		2,000,000.00	log 2			0.30103000
x		2,202,832	log y''			
		1,002,832				

x = 2,000,000.00 + R sin θ

y = y' + 2R sin² $\frac{\theta}{2}$

y'= the value of y on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine
    (see log tables)

R, y', and θ are given in special tables

(R 340)

Plane coordinates on Lambert projection

State _Md._ Station _Airway Bn. No 62A_

$\phi = 39°29'06.070 \quad \lambda = 76°09'34.451$

Tabular difference of R for 1" of $\phi =$ _____

R (for min. of ϕ)			y' (for min. of ϕ)		
Cor. for sec. of ϕ	−		Cor. for sec. of ϕ		+
R		25,767,583	y'		601,530
			y" (=2R sin² $\frac{\theta}{2}$)		+ 1,092
θ (for min. of λ)			y		602,622
Cor. for sec. of λ	−				
θ		+ 0 31 389378	$\frac{\theta}{2}$		
θ"	For machine computation	"		For machine computation	
			log θ"		.0000 4 23779
log θ"			colog 2		9.69897000
S for θ			S for $\frac{\theta}{2}$		
log sin θ	sin θ	.009206180 2	log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$	
log R				R sin $\frac{\theta}{2}$	
log x'			log sin² $\frac{\theta}{2}$	R sin² $\frac{\theta}{2}$	
x'	R sin θ		log R		
		2,000,000.00	log 2		0.30103000
x		2,237,221	log y"		
		1 037 221			

$x = 2,000,000.00 + R \sin \theta$

$y = y' + 2R \sin^2 \frac{\theta}{2}$

y' = the value of y on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine
   (see log tables)

R, y', and θ are given in special tables

(R 340)

REVIEW OF AIR PHOTOGRAPHIC SURVEY T-5676

Comparison with Contemporary Hydrography.

H-6367 (1938) 1:10,000.

H-6367 has been compared with T-5676 by the hydro-
graphic verifying unit March 9, 1940. Minor differ-
ences in marsh limits were adjusted and the two surveys
are in agreement.

Comparison with Previous Topographic Surveys.

T-190 (1845) 1:20,000.
T-212 (1845) 1:20,000.
T-2377(1898) 1:20,000.
T-2382(1899) 1:20,000.

T-5676 is adequate to supersede the above listed
topographic surveys for the area covered except for
form lines, hachured elevations, certain fence and
property lines, and certain bluffs. (Page 4, des-
criptive report, T-5676, says that bluffs less than
25 feet were not shown.)

Comparison with Chart 1226 (plate corrected to April 5, 1939), scale 1:80,000.

The only difference between the above chart and T-5676
for which the latter is not qualified to supersede is
in the location of Air Beacon 62A. This beacon was
placed in the location as shown on the chart subsequent
to the date of the photographs and field inspection.
A position is not yet available of sufficient accuracy
for plotting on the scale of T-5676, therefore the Air
Beacon does not appear on this survey. Plotting the
position of this beacon temporarily on T-5676 from a
plat furnished by Civil Aeronautics Authority indicates
that the position on the chart is quite good.

T-5676 was applied to Chart 572 prior to the compila-
tion of this review. No changes have been made in
T-5676 since its application to Chart 572 except for
the removal of confidential details. See subsequent
paragraph.

Recoverable H. & T. Stations.

There are no stations on H-5676 which have been des-
cribed on Form 524.

Landmarks.

The following landmarks are within the area of T-5676:

1.   Air Beacon 62A (not on T-5676 as explained in
     preceding paragraph "Comparison with Chart
     1226".)

2.   Standpipe (triangulation station Aberdeen
     Standpipe, 1898).

Confidential Information.

T-5676 is partly within the Aberdeen Proving Ground.
Confidential copies of T-5676 have been furnished the
Commanding officer, Aberdeen Proving Ground and a
confidential plate is filed in the vault for possible
future printing. Confidential information has been
painted off of the negatives in accordance with in-
structions from the Commanding Officer, Aberdeen
Proving Ground and a new non-confidential plate made
for printing the file copy and copies for sale.

The instructions regarding the removal of confidential
details consisted of notes made on a copy of T-5676.
This copy has been destroyed. The original celluloid
drawing and all confidential prints of T-5676 have
been destroyed.

Instructions regarding removal of confidential infor-
mation from T-5676 have been reported to the Nautical
Chart Section, September 10, 1940.

Reviewed in office by - T. M. Price,, Jr., January 3, 1940.

Inspected by - B. G. Jones, September 17, 1940.

T. B. Reed,
Chief, Section of Field Records.   Chief, Division of Charts.

Chief, Section of Field Work.   Chief, Division of H. & T.