

5676

5676

Form 504 Rev. Dec. 1933	
DEPARTMENT OF COMMERCE U.S. COAST AND GEODETIC SURVEY R. S. PATTON, DIRECTOR	
DESCRIPTIVE REPORT	
Topographic Hydrographic	Sheet No. T- 5676
State <u>MARYLAND</u>	
LOCALITY	
<u>CHESAPEAKE BAY</u> <u>Aberdeen and vicinity</u> <u>BUGH RIVER</u>	
date of photos: <u>1937</u>	
<u>1938</u>	
CHIEF OF PARTY	
<u>L. W. Swanson</u>	

Applied to Chs 572. April. 1940. N.S.B.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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 ^{Photographs} ~~survey~~ Apr. 30 & May 4, 1937

~~XXXXX~~ 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, 1938

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 descriptive 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	<i>see below</i> and April 30, 1937
		1288	Time of Photographs: unknown
			<i>*1272 at 2:30 P.M., others at 2:45 P.M.</i>

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 ----- Osborn's Ruins-2, 1933

Latitude	39 27'54.615"	1684.3 m. ✓
Longitude	76 16'53.785"	1285.7 m. ✓ adjusted

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

$\chi = 1,002,832$ FT
 $\chi = 595,098$ 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

2

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

GENERAL 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 "Osborn's Ruins-2" and "Air-way Beacon No. 62-A" established 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 particularly 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 dummy 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

3.

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 photographs on individual sheets was obtained and lines of flights were carried through with good junctions. It is believed by this office that the template method is superior to the regular method of running radial plots with nine lens photographs because it is faster, paper distortion can be eliminated, 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 occurring 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 impossible 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 detailing of Chesapeake Bay Sheets, May 13, 1938, the field inspection was complete enough to allow the compiler to detail in accordance with those instructions.

4

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.

These are fairly high bluffs to be omitted. T.M.C.
No reason for any loss in accuracy on this score because the surrounding sheets could have been attached just as in making the original plot as described on page 2. If surrounding sheets already sent in, dummy projections could have been used. T.M.C.

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 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 junctions 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 importance 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 in the 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
L. W. Swanson
Chief of Party

Air Bn. 62-14 is a landmark but its new position is not known sufficiently accurate to plot on this drawing. T.M.P.

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

6.

--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.

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 not~~ *have not* been inspected from seaward to determine their value as landmarks, be charted on ~~(attached forms)~~ the charts indicated.

The positions given have been checked after listing.

I. W. Swanson

Chief of Party.

[illegible]

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.

T-5676

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		

GEOGRAPHIC NAMES

Survey No. T5676

GEOGRAPHIC NAMES		Survey No. T5676											
Name on Survey													
	A	B	C	D	E	F	G	H	K				
✓ <u>Bush Point</u>	✓			✓						1			
✓ <u>Bush River</u>	✓		✓	✓						2			
✓ <u>Church Creek</u>	✓		✓	✓						3			
✓ <u>Church Point</u>	✓									4			
✓ <u>Bush</u>	✓		✓	✓						5			
✓ <u>Beloamp Beach</u>	✓			✓						6			
✓ <u>Otter Point Creek</u>	✓		✓							7			
✓ <u>Bynam Run</u>	✓		✓	✓						8			
✓ <u>Abingdon</u>	✓		✓	✓						9			
✓ <u>Aberdeen</u>	✓	T-3283	✓	✓						10			
✓ <u>Perryman</u>	✓	T-3283	✓	✓						11			
✓ <u>Sewell Depot</u>	✓		✓	✓						12			
✓ <u>Beloamp Depot</u>	✓		✓	✓						13			
✓ <u>Stepney</u>	✓									14			
✓ <u>Short Lane</u>	✓		U.S.G.S. Short Line							15			
✓ <u>Boothby Hill</u>	✓									16			
✓ <u>Grays Run</u>	✓									17			
✓ <u>Cranberry Run</u>	✓									18			
✓ <u>James Run</u>										19			
✓ <u>Bush Creek</u>	✓									20			
										21			
		Names underlined in red approved									22		
		H/L - Heck on 8/31/39									23		
										24			
										25			
										26			
										27			

Names underlined in red approved

by L. H. Beck on 8/31/39

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, a, d, e, g and 1; 26; and 64)
2. Change in position, or non-existence of wharfs, lights, and other topographic detail of particular importance to navigation 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 application 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

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 52)~~
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 *NA 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~~, 40, 41, 42, 43, ~~44~~, ~~45~~, 46, ~~48~~)

16. No additional surveying is recommended at this time. ✓

17. Remarks:

18. Examined and approved;

19. Remarks after review in office:

L. W. Larson
Chief of Party

PLANE COORDINATE GRID SYSTEM

Positions of grid intersections used for fitting the grid to this compilation were computed by Division of Geodesy and the computation 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=1,002,852 - y=595,098

1. Osborns Ruins 2, 1933 (Ref 5.
x=1,037,221 - y=602,622 (Sta.)
2. Airway Bn. No 62A
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

5676

Plane coordinates on Lambert projection

1,020,000

$X = 2,220,000$

State

Md.

Station

$Y = 605,000$

$\lambda = 39^{\circ} 29' 31.09''$

$\lambda = 76^{\circ} 13' 13.82''$

5676

Plane coordinates on Lambert projection

$x = \frac{1,035,000}{2,255,000}$

State md. Station y = 615,000

$\phi = 39^{\circ} 31' 08.61$ $\lambda = 76^{\circ} 10' 01.34$

5676

Plane coordinates on Lambert projection

1,035,000
 $x = 2,235,000$

State

Md.

Station

y = 595,000

 $\phi = 39^\circ 27' 50.94''$ $\lambda = 76^\circ 10' 03.66''$ 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	25,775,185	y'	593,928.4
		y'' (= $2R \sin^2 \frac{\theta}{2}$)	+
		y	1,071.3
θ (for min. of λ)			595,000
Cor. for sec. of λ	-		
θ	+ 0 31 20.6053	$\frac{\theta}{2}$	
θ''	For machine computation	$\frac{\theta}{2}$	For machine computation
		log θ''	.0000415635
log θ''		colog 2	9.69897000
S for θ		S for $\frac{\theta}{2}$	
log sin θ	sin θ	log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$
log R			R sin $\frac{\theta}{2}$
log x'		log sin ² $\frac{\theta}{2}$	R sin ² $\frac{\theta}{2}$
x'	R sin θ	log R	
	800,000.00	log 2	0.30103000
	2,000,000.00	log y''	
x	2,235,000		
	1,035,000		

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

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

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

Plane coordinates on Lambert projection

$$\chi = \frac{1,005,000}{2,205,000}$$

State md. Station

$$y = 595,000$$

$$\phi = 39^{\circ} 27' 53.47'' \quad \lambda = 76^{\circ} 16' 26.16''$$

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	25,774,929	y'	594,184.4
		y'' (= $2R \sin^2 \frac{\theta}{2}$)	+ 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	$\frac{\theta}{2}$	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	log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$
log R		R sin $\frac{\theta}{2}$	
log x'		log sin ² $\frac{\theta}{2}$	R sin ² $\frac{\theta}{2}$
x'	R sin θ	log R	
	800,000.00	log 2	0.30103000
	-2,000,000.00	log y''	
x	2,205,000		
	1,005,000		

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

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

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

Plane coordinates on Lambert projection

 $x = \frac{1,405,000}{2,205,000}$
State Md. Station y = 615,000 $\phi = 39^{\circ} 31' 11.13$ $\lambda = 76^{\circ} 16' 24.13$ 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
		$y'' / (2D \sin^2 \theta)$	+ 816

Plane coordinates on Lambert projection

State Ind. Station Ostons River 2 $\phi = 39^{\circ} 27' 54.615''$ $\lambda = 76^{\circ} 16' 53.785''$ 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	<u>25,774,813</u>	y'	<u>594,300</u>
	"	$y'' (= 2R \sin^2 \frac{\theta}{2})$	+
θ (for min. of λ)		y	<u>798</u>
Cor. for sec. of λ	-		<u>595,098</u>
θ	<u>+ 0 27 03.1968</u>	$\frac{\theta}{2}$	"
θ''	For machine computation		For machine computation
		$\log \theta''$	<u>.0000309638</u>
$\log \theta''$		$\log 2$	<u>9.69897000</u>
S for θ		S for $\frac{\theta}{2}$	
$\log \sin \theta$	$\sin \theta$	$\log \sin \frac{\theta}{2}$	$\sin \frac{\theta}{2}$
$\log R$		$R \sin \frac{\theta}{2}$	
$\log x'$		$\log \sin^2 \frac{\theta}{2}$	$R \sin^2 \frac{\theta}{2}$
x'	$R \sin \theta$	$\log R$	
	<u>2,000,000.00</u>	$\log 2$	<u>0.30103000</u>
x	<u>2,202,832</u>	$\log y''$	
	<u>1,002,832</u>		

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

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

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

Plane coordinates on Lambert projection

State Ind. Station Airway Bn. No 62A $\phi = 39^{\circ} 29' 06.070$ $\lambda = 76^{\circ} 09' 34.451$ 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	<u>25,767,583</u>	y'	<u>601,530</u>
	"	$y'' (= 2R \sin^2 \frac{\phi}{2})$	+
θ (for min. of λ)		y	<u>602,622</u>
Cor. for sec. of λ	-		"
θ	<u>+ 0 31 389378</u>	$\frac{\theta}{2}$	
θ''	For machine computation		For machine computation
	"	$\log \theta''$	<u>.0000423779</u>
$\log \theta''$		$\text{colog } 2$	<u>9.69897000</u>
S for θ		S for $\frac{\theta}{2}$	
$\log \sin \theta$	$\sin \theta$	$\log \sin \frac{\theta}{2}$	$\sin \frac{\theta}{2}$
$\log R$		$R \sin \frac{\theta}{2}$	
$\log x'$		$\log \sin^2 \frac{\theta}{2}$	$R \sin^2 \frac{\theta}{2}$
x'	$R \sin \theta$	$\log R$	
	<u>2,000,000.00</u>	$\log 2$	<u>0.30103000</u>
x	<u>2,237,221</u>	$\log y''$	
	<u>1 037 221</u>		

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

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

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

DIVISION OF CHARTS

Section of Field Records

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 hydrographic verifying unit March 9, 1940. Minor differences 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, descriptive 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 data 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 compilation 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

Recoverable H. & T. Stations.

There are no stations on H-5676 which have been described 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 instructions 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 information 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

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

Raymond R. Egan

Chief, Section of Field Work.

J. S. Borden

Chief, Division of Charts.

G. H. Rude

Chief, Division of H. & T.