

5436

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

MAY 24 1935

Acc. No. \_\_\_\_\_

5436

Form 504 Rev. Dec. 1933	
DEPARTMENT OF COMMERCE U.S. COAST AND GEODETIC SURVEY R. S. PATTON, DIRECTOR	
DESCRIPTIVE REPORT	
AIR PHOTO Topographic <del>Hydrographic</del>	Sheet No. 5436
State <u>Maryland</u>	
LOCALITY	
<del>ANNE ARUNDEL COUNTY</del>	
<del>Chesapeake Bay</del>	
<del>GLENBURNIE AND VICINITY</del>	
<del>Paradise, Garland, Glenburnie and</del>	
<del>Elevation Sections of Anne Arundel</del>	
<del>County</del>	
Project No. HT-175	
193 5	
CHIEF OF PARTY	
J.C. Partington	Jr. H.&G.E.

U. S. GOVERNMENT PRINTING OFFICE: 1934

Patapsco River  
Marley Creek and Vicinity

Applied to New Comp Chart 545 June 29-1938 Chas P. Bunk  
Applied to New Comp Chart 544 Jan 13-1938 Chas P. Bunk

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. 5436

REGISTER NO. 5436

State Maryland  
General locality Baltimore, Chesapeake Bay  
Locality Patapsco River  
Marley Creek and Vicinity  
Ferndale, Garland, Glenburnie and Elvaston Sections  
of Anne Arundel County  
Scale 1:10,000 Date of Photographs Apr. 28 & May 18, 1934  
Date of Survey Apr. 9, 1935  
Vessel Photo. Compilation Party # 25  
Reviewed and Recommended for Approval  
Chief of party Lieut. (j.g.) J.C. Partington, March 11, 1935  
Photographs plotted by  
Surveyed by E.C. Broadwell, February 8, 1935  
Inked by W.V. Sulkowski, April 9, 1935  
Heights in feet above ..... to ground to tops of trees  
Contour, Approximate contour, Form line interval ..... feet  
Instructions dated March 11, 1934  
Remarks: Compilation of aerial photographs: 586-590; 753-766

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. 5136

REGISTER NO.

State Maryland

General locality Baltimore, Chesapeake Bay

Locality Ferndale, Garland, Glenburnie and Elvaton Sections of Anne Arundel County

Scale 1:10,000 Date of Photographs Apr. 26 & May 18, 1934  
Date of Photo compilation Apr. 9, 1935

~~Photo~~ Photo Compilation Party # 25

Reviewed and Recommended for Approval

Chief of party Lieut. (j.g.) J.C. Partington, March 11, 1935

Photographs plotted by E.C. Broadwell, February 8, 1935

~~Surveyed by~~ W.V. Sulkowski  
Inked by W.V. Sulkowski, April 9, 1935

Heights in feet above.....to ground to tops of trees

Contour, Approximate contour, Form line interval.....feet

Instructions dated March 11, 19 34

Remarks: Compilation of aerial photographs: 586-590; 753-766

-STATISTICS-

on

SHEET, FIELD NO. 5436, REG. NO. 7-5436.

PHOTOS, NO. 586-590  
753-766

DATE OF PHOTOGRAPHS: Apr. 28, 1934  
May 18, 1934

1:00 P.M.  
9:45 A.M.-1:50 P.M.

	BY	DATE FROM TO
ROUGH RADIAL PLOT	S.M. Stoler	7-10-34 8- 8-34
SCALE FACTOR (0.956)	S.M. Stoler	7-23-34 8- 8-34
SCALE FACTOR CHECKED	<i>R.D. Cross</i> R.D. Cross	8- 9-34 8- 9-34
PROJECTION	<i>W.V. Sulkowski</i> W.V. Sulkowski	1-23-35 1-23-35
PROJECTION CHECKED	<i>J.W. Seager</i> J.W. Seager	1-23-35 1-23-35
CONTROL PLOTTED	<i>W.V. Sulkowski</i> W.V. Sulkowski	1-24-35 1-24-35
CONTROL CHECKED	<i>R.D. Cross</i> R.D. Cross	1-25-35 1-25-35
TOPOGRAPHY TRANSFERRED No recent data available		
TOPOGRAPHY CHECKED		
SMOOTH RADIAL LINE PLOT	E.C. Broadwell	1-26-35 2- 8-35
RADIAL LINE PLOT CHECKED	<i>R.D. Cross</i> R.D. Cross	2- 8-35 2- 8-35
DETAIL INKED	<i>W.V. Sulkowski</i> W.V. Sulkowski	2-28-35 4- 9-35
AREA DETAIL INKED	20.0 sq. Statute Miles (Land Area)	
AREA DETAIL INKED	0.0 sq. Statute Miles (Shoals in Water Area)	
LENGTH OF SHORELINE (more than 200 m. from nearest opposite shore)	0.93 Statute Miles	
LENGTH OF SHORELINE (rivers and sloughs less than 200 m. wide)	6.6 Statute Miles	
LENGTH OF STREETS, ROADS, TRAILS, R.R., etc.	77 Statute Miles	
GENERAL LOCATION Maryland, Chesapeake Bay		
LOCATION <del>Perndole, Garland, Glenburnie and Elvaton Section of</del> Anne Arundel County, <i>Vicinity of Glenburnie.</i>		
DATUM North American 1927		
STATION Glenburnie, Tank 1933	Latitude 39° 09' 32.477" = 1001.5 m. Longitude 76° 37' 50.704" = 1217.6 m.	

Field Computations

SHEET NO. 5436

## PROJECTION DIAGRAM

Scale = 1:10,000

Scale Factor = 0.970

Distances Multiplied by Scale Factor Are Given in Red

12'	39'	38'	37'	36'	76°35'	34'	12'
			(1396.5) 1439.7	(2793.0) 2879.4	(4189.6) 4319.2		
			(5384.3) 5550.8				
11'			(1396.9) 1440.1	(2793.7) 2880.1	(4190.6) 4320.2		11'
			(3589.5) 3700.5				
39°10'			(1397.2) 1440.4	(2794.4) 2880.8	(4191.7) 4321.3		39°10'
			(1794.8) 1850.3				
09'			(1397.6) 1440.8	(2795.1) 2881.5	(4192.6) 4322.3		09'
08'			(1397.9) 1441.1	(2795.7) 2882.2	(4193.6) 4323.3		08'
07'			(1398.2) 1441.4	(2796.3) 2882.8	(4194.6) 4324.3		07'
06'			(1398.5) 1441.8	(2797.0) 2883.5	(4195.5) 4325.3		06'
	39'	38'	37'	36'	76° 35'	34'	

Layout by W.V.S. 1/23/35  
 Checked J.W.S.

SHEET NO. 5436

## SCALE FACTOR COMPUTATIONS

Photos 589-597  
- - - - -

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Measured Distance</u>	<u>Computed Distance</u>	<u>Scale Factor Meas./Comp.</u>
Brooklyn Church Spire 1915		U.S. Ordinance Plant tank 1933 r'34	3964	3789	1.046
Brooklyn Church Spire 1915		Sledds USE 1915	3799	3616	1.050
Brooklyn Church Spire 1915		Filbert 1933	1917	1832	1.046
U.S. Ordinance Plant tank 1933 r'34		Livingstone Stack 1915	2951	2829	1.043
U.S. Ordinance Plant tank 1933 r'34		Filbert 1933	2278	2176	1.047
Sledds U.S.E. 1915		Livingstone Stack 1915	1247	1186	1.051
Brooklyn Church Spire 1915		Livingstone Stack 1915	2797	2666	1.049

Average = 1.047

Comp. by S.M.S. 8/8/34

Checked by R.D.C.

This is scale factor computed for photos 589-597 but only photos 589-590 fall on the tracing area of this sheet.

None of the above triangulation stations fall on tracing area of this sheet.

Scale factor for main flight on this sheet (753-766) was found to be 0.970 when computed lower down on the flight where there was more control. As a result, the scale factor actually used for this sheet was 0.970

Scale Factor Used = 0.970

## SHEET NO. 5436

## CONTROL DATA

Station	North American 1927 Datum				x Scale Factor
	°	'	"	m.	m.
Airway Beacon 58 1933	39	08	46.270	(423.4) 1426.8	(410.7) 1384.1
	76	39	00.424	(1430.9) 10.2	(1388.0) 09.9
Glenburnie, tank 1933	39	09	32.477	(848.6) 1001.5	(823.1) 971.5
	76	37	50.704	(223.2) 1217.6	(216.5) 1181.1
Linthicum, tank 1933	39	12	06.949	(1636.0) 214.2	(1586.9) 207.9
	76	39	13.409	(1118.0) 321.8	(1084.5) 312.1
Traverse Sta. # 27 1935	39	06	56.152	(118.7) 1731.6	(115.1) 1679.6
	76	37	59.720	(6.7) 1434.7	(6.5) 1391.6
Traverse Sta. # 29 1935	39	07	24.983	(1079.8) 770.4	(1047.4) 747.3
	76	38	20.826	(941.1) 500.3	(912.9) 485.3
Traverse Sta. # 33 1935	39	08	06.960	(1635.6) 214.6	(1586.5) 208.2
	76	38	05.137	(1317.7) 123.4	(1278.2) 119.7

N.B. All stations were computed directly on N.A. 1927 Datum

5.

DESCRIPTIVE REPORT

To Accompany

PHOTO COMPILATION SHEET NO. 5436

Chesapeake Bay; Ferndale, Garland, Glenburnie and Elvaton

Sections of Anne Arundel County

Instructions Dated March 14, 1934

1. GENERAL INFORMATION: \*

(a) Title. Refer to Title Sheet.

(b) Statistics. Refer to Statistics Sheet.

(c) No general report covering this area is available. The area is bounded on the north by the  $39^{\circ} 12'$  parallel, on the east by the  $76^{\circ} 35'$  meridian, on the south by the  $39^{\circ} 07'$  parallel and on the west by the  $76^{\circ} 39'$  meridian.

The territory is thickly settled along the highways and along the W.B. & A. Railroad. The section is generally rolling and is covered by cultivated fields, orchards and wooded areas.

(d) The following photographs were used in plotting this sheet:

<u>Photo Numbers</u>	<u>Flight Strip Location</u>	<u>Date</u>	<u>Time</u>	<u>Stage of Tide</u>
586 to 590	North and south along the $76^{\circ} 36'$ meridian	4-28-34	1:00PM	High-- 5:52 AM Low---12:43 PM
753 to 766	North and south between the $76^{\circ} 36'$ meridian and the $76^{\circ} 37'$ meridian	5-18-34	9:45AM to 1:50PM	High-- 9:58 AM Low--- 5:12 PM

(e) Refer to Statistics Sheet.

2. CONTROL: \*

(a) Sources:

The triangulation stations "Linthicum, tank 1933", "Glenburnie, tank 1933" and "Airway Beacon 58 1933" were obtained from the ~~the Progress Sketch~~ <sup>work</sup> of Lieut. Roland D. Horne, Project No. G-113 November and December 1933. These stations are on N.A. 1927 Datum.

(\*) N.B. The paragraphs (numbers and letters) listed refer to those shown on pages 22 and 23 of Notes on Compilation of Planimetric Line Maps.

Note The traverse mentioned on the opposite page was recomputed applying temperature corrections to the steel tape and the closure was 2.548 meters. The traverse was then adjusted for this closure and the new values used to plot points on this compilation and on T 5422.

Traverse stations were marked and are described on form 524 filed under T 5422 and T 5436. The traverse computations and record books are filed under Field Data in the Air Photo Unit files.

B.G. Jones

## DESCRIPTIVE REPORT

SHEET NO. 5436

- - - -

In order to furnish sufficient control for plotting the photographs a traverse was run between Triangulation Stations "Crownsville 1933" and "Glenburnie, tank 1933" using reference mark No. 3 at station Crownsville 1933 for a starting azimuth. Angles were measured with a two second two micrometer theodolite measuring 3 D/R and closing the horizon. Distances were measured with a 50 meter steel tape and all distances were checked with a 300 foot steel tape. Station Crownsville 1933 is a main scheme first order station and Glenburnie, tank 1933 is a first order intersection station observed on from 4 main scheme stations. The length of the traverse was approximately 10 miles. The closing error was 5.1 meters which was adjusted. This represents an error of 1 part in 3300 which is less than third order accuracy. The traverse stations are therefore shown on Form No. 524 as recoverable H. and T. stations. Only the stations used for photo control are described on Form No. 524. Three of these traverse stations appear on this sheet, namely: Traverse Stations Nos. 27, 29 and 33. *See opposite page*

(b) Errors:

No error in position of any control station was found in running the plot.

(c) Discrepancies:

No discrepancy in position or in pricking the station on the photographs was found in running the plot.

3. COMPILATION:(a) Method:

The usual radial line plot was used to determine the position of all radial points.

(b) Adjustment of plot:

Good intersections were obtained without having to adjust the plot in any manner.

(c) Interpretation:

In the extreme northwestern corner of the sheet there is some doubt as to the accuracy of the radial points. This applies particularly to the section along the W.B. & A. Railroad that lies north of the village of Garland. The 753 to 766 flight did not extend far enough to the northward to get more than two cuts at points in this vicinity and the other flight was too far to the east to cover this territory. This is a small area approximately 1/2 mile square in the extreme northwestern corner of the sheet and in this area there is a

## DESCRIPTIVE REPORT

SHEET NO. 5436

- - -

probability of error of from 5 to 10 meters in position of detail.

(d) Information from other sources:

The data for the bridge over Marley Creek was obtained from the publication "List of Bridges over the Navigable Waters of the United States 1927" and is given on the following sheet.

The names shown on the overlay were obtained from the U.S. Geological Survey, Relay Quadrangle; U.S. Coast and Geodetic Survey Charts; Maryland Geological Survey, Anne Arundel County; and from local residents of the area.

A section of the Annapolis Boulevard beginning at the northern boundary of the sheet and extending southward approximately 1/2 mile has been changed since the pictures were taken. This section of road has been straightened and made considerably wider. The information on this change was obtained from a blue print furnished by the Maryland State Roads Commission. This blue print showed the position of the new road and also the position of the old, making it possible to locate the new road by scaling off the proper distance from the center line of the old. This procedure was followed in tracing this section of road and consequently the compilation will not conform with the pictures at this point. We believe that the road has been very accurately shown and the blue prints mentioned above will be sent to the Washington Office with the compilation.

A small stream about 8 feet wide and about a half mile long runs in a northeasterly direction from a small inland lake to the head of Furnace Creek. This branch is so completely covered by thick trees that it could not be traced from the pictures and it was omitted from the compilation. This branch could be located on the compilation by running a traverse along its course, but the stream is so small and unimportant that it is not believed that this work would be justified.

All other information was obtained directly from the pictures.

(e) Names:

On existing U.S. Coast and Geodetic Survey Charts, the only name applying to inland detail is the name of the section, "Marley". The following names of towns and villages have been added on this compilation:

Garland .  
Woodland Heights  
Marley Station  
Saunders .  
Ferndale .  
Glenburnie .  
Elvaton .

# BRIDGES

Mi. above Mouth	Nearest town, St., etc.	Owner	Kind	Clear Width Normal to Channel	Clear M.L.W.	Height H.W.	Completion Reported	Use of Bridge
Marley Creek								
5	Glenburnie	Md. State Roads Comm.	Fixed	67'	7'	5.5'	Oct. 26, 1926	Highway

## DESCRIPTIVE REPORT

SHEET NO. 5436

- - -

Also, the following miscellaneous names have been added to the overlay sheet of the compilation:

Annapolis Boulevard  
Annapolis Road  
Dorsey Road  
Crain Highway  
W.B. & A. Railroad

The names Wellhams and Ferndale Farm shown on the U.S. Geological Survey Quadrangle have been omitted as this entire section is now known as Ferndale.

4. COMPARISON WITH OTHER SURVEYS:

- (a) The latest topographic sheet of this area that is available is Topographic Sheet Register No. T-2286, compiled by the U.S. Coast and Geodetic Survey in the year 1897. So many changes have taken place since 1897 that a comparison between the two surveys will be of no value.

Junctions with adjoining sheets have been examined and are satisfactory.

5. LANDMARKS:

- (a) No landmarks or recoverable objects were recommended in this area by the field party.
- (b) No additional objects show with sufficient prominence under the stereoscope to be recommended for landmarks.

6. RECOMMENDATIONS FOR FURTHER SURVEYS:

- (a) The compilation is believed to have a probable error of 3 meters in position of well defined detail of importance for charting and of 5 meters for other data except as noted under Section 3, Paragraph (c) of this report.

- (b) The width of roads has been exaggerated where necessary in order to procure well defined lines when the sheet is reproduced.

Only houses near the shore line have been shown on the compilation.

7. RECOVERABLE OBJECTS:

There is no available record of any described topographic stations in this area and no objects were recommended by the field party *except for the traverse stations*

*located and marked by the compilation party. Descriptions of stations No. 29 and 33 are filed on form 524 under T 5436.*

## DESCRIPTIVE REPORT

SHEET NO. 5436

- - -

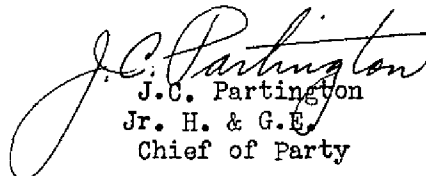
8. MILITARY RESERVATIONS:

On March 14, 1935 the Commanding Officer, Ordnance Depot, Curtis Creek was interviewed in regard to showing detail within the limits of the U.S. Army Ordnance Depot. The Commanding Officer, Major Everett Collins, advised that no detail should be shown on the photo compilation or charts of this area.

In accordance with the Director's letter of April 4, 1934, and in compliance with the above request, only the natural features have been shown in this area.

The present charts show all the detail in this area however. It is recommended that this detail be removed from existing charts.

Respectfully submitted,

  
J.C. Partington  
Jr. H. & G.E.  
Chief of Party

Date. April 22, 1935.

Chart No. 77, 1226, 549

Under investigation. Q

[illegible]

## REVIEW OF AIR PHOTO COMPILATION NO. T-5436.

Chief of Party: J.C. Partington

Compiled by: W.V. Sulkowski

Project: HT-175

Instructions dated: March 14, 1934.

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, c, 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 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 d, e)  
*Traverse A Crownsville to A Tank Glenburnie used to control plot. (See descriptive report.)*
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)  
*Blueprints used to locate new Annapolis Boulevard. (See descriptive report Section 3 (d).)*
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.  
*Compared with Topographic Sheet No. T-2286 made in 1897.*
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; 44; and 66 c, h, i)
7. High water line on marshy ~~and mangrove~~ coast is clear and adequate 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 Compilation 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)  
*Descriptions on Form 524 of recoverable stations are filed under this compilation number.*
- /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)~~  
*No landmarks.*
- /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)✓
- /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)✓  
*Relay Quadrangle referred to for geographic name comparison.*
- /13. The geographic datum of the compilation is *North American 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; April 11, 1935

J. C. Partington  
Chief of Party

19. Remarks after review in office:

*see following page...*

Reviewed in office by:

Leonard A. McKenna  
B. G. Jones  
May 13, 1935.

Examined and approved:

K. T. Adams  
Asst Chief, Section of Field Records  
Division of Charts  
L. O. Lobbert  
Chief, Division of Charts

F. B. Borden  
Chief, Section of Field Work  
G. H. Hude  
Chief, Division of Hydrography  
and Topography.

## Review of Air Photo Compilation T 5436

### Projection

The projection of this compilation was tested and found to be satisfactory.

### Bluffs

The heights of the bluffs as given below were estimated by the field inspection party. They are not shown on the compilation for they do not apply to a specific location.

In Marley Creek, from 5 to 15 feet  
In Furnace Creek, from 5 to 15 feet

### Comparison with other surveys and with the charts

(a) Charts Nos. 549 and 1226. An explanation is given in this descriptive report on page 9 for omitting topographic detail in the vicinity of the junction of Marley and Furnace Creeks. This is a military reservation.

(b) Old topographic surveys: T-2286 (1897), 1:20,000 scale. ~~This~~ T-2286 survey covers the Patapsco River and Chesapeake Bay from Curtis Creek to Magothy River and vicinity. Only that detail in the northwest corner of the compilation is covered by T-2286. The shoreline of Marley and Furnace Creeks has not undergone much change since the date of T 2286. The more important roads have been realigned. The compilation is complete and adequate to supersede T-2286 except for the contours.

### Recoverable stations

The following recoverable topographic stations are described on Form 524. Descriptions are filed under this compilation number.

Traverse Station No. 33  
Traverse Station No. 29

The remainder of stations on this traverse are filed under compilation number T-5422.

*Leonard A. McNamee*  
*v B.G. Jones*