Form 804

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT
PH-6609

<table>
<thead>
<tr>
<th>Type of Survey</th>
<th>Shoreline T-12660 and T-12661</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field No.</td>
<td>Office No. Class III</td>
</tr>
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LOCALITY

<table>
<thead>
<tr>
<th>State</th>
<th>Maryland</th>
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<tbody>
<tr>
<td>General locality</td>
<td>Severn River</td>
</tr>
<tr>
<td>Locality</td>
<td>Annapolis</td>
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</tbody>
</table>

1965
CHIEF OF PARTY

LIBRARY & ARCHIVES

DATE
DESCRIPTIVE REPORT - DATA RECORD
T-12660 and 12661, T-12954 thru 12958

PH-6609, Severn River, Maryland

FIELD OFFICE (III):
Detached field party

CHIEF OF PARTY
J. K. Wilson

PHOTOMGRAMMETRIC OFFICE (III):
Rockville, Maryland

OFFICER-IN-CHARGE
J. E. Waugh

INSTRUCTIONS DATED (III) (III):
July 12, 1965, Job PH-6609, Aerotriangulation, Severn River, Md.
July 15, 1965, Job PH-6609, Compilation, Severn River, Md.

METHOD OF COMPILATION (III):
Wild B-8 Stereoplotter

MANUSCRIPT SCALE (III):
12956, 12957, 12958 1:5,000
T-12954, 12955, 12660, 12661 1:10,000

STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):
1:5,000
1:10,000

DATE RECEIVED IN WASHINGTON OFFICE (IV):
July 1965

DATE REPORTED TO NAUTICAL CHART BRANCH (IV):

DATE REGISTERED (IV):
JULY 1977

GEOGRAPHIC DATUM (III):
N.A. 1927

REFERENCES TO CHART NO.:

VERTICAL DATUM (III):
MEAN SEA LEVEL EXCEPT AS FOLLOWS:
Elevations shown as (3) refer to mean high water
Elevations shown as (3) refer to sounding datum
i.e., mean low water or mean lower low water

REFERENCE STATION (III):
Annapolis Naval Academy Chapel, Spire, 1933

LAT.: 38° 58' 53.211"

LONG.: 76° 29' 12.130"

ADJUSTED
UNADJUSTED

PLANE COORDINATES (IV):
945,916.55
418,528.83

STATE
Maryland

ZONE
--
**DESCRIPTIVE REPORT - DATA RECORD**

**FIELD INSPECTION BY (iii):**
- E. W. Hartford
- Horizontal control identification for bridging

**DATE:** July 1965

**MEAN HIGH WATER LOCATION (iii) (STATE DATE AND METHOD OF LOCATION):**

Time of photography except for T-12954 which has shoreline inspection on bridging contacts done during October 11 thru 22, 1965, by R. S. Tibbetts.

**PROJECTION AND GRIDS RULED BY (iv):**
- A. E. Roundtree
- T-12956, 57, 58
- T-12954, 55, T-12660, 61

**DATE:** 7/21/65

**PROJECTION AND GRIDS CHECKED BY (iv):**
- R. Glaser

**DATE:** 7/22/65

**CONTROL PLOTTED BY (iii):**
- J. B. Phillips
- M. C. Webber

**DATE:** 7/26/65

**CONTROL CHECKED BY (iii):**
- M. C. Webber
- J. B. Phillips

**DATE:** 7/26/65

**RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (iii):**
- W. Heinbaugh

**DATE:** Aug. 1965

**STEREOSCOPIC INSTRUMENT COMPILATION (iii):**
- Wild B-8
- PLANIMETRY J. B. Phillips,
- H. Lucas, J. C. Richter,
- M. C. Webber
- CONTOURS

**DATE:** Aug. 1965

**MANUSCRIPT DELINEATED BY (iii):**
- H. Lucas,
- J. B. Phillips, J. C. Richter, M. C. Webber

**DATE:** May 1966

**SCRIBING BY (iii):**

**DATE:** Aug. 1965

**PHOTOGRAHAMMETRIC OFFICE REVIEW BY (iii):**
- Unknown

**DATE:**

**REMARKS:**
- * Robert S. Tibbetts field inspected the area covered by T-12954 in October 1965
### Wild RC-8, 6-inch focal length

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>DATE</th>
<th>TIME</th>
<th>SCALE</th>
<th>STAGE OF TIDE</th>
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<tr>
<td>65-S-4990-5003</td>
<td>7/1/65</td>
<td>12:10-12:13</td>
<td>1:15,000</td>
<td>0.4 above MLW</td>
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<tr>
<td>65-S-5005-5017</td>
<td>7/1/65</td>
<td>12:16-12:20</td>
<td>1:15,000</td>
<td>0.4 above MLW</td>
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<tr>
<td>65-S-5019-5031</td>
<td>7/1/65</td>
<td>12:22-12:25</td>
<td>1:15,000</td>
<td>0.4 above MLW</td>
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<tr>
<td>65-S-7535-7538</td>
<td>9/2/65</td>
<td>10:29-10:30</td>
<td>1:30,000</td>
<td>.08 above MLW</td>
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<tr>
<td>65-S-7548-7551</td>
<td>9/2/65</td>
<td>10:38-10:39</td>
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<td>65-S-5036-5042</td>
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<td>12:39-12:42</td>
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### TIDE

<table>
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<tr>
<th>REFERENCE STATION:</th>
<th>Ratio of (\text{RANGES})</th>
<th>Mean Range</th>
<th>Spring Range</th>
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<tbody>
<tr>
<td>Baltimore, Maryland</td>
<td>0.9</td>
<td>1.0</td>
<td></td>
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<table>
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<th>COORDINATE STATION:</th>
<th>Ratio of (\text{RANGES})</th>
<th>Mean Range</th>
<th>Spring Range</th>
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<tr>
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<th>Mean Range</th>
<th>Spring Range</th>
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<tbody>
<tr>
<td>Bay Ridge</td>
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<td>1.0</td>
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</table>

**WASHINGTON OFFICE REVIEW BY (IV):**

**J. B. Phillips**

**DATE:** Nov. 1976

**PROOF EDIT BY (IV):**

**DATE:**

**NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II):**

**RECOVERED:**

**IDENTIFIED:**

**NUMBER OF BM(S) SEARCHED FOR (II):**

**RECOVERED:**

**IDENTIFIED:**

**NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):**

**NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):**

**REMARKS:**
SUMMARY TO ACCOMPANY DESCRIPTIVE REPORT
T-12660 thru T-12661 and T-12954 thru T-12958

Shoreline maps T-12660 thru T-12661 and T-12954 thru T-12958 are the seven maps that make up project PH-6609. These maps cover the Severn River, Maryland, from its mouth south of Annapolis north to latitude 39°05'15". These maps were compiled on the Wild B-8 stereoplottter in advance of hydrographic surveys to be made in the area. The field operations preceding compilation consisted of the recovery of horizontal control for stereobridging with the exception that field inspection of shoreline, bulkheads, piers, groins, etc. and the location of hydrographic signals was provided for only on T-12954. Field data was also provided for location of fixed aids on T-12954 and T-12957. The B-8 compilations were done at a scale of 1:5,000 for T-12956 thru T-12958 and a scale of 1:10,000 for T-12954 thru T-12955 and T-12660 thru T-12661. The three 1:5,000 scale maps cover Annapolis and vicinity. None of the maps are field edited. The Descriptive Report for the seven maps of the two separate number sequences will be registered under one combined report. One copy of the combined report will be filed under T-12954 thru T-12958 and a duplicate copy will be filed under T-12660 thru T-12661.
FIELD REPORT
PH-6609

Location of Fixed Aids to Navigation

In accordance with instructions dated July 9, 1965, fixed aids to navigation were located during the months of July and August 1965.

All fixed aids in Maps T-12954 and T-12957 along with the Eastport Harbor Lights 1 and 3 and Greenbury Point Shoal Light were located either by triangulation or photogrammetric methods.

Photo points are shown on the following photographs:
Contact field prints 65-3-4990, 4999, 5005, 5020, 5021

Greenbury Point Shoal Light is identified on contact print 56-3-5037. The two lights at the Naval Academy dock were identified on 3X field ratio print 65-3-5027.

E. W. Hartford

cc:
CofP 759
NRO
General Statement

This report is submitted for the upper portion of the Severn River in Anne Arundel County, Maryland. The work was accomplished during the period of 11 October to 22 October, 1965, on verbal instructions from Messrs. Cravat and Fitzgerald of the Washington office. The 1965 Control Prints of 1:30,000 scale were adequate for the limited amount of field inspection in this portion of the Project.

All horizontal control stations, as indicated on a special horizontal control design prepared by Washington, were recovered and identified.

Triangulation station Manresa 1932, previously identified on 1:15,000 scale photographs, could be identified on the 1:30,000 photos using the same stations.

Triangulation station Arnold RM (NSPC) 1906, previously identified on 1:15,000 scale photographs, could not be identified on the 1:30,000 scale photos using the same sub stations. Two new sub stations were identified for this station.

Hydrographic Stations that were previously located by plane table methods have been pricked on the photographs wherever possible.

Robert S. Tibbetts
Severn River, Maryland
Job PH-6609

Summary of Bridging and
Field Inspection Photography

Contact photos with bridge points:

Strip 1  65-S-5022 thru 5029
Strip 2  65-S-5034 thru 5041
Strip 5  65-S-7532 thru 7541
Strip 6  65-S-7547 thru 7554

Contact prints with horizontal recovery:

65-S-5022
65-S-5024
65-S-5026 thru 5029
65-S-5031
65-S-5037
65-S-5039 with negative

Ratio prints with horizontal recovery:

65-S-4990, 4991
65-S-5014
65-S-5019
65-S-5035 (ratio section)
65-S-5041 (ratio section)

Contact prints with photo points for location of
fixed aids to navigation:

65-S-4990
65-S-4999
65-S-5005--
65-S-5020
65-S-5021
Aerotriangulation Report  
Project PH6609  
Severn River, Md. and Vicinity

21. **Area Covered**

The area covered by this report on Aerotriangulation bridging encompasses the lower Severn River and that portion of the west side of Chesapeake Bay between Sandy Point and Turkey Point, Maryland (T-12955, T-12956, T-12957, T-12958, T-12650 and T-12661).

22. **Method**

Two strips of photography (65 S 5022 - 65 S 5029) and 65 S 5034 - 65 S 5041) were bridged to extend horizontal control. The former strip of photography was bridged using the C-8 Stereo-planigraph and the latter on the Wild Stereocomparator. Both strips were adjusted by IBM methods and are analysed separately (see diagrams attached).

23. **Adequacy of Control**

Horizontal control station recovery and associated substitute control stations were adequate to control the bridge within the limits of accuracy required by National Map Accuracy Standards. Several additional control stations were office identified and used as check stations. All substitute control stations held except HORN SS "A". (No reasonable assumption can be made for this failure except that there were more than one burned over areas and the field measurements were made to such an area other than indicated in the sketch and on the photograph) and the 3 point fix to replace Station RIDGE which failed to tie by about 12 feet.

24. **Supplemental Data**

Not applicable

25. **Photography**

Photography was adequate as to coverage, overlays and definition.

26. **Plotting Coordinates**

Plotting coordinates are furnished at both 1:5,000 scale and 1:10,000.
27. Ratio Prints
The enlargement ratios were determined for all necessary photographs to furnish photographic coverage at both 1:5,000 scale and 1:10,000 scale.

28. Tie Points
All tie points were meaned.

Submitted by:
W. Heinbaugh

W. Heinbaugh

Approved by:
John D. Perrow, Jr.
1. ARNOLD (+0.3, +0.5) (-1.4, +0.5)
2. RIDGEWAY TANK (-1.3, -1.7) (-0.8, +0.3)
3. MANRESA (CROSS) (-1.3, 0.0)
4. MANRESA (+0.7, +0.6) (-0.2, -0.2)
5. Naval Hosp. CUPOLA (-0.2, -1.6)
6. ANNA, Powerhouse Stack (-0.7, +1.7)
7. Acad. Chapel Spire (-1.2, +1.6) (-2.0, +3.7)
8. Anna, State House Spire
9. St. Anne's Catholic Church
10. St. Mary's Catholic Church
11. HORN (+13.4, +18.7) (+1.9, 0.0)
12. Radio Tower #6 (+0.6, -0.4)
13. Radio Tower #8 (-1.4, -1.3)
14. Radio Tower #7 (+1.6, -0.6)
15. Radio Tower #9 (-0.5, -1.5)
16. GREEN (-0.6, -1.3) (-0.5, -2.3)
1 TYDING
2 WHITEHALL CREEK, LARGE HOUSE, FRONT GABLE
3 LABROT MANSION, CENTER CHIMNEY (RED BRICK)
4 HACKETT
5 NAVAL RADIO TOWER No.4
6 RADIO TOWER No.9
7 GREEN
8 ANNAPOLIS NAVAL ACADEMY CHAPEL SPIRE
9 ANNAPOLIS POWERHOUSE STACK
10 ANNAPOLIS STATE HOUSE SPIRE

11 HORN
12 RIDGE
13 WANN RADIO MAST
14 JERRY

used in adjustment
Respectfully submitted.

Paul Hawkins

Approved by:

John D. Perrow, Jr.
AEROTRIANGULATION SKETCH
SEVERN RIVER, MARYLAND
Ph-6609

1. WEBB, 1933
2. CROWNSVILLE, 1933
3. HELENA, 1934
4. CEDAR 2, 1934
5. ARNOLD RM(MSFC), 1996
6. STANDPIPE
7. RIDGEWAY TANK, 1933
8. MANRESSA, 1932
COMPILATION REPORT
T-12954 thru T-12958, T-12660 and T-12661
June 1966

This report covers the compilation of two phases of the following seven manuscripts: at scale 1:10,000 - T-12954, T-12955, T-12660, and T-12661; at scale 1:5,000 - T-12956, T-12957, and T-12958.

The first phase was to provide a base for photo-hydro support for hydrographic operations of the area from about the entrance of the Severn River to Brewer Point (per letter, 6324). The second phase was the delineation of planimetry according to limits provided by the Marine Charts Division.

This project was compiled on the Wild B-8 Stereoplotter.

The above mentioned manuscripts are classified Advance Manuscripts.
31. **Delineation**

The compilation was done in two phases. The first was only shoreline and foreshore delineation for photo-hydro support. The second phase was taken from a layout sheet, supplied by the Quality Control and Review Group, indicating limits of interior detail from shoreline (roads and buildings). This was attempted (interior limits), but was not effected completely due to numerous trees obstructing roads, buildings, etc. Delineation was accomplished on the Wild B-5 Stereoplotter using September 2, 1965, "S" photographs.

32. **Control**

The bridge furnished by the Aerotriangulation Section was adequate to control models for compilation. The models were leveled on shoreline points. (See bridge for further comment).

33. **Supplemental Data**

U.S. Geological Survey quadrangles were used for geographic names. Correct geographic names for manuscripts were approved and underlined by the Geographic Branch. The following quads were used: Gibson Island, dated 1954; Round Bay, dated 1956; Annapolis, dated 1957; and South River, dated 1957. All are scale 1:24,000.

34. **Contours and Drainage**

Inapplicable.

35. **Shoreline and Alongshore Details**

The river is apparently in constant use considering the number of piers, bulkheads, fishtraps, and alongshore buildings. All delineation was office interpreted except sheet T-12954. Field photographs were furnished indicating MHWL, bulkheads, marsh limits, shallow areas, grass in water, groins, and duckblinds.

36. **Offshore Details**

No unusual problems were encountered compiling offshore details.

37. **Landmarks and Aids**

Only plotted triangulation stations that are landmarks and/or aids appear on the manuscripts.
38. **Control for Future Surveys**

None

39. **Junctions**

A satisfactory junction was made with adjoining surveys. (See layout sketch)

40. **Horizontal and Vertical Accuracy**

See Bridging Report.

41-45. Inapplicable

46. **Comparison to Existing Maps**

None.

47. **Comparison with Nautical Charts**

During compilation a comparison was made with Nautical Chart 566, dated October 5, 1964, and there were no discernible shoreline changes, considering the scale differences. Road patterns, etc., were not compared, as explained in Item 31, due to the fact that many of those features were hidden by tree foliage.

48. **Geographic Names**

See list of geographic names supplied by the Geographic Branch for each manuscript.

Submitted by:

Henri Lucas

Approved by:

K. N. Maki
Chief, Compilation Section
61. **General Statement**

When the maps were received for final review, the date July 1967 was listed in the legend under the heading, Date of Final Review. There is no other indication that any of the maps were reviewed at that time. The date was apparently listed on the maps in error. Review has changed the date to November 1976, the date of this review.

A field report is furnished for Location of Fixed Aids to Navigation. This report refers to instructions dated July 9, 1965. These instructions are unavailable. The form 76-40 listing the aids to be charted was not furnished with the job data. In the compilation report, item 37, the compiler states only plotted triangulation stations that are landmarks or aids appear on the manuscript.

62. **Comparison with Registered Topographic Surveys**

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<tr>
<th>Survey</th>
<th>Scale</th>
<th>Date</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>T-5343</td>
<td>1:10,000</td>
<td>1934</td>
<td>(on T-12955)</td>
</tr>
<tr>
<td>T-5422</td>
<td>1:10,000</td>
<td>1933</td>
<td>(on T-12954)</td>
</tr>
<tr>
<td>T-8264</td>
<td>1:20,000</td>
<td>1942-1943</td>
<td>(on T-12956)</td>
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<tr>
<td>T-8265</td>
<td>1:20,000</td>
<td>1938-1942</td>
<td>(on T-12957, T-12958, &amp; T-12661)</td>
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<tr>
<td>T-8271</td>
<td>1:20,000</td>
<td>1942</td>
<td>(on T-12660)</td>
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These surveys are superseded by the new maps.

63. **Comparison with Maps of Other Agencies**

**U.S. Geological Survey Quadrangles:**

<table>
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<th>Location</th>
<th>Scale</th>
<th>Date</th>
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<tbody>
<tr>
<td>Annapolis</td>
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<td>1957</td>
</tr>
<tr>
<td>Round Bay</td>
<td>1:24,000 Scale</td>
<td>1956</td>
</tr>
<tr>
<td>South River</td>
<td>1:24,000 Scale</td>
<td>1957</td>
</tr>
<tr>
<td>Gibson Island</td>
<td>1:24,000 Scale</td>
<td>1954</td>
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</table>

64. **Comparison with Contemporary Hydrographic Surveys**

<table>
<thead>
<tr>
<th>Survey</th>
<th>Scale</th>
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<th>Notes</th>
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<tbody>
<tr>
<td>H-8859</td>
<td>1:5,000</td>
<td>1965</td>
<td>(T-12957 and T-12958)</td>
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<tr>
<td>H-8860</td>
<td>1:10,000</td>
<td>1965</td>
<td>(T-12660 and T-12661)</td>
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<td>H-8874</td>
<td>1:10,000</td>
<td>1965</td>
<td>(T-12954 and T-12955)</td>
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</table>
H-8874 - This survey had not been verified or reviewed. Comparison was made with the penciled smooth sheet and T-12954 and T-12955. On the northern shore of Brewer Point and between Arnold Point and Rays Pond the grass-in-water limit line was removed during review from the Class III manuscript. Soundings indicated the limit to be closer to shore than was shown. Soundings also disproved the shallow line that had been shown offshore from 38°02' and 76°34'. The line has been removed from the photogrammetric manuscript.

H-8859 - Comparison was made with T-12957 and T-12958 and the surveys are in agreement.

H-8860 - Comparison was made with T-12660 and T-12661 and the surveys are in agreement.

65. **Comparison with Nautical Charts**

<table>
<thead>
<tr>
<th>Chart Number</th>
<th>Scale (1:25,000 or 1:10,000)</th>
<th>Date</th>
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<tbody>
<tr>
<td>12282 (566)</td>
<td>1:25,000</td>
<td>1976</td>
</tr>
<tr>
<td>12283 (385)</td>
<td>1:10,000</td>
<td>1976</td>
</tr>
</tbody>
</table>

66. **Adequacy of Results and Future Surveys**

The maps meet the National Standards of Map Accuracy and comply with Bureau requirements.

Submitted by:  

J. B. Phillips

Approved:  

Chief, Photogrammetric Branch

Chief, Coastal Mapping Division
November 29, 1976

GEOGRAPHIC NAMES
FINAL NAME SHEET
PH-6609 (Severn River, Md.)
T-12660

Beacon Hill
Cape St. Claire
Chesapeake Bay
Goose Pond
Hackett Point
Little Magothy River
Meredith Creek
Mezick Ponds
Moss Pond

North Shoal
Ridout
Sandy Point
Sandy Point State Park
Sharps Point
Skidmore
Tanglewood
Tydings on the Bay
Whitehall Creek

Charles Harrington, 56x2
GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6609 (Severn River, Md.)

T-12661

Annapolis        Chase Pond        Lake Ogleton
Annapolis Roads  Cherrytree Cove   Lands End
Arundel on the Bay Chesapeake Bay   Mill Creek
Back River       Chinks Point      North Severn Beach
Baltimore and Annapolis (RR) College Creek Oak Point
Bay Ridge        Duvall Creek      Oyster Creek
Bay Ridge Beach  Eastport         Oyster Harbor
Bay Highlands    Elktonia          Possum Point
Bembe Beach      Ferry Point       Severn River
Biemans Point    Fishing Creek     South River
Blackwalnut Creek Greenbury Point   Spa Creek
Bowdoin Point    Heron Lake        Sparrows Beach
Brice Point      Hidden Point      Sycamore Point
Burley Creek     Highland Beach    Tanglewood
Carr Creek       Hillsmere Shores  Tolly Point
Carr Point       Horn Point        Victor Haven
Carrs Beach      Horseshoe Point   Wardour

Whitehall Flats
Aerotriangulation Report
Severn River, Maryland
PH-6609

21. Area Covered

The area covered by this extension of triangulation control encompasses the upper reaches of the Severn River from latitudes 39° 00' 00" to 39° 05' 15"
and longitudes 76° 28' 07.5" to 76° 37' 15" (sheets T-12954 and T-12955).

22. Method

Two flight lines of photography were bridged on the stereo-planigraph and adjusted by IBM.

23. Adequacy of Control

The location and number of horizontal control stations were satisfactory to insure adequate bridge adjustment.

The image of ARNOLD RM(MSFC) 1906, Substitute point "B", could not be positively identified on either of the two flight lines and its adjusted value did not meet standards. It has been deleted from the output data.

There is a disagreement between the positions of WEBB, 1933, Substitute points "A" and "B". An adjustment was made using each of these two control stations independently. Either adjustment resulted in satisfactory adjustment of the strip. Substitute point "A" left the smaller bow error in the bridge adjustment and was adopted as final.

24. Supplemental Data

Not applicable

25. Photography

Photography was satisfactory.

26. Coordinates for tie points between the two strips bridged have been averaged.

27. Plotting coordinate values (1:10,000 scale) have been furnished to Compilation.
<table>
<thead>
<tr>
<th>STATION</th>
<th>SOURCE OF INFORMATION (INDEX)</th>
<th>DATUM</th>
<th>LATITUDE OR Y COORDINATE</th>
<th>LONGITUDE OR X COORDINATE</th>
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<tbody>
<tr>
<td>Manresa 1932</td>
<td>P.O. 7</td>
<td>NP 1927</td>
<td>426,872.68</td>
<td>944,4113.34</td>
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<tr>
<td>SS A (26101)</td>
<td></td>
<td></td>
<td>427,002.79</td>
<td></td>
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<td>SS B (26102)</td>
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<td>944,253.19</td>
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<td>Arnold R.M. (M3FC)</td>
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<td>944,180.42</td>
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Distance from grid or projection line in meters (3 ft. = 0.968006 m approx)

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