Diag. Ch. No. 77-4

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. E & F Office No. 6968a & b

LOCALITY

State Maryland

General locality Chesapeake Bay - Western Shore

Locality Kenwood Beach to Cove Point

1945

CHIEF OF PARTY

L. P. Raynor, Commander, USC&GS

LIBRARY & ARCHIVES

DATE MAR 14 1945
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 Letter .E.&F.....
REGISTER NO. T6968a & b

State..............................................Maryland

General locality Chesapeake Bay - Western Shore
Locality........................................Cove Pt. to Kenwood Beach
Kenwood Beach to Cove Point

Scale 1/10,000 Date of survey December 1944 Jan., 1945

Vessel...........................................Ship LYDONIA

Chief of Party.................................L. P. Raynor

Surveyed by.................................C. R. Read

Inked by........................................C. R. Read

Heights in feet above -- to ground to tops of trees
Contour Approximate contour Form line interval -- feet
Instructions dated..........................September 12, 1944

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1945
Descriptive Report to Accompany

Graphic Control Topographic Sheets E and F
Registry No. 6968a and b

Project GS-250  Chesapeake Bay, Maryland

U.S.C. & G.S.S. LYDONIA  L. P. Raynor, Commanding

INSTRUCTIONS: Original project instructions were dated April 17, 1940. Supplemental instructions for the present season are dated September 12, 1944.

AREA: The sheets cover the location of signals and parts of the high water line on the west shore of Chesapeake Bay from Kenwood Beach to Cove Point, Maryland.

GENERAL DESCRIPTION OF COAST: The shore is sandy with bluffs behind except at stream mouths and just north of Cove Point where it is low and sandy with some marsh behind.

CONTROL: The control stations are topographic stations from the 1942 air photographic compilation with the exception of triangulation station Cove Point Light House 1848. Other triangulation stations were too high on bluffs to be available.

TRAVERTES: Traverses were run from DORM to KEN, from DORM to LONG, from POL to LONG, and from CORA to COVE POINT LIGHT HOUSE.

A traverse was run from CORA to COVE POINT LIGHT HOUSE without changing orientation or distance because no stations were intervisible after leaving ETTA. The traverse was then continued to COVE POINT as the position of station ETTA was in question at that time. An error in orientation at station CORA was discovered to be due to the fact that the wrong point on the ground was marked by the air photographic field party; see attached copies of letters dated December 26, 1944 and January 2, 1945.

At the southern end of Sheet 6968a the position and orientation was transferred to the opposite side of the sheet because of the inaccessibility of triangulation station WILSON 2, 1934. Due to the fact that this break in the sheet occurred between CORA and CO, which was the next control station to the south, it was impossible to adjust this error in orientation without constructing another projection and this was not considered warranted. Thus the traverse south of CORA was adjusted between control points proportionally after first correcting the orientation between each pair of points. The errors of closure given are those of distance only for this reason. The errors were rather large but were consistently over closures except near Cove Point.

Topographic station DOT was lost. The mark was found washed out some distance from its proper place. The traverse was adjusted using the point on the ground which complied with the description of station card for station DOT.
Table of Closing Errors

<table>
<thead>
<tr>
<th>Station to Station</th>
<th>Statute Miles</th>
<th>Closure</th>
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<tbody>
<tr>
<td>DORM - KEN 1942</td>
<td>0.7</td>
<td>+7 meters</td>
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<tr>
<td>DORM - LONG</td>
<td>2.2</td>
<td>+20 &quot;</td>
</tr>
<tr>
<td>POL - LONG</td>
<td>1.2</td>
<td>+12 &quot;</td>
</tr>
<tr>
<td>CORA - GO</td>
<td>2.0</td>
<td>+14 &quot;</td>
</tr>
<tr>
<td>GO - SEE</td>
<td>0.9</td>
<td>+7 &quot;</td>
</tr>
<tr>
<td>SEE - DOT</td>
<td>1.0</td>
<td>+21 &quot;</td>
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<tr>
<td>DOT - ETTA</td>
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<td>-2 &quot;</td>
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<tr>
<td>ETTA - COVE POINT L.H.</td>
<td>1.0</td>
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</table>

CHANGE IN SHORELINE: No comparison was made with previous surveys. The shoreline was partially located for use in the hydrographic surveys.

MAGNETIC MERIDIANS: The value of the magnetic variation was shown at topographic station CORA (1942) using the declinatoire with alidade HL80 on December 20, 1944. The value is approximately 7° 05' W. (*See note)

STATISTICS: The 2 sheets cover a length of beach of 10.6 statute miles. As stated previously only a part of the high water line was located.

Respectfully submitted:

Clarence R. Reed

Approved and forwarded:

Commanding Ship LYDONIA

* The error in position of station CORA was discovered prior to the determination of the magnetic variation.
Ship LYDONIA  
December 26, 1944

To:  
The Director  
U. S. Coast and Geodetic Survey  
Washington 25, D. C.

From:  
Commanding Officer  
Ship LYDONIA

Subject:  Error in Topographic Station CORA

While executing graphic control in the vicinity of Long Beach, Maryland, an error was found in the location of topographic station CORA (Sheet T31ll). The description of this station states that the mark is at the base of a 10-foot locust tree. There are two 10-foot locusts and the mark was apparently set at the base of the wrong tree, the eastermost of the two.

Since signal "POL" (flagpole) used in 1943 hydrography was located with reference to station CORA, its position is also changed. The correct positions are as follows:

CORA - Lat. 38° 27' +197 meters
Long. 76° 27' +591 meters

POL - Lat. 38° 27' +115 meters
Long. 76° 27' +550 meters.

R. R. Moore  
Lieut. Comdr. USC&GS  
Commanding Ship LYDONIA

cc: Norfolk
Ship LYDONIA

January 2, 1945

To: The Director
U. S. Coast and Geodetic Survey
Washington, D. C.

From: Commanding Officer
Ship LYDONIA

Subject: Location of Topographic Station CORA


In regard to the location of Topographic Station CORA it should be further stated that the position furnished in reference letter is the position of the station mark and was obtained by assuming the previous position to be at the base of the western most of the two locust trees. Both trees are dimly visible on the air photographs.

L. P. Raynor
Commander, USCGS
Commanding Ship LYDONIA
DIVISION OF CHARTS
REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF TOPOGRAPHIC SURVEY
Register No. T-6956 a and b
Field No. E and F

Maryland, Chesapeake Bay, Cove Point to Kenwood Beach
Surveyed December 1944 - January 1945
Scale 1:10,000
Instructions dated September 23, 1943
Project C. S. 250

Plane Table Survey
Aluminum Mounted

Chief of Party - L. P. Raynor
Surveyed by - C. R. Reed
Inked by - C. R. Reed
Reviewed by - R. H. Carstens, April 2, 1947
Inspected - H. W. Murray

1. Junctions with Contemporary Surveys

Topographic signals and the high-water line between Cove Point and Kenwood Beach were located on the present survey in accordance with the Instructions. The present survey makes an adequate junction with planetable survey T-6956 a (1944) on the northwest and air photographic survey T-8111 (1942) on the southeast.

2. Comparison with Prior Surveys

A. T-256 a (1848) 1:20,000
T-251 (1847) 1:20,000
T-358 (1852) 1:20,000
T-261 (1907-08) 1:20,000
T-2668 (1908) 1:20,000

The area of the present survey was entirely covered both by the 1847-52 surveys and the 1907-08 surveys.
These prior surveys have been compared with T-8111 (1942) in the review of that survey and are superseded by T-8111. Further comparison with the present survey is unnecessary. Consideration of prior surveys will be limited to T-8111 in the following paragraph.

B. T-8111 (1942) 1:20,000

The entire area of the present survey is covered by this prior survey.

Shoreline on T-8111 is generally in good agreement with the present shoreline. The greatest difference is in lat. 38°-27.07', long. 76°-27.4' (T-6968 a) where the present shoreline in thesight is about 50 meters inshore from its prior position.

The present survey is adequate to supersede T-8111 in the common area for the delineation of the high-water line and offlying features.

3. Comparison with Chart 1225 (latest print date November 25, 1946)

A. Topography

The present high-water line has been applied to this chart. No corrections are necessary.

B. Magnetic Variation

The present survey value of the magnetic meridian is in substantial agreement with the charted value. The corrections for the declinatoire readings, if any, are not known.

4. Condition of Survey

The Descriptive Report contains all the essential information.

The smooth sheet was neatly inked.

It is noted that the closing traverse errors were generally in excess of the permissible limit of 0.4 mm. per mile at the scale of the survey. A discussion of the various traverses is given in the Descriptive Report.

5. Compliance with the Project Instructions

The present survey adequately complies with the Project Instructions.

6. Additional Field Work Recommended

This is an adequate survey and no additional field work is recommended.
Examined and Approved:

I. E. Rittenburg  
Chief, Nautical Chart Branch

C. M. Durgin  
Chief, Division of Charts

K. G. Crosby  
Chief, Section of Hydrography

C. K. Green  
Chief, Division of Coastal Surveys
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<tr>
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<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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Names underlined in red appeared by L. Hecht on 4/7/47.
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<td>J. Walker</td>
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<td>3331</td>
<td>Teresa Lewis</td>
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A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under “Comparison with Charts” in the Review.