

3526

Diag. Cht. No. 1218-2

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC
Field No. Office No. H-3526

LOCALITY

State DELAWARE
General locality DELAWARE BAY
Locality ... DELAWARE BREAKWATER, HARBOR OF

REFUGE

19413

CHIEF OF PARTY

P. C. Whitney

LIBRARY & ARCHIVES

DATE SEPTEMBER, 15, 1913.

B-1870-1 (1)

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Hyd. 3526

C. & G. SURVEY,
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General Locality: Cape Henlopen, Delaware

Special Locality: Inner and Outer Harbors, Delaware
Breakwater

Chief of Party: Paul C. Whitney, Assistant, Shore Party

Date: August 2nd to 14th, 1913

Scale: 1/10000

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Discriptive Report
to accompany
Hydrographic Sheet
Resurvey Inner and Outer Harbors
Delaware Breakwater
August 1913
Paul C. Whitney
Chief of Party
Scale 1/10000

The hydrography included on this sheet comprises an area laid down for a resurvey, by Acting Inspector of Hydrography and Topography.

The sheet was furnished, with the plotted points, by the Office. One new point was determined, that of the light at the west end of the inner breakwater, by sextant angles, which are recorded in volume one, page 16.

The development was carried to what was thought sufficient, with cross lines on a line parallel to the black and red buoys, to more fully develop Marshall and Norman Shoals. A sounding of 12 feet was obtained on the latter. Between the two breakwaters the bottom is very uneven and especially so near the shoals.

All the buoys were found out of their positions, as laid down on the present chart, although at present the Marshall Shoal buoy indicates the position of the least water there.

The present condition of the wharves along the shore are noted and the new ones since the last survey placed on from sextant angles.

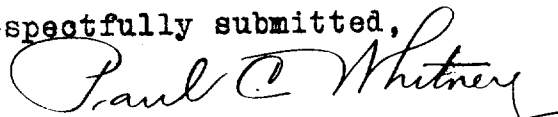
Considerable difficulty was attended running lines at a distance out and west of the breakwater. No ranges could be picked up and tidal currents ran with considerable velocity. There are a couple bad spacings, that showed up better on the boat sheet, otherwise an endeavor would have been made to split them.

It was the intention to run some lines off Cape Henlopen, but the sea was always so rough the last week it had to be given up.

Tides were read on a staff erected at the Queen Ann R. R. Pier. This staff was connected by levels to the various Bench Marks in the vicinity. This work is made the subject of a separate report in accordance with Supplementary instructions of July 28, 1913.

The survey was made in accordance with instructions of July 25, 1913.

Respectfully submitted,



Chief of Party, C. & G. Survey

C. & G. SURVEY,
 LIBRARY AND ARCHIVES
 SEP 15 1913
 Acc. No.

S T A T I S T I C S

To accompany Hydrographic Sheet of

The Inner and Outer Harbors at the Delaware Breakwaters,
 Delaware
 1913

| Date | Vol. | Letter | Positions | Soundings | Miles | Beat | Remarks |
|--------------------------|------|--------|-----------|-----------|-------|--------|---------|
| Aug. 2 | 1 | a | 46 | 226 | 6.5 | Launch | |
| " 4 | 1 | b | 126 | 598 | 17.2 | " | |
| " 5 | 1 | c | 64 | 304 | 8.5 | " | |
| " 6 | 1 | d | 155 | 569 | 22.5 | " | |
| " 7 | 2 | e | 123 | 499 | 13.2 | " | |
| " 8 | 2 | f | 127 | 612 | 21.0 | " | |
| " 9 | 2 | g | 53 | 245 | 9.0 | " | |
| " 12 | 2 | h | 73 | 285 | 6.0 | " | |
| " 13 | 3 | j | 103 | 472 | 12.6 | " | |
| " 14 | 3 | k | 13 | 79 | 1.3 | " | |
| Totals ^{3 Vols} | | | 883 | 3889 | 117.8 | | |

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Tide Gauges.

The Tide Gauge was located on the Queen Ann R.R. Pier at
 Lewes, Delaware and is to be used for all of this work.

Plane of reference is 5.1 ft. above the zero of staff.

Lowest tide observed read 4.8 ft. on staff.

Highest tide observed read 10.3 ft. on staff.

MKQ
Sep. 30, 1913.

HYDROGRAPHIC SHEET 3526.

Breakwater Harbor, Delaware, by
Assistant P. C. Whitney in 1913.

TIDES.

| | Lewes |
|---|-------|
| | ft. |
| Mean low water, or plane of reference on staff | 5.1 |
| Lowest tide observed " " | 2.2 |
| Highest " " " " | 13.7 |
| Mean range of tide | 4.3 |

H. 3526.

Harbor of Refuge Delaware Bay. Very good sheet.

Sheet examined in Div.
of Hyd'y & Top'y.

Hyd. Sheet No 3526

Within the limits of the work, the ground is well covered and the developement sufficient.

All though there are not many cross lines, there is an average variance or differing in the soundings, of from two to seven feet. This is due more to the roughness of the water than to any errors or carelessness in the work.

The twenty four foot spot, shown on Hyd sheet No 2653, and question marked, evidently does not exist and ought not to be charted.

Where this work over Capps previous surveys, it agrees very well.

R. L. Johnston

Dec. 1913.

Plotted by field party.
Verified & inked by R. L. J.

Soundings expressed in feet.