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1903

# 2653

H-2653

COAST AND  
GEODETIC SURVEY

Diag. Sht. No. 1218-2

FEB 3 1 30 PM 1904

FILE:  
REFERRED:  
ASSISTANT IN CHARGE

Treasury Department,  
U. S. COAST AND GEODETIC SURVEY.  
*O. H. Tittmann*  
Superintendent.

State: *Delaware*

### DESCRIPTIVE REPORT.

*Hydrographic Sheet No. 2653*

LOCALITY:

*Delaware*

*Breakwater*

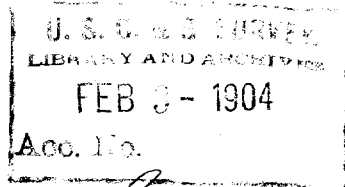
1903

CHIEF OF PARTY:

*H. L. Marindin, Asst.*

U. S. C. & G. SURVEY,  
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Acc. No. *2653*

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Title:

Department of Commerce and Labor

Coast & Geodetic Survey

C. H. Tittmann, Supdt.

Delaware Breakwater

Delaware

Surveyed by H. L. Manivani, Assistant, Chief of Staff.

Sept 22 to 26, 1903

Scale  $\frac{1}{10000}$

Notes.

The soundings are expressed in feet and show the depth at mean low water the plane of reference

The 6 foot curve is shown thus

" 12

" 18

" 24

" 30

" 36

" 50

Tides:

Mean Low Water on  
plane of reference on Staff  
Lowest Tides observed

Feet (E side of Iron Pier)

0.94

- 0.30

Highest. 7.50 ft  
 Mean rise and fall of tide 4.28 "

## Statistics for Str.

| Date         | Letter | Vol | Vessel          |
|--------------|--------|-----|-----------------|
| Sept 22 1903 | a      | 1   | Electric Launch |
| " 23         | b      | 1   | "               |
| " 26         | c      | 1   | "               |

Statute miles

Naut. miles

## Descriptive notes:

This survey was instituted to find out what changes had occurred in the submerged contours immediately off the extreme point of Cape Herbyen in view of the changes indicated by the recent topographic survey just finished. It was shown that the high water line had advanced to the northward about 750 feet since the survey of 1882, thus closing to that extent the entrance into the Breakwater harbor south of the old breakwater.

The anchorage lock of the old Breakwater has shoaled up to such an extent that it is only now used by shallow draft vessels. It has been reported that since the closing of the gaps, east of the ice breaker, a general shoaling of 14 and 15 feet has taken place.

The currents are very strong around the point of the cape and usually a line of breakers extend from the point in an easterly direction, so that it was difficult

to get soundings close in shore at the point  
 vessels drawing 9 to 12 feet of water anchor  
 in what was known as the Breakwater anchorage  
 south of the old Breakwater. The larger vessels  
 remain at anchor in the larger basin now known  
 as the National Harbor of Refuge, between the new  
 and the old Breakwater here the largest ships  
 can find anchorage room.

Foreign vessels call at this port for telegraphic  
 orders, which are received by them at the signal station  
 now in the tower of the old Light-House on the  
 Breakwater. Weather signals are also displayed at the  
 Signal Station.

Coal and provisions are furnished to vessels which  
 call there and are taken on board by the Launch  
 of the underwriter's agent, and others.

During the winter months the NW and westerly  
 wind bring large quantities of ice in the Harbor and it  
 is difficult to keep the long wharves from being  
 swept away, and vessels do not lie at the wharves  
 under any conditions. It is now proposed to build  
 a solid Ice Breaker from the West end of the Ice  
 pier off the new Breakwater to the shore in the vicinity  
 of Green Hill Light House.

The principal traffic in the old harbor is  
 that due to the oil fisheries, numerous fishing steamers  
 bring their cargoes to the oil wharves, where they are  
 made into paint oils etc.

During the summer months a regular packet  
 runs from the Queen Anne RR Pier to Cape May  
 making three trips daily. Excursions come by way of  
 Baltimore and the Queen Anne RR and land the passengers  
 for Cape May on the pier then proceeding to the  
 sea side resort of Rehoboth Beach, returning the train  
 again stops on the Pier for returning passengers from  
 Cape May.

Henry L. Harwood

REPORT  
on  
HYDROGRAPHIC SHEET  
NO. 2653,  
Delaware Breakwater,  
Del.,  
Assistant Barindin,  
1903.

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The 24 ft. sounding off east end of breakwater near 50a is probably incorrect.

All the work of 6 day is unreliable on account of current of 1 to 2 knots, apparently. The depths recorded are very uncertain and show discrepancies of about 2 fathoms in a depth of 12 fathoms, so that the position of the 50 ft. curve is in doubt as much as 250 meters.

The lines run against the current give shoaler water than those run in the direction of the current, from which it appears that the latter are less reliable than the former, which seems to indicate the fallacy of the theory that lines run in the direction of the current give better results than those run across or against the current.

4/24/5.

J.F. Watkins. (Signed)

The records of this work were not well kept, the time of the soundings having been omitted in a great many instances. For this reason the line from 12a to 14a was plotted by the number of soundings. The line from 80a could not be plotted as no angle was given showing the position of the last sounding.

H.L. Simons. (Signed).

Washington, D. C., January 25, 1904.

The circumstances under which the work was done

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should be considered before making the above criticism. Besides keeping the record of soundings and angles the recorder had to observe one of the position angles and attend to the running of the launch, the work of two distinct persons and sometimes three persons. The proper criticism is how is it possible that so few omissions are found.

H.L. Marindin. (Signed).

Chief of Party, Observer and Recorder.