

6232

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
....., Director

State: New Jersey

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 23
Hydrographic }

LOCALITY

Cape May, ~~New Jersey~~

Cape May Point & Vicinity

1937

CHIEF OF PARTY

L. D. Graham

6232

238

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 23

REGISTER NO. **H6232**

State New Jersey

General locality Cape May

Locality Cape May Point, ~~Outside~~ & Vicinity

Scale 1:10,000 Date of survey September, 1937

Vessel Launch MIKAWA

Chief of Party L. D. Graham

Surveyed by George E. Varnadoe

Protracted by George E. Varnadoe and George W. Lovesee

Soundings penciled by George W. Lovesee

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by _____

Inked by ~~L. S. Straw~~ C. F. McKenney

Verified by L. S. Straw

Instructions dated _____ May 16, 1935

Remarks: _____

DESCRIPTIVE REPORT

To Accompany Hydrographic Sheet No. 23. #-6232

INSTRUCTIONS - May 16, 1935, Aug. 13, 1937 & Project HT-205
Oct. 27, 1937.

LIMITS

Harbor Entrance

This survey extends from Cape May ~~Inlet~~ to Cape May Point, and from the beach to about 2 miles off shore.

SURVEY METHODS

Standard Coast Survey methods were used throughout this survey. The sounding launch was rented from Mr. William D. Stockman of Ocean City, New Jersey. He was also hired as engineer for the launch, which was about 35 feet long. The launch was very seaworthy and dependable.

Soundings were taken with a standard leadline, using a 10 pound lead for the shoal soundings and a 12 pound lead for the deep soundings. Fixes were taken with hydrographic sextants on signals ashore. Most of the signals were natural objects, such as gables on large buildings. Most of the signals are recoverable and descriptions are included with the descriptive reports for graphic control sheets QQ and PP. Most of the signals were spotted on the topo sheets and such signals are circled with green ink. They proved to be located very accurately.

CS-014M

CS-124M

Appropriate notes shown on sheet H. 11. 11. 11.

DISCREPANCIES

No discrepancies were noted except in a few places the cross lines failed to check by 3 or 4 feet, but at these places the bottom was very irregular and the soundings as shown are undoubtedly correct.

No additional surveying is recommended for this area. See Rev. par. 10 for additional remarks.

DANGERS

There are numerous shoals which are a danger to navigation. Small motor launches can cruise most anywhere in the area covered by this survey, during smooth weather. With a moderate swell the shoals are marked by breakers.

The only danger to boats drawing 3 feet or less, during smooth weather, is at Lat. 38°54.08', Long. 74°57.29'. This shoal has only 2 feet at mean low tide. It is certain that the shoalest soundings were obtained in this vicinity, as the bottom could be seen and was marked by small breakers. See note in volume 5, page 34, for a list of the shoalest soundings on this sheet.

A buoy "N4" marks Cape May Channel 875 meters ^{North} southwest of the shoalest sounding. This buoy was located at position 133m day.

CHANNELS

The only channel on this sheet is Cape May Channel, the most of which is surveyed by this sheet. The shoals to the west of this channel could not be developed because it was too close to the limits of the sheet and a good fix could not be obtained. The controlling depth of this channel within the limits of the sheet is 29 feet at Lat. 38°53.77', Long. 74°57.41'. Chart 1218, print No. 37-7-26, shows 24 feet about 1400 meters southeast of this position, which falls outside this sheet.

ANCHORAGES

No discussion necessary as ships anchoring in this vicinity go further up Delaware Bay. Launches anchor either in Cape May Harbor or further up Delaware Bay.

COMPARISON WITH PREVIOUS SURVEYS

Comparing with chart 1218, print No. 37-7-26, some change is noted.

Eph Shoal now has a least depth of 10 feet, where chart 1218 shows 12 feet.

The western edge of Prissy Wicks Shoal seems to have moved east 2 or 3 hundred meters. The least depth of this shoal is now 2 feet at Lat. 38°54.08' Long. 74°57.29'. The least depth on chart 1218 is shown as 3 feet.

The pilings shown on charts 234, 1218 and 3243, just west of Cape May Inlet and near low water line, should be removed. These piling have washed away and there is now 5 to 8 feet of water where they were shown on the charts. See volume 2, page 66 and volume 3, page 17. The shoreline has receded in this vicinity and is correctly located on the smooth sheet.

The high and low water lines shown on the smooth sheet were taken from the topographic maps compiled by Lieutenant (j.g.) E. H. Kirsch in 1936. The low water line has receded in the vicinity of Long. 74°57' as shown by the inshore sounding line.

There are numerous wood piling breakwaters running into the ocean from high water line in the vicinity of Cape May. The purpose of these breakwaters is to prevent beach erosion. They are built with wooden piling and walled with heavy plank, some are filled with rock. They are built 2 to 3 feet above the ground and run out beyond low water with the same angle as the ground, no attempt was made to build them above high water. They are shown in pencil on the smooth sheet and were inked in the office.

The soundings compared well with previous surveys by this bureau except at Prissy Wicks Shoal, Eph Shoal and near the entrance to Cape May Inlet where some changes in depth and position of shoals were found.

See Rev.
par. 7
for further
details

GEOGRAPHIC NAMES

No additional names are recommended, the present names being sufficient and used locally as shown on the charts.

REMARKS

The depth curves are not shown on the smooth sheet but are shown in ^{Regular curves} added in office colored ink on the boat sheet. See instructions from the Director's letter dated October 27, 1937 and refer to 22/MEK, 1995 MI 4. Quote "During the course of your office work, on the completion of the MIKAWA'S 1937 hydrographic sheet, field No. ²³⁵²23, you will please draw depth curves for each fathom on the boat sheet only".

Strongest currents were found in Cape May Channel, where it was computed as 5.2 nautical miles per hour, see volume 5, page 14. Currents of moderate intensity were found over this entire survey.

Submitted by,

George E. Varnadoe

George E. Varnadoe
Hand, C. & G.S.

Forwarded and approved,

L. D. Graham

L. D. Graham
H. & G. Engineer
Chief of Party

LIST OF STATISTICS - HYDRO SHEET 23 H-6232

Date	Day	Statute Miles	No. of Soundings	Positions
Aug. 31	a	20.2	435	96
Sept. 1	b	28.0	695	129
	2	27.0	554	100
	3	31.5	622	109
	8	25.5	677	123
	9	15.1	416	74
	10	28.0	514	84
	16	21.0	340	108
	20	28.0	608	118
	21	10.5	254	58
	22	22.0	431	94
	23	34.6	674	133
	24	<u>12.7</u>	<u>250</u>	<u>55</u>
		304.1	6469	1281

Area in square statute miles - 20.1

Smooth sheet, field number ^{H-6132} 23, was plotted under the immediate supervision of the Chief of Party. The sheet and accompanying records have been inspected and are approved.



L. D. Graham
H. & G. Engineer
Chief of Party

Verification Report on H-6232(1937)

Information regarding the verification of this sheet was verbally given the Reviewer and has been incorporated in his review.

April, 4, 1938.



Leo S. Straw

Reviewing Section.

Field Records Section (Charts)

H6232

HYDROGRAPHIC SHEET NO.

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	1281
Number of positions checked	10
Number of positions revised	0
Number of soundings recorded	6469
Number of soundings revised	12
Number of signals erroneously plotted or transferred	0

Date: April 4, 1938

Verification by Leo S. Straw
Ink by C. F. McKenney

Review by Harold W. Murray
rev. Cor. by "

Time: $\frac{362}{434}$
 $\frac{804}{}$

Time: $19\frac{1}{4}$ hrs
 $3\frac{1}{2}$

HYDROGRAPHIC SURVEY NO. H6232

Smooth Sheet Yes

Boat Sheet Yes

Sounding Records 5 Vols. _____

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes (Vol.#1)

Landmarks for Charts (Form 567) Yes

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service None
(Circular Nov. 30, 1933)

Remarks _____

13
Sept. 24, 1937

Remarks

Decisions

1		see T-5648
2		USGB decision
3	Not to be inted on this sheet	
4		see T-5648
5	* USCP- Cape May Hbr. (Cold Spring Inlet)	Cape May Harbor as charted applies to Entr. and Basin see Ch. 234
6		
7		
8		
9	Not on this sheet	
10		USGB decision
11	For Title only	
12		
13		
14		
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27		

GEOGRAPHIC NAMES
Survey No. **H6232**

Name on Survey	Source of Name										No.
	A. On Chart No. 1218	B. On previous survey No.	C. On U. S. quadrangle Maps	D. From local information	E. On local Maps	F. U.S.C.P.	G. Rand McNally Map	H. U. S. Light List	K. R.P. 31305		
<u>Delaware Bay</u>	✓										1
<u>Cape May Point</u>	✓										2
<u>West Cape May</u>	GNS										3
<u>Sewell Point</u>	✓										4
<u>Cape May Inlet</u>		cold spring inlet	cold spring inlet			cold spring inlet		Entrance Cape May Hbr.	cold spring inlet		5
<u>Eph Shoal</u>	✓										6
<u>Prissy Wicks Shoal</u>	✓					✓					7
<u>Cape May Channel</u>	✓					✓		✓			8
Bay shore Channel	✓										9
<u>Cape May Harbor</u>	✓										10
<u>Cape May</u>	✓	-	✓			✓	-				11
											12
											13
											14
											15
											16
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											24
											25
Names underlined in ed approved											26
by <u>GHE</u> on <u>4/8/38</u>											27

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

} No. H-6232
~~No. 1~~

{ received Jan. 25, 1938
 registered Feb. 3, 1938
 verified
 reviewed
 approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25	✓	<i>TBR</i>	<i>sent memo</i>
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
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✓

400

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 9, 1938.

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. E. P. Ellis.

Plane of reference
~~This record is~~ approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 6232

Locality Cape May Point and Vicinity, New Jersey

Chief of Party: L. D. Graham in 1937
Plane of reference is mean low water reading
1.6 ft. on tide staff at Cape May City Pier
11.7 ft. below B.M.A 5

Height of mean high water above plane of reference is 43 feet.

Condition of records satisfactory except as noted below:

L. D. Graham
Chief, Division of Tides and Currents.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6232 (1937) FIELD NO. 23

Cape May Point and Vicinity, Cape May, New Jersey
Surveyed in Sept. 1937, Scale 1:10,000
Instructions dated May 16, 1935 (E. H. Kirsch), Aug. 13 and
Oct. 27, 1937 (Mikawe)

Hand Lead Soundings.

3 Point fixes on shore signals.

Chief of Party - L. D. Graham.
Surveyed by - George E. Varnadoe.
Protracted by - G. E. V. and George W. Lovesee.
Soundings plotted by - G. W. E.
Verified and inked by - Leo S. Straw.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

- a. Latitude and longitude figures were not accompanied by degree and minute symbols. These were added in the office.
- b. Several triangulation symbols shown on the smooth sheet were not accompanied by the name and date of establishment. These were added in the office.

The Descriptive Report is clear and satisfactorily covers all items of importance except that no mention was made of the rocks (charted, chart 234) discussed in paragraph 7c, this review.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey generally satisfy the Instructions for the Project; in many areas, however, where the bottom is irregular, additional split lines should have been run. The present system of sounding lines is too widely spaced to show the extent of numerous shoal spots and permit an accurate delineation of the depth curves. A short additional cross line, should also have been run in the middle eastern portion of the present survey and also on the southwest.

3. Shoreline and Signals.

The shoreline originates with planimetric map T-5648 (1932-36).

The signals originate with planimetric map T-5648 (1932-36) and Control Surveys: CS-117M and CS-124M of 1937.

4. Sounding Line Crossings.

Agreement of crosslines is satisfactory. The 2 to 4 foot differences noted in the vicinity of latitude $38^{\circ} 53.5'$, longitude $74^{\circ} 55.5'$ are attributed to uneven bottom.

5. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn including portions of the 6 foot curve except in the southwest portion where the spacing of sounding lines is too far apart in many instances.

6. Junctions with Surveys.

- a. The junction on the northeast with H-6224 (1937) is satisfactory.
- b. No other contemporary surveys adjoin the present survey. For charting purposes, a fair junction is made with the charted hydrography originating with H-4875 (1928) on the SE and Blueprint 25057 and 25997 of 1931 on the extreme NW. The junction on the W and SW with H-4799 (1927) is not satisfactory since general changes of 1 to 15 feet are noted.

7. Comparison with Prior Surveys.

- a. H-116 (1843), H-117 (1841), H-118 (1842-43), H-119 (1842), H-120 (1842) H-122 (1842), H-125 (1847), H-148 (1841-43), H-151 (1844), H-157 (1847), H-1533 (1882) H-1632 (1884) and H-1655 (1885), Scales 1 to 10,000 to 1 to 80,000.

A comparison between the above surveys and the present survey reveals numerous changes in depths and locations of shoals. Because of the time elapsed between the earlier surveys and the present survey and the general changeable character of the area borne out by other surveys discussed in subsequent paragraphs of this review, a detailed comparison will serve no useful cartographic purpose. It is noted, however, that the Cape May Jetties are a subsequent improvement and that the shoreline to the westward has receded 20 to 100 meters whereas that to the eastward has advanced $1/4$ of a mile. The present survey should supersede the above surveys in future charting.

- b. H-3552 (1913) and H-3731 (1914), Scales 1 to 25,000 and 1 to 20,000.

These two surveys taken together cover the middle and western portion of the present survey, good agreement exists in but a few places, the present survey depths generally varying 1 to 7 feet deeper except in the vicinities of the larger shoal areas where other differences are noted. Portions of Prissy Wicks Shoal has changed considerably, the southeastern portion in particular has shifted about $3/4$ miles westward where

formerly depths of 27 to 30 feet were shown. ~~Egby~~ Shoal has shifted about 1/4 mile westward, the least depths now being 1 to 4 feet shoaler. In latitude $38^{\circ} 55.7'$, longitude $74^{\circ} 54.0'$, the shoal area shown here on the present survey has increased considerably, formerly only two detached 12 foot spots were shown. In view of the changes noted the present survey should supersede the above surveys in future charting.

- c. H-4799 (1927), H-4816 (1928), H-4859 (1928), H-4875 (1928) and H-4925 (1929), Scales 1 to 5,000 to 1 to 20,000.

The above sheets taken together cover the entire area of the present survey except the inshore area varying from 1/4 to 1-1/4 mile in width to the westward of longitude $75^{\circ} 54.6'$. Agreement with the middle and eastern portion of the present survey is generally good except that numerous areas of small extent have deepened 1 to 5 feet. In the western portion, good agreement exists in but a few places. Prissy Wick Shoal has undergone extensive changes and bears little relation to that shown on H-4799 (1927), an example being the present survey depths of 2 to 14 feet in latitude $38^{\circ} 54.2'$, longitude $74^{\circ} 57.3'$ which fall in former depths of 24 to 32 feet. The northeastern tip of the shoal (charted) in latitude $38^{\circ} 54.1'$, longitude $74^{\circ} 58'$ has also deepened 4 to 11 feet.

On H-4925 (1929), the shoreline between the jetties and longitude $74^{\circ} 53.6'$ has receded 20 to 35 m. The rock awash and another symbol which might be interpreted as a cluster of boulders (charted, chart 234), in latitude $38^{\circ} 56.5'$, longitude $74^{\circ} 52.7'$ originating with T-4455 (1929) which fall close to the low water line and were not verified on the present survey nor on other contemporary or prior surveys except that on T-4291 (1927), a small rectangular feature is shown which agrees in position with that of the rock cluster. In addition, no mention of these features were made by the hydrographer of the present survey who was in the vicinity at tides of 1 to 4 feet nor by the topographic field inspection party although the hydrographer does state that the old piling charted in this area and originating with T-4455 (1929) are no longer in existence. The rock awash is being carried forward as originating with T-4455 (1929) since an inspection of the photographs of T-5648 (1932-36) reveals an indistinct feature in this area. The other feature is not being carried forward but should be retained on the chart pending the receipt of further information from the field (See paragraph 10, this review).

In view of the changes noted, the present survey should supersede the above surveys in future charting, except as

indicated.

W. H. Webb

8. Comparison with Chart 234 (New Print dated Jan. 18, 1938)
Chart 1218 (New Print dated July 26, 1937)
Chart 1219 (New Print dated Aug. 17, 1937).

a. Hydrography.

Hydrography shown on the charts originate with surveys discussed in previous paragraphs of this review and several U. S. Engineers' surveys:

- (1) Portions of Blueprints 22769 and 22770 of 1927 taken together cover the area in the vicinity of Eph Shoal that is not covered by the 1927-29 surveys discussed in paragraph 7c, this review. Agreement of depths is varied; some are in good agreement, some vary 1 to 5 feet deeper and others vary 1 to 4 feet shoaler than the present survey depths. Portions of Eph Shoal has shoaled 1 to 3 feet and the lower portion enclosed by the 18 foot curves has doubled in width.

The 19 foot sounding (charted) in latitude $38^{\circ} 54.6'$, longitude $74^{\circ} 55.6'$ falls in depths of 23 feet on the present survey and between sounding lines spaced 180 m. apart. The 19 is one of two detached least depths near the eastern end of a narrow ridge about 1 mile long. The present survey, however, does show an 18 foot depth about 750 m. due west of 19. Although this feature is not sufficiently developed on the present survey, such depths as were obtained show general changes of 1 to 3 feet on the eastern portion and especially a deepening of 3 to 5 feet just north of the 19. The 19 should be disregarded in future charting.

- (2) Several soundings from Blueprint 25057 and 25997 of 1931 fall just within the present survey limits on the northwest. These are in fair agreement with the present survey depths.

- (3) A portion of Blueprint 27594 of 1934 covers the area eastward of the Cape May Inlet jetties. Agreement of soundings is good.

- Eng'g. Surveys are made at intervals of this maintained channel.*
- (4) Blueprint 31211 of Dec. 17 and 31305 of Dec. 30, 1937 on scale of 1 to 2,400 each cover the area between the Cape May Inlet jetties and are subsequent to the present survey. Although the depths are in good agreement, the Engineers' surveys being later in point of time should supersede ^{the present} survey work in this area.

Except as noted in paragraph (4) above, the present survey should supersede these Engineers' surveys in future charting.

b. Aids to Navigation.

Aids located on the present survey agree closely with the position as charted except the Whistle buoy in latitude $38^{\circ} 55.6'$, longitude $74^{\circ} 51.5'$ which was located approximately 400 m. SSE of its charted position. The charted position originates with LHN to M26 of 1927. This aid in either position as well as the other aids satisfactorily mark the features intended.

9. Field Plotting.

Field protracting and plotting were accurate and conform to the requirements of the Hydrographic Manual.

10. Additional Field Work Recommended.

- a. The present status of the rock awash and cluster of boulders charted (chart 234) in latitude $38^{\circ} 56.5'$, longitude $74^{\circ} 52.7'$ discussed in paragraph 7c, this review should be ascertained at a low stage of tide.
- b. Mention is made of the fact that the present survey does not make a satisfactory junction with H-4799 (1927) on the W and SW because of the general changes of 1 to 15 feet noted here.

11. Note to Compiler.

The compiler's attention is called to the following paragraphs of this review:

- a. Paragraph 7c relative to the retention on the chart of the charted rock awash and cluster of boulders in latitude $38^{\circ} 56.5'$, longitude $74^{\circ} 52.7'$.
- b. Paragraph 8a (4) relative to Engineers' surveys which are subsequent to the present survey.

12. Superseded Prior Surveys.

Within the area covered, the present survey supersedes the following surveys for charting purposes:

H-116 (1843)	In part	H-1533 (1882)	In part
H-117 (1841)	" "	H-1632 (1884)	" "
H-118 (1842-43)	" "	H-1655 (1885)	" "
H-119 (1842)	" "	H-3552 (1913)	" "
H-120 (1842)	" "	H-3731 (1914)	" "
H-122 (1842)	" "	H-4799 (1927)	" "
H-125 (1847)	" "	H-4816 (1928)	" "
H-148 (1841-43)	" "	H-4859 (1928)	" "
H-151 (1844)	" "	H-4875 (1928)	" "
H-157 (1847)	" "	H-4925 (1929)	" "

13. Reviewed by Harold W. Murray, April 8, 1938.

Inspected by - A. L. Shalowitz.

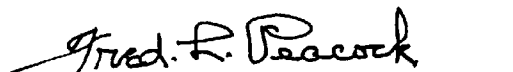
Examined and approved:



T. B. Reed,
Chief, Field Records Section.




Chief, Division of Charts.



Chief, Section of Field Work.

Chief, Division of H. & T.

Applied to Chrt. 234, March 24, 1938 R.L.S.
" " " 1219 April 19 1938 J.S.R.
" " " 1218 from chrt. 1219. July 22, 1938 J.H.S.
" " compilation of new chart 827 July 1939. S.R.
" " chart 234 17 nos 48 to complete hydrography. 
" " " 826-50 6-3-63 Frazier