

4925

Diag. Ch. No. 1718-2

4925

Form 504 Ed. June, 1928		
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY R. S. Patton, <i>Director</i>		
State: <u>New Jersey</u>		
<table border="1"><tr><td>C. & G. SURVEY L. & A. NOV 8 1929 Acc. No.</td></tr></table>		C. & G. SURVEY L. & A. NOV 8 1929 Acc. No.
C. & G. SURVEY L. & A. NOV 8 1929 Acc. No.		
DESCRIPTIVE REPORT		
<i>Hydrographic</i>	Sheet No. 1 4925	
LOCALITY		
Cape May Cold Spring Inlet		
Cape May Harbor and Vicinity		
19 29		
CHIEF OF PARTY		
R. L. Schoppe and Charles Shaw		

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. 1

CAPE MAY HARBOR

1929

Ship RANGER

DATE OF INSTRUCTIONS:

This work was executed under supplemental instructions dated July 15, 1929.

SURVEY METHODS:

Triangulation stations Wood, Pole, Tripod, Tank, Hanger, Jetty of 1927 and Hotel 1914 were plotted on the sheet from data furnished by the office. All the rest of the signals were located by plane table triangulation and traverse. This gave checks on many of the topographic signals used in 1927 and 1928. Where-ever possible the old topographic signals were recovered. The location of Top 1927 was checked and found to be correct.

A tide gauge was installed in the Coast Guard boat house in the same location used the two previous seasons. The same tide staff was used.

Hydrography was done by the R boat (20 foot motor dinghy). Mr. Overton right angle and plotting, Mr. Wennermark left angle, Chief Writer recorder, one seaman sounding and one acting coxswain. A drag was used to reduce the speed of the launch. Minute and one half positions were used as much as possible.

The sounding party was cautioned each morning before leaving the ship to pay strict attention to the following items; angle men to be sure and snap angles together, writer to pay strict attention to time of soundings and positions, leadsmen to be careful about getting soundings up and down. Left angle man to watch leadsmen as much as possible. Mr. Overton, in charge of the party, was extremely careful of all these items. He had need several times to speak to the writer about calling exact time. This may account for several discrepancies in positions of soundings that had to be disproved by additional work.

It was necessary to run lines in some cases until the boat grounded on the shore. The banks were quite steep and in order to define the edges of channel this was done. Working on a five thousand scale this caused a slight shift in the soundings between the last two positions, even though the last angle was taken as soon as the boat struck the bank a matter of a few seconds in the position and the complete stopping of

the boat would shift the soundings enough to give a bad crossing near the bank. All such discrepancies in the first work were examined and disproved later in October.

There were no bottoms taken in the survey. It was decided by the commanding officer sufficient bottom data was furnished last year and by eliminating this extra work the recorder could pay more attention to time and checking questionable soundings.

DISCREPANCIES:

Between 66 - 67 g and 16 - 17a poor crossing, 8 feet fell on 12 feet. Upon examination of the boat sheet it was found the fix was recorded wrong, ^{17a}Pole, Sot and Con is the correct fix. The extra line 46 to 49 k was new and the soundings obtained proved this to be the case. The fix was changed in the record book and the line replotted in its proper place.

Last sounding before 76g between 75 and 76g is 16 feet and falls between 20 feet and 25 feet. The line 68 to 69k proves this is all right, an 18 on 69k falls just outside of the 16.

A zero sounding between 33 - 34 c falls outside 2 feet sounding between 80 and 81b. A 2 foot difference here is quite plausible as the marsh banks are cut by many small drainage streams leaving grassy hummock covered at high water. This locality is not used by anything but row boats. It has no outlet at low water.

The sounding on 48b is 15 feet. Crossing it on 6 - 7j is 10 feet this was plotted as 10 feet. Additional work 22 to 23 m gives a 12 on top of the 10 and owing to the sloping sides of the channel this is a good check. 38 to 39k just inside gives a 12 nearly the same spot. The line the 10 is on was a long run between fixes and the current probably carried the boat a little inside of the line between fixes accounting for the 2 foot difference.

On position 14a, 3 feet falls outside of 15 feet on 56g caused by the fix 14a plotting a little too far out, a slight difference in time between snapping right and left angle. The bank is quite steep at this point. An additional line 71k to 73k shows a $7\frac{1}{2}$ on 73k inside the 15 foot spot and no indication of the 3 foot. The position 14a is about 6 meters out.

On 139c 8 feet shows between 3 and 4 on 78 and 79b. This is not a faulty sounding. The flats in this locality are cut by numerous small drainage streams or gulleys and there is no definite channel or system to them. Soundings were taken to give a general idea of the depth. At high water acres of marsh land are covered and low tide exposes these small rivulets. They are not wide enough for anything more than a row boat.

First sounding after 1c is 14 feet falls alongside 21 feet between 96 and 97b. Additional work on k day 72k gives a 14 right alongside of the 14 on 1c line. The bank is steep and 21 and 14 are both right. A small lump is building on the point.

A 15 between 29c and 30c plots outside the channel and inside a 2. The launch running over the shoal areas dragged and made the 15 plot too far to the left of the channel. Additional lines on k day show the proper depths along the edge.

The same explanation applies to last sounding before 38c.

The second sounding after 42c is 24 feet falls in 18 foot channel. Additional lines showed no trace of a deep hole so this is doubtless a mistake of 1 fathom in reading the lead line.

A 2 foot sounding between 65 and 66c falls outside 9 and 10 on line 34 - 35a. Additional lines run on k day prove this 2 should be nearer 66c. Here again the launch running over shoals slowed up.

Between 9 and 10h a 15 falls alongside a 5 between 59 and 60a. The fix should be nearer shore. Launch ran to shore and stopped for fix. Two additional lines run over this spot proved 5 to be in wrong place.

Between 17 and 18e a 16' comes alongside a 12' between 22 and 23d. The 12' is there proved by additional lines.

The 5' spot on 53g looked suspicious. Additional lines run on m day proved it to be there.

The line beginning at 15d was run on a good range. And the fix plotted 15d off range. On examination it appeared that the left angle was read 1° wrong, this was changed in the record. Additional lines were run to cover this area.

Many of these discrepancies are small and can be explained by merely studying the boat sheet but it was considered best to include them all in the report and explain just how the irregularities were disproven.

Working on a 5,000 scale in these narrow channels where the current runs from 3 to $3\frac{1}{2}$ knots, errors in crossings are hard to eliminate.

DANGERS:

The shoal between the stone jetties on the north side at the entrance marked by red nun buoy #2. This shoal has a least depth of 7 feet at Lat. $38^{\circ} - 56' 445$ meters, $109^{\circ} 74' - 51' 1210$ meters. It can be easily avoided in clear weather or daylight as the swells break on it, and it is marked by the buoy.

Last winter a two masted fishing schooner trying to make the entrance in a fog struck and was a total loss. It is still there laying partly on the rocks of the breakwater. Reference is made to location at end of report.

Currents reaching 2 to 2½ knots are encountered at the entrance to the breakwater running directly across the entrance. Care must be taken on entering for this reason. When wind and tide are in opposite directions tide rips occur at the entrance making it bad for small boats.

CHANNELS:

The limiting depth of the entrance channel between the breakwaters is 15 feet. This spot is 130 meters N. W. from Red in the middle of the cut. The channel here is only 100 meters wide. The draft of the average fishing boat using this entrance is about 6 feet. Considerable shoaling is occurring at the N. W. entrance breakwater at the seaward end. Here the depth has shoaled to 7 feet. See preceding heading for location of spot.

This distance does not include

The entrance leading to Cold Spring Harbor has a limiting depth of 11 feet as far as was surveyed on this sheet.

Going north east from the jetty entrance the channel to Wildwood has a limiting depth of 14 feet at Lat. 37° - 57' 200 meters Long. 74° 52' 770 meters. This first range carries as far as the entrance to the Penn. Railroad Co. fish docks at Keg. This range was built and is maintained by a private company located at the docks. The lights are lighted only in the spring time when strange fishermen are apt to be coming in. The company plans to place 4 buoys marking this range, one on either side near Bush and one on either side near Keg and Lit. These buoys will be put in place some time this winter.

The two ends of the fish dock are marked by Not and Sot. The channel to the dock carries 18 feet.

Beyond the dock the water gradually shoals and is very irregular in depth. There is no outlet to the north for boats larger than row skiffs. The channel ends in a crooked narrow slue 2 or 3 feet deep.

The inside route northward from Keg and Lit carries 14 feet as far as the work extends on this sheet.

The range lights (Lam marking the front range) are maintained by the state of New Jersey, according to the authorities at the Penn. Railroad fish dock.

ANCHORAGES:

There are no anchorages shown on this sheet.

COMPARISONS WITH PREVIOUS SURVEYS:

I have compared this latest work with photostats furnished by the office of the 1928 work. This years work between the breakwaters near the seaward end shows that the entrance is sandied up considerable. How much of this occurred the past year can not be determined for there was only two lines run in the break-water in 1928.

All spots that were marked as questioned on the 1928 were next examined and found to agree with the depths found this year.

No other discrepancies were found.

GEOGRAPHIC NAMES:

There are no new geographic names in this area.

STATISTICS: (see pp 7)

Vol.No.	Statute miles	Soundings	Positions
1	35.1	1753	381
2	38.7	1723	393
3	<u>13.0</u>	<u>965</u>	<u>227</u>
Total -	84.8	4441	1001

The following buoys were located - by sextant fixes;

	Vol. No.	Page No.
Entrance whistle buoy	3	47
" " "	3	51
" " "	3	52
Red nun buoy #2	3	51
" " " "	3	52
" " " "	1	63
Wreck	3	48
"	3	52
Gas buoy #1	1	3

Two red buoys at turn inshore end of entrance located on topo sheet 1929, Cape May.

Total area surveyed - 7 square miles. (stat)

The following signals were used on this sheet;

Triangulation Stations - (Triangulation records 1914 - 1927)

Hot	1914
Jet	1927
Hangar	1927
Tank	1927
Tripod	1927
Pole	1927
Wood	1927

Topographic Stations - Sheet Cape May 1929.

Tom	Look
Gib	Bul
Mast	Boat
Joe	Dock
Bob	Top
Wind	Bush
Out	Bag
Cross	Keg
Wave	Lit
Ban	Sot
Flag	Shack
Red	Rain
Fly	Lam
Tel	Bear
Pil	Not
Chim	Con
	Lin
	Abe
	Bea
	Sig.

o Skif = ~~Boat~~ Skiff with banner on it anchored bow and stern and located by sextant fix. In record book vol.#3 Page #41.

STATISTICS

Boat used - Motor Dinghy

Date	Vol. No.	Day	Soundings	Positions	Miles Statute
Aug. 6	1	a	335	77	6.0
" 7	1	b	400	97	11.4
" 8	1	c	686	144	11.6
" 9	1 & 2	d	643	131	14.3
" 12	2	e	811	175	18.1
" 13	2	f	242	73	5.2
" 14	2	g	359	77	5.2
" 15	3	h	204	51	2.9
" 16	3	j	60	16	1.2
Oct. 4	3	k	410	86	4.1
" 5	3	l	148	40	3.0
" 14	3	m	<u>143</u>	<u>34</u>	<u>1.8</u>
Totals -			4441	1001	84.8

Area surveyed in square statute miles - 7

Approved:
Charles Shaw
Chief of Party
Aug 19 4 1929 -

Respectfully Submitted.
Benjamin A. King.
J. H. & G. King
U.S. C & G Survey
August 14 - 11/21/29.

TIDAL NOTE

The tide gauge used in reducing the soundings for this sheet was located at the Coast Guard station boat house. The same location used in 1927 and 1928 work. The tide staff was the same one used for 1927 and 1928 work.

Highest tide August 2 - 8.3 feet

Lowest tide August 5 1.1 feet

M. L. W. on staff 2.336 feet

The Cape May Harbor (Cold Spring Inlet) New Jersey hydrographic sheet and records have been inspected and are approved.

This field work was done by Captain R. L. Schoppe.

The smooth sheet was plotted after Captain Schoppe was detached. Several discrepancies showed up and the launch party was sent out to straighten these out and gather additional data.

Charles Shaw

Charles Shaw,
Commanding, Ship RANGER.

*Norfolk, Va.,
Nov 7, 1929.*

DEPARTMENT OF COMMERCE

AND REFER TO NO. 11-DEM

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

January 15, 1930.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4925

Cape May Harbor and vicinity, New Jersey

Surveyed in 1929

Instructions dated July 15, 1929 (RANGER)

Chiefs of Party, R. L. Schoppe and C. Shaw.

Surveyed by R. C. Overton.

Protracted and soundings plotted by J. S. Massey.

Verified and inked by H. E. MacEwen.

1. This survey was made for the purpose of clearing up certain discrepancies that were found to exist between the 1927 survey of this harbor (H. 4695) and the 1928 examination (H. 4695a). (See detailed statement in review of H. 4695a.)
2. The work is in conformity with the specific instructions with the exception that no work was called for between the jetties beyond their inshore ends. There is a survey in this area by the Army Engineers made in July 1929 (blue print 22920). However, as long as lines were run in this area an additional line to the westward of Nun Buoy No. 2 would have been desirable for the purpose of better defining the 18 foot curve.

Inasmuch as the Engineers' survey is practically contemporaneous with this survey (H. 4925), the two can be used to supplement each other. And in this connection special attention is called to the 10 foot sounding on blue print 22920 about 30 meters westward of Nun Buoy No. 2. Our survey shows 16 feet near this spot. The 10 should be used on the charts.

3. The work was carried far enough to the westward inside the harbor to effect a good junction with the 1927 work (H. 4695).

The junctions with the offshore sheets H. 4859 and H. 4875 are also satisfactory.

4. In the vicinity of Buoy No. 4 where a marked discrepancy was noted between the 1927 and the 1928 work (see paragraph 2, page 3 of Review of H. 4695a), the present survey corroborates the depths found on the 1927 work (H. 4695). It is quite conclusive now that the lines 43 b to 46 b and 47 to 49 b on H. 4695a are out of position. This was the theory advanced by the writer when examining the 1928 work. Since one of the reasons for the new survey was the existence of this discrepancy, they are retained on the sheet for record purposes, but an appropriate note has been added so that no confusion will result in any future handling of the sheet.

5. Instructions to compiler.

Since there are two surveys besides the present one covering this area and since there are certain peculiarities about each one that will not be apparent to the compiler, the following notations and recommendations are made for his information.

- (a) H. 4695 (Survey of 1927)

Since this survey antedates the present survey by two years and there are definite indications of changes having taken place (compare area to the northwest of \odot Bul) and since the present survey is complete in itself, it is recommended that within the limits of the new survey, none of the work from the 1927 survey be used for the new chart. Beyond these limits use the 1927 work to complete the chart.

- (b) H. 4695^a (Survey of 1928)

Since some of the work on this sheet was based upon an erroneous location of \odot Top (see page 4, Review of H. 4695a and page 1, Descriptive Report H. 4925), while on other portions of the sheet a weak fix was used, it is recommended that none of this work that falls within the limits of the new survey should be used except the information that was transferred to the 1929 survey. This work was accepted because \odot Top was not used and because a better definition is had of the 6 and 12 foot curves. Beyond the limits of the new survey, the 1928 work should supplement the 1927 work when the chart is compiled.

6. There is no further surveying needed within the limits of this survey.
7. Reviewed by A. L. Shalowitz, January, 1930.

Approved:

A. M. Sobieralski
Chief, Section of Field Records (Charts)

J. S. Bond
Chief, Section of Field Work (H. & T.)

Section of Field Records.

Report on Hydrographic Sheet No. 4925
Cape May New Jersey.

Surveyed in - 1929

Instructions dated - July 15, 1929 (Supplemental)

Chief of Party - R. L. Schoppe and Charles Shaw.

Surveyed by - R. C. Overton

Protracted by - J. S. Massey

Soundings penciled by - J. S. Massey

Verified and inked by - H. E. MacEwen

1. The records were well kept and complete.
The boat's heading by compass was not entered in the record but since the control was good at all times this did not affect the plotting.
2. The plan and character of the development fulfil the requirements of the general instructions.
3. The specific instructions were followed fully.
4. There is good agreement at all crossings.
5. The field plotting was accurately and completely done.

Report 4925 H. (cont.)

6. Overlap of adjoining sheets was not applied except in a small area south of signal \odot Top to complete information between widely spaced sounding lines.
7. No further surveying is needed to fully develop important areas within the limits of this sheet, except possibly along the 18 foot curve in the Entrance Channel between Setty Light and Red Run Buoy No 2 (see report of Reviewer.)

8. Remarks:

a. All bottom characteristics were eliminated as pointed out in the Descriptive Report sufficient data was furnished on the survey of the previous year (1928).

b. Position 149 was plotted on course using the locus of the right angle. The record points out that the fix angles were snapped at different intervals. Due to the possibility of error in this case and the indication of deeper water on all other lines at this point, the replotting, thus moving the 3 foot sounding near shore, was effected. The above action is supported by the recommendation in the descriptive report and a note in the sounding record. Also, the spot was later examined

Report H-4925 (Cont.)

by an additional line and a least depth of $7\frac{1}{2}$ feet found.

c. The spacing between 29c and 30c was altered to agree with the condition mentioned in the descriptive report. This allows a more agreeable plotting of the 15 foot sounding involved.

d. The 24 foot sounding near 42c was plotted as 18 feet in view of the probability, expressed in the sounding record and the descriptive report, that the sounding was read one fathom too deep. Soundings on adjacent lines support this theory.

9. Rating of work.

- a. Character and scope of surveying - Excellent.
- b. Field drafting - Excellent.

Respectfully submitted

H. E. MacEwen

Dec. 23, 1929

Rewritten Jan. 14, 1930.

Section of Field Records.

November 18, 1929.

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 4925

Locality: Cape May Harbor

Chief of Party: R. L. Scheppe and Charles Shaw in 1929

Plane of reference is mean low water, reading
2.5 ft. on tide staff at Cold Spring Inlet
ft. below B. M.
~~xxxxxxxxxxxx~~

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in records.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

Paul C. Whitne,
Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

C. & G. SURVEY
L. & A.
NOV 8 1929
Acc. No.

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. 1

REGISTER NO. **4925**

State New Jersey

General locality Cape May

Locality ~~Cape May Harbor~~ Cape May Harbor and Vicinity

Scale 1:5,000 Date of survey August - October, 1929

Vessel Ship RANGER

Chief of Party R. L. Schoppe and Charles Shaw

Surveyed by R. C. Overton

Protracted by J. S. Massey

Soundings penciled by J. S. Massey

Soundings in ~~fathoms~~ feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated July 15, 1929, 192

Remarks: Report written by B. H. Rigg.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DEM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

January 15, 1930.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4925

Cape May Harbor and vicinity, New Jersey

Surveyed in 1929

Instructions dated July 15, 1929 (RANGER)

Chiefs of Party, R. L. Schoppe and G. Shaw.

Surveyed by E. C. Overton.

Protracted and soundings plotted by J. S. Massey.

Verified and inked by H. E. MacEwen.

1. This survey was made for the purpose of clearing up certain discrepancies that were found to exist between the 1927 survey of this harbor (H. 4695) and the 1928 examination (H. 4695a). (See detailed statement in review of H. 4695a.)
2. The work is in conformity with the specific instructions with the exception that no work was called for between the jetties beyond their inshore ends. There is a survey in this area by the Army Engineers made in July 1929 (blue print 22920). However, as long as lines were run in this area an additional line to the westward of Nun Buoy No. 2 would have been desirable for the purpose of better defining the 18 foot curve.

Inasmuch as the Engineers' survey is practically contemporaneous with this survey (H. 4925), the two can be used to supplement each other. And in this connection special attention is called to the 10 foot sounding on blue print 22920 about 30 meters westward of Nun Buoy No. 2. Our survey shows 16 feet near this spot. The 10 should be used on the charts.
3. The work was carried far enough to the westward inside the harbor to effect a good junction with the 1927 work (H. 4695).

The junctions with the offshore sheets H. 4859 and H. 4875 are also satisfactory.

4. In the vicinity of Buoy No. 4 where a marked discrepancy was noted between the 1927 and the 1928 work (see paragraph 2, page 3 of Review of H. 4695a), the present survey corroborates the depths found on the 1927 work (H. 4695). It is quite conclusive now that the lines 43 b to 46 b and 47 to 49 b on H. 4695a are out of position. This was the theory advanced by the writer when examining the 1928 work. Since one of the reasons for the new survey was the existence of this discrepancy, they are retained on the sheet for record purposes, but an appropriate note has been added so that no confusion will result in any future handling of the sheet.

5. Instructions to compiler.

Since there are two surveys besides the present one covering this area and since there are certain peculiarities about each one that will not be apparent to the compiler, the following notations and recommendations are made for his information.

(a) H. 4695 (Survey of 1927)

Since this survey antedates the present survey by two years and there are definite indications of changes having taken place (compare area to the northwest of C Bul) and since the present survey is complete in itself, it is recommended that within the limits of the new survey, none of the work from the 1927 survey be used for the new chart. Beyond these limits use the 1927 work to complete the chart.

(b) H. 4695^a (Survey of 1928)

Since some of the work on this sheet was based upon an erroneous location of O Top (see page 4, Review of H. 4695a and page 1, Descriptive Report H. 4925), while on other portions of the sheet a weak fix was used, it is recommended that none of this work that falls within the limits of the new survey should be used except the information that was transferred to the 1929 survey. This work was accepted because O Top was not used and because a better definition is had of the 6 and 12 foot curves. Beyond the limits of the new survey, the 1928 work should supplement the 1927 work when the chart is compiled.

6. There is no further surveying needed within the limits of this survey.
7. Reviewed by A. L. Shalowitz, January, 1930.

Approved:

Chief, Section of Field Records (Charts)

Chief, Section of Field Work (H. & T.)