

4816

Diag. cht. No. 1218-2

Form 504	
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY	
....., Director	
State: <u>New Jersey</u>	
DESCRIPTIVE REPORT	
Topographic Hydrographic	} Sheet No. ⁴ 4816
LOCALITY	
<u>Delaware Bay</u>	
<u>Cape May Shoals</u>	
1926	
CHIEF OF PARTY	
<u>J. Senior</u>	

GOVERNMENT PRINTING OFFICE

4816

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET No. 4CAPE MAY SHOALS.

4816

Instructions and limits

The hydrographic development on this sheet was executed in accordance with the Director's Instructions to the Commanding Officer of the motor vessel NATOMA, dated July 12, 1928. This sheet connects to the eastward with the area surveyed in 1927 by the party of the RANGER. The survey was made on a scale of 1 : 20,000.

Survey Methods.

The NATOMA was used for executing the hydrography. All soundings were taken from the ship with the usual bronze center hand lead lines. The control for the hydrography consisted of triangulation signals, the positions of which were obtained from the RANGER'S data. A list of the geographic positions as used and plotted on this sheet is appended to this report. This list was previously submitted to the Office for verification.

Discrepancies.

Because of the strong eddies prevailing over the shoals, straight sounding lines were impossible of accomplishment. There are some discrepancies in crossing due mainly to currents. It was not believed to have been the intent of the Instructions to cover the area with sounding lines run with the current only. Positions were taken frequently, and it is my opinion that the area has been thoroughly and accurately developed.

A list of discrepancies in crossings, compiled by Ensign W.J. CHOVAN, the officer who plotted the sheet, is appended. A detailed review by Ensign W.R. PORTER of these discrepancies, likewise, is appended to this report. Additional comment follows.

Because of the strong eddies and the difficulty of steering a straight course, preference should be given to position soundings. The two leadsmen used on this work, JOHN ANDERSEN and PETER TUECHSEN, are experienced and reliable, and all soundings "called", were correct, I feel sure. All shoal and critical soundings checked in the record, of course, are correct. Discrepancies of an even fathom, may have been due to erroneous entries by the recorder, as the acoustic facilities were poor, though every effort was made to verify all entries. However, in general, apparent discrepancies, I believe, are due to marked irregularities in bottom. These soundings are not of critical nature, and are satisfactorily explained in Mr. Porter's detailed review. Differences to 3 feet were due to current, and were not listed in detail, the shoaler sounding being plotted in all cases. Attention is called to the fact that part of "A" day was sounded with a defective lead

line (see explanation in record), and where discrepancies occur, that part of "A" day should be given less weight than other days' soundings.

Dangers.

A list of least depth soundings over shoals is submitted on separate sheet attached to this report. There is also forwarded with this report a section of chart 1219, with shoal soundings and those differing materially from present charted depths, indicated thereon with red ink.

Statistics.

A statistical sheet forms a part of this report.

A list of buoy positions is attached.

Landmarks for charts on standard form is submitted herewith.

The tidal data for this sheet has been forwarded. The portable automatic tide gauge on the Delaware Breakwater was used for the reduction of soundings, the plane of reference corresponding to a reading of 4.0 feet on the staff (1928).

Jack Senior
 JACK SENIOR, H.&G.E.
 Chief of Party,
 Commanding NATOMA.

The sheet has been examined by

me and approved.

J. Senior

SOUNDINGS THAT DO NOT CHECK BY.

3'	4'	5'	6'
66A1 & 78A3	163A2 & 64A1	8C & 22M1	73M & 44C
138A & 191P2	63C5 & 60J1	32C3 & 46G1	103H2 & 66D
37A & 190P3	119H2 & 66D	73C2 & 142C1	26J3 & 121F5
138A1 & 191P3	151D1 & 213D2	100C & 64J1	131H2 & 78J
156A3 & 190P1	200D & 10K3	238G & 146C3	103H2 & 66D
92C1 & 182G1	212D2 & 232D2	202P1 & 13K2	40K6 & 246P1
110C5 & 11Q1	13E & 67P2	51E & 119R1	43A' & 132J1
140C1 & 67H3	33E4 & 90E	72J1 & 66G2	106H & 67D1
140C2 & 239G2	131H2 & 78J	64J & 177G3	
53D & 36D		85M3 & 17N1	
177D & 115B1			
179D4 & 15K1			
189D & 6K			
43E & 21K1			
142E & 199P2			
59F1 & 33F4			
81F & 88F1			
26J1 & 121F1			
50G3 & 206G2			
132G3 & 63G1			
125G3 & 69G1			
5H2 & 248G2			
29K3 & 75P			
86M2 & 21M3			

SOUNDINGS THAT DO NOT CHECK BY.

7'	8'	9'	10'
138A3 & 192P1	71A & 116A3	181G1 & 69J3	189D3 & 5K2
155A & 138A2	93G1 & 181G3	181G2 & 70J1	181G3 & 70J3
192P & 138A2	93G3 & 181G2	191H2 & 197L	
142C4 & 74C1	11D1 & 116R1	123G3 & 114H	
121J2 & 164J	129D1 & 133E	74L & 230L3	
85N2 & 16N2			

More than 10 ft.

- 198D2 & 8K2 (13')
- 28H1 & 137B1 (26')
- 1H3 & 137B2 (16')
- 27N & 45G2 (13')
- 138P & 166P (17')

REVIEW OF DISCREPANCIES ON HYDROGRAPHIC SHEET No.4

CAPE MAY SHOALS

1. A sounding of 41' on position 136A2 falls on one of 45' on pos. 64A1. The soundings on either side of this and very close to, are 45' or greater. The leadline used to obtain the 41' sounding was very poor (see Record, Vol.1,p.30) while the lead line used for the 45' sounding was in good condition. The 45' sounding was plotted.
2. On pos. 66A1, a sounding of 47' coincides with one of 44' on pos. 78A3. The deeper sounding was obtained when running against the current the shoaler when running with the current. The 44' sounding was plotted.
3. A sounding of 70' on pos. 71A coincides with a sounding of 62' on pos. 116A3. This occurs on the upper edge of a very sharp slope. The 70' sounding is more accurately located being on position 1 and corresponds to the line of slope on the smooth sheet, also was obtained with an accurate lead line, the 62' sounding was not. The 70' sound. was plotted.
4. A sounding of 46' on pos. 191P2 was rejected for one of 43' on pos. 138A. The shoaler being more accurately located was plotted.
5. A sounding of 43' on pos. 37A falls on one of 46' on pos.190P3. The sounding of 43' was plotted. Same reason as # 4.
6. A sounding of 49' on pos. 191P3 coincides with one of 46' on pos. 138A1. The shoaler corresponds with the sounding in that vicinity and was plotted.
7. A sounding of 49' pos.192P1 was rejected in favor of one of 42' pos 138A~~15~~₃. The general depth in this vicinity is around 42'.
8. Soundings of 46' were obtained on pos. 155A and 192P; one of 39' on pos 138A2 coincides with the 42' soundings. The deeper soundings are more accurately located. There are soundings of 38' and 39' about 30 meters to the eastward. The shoaler sounding was probably obtained in this locality/
9. A 46' sounding on pos.190P1 was rejected in favor of one 43' on pos.156A3. From the surrounding depths the shoaler one is apparently correct.
10. A 12' sounding was found on pos. 22M1 coinciding with one of 17' on pos. ~~17~~ on pos. 8 c. As there are other 12' soundings in this vicinity, this sounding is believed correct. The sounding was noted at

the time and checked correct in the record.

11. An 18' sounding on pos 32C3 falls on one of 23' sounding on 46G1. 18' apparently correct as it corresponds with the sounding in immediate vicinity. The bottom is very uneven in this locality.

12. A sounding of 15' was obtained on pos. 73M. This within a few meters of soundings of 21' pos.44C but the bottom here is uneven and 15' sounding is probably correct.

13. On pos. 73C2 a sounding of 21' was crossed by one of 16 on pos.142C1. The shoaler sounding was used. The bottom here is very uneven. Both soundings probably correct. This difference might be due to the current. The 16' sounding was obtained when running with the current and the deeper sounding when running against the current.

14. On pos. 142C4 a sounding 13' coincides with one of 20' on pos. 74C1. Same explanation as No.13. There are also 11' and 12' soundings in this vicinity.

15. On pos.63C5 a sounding of 30' falls on one of 34' on pos 60J1. The shoaler sounding being near a position and hence more accurately located was used. Also corresponds with the soundings in immediate vicinity.

16. A sounding of 19' on pos. 92C1 coincides with one of 16' on pos. 182G1. As the 16' sounding corresponds with other in that vicinity it was used. The shoaler sounding was obtained running with the current.

17. On pos. 93C1 a sounding of 17' coincides with one of 9' on pos. 181G3. As there were two 9' soundings obtained here the one of 17' was rejected.

18. On pos. 93C3 a sounding of 17' coincides with one of 9' on pos. 181G2. Same as No.17.

19. On pos. 100C a sounding of 27' was obtained. This coincides with one of 32' on pos. 64J1. The shoaler corresponds with those in the immediate vicinity and was used; also on position.

20. On. pos. 110C5 a sounding of 19' was obtained. This coincide with one of 22' on pos. 11Q1. The shoaler sounding compares with those in immediate vicinity and was used. Difference probably due to the current.

21. On pos. 140C1 a sounding of 26' was obtained. This is crossed by one of 23' on pos 67H3. The one of 26' appears to be more accurately located but as there are several of 23' soundings in this vicinity the shoaler was used. The difference was probably due to current and sea.

22. On 140C2 a sounding of 24' was obtained. This coincide with one of 27' on pos. 230G3. The shoaler was used, apparently more correct.
23. On pos. 238G a sounding of 22' was obtained. This coicides with one of 27' on pos. 146C3. As the shoaler sounding was obtained on a position and hence more accurately located it was used. The bottom here is very uneven.
24. On pos. 11D1 a sounding of 31' was obtained. This coincides with one of 23' on pos. 116R1. Apparently the 23' sounding is correct; as there are 24 and 25' soundings on either side. Both soundings were accurately located as positions were taken every other sounding on both lines. The discrepancy must be due to an abrupt change of slope.
25. A sounding of 39' on position 53D was rejected in favor of one of 36D about 10 meters to the west. The bottom is quite uneven here. The sounding were too close together to permit plotting both.
26. A sounding of 46' on pos. 119H2 was rejected for one of 42' on pos. 66D which is more accurately located. The bottom is uneven in this locality.
27. A sounding of 56' obtained on position 103H2 coincides with one of 50' on pos. 66D. The shoaler being on a position and hence more accurately located was used. Also the depths in this vicinity are below 50'. Discrepancy probably due to current.
28. On pos. 129D1 a sounding of 41' was obtained. Pos. 133E with a sounding of 33' plots on the same place. This area has a very uneven bottom. 7 and 8' differences occur frequently between soundings very close together. The 33' sounding being on a position and close to others of similar depth was used.
29. Pos. 151D1 has a sounding of 30' and coincides with one of 34' on position 213D2. There is a sharp slope here where a difference of a few meters between soundings may mean from 4 to 8' difference in depth/ The shoaler sounding is apparently the better.
30. On pos. 177D a sounding of 42' coincides with one of 45' on 115E1. The shoaler was used, as it was obtained on a position and while running with current.
31. On pos. 179D4, a sounding of 28' was obtained. This falls on one of 31' on pos. 15K1. The shoaler sounding checks with those in vicinity and was obtained while running with the current, while the 31' was an upstream sounding.
32. On pos. 189D3, a sounding of 63' was obtained and coincides with one of 53' on 5K2. There is a sharp slope at this point going from 49' to 65' in about 200 meters. This error in crossing was probably caused by the soundings not being obtained exactly on time. 53' was used.

33. A sounding of 46' on pos. 189D falls on one of 49' on pos. 6K. This is also on a sharp slope and a few meters make difference in depth. The shoaler is apparently correct.
34. On pos. 198D2 a sounding of 28' was obtained and checked correct in the record book. This was crossed by 8K2 with a sounding of 41'. This point is on a sharp slope. The shoaler sounding more nearly checks the sounding in immediate vicinity than does the greater. It appears that the line 8K - 9K is in error about 25 or 50 meters. The shoaler depth was used.
35. On pos. 200D a sounding of 32' was obtained. This is crossed by one of 28' on pos. 10K3. The difference is apparently due to the very uneven bottom. Both soundings probably correct. The shoaler was used.
36. On position 202D1 a sounding of 21' was obtained and crossed by one of 26' on pos. 13K2. Difference due to very uneven bottom and sharp slope. The shoaler was used.
37. On pos. 212D2 a sounding of 31' was obtained coinciding with one of 27' on pos. 232D2. There is a very uneven bottom here. And as the shoaler depth was obtained while running with the current and is apparently the better sounding it was used.
38. On pos. 13E a sounding of 36' was obtained, a sounding of 32' on pos. 67P2 crosses this. This occurs on a sharp change of slope. Due to the fact that the 36' sounding is more accurately located and apparently more correct when compared with the soundings in that vicinity it was used. Apparently the 32' sounding was a few meters north of pos. 13E.
39. A sounding of 31' on pos. 43E coincides with one of 28' on pos. 21K1. As all the soundings in this vicinity are less than 30' the shoaler sounding was used. Pos. 43E is probably in error about 25 m. to the southeast.
40. On pos. 33E4 a sounding of 45' coincides with one of 41' on pos. 90E. The shoaler being more accurately located was used.
41. A sounding of 29' on pos. 51E was rejected in favor of a 24' sounding on pos. 119K1 which nearly coincides with the sounding in the vicinity. Both soundings probably correct as the bottom is very uneven in the locality.
42. A sounding of 43' on pos. 142E coincides with one of 40' on pos. 99P2. The 43' sounding was used as position angles were taken at the time of this sounding giving a more accurate location. The bottom is very uneven in this locality. The 40' sounding was probably few meters to the east of pos. 142E.

43. A sounding of 28' on pos. 59F1 falls on a sounding of 25' on pos. 33F4. The 28' sounding appears more accurate as it is closer to a position. From the soundings in the vicinity it seems probable that the line 33F - 34F curved slightly to the westward. The 28' sounding was plotted.
44. A sounding of 22' on 81F coincides with a sounding of 25' on pos. 88F1. The bottom here is very uneven. Both soundings probably correct. The shoaler was used.
45. A sounding of 25' on pos. 26J1 falls in the same place as a 22' sounding on pos. 121F1. The 22' sounding was used as it corresponds with those soundings in its immediate vicinity.
46. A 16' sounding on pos. 26J3 falls on a 22' sounding on Pos 121F5. The sounding of 16' was checked correct in the record by W.R.P. and was plotted. This shoal is very small in area.
47. A sounding of 24' on pos. 50G3 falls on one of 21' on pos. 206 G2. The shoaler depth was obtained while running with the current, while the greater was obtained against the current. Shoaler depth was plotted.
48. A sounding of 17' on pos. 132G3 coincides with a 20' sounding on pos. 63G1. The shoaler sounding was plotted for same reason as stated in preceding paragraph.
49. A 38' sounding on pos. 125G3 falls on a 35' sounding on pos 69G1. The shoaler sounding was plotted for same reason as preceding paragraph.
50. A 19' sounding on pos. 72J1 falls on a 14' sounding on pos. 66G2. This occurs on a ridge with a very sharp slope. The shoaler sounding was plotted. Probably the 19' sounding was taken a few meters to the eastward.
51. A sounding of 30' on pos. 64J falls close to one of 25' on pos. 177G3. The shoaler depth is verified by a 23' sounding close by. The bottom here is very uneven.
52. A sounding of 9' on pos. 181G3 falls on one of 19' on pos. 70J3. Also one of 9' on pos. 181G1 coincides with a sounding of 21' on pos. 69J3, and one of 9' on pos. 181G2 with one of 28' on pos. 70J1. This area is of such an irregular bottom that a few meters make a difference of 8' to 10'. The shoal soundings were plotted as they show the general tendency of the bottom.
53. A sounding of 35' on pos. 1H3 falls near a sounding of 19' on pos. 137S2. The 19' sounding is correct as it is checked by a number of other shoal soundings. This is on a very sharp slope, dropping from 45' to 19' in twenty meters. Evidently the 35' sounding should have plotted about fifteen meters to the SE.
54. A 19' sounding on pos. 248G2 obtained when running with

the current, coincides with a 22' sounding on pos. 5H2 obtained when running against the current. 19' sounding was plotted.

55. A sounding of 45' on pos. 28H1 was rejected for one of 19' on pos. 137S1. This occurs in the same locality as No.53. The 19' sounding is correct and was used. The 45' sounding apparently should have plotted about 10 meters to the north.

56. A sounding of 41' on pos. 106H was rejected in favor of one of 35' on pos. 67D1. The shoaler sounding corresponds with the soundings in its vicinity. Pos. 106 is probably in error of about 20 m. to the W.

57. A sounding of 56' pos. 103H2 was rejected for one of 50' pos. 66D. Poor crossing probably due to the irregular bottom found here.

58. A 30' sounding pos.114H coincides with one of 21' on pos.123G3. Apparently the 21' sounding is in error in position of about 10 m. to the W. The 30' sounding being obtained on a position and showing general ~~form~~ of the sharp slope in this locality, was used.

59. A sounding of 40' on pos. 131H2 was rejected for one of 36' on pos. 78J. The bottom here is very irregular. The 36' sounding was plotted as it is more accurately located.

60. A sounding of 44' pos. 191H2 coincides with one of 35' on pos. 197L. The 35' sounding was plotted as it is better located and corresponds with the soundings in this vicinity. This crossing occurs on a sharp slope.

61. A 11' sounding on pos. 121J falls on a sounding of 18' on pos. 164J. The bottom here is very irregular. Both soundings probably correct. The 11' sounding was plotted.

62. A 43' sounding pos. 29K3 coincides with one of 46' pos. 75P. Shoaler sounding obtained when running with the current and plotted.

63. A 39' sounding on pos.246P1 falls on a 45' sounding on pos.40K6. The 39' sounding was plotted. Bottom very irregular in this locality.

64. A 38' sounding on pos. 43A was rejected in favor of a 32' sounding on pos. 132J1. The bottom here is irregular.

65. A sounding of 15' on pos. 16N2 falls on a sounding of 22' on pos. 85N2. The shoaler sounding was plotted. The soundings in this vicinity are around 22'. The 15' sounding a drop of one fathom was not marked OK by the recorder. The sounding is perhaps erroneous.

66. A 10' sounding on pos. 27NC checked OK in the record, falls on a 23' sounding on pos. 46G2. 10' sounding was plotted. The bottom here is very uneven.

67. A sounding of 101' on pos.138P nearly coincides with one of 84' on pos. 166P. The deeper sounding was poor, the lead line leading aft. The shoaler sounding compares favourably with those in its vicinity and was plotted.

68. A sounding of 22' , pos.74L falls near one of 31' on pos. 230L3. The shoaler sounding was plotted. The bottom is very uneven here and both soundings are probably correct.

69. A sounding of 17 on 85M3 falls on one of 22 on pos. 17M1. The bottom here is very uneven. Shoaler sounding was plotted.

70. A sounding of 16' on pos. 86M2 falls on one of 13' on pos.21M3. The shoaler was plotted. A very uneven bottom is found here.

Respectfully submitted,



Wilbur R. Porter, Aid.

Approved
Jack Snow
Chief of Party.

STATISTICS * HYDROGRAPHIC SHEET No.4

DELAWARE BAY

1928

Date.	Letter.	Vol.	Posit.	Soundings	Miles.	Vessel.	To & Fro.
Aug.10	A	1	158	579	30.1	NATOMA	7.5
11	B	1	22	43	1.8	"	15.0
13	C	1	148	650	21.0	"	20.0
14	D	2	237	743	36.0	"	20.0
15	E	2	168	502	29.0	"	14.0
16	F	3	122	540	23.0	"	10.0
20	G	3/4	254	1007	45.0	"	21.0
			13	52			
21	H	4	273	1083	45.0	"	22.0
22	J	4/5	100	355	34.0	"	18.0
			96	373			
23	K	5	256	989	45.0	"	18.0
24	L	6	233	890	41.0	"	12.0
27	M	6/7	122	711	34.0	"	20.0
28	N	7	217	831	42.0	"	17.0
29	P	7/8	109	374	45.0	"	18.0
			154	460			
30	Q	8/9	250/4	915/12	46.0	"	17.0
31	R	9	121	280	14.0	"	16.0
Sep.5	S	9/10	255/23	680/75	36.0	"	21.0
8	T	10	186	737	32.0	"	20.0
10	U	10	163	631	29.0	"	20.0
11	V	11	256	1136	37.0	"	20.0
12	W	11/12	111/91	482/335	32.0	"	17.0
13	X	12	274	1010	49.0	"	17.0
14	Z	13	133	510	24.0	"	18.0
Oct.10	A	14	227	568	27.0	"	25.0
Totals.....		14	4845	16553	797.9	"	423.5

LIST OF BUOYS SHEET No4.

Bell Buoy No. 4	Lat. 38 ⁰ 49'	610 meters
	Long. 75 ⁰ 01'	795 meters
Black & White Bell Buoy	Lat. 38 ⁰ 54'	30 meters
	Long. 75 ⁰ 00'	560 meters
Red Nun Buoy No. 4	Lat. 38 ⁰ 53'	1155 meters
	Long. 75 01'	535 meters
Red Nun Buoy No. 6	Lat. 38 ⁰ 50'	1160 meters
	Long. 75 ⁰ 01'	855 meters.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Norfolk, Va.

December 12th, 19 **28**

DIRECTOR, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

Jack Senior
JACK SENIOR, H. & G. E. Chief of Party.

DESCRIPTION	POSITION					METHOD OF DETERMINATION	CHARTS AFFECTED	
	Latitude		Longitude		Datum			
	°	'	D. M. meters	°				'
New Tank	38	- 59	1674	74	- 57	261	Triang	1217, 1218, 1219
Brandywine L.H.	38	- 59	321	75	- 06	1171	"	
Tank at Navy Base	38	- 56	1604	74	- 53	238	B	
Water Tower, Cape May	38	- 56	1267	74	- 55	765	"	
Cape May L.H.	38	- 55	1812	74	- 57	929	"	
Stack, concrete ship	38	- 56	1216	74	- 58	496	"	
Standpipe, Bohat, Beach	38	- 43	18	75	- 04	1376	"	
Cape Hanlepen L.H.	38	- 46	1193	75	- 05	254	"	
Harbor of Refuge L.H.	38	- 48	1602	75	- 05	815	"	
Hangar Naval Base	-	-	-	-	-	-	"	

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance. The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tall stack, red chimney, radio mast, etc. Generally, flagstuffs and like objects are not sufficiently permanent to chart.

Positions changed in replotting.

SHOAL SOUNDINGS

Depth Feet	Pos.No.	Latitude		Longitude		Appr. Charted Depth. Feet	Location (General)
		0	' Mtrs	0	' Mtrs		
✓ 23	7-8 U. 101T2	38	56 ⁵⁶ 1270	75 ⁷⁵ 59	550	30	Bay Shore Channel
✓ 4	157V-158V	38	57 670	75	00 420	6	Crow Shoal
✓ 10	27N	38	54 154	75	01 735	30	Edge of round shoal ✓
* 11	7Q2	38	54 910 ⁸⁵⁰	75	01 1310 ¹⁴¹⁰	17	Round Shoal
✓ 13	169J	38	54 530	75	00 720	27	Near Thru Channel. ✓
✓ 14	11M2	38	54 230	75	00 480	29	" " "
✓ 17	41F	38	54 10	75	00 15	24	Thru Channel
✓ 36	217L	38	54 610	75	01 1260	48	" "
✓ 13	71Q1	38	54 1095	75	01 70	10	Round Shoal
✓ 19	107G1	38	55 270	75	00 1225	11	" "
✓ 14	55G	38	54 740 ⁴⁸⁰	75	00 620 ¹²⁴⁰	8	" "
✓ 21	158G3	38	53 515 ¹⁰³⁰	75	01 250 ⁵⁰⁰	33	" "
✓ 35	120Z1	38	52 1210	75	02 1000	43	
✓ 9	181G2	38	52 60	75	00 1080	17	South Shoal ✓
✓ 15	51S2	38	52 575	75	00 735	14	" " ✓
✓ 6	27S	38	51 690	75	00 520	17	" " ✓
✓ 16	25M3	38	51 340 ⁶⁸⁰	75	00 365 ⁷³⁰	30	" "
✓ 13	171S2	38	51 293 ⁵⁸⁶	75	00 115 ³⁶⁰	30	" "
✓ 19 17	167S1	38	50 848 ⁴⁹⁶	75	00 510 ¹⁰²⁰	44	" "
✓ 35	223S	38	50 230 ⁴⁶⁰	75	02 250 ⁵⁰⁰	39	
✓ 17	30P1	38	50 370 ⁷⁴⁰	75	01 290 ⁵⁸⁰	14	
✓ 17	111E	38	50 473 ⁹⁴⁶	75	01 522 ¹⁰⁴⁴	20	
✓ 18	6K1	38	49 360 ⁷²⁰	75	01 380 ⁷⁶⁰	29	Cable area, Bell buoy No.4

Note - The compiler should disregard the above list as it by no means represents all the shoal soundings on the sheet. Furthermore, it was compiled from a complicated, unverified smooth sheet and contains some differences from the final plotting. If attempted to be used it will only lead to needless confusion.

The shoals whose latitudes and longitudes are shown corrected in pencil, were scaled ^{by the field party} on a 1-10,000 scale instead of a 1-20,000 scale.

A. L. Shalunf

8-20-29.

List of Signals for Hydrographic
Sheet No. 4 - Cape May Shoals -
surveyed in 1958 by M.V. Flanahan.

C
C

Locality *Cape May, N.J.*

Datum _____

STATION	LATITUDE AND LONGITUDE	SECONDS IN METERS	AZIMUTH	BACK AZIMUTH
<i>New Tank (Tall)</i>	<i>38 58 54.31</i>	<i>1674.6</i>		
	<i>74 57 10.87</i>	<i>261.6</i>		
<i>Brandywine (Win)</i>	<i>38 59 10.406</i>	<i>320.8</i>		
	<i>75 06 48.630</i>	<i>1170.6</i>		
<i>Tank N.B. (Tank)</i>	<i>38 56 52.02</i>	<i>1604.0</i>		
	<i>74 53 09.90</i>	<i>238.4</i>		
<i>C.M. Water Tower (Tow)</i>	<i>38 56 41.10</i>	<i>1267.3</i>		
	<i>74 55 31.78</i>	<i>765.3</i>		
<i>Cape May L.H. (May)</i>	<i>38 55 58.755</i>	<i>1811.7</i>		
	<i>74 57 38.565</i>	<i>928.9</i>		
<i>Stack Concrete Ship (Rec)</i>	<i>38 56 39.45</i>	<i>1216.4</i>		
	<i>74 58 20.61</i>	<i>496.4</i>		
<i>Creek</i>	<i>38 57 18.918</i>	<i>583.4</i>		
	<i>74 57 56.688</i>	<i>1365.1</i>		
<i>Standpipe Rehobeth Beach (Hob)</i>	<i>38 43 00.57</i>	<i>17.6</i>		
	<i>75.04 56.95</i>	<i>1375.9</i>		
<i>Cape Henlopen L.H. Hen</i>	<i>38 46 38.70</i>	<i>1193.3</i>		
	<i>75 05 10.54</i>	<i>254.2</i>		
<i>New</i>	<i>38 58 06.217</i>	<i>191.7</i>		
	<i>74 57 46.436</i>	<i>1117.9</i>		

POST-OFFICE ADDRESS: U.S.C. & G.S. Motor Vessel NATOMA, Cape May, N.J.

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

SEP 10 9 30 AM '28

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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Motor Vessel NATOMA, Cape May, N.J.,
September 8, 1928.

To: The Director, Coast and Geodetic Survey.

From: The Commanding Officer, M.V. NATOMA.

Subject: Field data.

(Ref)

The position of Harbor of Refuge L.H.(1927) was inadvertently omitted from a list of Geographic Positions recently submitted by me to the Office for verification. The position of the above Lighthouse as used by me in the field is as follows,

Latitude	38	48	52.20	----	1609.8 meters
Longitude	75	05	33.79	----	815.1 "

Jack Senior
Jack Senior
Hyd. & Geod. Engineer.

E.A.R.

Copy for Section of Field Records files. January 29, 1929.

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET 4816

Locality: DELAWARE BAY.

Chief of Party: Jack Senior in 1928.

Plane of reference is Mean low water, reading
4.0 ft. on tide staff at Delaware Breakwater
~~ft. below B. M.~~

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 record.
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. ...

Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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REG. NO. 4816

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. 4

REGISTER NO. 4816

State NEW JERSEY

General locality DELAWARE BAY

Locality CAPE MAY SHOALS

Scale 1:20,000 Date of survey Aug. 10 - Oct. 10, 1928

Vessel N A T O M A

Chief of Party JACK SENIOR, H. & G. E.

Surveyed by JACK SENIOR, H. & G. E.

Protracted by WALTER J. CHOVAN, Aid.

Soundings penciled by WALTER J. CHOVAN, Aid.

Soundings in ~~fathoms~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated July 12-th, 1928

Remarks:

Applied to Chart 827, July 1939. B.R.

" " " 411, 2/3/53 JVE

" " " 826-50 6-3-63 Frazier