

6345

U. S. COAST & GEODETIC SURVEY
LIBRARY ARCHIVES

MAR 31 1939

<p>Form 504 Rev. April 1935 DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY</p> <h2 style="text-align: center;">DESCRIPTIVE REPORT</h2> <p><i>Topographic</i> } Sheet No. 6345 <i>Hydrographic</i> }</p>	
<p>State Delaware & New Jersey</p> <p style="text-align: center;">LOCALITY Atlantic Coast - Offshore Off shore, Delaware & New Jersey</p> <p style="text-align: center;">Approaches to New York Harbor</p>	
<p>193 8</p> <p>CHIEF OF PARTY</p> <p>Frank S. Borden</p>	

U. S. GOVERNMENT PRINTING OFFICE

6345

SHEET NO. 6345

DATE OF INSTRUCTIONS:

The work on this sheet was done in accordance with Supplemental Instructions, Project HT-207, dated March 4, 1938. Authorization for using the scale of 1:80,000 for the sheet was contained in a letter from the Director dated April 9, 1938.

LIMITS:

This sheet covers the intermediate area off the New Jersey and Delaware Coasts between parallels 38-30 and 39-30, the western limit joining with Sheets Nos. 6264, 6271 and 6344, and the eastern limit joining with Sheets Nos. 6219 and 6192. This sheet joins Sheets Nos. 5350 and 6344 on the south and Sheet No. 6346 on the north. The limits of the sheet are outlined in red on the attached sketch.

SURVEY METHODS:

The control for this sheet consisted of a line of survey buoys running in a northeast-southwest direction in the western portion of the sheet and located by taut wire and sun azimuths. For the shore ties see the descriptive report for Sheet No. 6344. For a portion of the sheet along the buoy line the hydrography was controlled by 3 point fixes on the buoys. The greater portion of the sheet was controlled by R.A.R., using sono-radio buoys located along the buoy line and additional buoys to the eastward of the main line located by bomb distances from the main traverse buoys. For the method of computing the bomb distances for these additional buoys and the distances to the hydrographic positions see the descriptive report for Sheet No. 6344.

All soundings on this sheet were obtained with the Dorsey No. I Fathometer. The corrections applied to the fathometer soundings are described in the descriptive report for Sheet No. 6344.

METHODS USED IN SMOOTH PLOTTING:

Distance circles were drawn for each sono-radio buoy at intervals of 10,000 meters. These circles were left in pencil. Distance arcs to the positions were drawn with colored ink, each sono-radio buoy having a distinctive color. Gyro compass bearings were drawn with a black dashed line where used in connection with distance arcs but not shown when used with sextant angles between buoys.

Gyro compass bearings were recorded in the sounding record as read, but when plotted a correction of minus 1 degree was applied. This minus 1 degree was a constant correction to the gyro compass through the season. Errors in bearings due to oscillations of the gyro following a turn at the end of a line could not be determined and, therefore, the bearings were not always dependable.

The R.A.R. sounding lines were drawn on tracing paper according to dead reckoning and superimposed over the arcs and bearings. For small differences the arcs and bearings were assumed to be correct but were rejected in the sounding record where they were obviously in error.

Soundings are plotted in fathoms and feet. In penciling the soundings on this sheet the line under the foot unit was omitted to avoid confusion in penciled soundings. If this line is desired it should be added when the soundings are inked. *This line inked in office.*

SHOAL SOUNDINGS:

The shoalest soundings on this sheet are as follows:

1. Lat. 38-~~48~~^{47.7} Long. 74-28 A least depth of 9 fms. 1 ft.
2. Lat. 38-49 Long. 74-29 A least depth of 9 fms. 3 ft.
3. Lat. 38-51 Long. 74-28.2 A least depth of 9 fms. 3 ft.

DISCREPANCIES:

In general the crossings on this sheet are good, the majority agreeing within two feet. The crossings in excess of three feet are as follows:

LATITUDE	LONGITUDE	POSITIONS	REMARKS
39-13	74-04	98-99R & 79-80T	4 ft. crossing.
39-07	73-48	25-27M & 40-42Q	Irregular bottom. Lines parallel and close together. Up to $1\frac{1}{2}$ fathom difference.
		52Q & 1-2U	6 ft. Irregular bottom.
		16-17N & 29-30X	Sounding of 22 fms. 4 ft. on N-Day questioned in record and not plotted on sheet.
39-13	73-48	2-3V & 26-27X	5 soundings on and following 26X rejected in record.
39-19	73-40	132W & 107Y	Apparently soundings in error. 6 ft. difference. On slope. Probably due to slight displacement of one of the sounding lines.

LATITUDE	LONGITUDE	POSITIONS	REMARKS
39-24 ✓	73-47 ²	6-7A' & 32-33B' ✓	Soundings between 6 & 7A' rejected in sounding record. Soundings probably in error due to fathometer not functioning properly.
39-26 ✓	73-18 ✓	108-109D' & 41-42E' ✓ 108-109D' & 45-46E' ✓	About a 6 ft. crossing. Indicates that D' day line should be plotted to the south to obtain a good crossing. <i>Agreement of soundings as plotted is satisfactory.</i>
39-15 ✓	73-47 to 42	87-90W ✓	Soundings apparently in error. Rejected in sounding record. Line 44-47X replaced this line. ✓

COMPARISON WITH ADJOINING SHEETS:

Junctions with Sheets Nos. 6264, 6271 and 6344 are satisfactory. Maximum discrepancy of 3 feet.

Sheets Nos. 5350, 6219 and 6192 are plotted in fathoms. In general the crossings agree within 1 fathom and are considered satisfactory with 2 exceptions. In latitude 38-58, longitude 73-53, junction with Sheet 6219, there is apparently a displacement of soundings of about 400 meters. In latitude 39-27.5, longitude 73-12.5, junction with Sheet No. 6192, there is a 20 fathom sounding on a 22 fathom 3 feet sounding on this sheet.

Bottom irregular
Near a 19 fathom sound on H-6192. Very little of the area covered by H-6192 falls within the area of H-6345.

The junction with Sheet No. 6346 is satisfactory except in latitude 39-34, longitude 73-49. A 13 fathom sounding on Sheet 6346 is adjacent to a 15 fathom 3 feet sounding on this sheet. As this is on a steep slope a slight displacement of one of the lines would give this discrepancy.

COMPARISON WITH PREVIOUS SURVEYS:

A comparison with Charts 1108 and 1109 indicates that in general the soundings check within $\frac{1}{2}$ to $\frac{3}{4}$ fathoms. The principal discrepancies noted are on Chart No. 1109 and are as follows:

LATITUDE	LONGITUDE	CHARTED DEPTH	THIS SHEET
38-49 ✓	74-27 ✓	21 fathoms <i>From H-1558</i>	11 to 12 fathoms ✓
38-57 ✓	74-00 ✓	30 " <i>From H-1558</i>	20 fathoms ✓
39-01 ✓	73-51 ✓	31 " <i>From H-1558 but not shown on latest prints of charts 1108 and 1109.</i>	21 " ✓

The charted "PD" wreck at latitude 39-10, longitude 74-08 was *Retain on*
wire drag item No. 14. The work done by the wire Drag Party is shown *the charts.*
on Sheet No. 6343 WD., and is discussed in the descriptive report for *See Review*
that sheet. *of H.C. 1738*

TIDAL NOTE:

Tide reducers for Sheet No. 6345 are based on the tide station
at Atlantic City, New Jersey. In accordance with Instructions it was
assumed that the range is the same and the time is one half hour
earlier. Tabulated hourly heights referred to a datum plane 4.2 feet
below mean low water were furnished by the Washington Office.

Respectfully submitted,

John H. Brittain
John H. Brittain, Lt. (j.g.), C&GS.,
Ship OCEANOGRAPHER.

.....
Approved and forwarded:

Frank S. Borden
Frank S. Borden, Comdr., C&GS.,
Commanding Ship OCEANOGRAPHER.

STATISTICS

Project H. T. 207

Sheet 6345

<u>Date</u>	<u>Day</u>	<u>Stat. Miles</u>	<u>Soundings</u>	<u>Position</u>
June 4, 1938	A	41	470	31
" 5 "	B	115	1175	94
" 6 "	C	177	1835	124
" 7 "	D	130	1364	90
" 8 "	E	161	1587	117
" 9 "	F	156	1557	129
" 11 "	G	100	1309	111
" 12 "	H	40	399	36
" 18 "	J	154	1404	138
" 19 "	K	111	1154	94
" 20 "	L	177	1714	128
" 21 "	M	46	450	38
" 22 "	N	126	1358	92
" 23 "	P	127	1488	114
" 24 "	Q	131	1572	133
" 25 "	R	163	1575	116
" 26 "	S	18	164	14
July 7, 1938	T	133	1353	157
" 8 "	U	95	985	96
" 9 "	V	136	1328	140
" 10 "	W	178	1749	159
" 11 "	X	88	1121	114
" 12 "	Y	160	1643	153

Date	Day	Stat. Miles	Soundings	Position
July 13, 1938	Z	100	948	76
" 14	" A'	127	1282	106
" 21	" B'	84	911	86
" 22	" C'	33	330	27
" 23	" D'	152	1442	123
" 24	" E'	116	1102	97
	Total	<u>3578</u>	<u>34769</u>	<u>2933</u>

July 14/34

Area in sq stat. mi 1,228

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6345**

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

Number of positions on sheet	2933
Number of positions checked	4
Number of positions revised	0
Number of soundings recorded	34769
Number of soundings revised	63
Number of soundings erroneously spaced	17
Number of signals erroneously plotted or transferred	0

Date: *Sept. 13, 1939*

Verification by *Francis B. Kelly 138 hrs*
Gordon Kittlepage 9 hrs

Review by *[Signature]*

Time: 147 hrs

Time: 19 hours.

*{ Prel. Study 3
Ver. & Ink 114
Final Study 30
147 hrs*

verification Report on H6345 (1938)

The records conform to the requirements of the General Instructions

The control is furnished by survey and some radio buoy.

The junctions with H6346 on the north, H6271 & H6264 on the west, H6344 & H5350 on the south and H6219 on the east are, in general, good. That with H6192 on the north east is fair.

Since H6345 is plotted in fathoms & feet, all of the junctions with smaller scale surveys, which are plotted in fathoms, were inscribed on these smaller scale surveys to avoid the necessity of connecting the sounding records. For this reason it was impossible to match the curves at the junctions

Non vertical casts recorded in the sounding records of H6345 are not plotted on the sheet due to insufficient control.

Francis B. Kelly

Sept. 13, 1939

HYDROGRAPHIC SURVEY NO. I-6345

Smooth Sheet Yes

Boat Sheet Yes

Records; Sounding 15 Vols., Wire Drag 0 Vols., Bomb 5 Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals -----

Landmarks for Charts (Form 567) -----

Statistics Yes

Approved by Chief of Party D. R. Only

Recoverable Station Cards (Form 524) -----

Special Chart for Lighthouse Service -----
(Circular Nov.30, 1933)

Hydrography: Total Days 29 ; Last Date July 24, 1939

Remarks -----

Remarks.

Decisions

	Remarks.	Decisions
1		
2		U.S.G.B.
3		U.S.G.B.
4	Tide station	393744
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
M 234		

GEOGRAPHIC NAMES

Survey No. M-6345

Name on Survey	Source of Information										Number
	A	B	C	D	E	F	G	H	K		
<u>New York Harbor</u>											1
<u>New Jersey</u>											2
<u>Delaware</u>											3
<u>Atlantic City</u>											4
											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

Names determined in red a...
 Lotteck on 5/11/39

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY }
 DESCRIPTIVE REPORT } No. H-6345
~~PHOTOSTAT OF~~ } ~~NO. 1~~

{ received April 4, 1939
 { registered April 10, 1939
 { verified
 { reviewed
 { approved

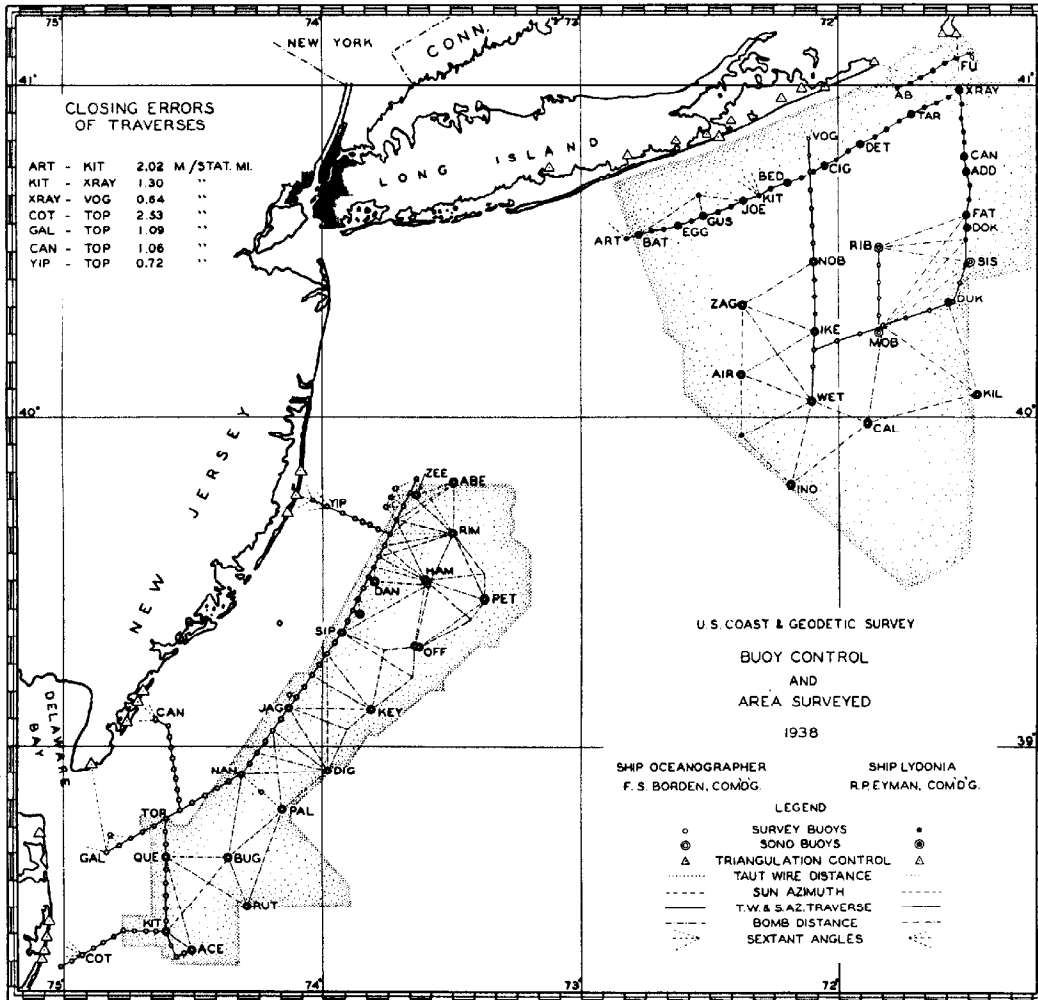
This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please 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			
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
----	------------

✓ JBR



TIDE NOTE FOR HYDROGRAPHIC SHEET

July 6, 1939.

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. H. R. Edmonston

Plane of reference approved in
15 volumes of sounding records for

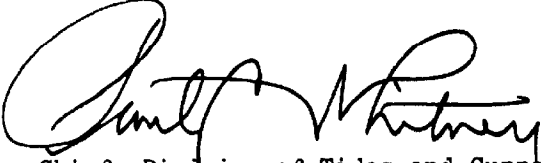
HYDROGRAPHIC SHEET 6345

Locality Approaches to New York Harbor, off Coast of New Jersey

Chief of Party: F. S. Borden in 1938
Plane of reference is mean low water reading
4.1 ft. on tide staff at Atlantic City
15.8 ft. below B. M. 32

Height of mean high water above plane of reference is 4.1 feet.

Condition of records satisfactory except as noted below:


Chief, Division of Tides and Currents

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6345 (1938) FIELD NO. 81

Approaches to New York Harbor, Atlantic Coast-Offshore, Delaware
and New Jersey.

Surveyed in June and July 1938, Scale 1:80,000
Instructions dated March 4, 1938 (OCEANOGRAPHER).

No. 1. Dorsey Fathometer Soundings. 3 Point fixes on survey buoys.
RAR control using Sono-Radio Buoys.

Chief of Party - F. S. Borden,
Surveyed by - Ships' Officers,
Protracted by - J. H. Brittain,
Soundings plotted by - J. H. Brittain,
Verified and inked by - F. B. Kelly.

1. Shoreline and Signals.

- a. This is an offshore survey and no shoreline is shown.
- b. For origin of signals see paragraph II of the descriptive report for H-6344. The control data is filed in the Library under accession number, S-1708.

2. Depth Curves.

Within the limits of the present survey the 10 and 20 fathom curves may be satisfactorily drawn.

3. Sounding Line Crossings.

The agreement of depths at line crossings is satisfactory.

4. Junctions With Contemporary Surveys.

The junctions on the north with H-6346 (1938); on the northwest with H-6271 (1937) and H-6264 (1937); and on the southwest with H-6344 (1938) are satisfactory.

The agreement in depths at the junctions with H-6192 (1936) on the northeast, H-6219 (1937) on the east and H-5350 (1933) on the south is satisfactory. In making the junctions with these three surveys, which are plotted in fathoms, the soundings were transferred from H-6345 (1938) to these joining surveys in whole fathoms, i. e. 1/6 to 4/6 were dropped and 5/6 plotted as the next whole fathom. Consequently, the depth curves do not match at the junctions.

5. Comparison with Prior Surveys.

- a. H-100 (1842), H-101 (1844) and H-670 (1859) scales 1:400,000.

H-670 is a compilation of surveys made prior to 1859 and contains no original work.

H-100 and H-101 supplement each other in covering the entire area of the present survey with an irregular network of widely spaced lines based on dead reckoning and astronomic observations. These old surveys have already been superseded by later surveys and are of no value insofar as future charting is concerned.

- b. H-1550 (1882-83) scale 1:300,000 and H-1720 (1886) scale 1:200,000.

These surveys combined cover the entire area of the present survey. The depths over large areas on the present survey agree fairly well with the old work; however, there are several soundings from the old surveys which are from 3 fathoms shoaler to 10 fathoms deeper than the depths on the present survey. Because of the better control and closer development on a larger scale, the present survey, except for bottom characteristics, should within the common area supersede H-1550 (1882-83) and H-1720 (1886).

- c. H-4094 (1919-20) scale 1:120,000.

Three lines with soundings spaced from 1 to 5 miles apart cross the southwestern portion of the present survey. The soundings are generally from 1 to 2 fathoms deeper than the depths on the present survey. The present survey should supersede H-4094 (1919-20).

- d. H-4940 (1929) scale 1:120,000.

Only eleven soundings on a line run in a northwest and southeast direction across the shoal in Lat. $38^{\circ}30.5'$, Long. $74^{\circ}18.0'$ fall within the limits of the present survey. They are in good agreement with the depths on the present survey.

6. Comparison with Wire Drag Surveys.

The P. D. wreck charted in Lat. $39^{\circ}10.0'$, Long. $74^{\circ}08.0'$, which originates with data in H. O. Daily Memoranda 6094-95 of August 16, 1928, should be retained on the charts. See paragraph 3a, (1), review H-6343 (1938) W. D.

7. Comparison with Charts 1216 (New print dated July 1, 1939)
1217 (New print dated July 7, 1939)
1219 (New print dated March 22, 1939)
1108 (New Print dated January 6, 1939)
1109 (New print dated July 18, 1939)
1000 (New print dated June 17, 1939)

Within the area of the present survey the charts, except 1109, are based on surveys and reported information discussed in the foregoing paragraphs and contain no other information that needs consideration in this review.

Within the area covered by Chart 1217 (North of Lat. 38°57' and West of Long. 73°56') on Chart 1109, the soundings are from the present survey.

8. Condition of Survey.

- a. The sounding records are neat and legible.
- b. The descriptive report satisfactorily covers all items of importance.
- c. The field plotting is very good.
- d. The soundings were inked in fathoms and sixths, the numerator only being shown - the denominator (6) was omitted to avoid congestion.
- e. Additional bottom characteristics for charting purposes may be obtained from the later prior surveys discussed in paragraph 5 of this review.

9. Compliance with Instructions for the Project.

This survey satisfies the instructions for the project.

10. Additional Field Work Recommended.

This is a well developed offshore survey and no additional work is required.

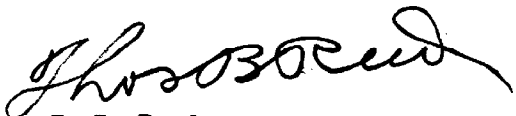
11. Superseded Surveys.

H-100 (1842) in part
H-101 (1844) in part
H-670 (1859) in part
H-1558 (1882-83) in part
H-1720 (1886) in part
H-4094 (1918-20) in part
H-4940 (1929) in part.

12. Reviewed by - Leo S. Straw, September 27, 1939.

Inspected by - H. R. Edmonston, September 28, 1939.

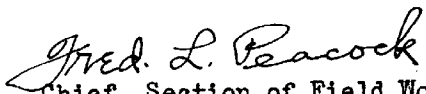
Examined and approved:



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



Chief, Division of Charts.



Chief, Section of Field Work.



Chief, Division of H. & T.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

APR 4 1939

REG. NO. 6345

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. 81

H6345

REGISTER NO. H6345

State ~~off shore~~ Delaware and New Jersey

General locality Atlantic Coast - Offshore
~~Approaches to New York Harbor~~

Locality Approaches to New York Harbor

Scale 1:80,000 Date of survey June 4 to July 24, 1938

Vessel Ship OCEANOGRAPHER

Chief of Party Frank S. Borden

Surveyed by Ship's Officers F. S. Borden

Protracted by J. H. Brittain

Soundings penciled by J. H. Brittain

Soundings in fathoms ^{and} foot sixths

Plane of reference Mean Low Water

Subdivision of wire dragged areas by See "remarks" below

Inked by F. B. KELLY

Verified by F. B. K.

Instructions dated March 4, 1938

Remarks: Area wire dragged within limits of this sheet
shown on Sheet No. W. D. 6343.

Applied to Chrt 1219 8/22/39 P.B.C.

" " " 1216 9/18/39 P.B.C.

" " " 1217 9/23/39 P.B.C.

Applied to chart 1217 after ver. and review. L.A.M.