6219

Form 504
Rev. April 1935
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~*Topographic*~~
Hydrographic } *Sheet No.* H-6219

State New Jersey

LOCALITY
Continental Shelf
~~Coast of New Jersey~~
Off Delaware Bay
~~Offshore R.A.R.~~

193

CHIEF OF PARTY

H. A. Seran

U. S. GOVERNMENT PRINTING OFFICE

Form 537
Ed. Sept., 1929

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. 122

REGISTER NO. H-6219

State New Jersey -

General locality ~~Off Delaware Bay~~ Continental Shelf

Locality ~~Continental Shelf~~ Off Delaware Bay

Scale 1:120,000 Date of survey May - August, 19 37

Vessel OCEANOGRAPHER

Chief of Party H. A. Seran

Surveyed by Ships Officers (Odessey, Witherbee, Grenell, Brittain)

Protracted by Herman Odessey, W. R. Jackson

Soundings penciled by W. R. Jokson, F. B. Kelly, H. W. Murray

Soundings in fathoms ~~feet~~

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by W. R. Jackson, C. F. McKenney

Verified by W. R. Jackson

Instructions dated Apr. 9, 1936, Mar. 19, 1937, June 10, 1937., 19

Remarks: Smooth plotting and Report executed in the office.

U. S. GOVERNMENT PRINTING OFFICE: 1926

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. H-6219 (FIELD NO. 122)

New Jersey Coast

Ship OCEANOGRAPHER, H. A. Seran, Commanding

May - August, 1937

INSTRUCTIONS:

Original instructions for this project HT-207 were dated April 9, 1936 with supplemental instructions dated March 19, 1937 and June 10, 1937.

LIMITS:

This sheet includes that area of the continental shelf from the 100 fathom curve (joining H-6220) landward for approximately 40 miles, between the 1936 hydrography (H-6192) in the vicinity of the Hudson submarine valley on the N. E. and the 1933 (H-5350) and 1934 (H-5713) hydrography in the vicinity of the Delaware submarine valley on the S. W.

CONTROL:

The control consisted of survey buoys and sono-radio buoys, the positionsof which were computed from sun azimuths and taut wire measurements from shore objects.

The computations of positions of buoys will be submitted as a separate report by the Commanding Officer of the Ship OCEANOGRAPHER.

SURVEY METHODS:

Standard R.A.R. methods were employed, using the GILBERT and WELKER for station ships supplemented by sono-radio buoys.

The Dorsey fathometer, Model 2, was used and checked occasionnally by vertical casts.

COMPUTATIONS OF VELOCITIES:

See separate report from the Ship OCEANOGRAPHER.

SOUNDINGS:

All soundings were taken with the Dorsey Fathometer, Model 2, The soundings around 100 fathoms were not considered reliable until after the automatic cut-out was installed. (See note by Dr. Dorsey on p. 45, Vol. 1 of Sounding Records).

SMOOTH SHEET PLOTTING:

Distance circles were drawn on the sheet in pencil, using the survey buoy as a center, at an interval of 10,000 meters. Measurements were taken from the penciled distance circles and the position arcs scribed from the eccentric. The dead reckoning was plotted on tracing paper and super-imposed on the arcs. The final position being an adjustment of the two. The position arcs were then inked in colors corresponding to the station from which they originated.

REDUCTION OF SOUNDINGS.

See separate report from the Ship OCEANOGRAPHER.

SOUNDING LINE CROSSINGS.

Depths at Crossings are satisfactory except; (1) on line 63 EE to the end of line. Lat. 39° 01', Long. 72° 50', where EE day crosses B day. (2) Lat. 38° 30', Long. 73° 18' - Along the line 24-25 A. This line is along the 100 fathom curve and on a steep slope which probably accounts for the slight discrepancy.

Rejected. See Rev., par. 4 and 6c. H.W.M.

JUNCTIONS.

The junction with H-6192 on the N. E. is in good agreement.

The junction with H-6220 on the S.E. is along the 100 fathom curve and on a steep slope which probably accounts for some of the discrepancies. A careful study of the soundings and conditions is necessary when the junction is shown on the sheet before a good agreement can be made. Some slight adjustments were made while plotting to better the agreement.

Adjusted. See Rev., par. 6c

The junction with H-5350 on the south is in good agreement except; (1) in Lat. 38° 30', Long. 73° 30', this discrepancy is probably a fathometer difference. (2) in Lat. 38° 28', Long. 73° 20' the soundings on this sheet are considerably shoaler than those on H5350. This area should be considered simultaneously with H-6220.

Pos. 17-19 A rejected

Pos. 39-43 D rejected as being too deep.

Additional details of adjustment noted in Rev., par. 6c.

Respectfully submitted,

William R. Jackson

William R. Jackson,
Asst. Cartographic Engineer.

ADJUSTED GEODETIC POSITIONS OF BUOYS - SHEET NO. 122

	STATION	LATITUDE	DM	LONGITUDE	DP
*	Easy	39° 25'59.02	1820.12 (30.22)	73° 22'07.55	180.56 (1254.39)
*	Fox	39 22 17.24	598.89 (1251.45)	73 13 26.87	643.19 (793.03)
	George	39 16 27.57	850.20 (1000.08)	73 19 24.99	599.01 (839.19)
*	Hypo	39 10 28.48	878.27 (972.01)	73 24 54.22	1301.50 (138.74)
	Item	39 04 24.25	747.80 (1102.42)	73 30 36.97	888.72 (553.62)
*	Jig	38 58 14.19	437.58 (1412.64)	73 36 04.18	100.62 (1343.75)
	Kate	38 51 55.23	1703.07 (147.09)	73 42 28.46	686.14 (760.40)
	Love	38 45 53.17	1639.55 (210.61)	73 47 52.20	1260.52 (188.35)
*	Mike	38 40 03.26	100.52 (1749.58)	73 53 13.82	334.20 (1116.72)
	Nan	38 44 31.02	956.53 (893.63)	73 59 57.97	1400.03 (49.03)
*	Oboe	38 48 58.93	1817.16 (32.99)	74 06 52.91	1276.45 (171.05)
*	Alpha	39 11 08.67	267.4 (1582.9)	72 50 59.24	1421.8 (18.2)
*	Beta	38 45 29.65	914.3 (935.9)	73 10 21.49	518.9 (929.9)
	Gamma	38 30 29.07	896.4 (953.7)	73 30 55.47	1344.0 (109.8)
	Mu	39 04 36.49	1125.2 (725.0)	73 00 52.17	1254.1 (188.2)

Beta 2 (LYDONIA) 475 Meters 90° True from Beta

(Beta 2 planted July 10) (Removed July 17)

$Gamma_2$ (with LYDONIA crystal) 704 m. 50° T from Gamma

Lambda - 300 m. 95.2° T from Buoy Mike

Kappa - 476 m., 302.5° T from Buoy Oboe.

STATISTICS FOR H-6219

Project HT-207

Day	Date 1937	No. of Positions	No. of Soundings	Statute Miles
A	May 26	36	492	105.0
B	June 2	30	385	65.0
C	June 4	20	235	43.1
D	June 5	62	740	130.0
E	June 6	50	612	101.4
F	June 17	64	644	116.2
G	June 18	47	480	84.5
H	June 19	38	413	72.3
J	June 20	14	190	34.9
K	June 21	44	433	71.0
L	June 22	14	153	27.5
M	June 23	55	488	106.4
N	July 2	59	651	120.5
P	July 3	75	686	128.3
Q	July 8	40	423	79.4
R	July 9	42	448	78.9
S	July 10	32	320	61.0
T	July 11	61	638	106.3
U	July 12	55	516	106.8
V	July 13	72	749	143.1
W	July 14	66	632	114.2
X	July 23	4	63	12.9
Y	July 24	72	639	137.5
Z	July 25	68	674	139.7
AA	July 27	73	673	128.2

Day	Date 1937	No. of Positions	No. of Soundings	Statute Miles
BB	July 28	33	333	67.6
CC	Aug. 3	55	576	100.6
DD	Aug. 4	48	670	113.7
EE	Aug. 5	68	707	132.2
FF	Aug. 6	53	507	86.7
GG	Aug. 7	72	634	129.5
Total		1,522	15,804	2,944.4

VERIFICATION REPORT ON H-6219

1. The records conform to the requirements of the General Instructions.

2. The control is R.A.R. buoys. See separate report.

3. Sounding line crossings are in good agreement except: (1) In latitude 39° 04', longitude 72° 47', when soundings on the line 63 EE to the end of the line cross soundings on B day. As the control will permit no adjustment of the line it is recommended that soundings from 63 EE to the end of the line be rejected. This area is covered by a line on H-6220. (2) In latitude 38° 28', longitude 73° 20', when A day crosses R day the soundings disagree slightly. Some adjustment was made that greatly improved the crossings but did not entirely remove the differences. This area should be studied when the junctions of H-6220 and H-5350 are made. Pos.22-27A rejected. Pos.24-34R readjusted. H.W.M.

Rejected. H.W.M.

4. The 50 fathom depth curve was drawn and left in pencil pending further study by Dr. Veatch. The 100 fathom curve could not be completely drawn without the overlap of 6220, which could not be made at this time.

5. There are no floating aids to navigation on this sheet.

6. The junction with H-6192 (1936) on the N.E. is in very good agreement.

The junction with H-6220 (1937) on the S.E. was studied by H. W. Murray and brought into fairly good agreement by the omission of the following soundings:

26 - 27A in Lat. 38° - 37' Long. 73° - 12'
46 - 60D in Lat. 38° - 51' Long. 72° - 56'
33 - 34E in Lat. 38° - 54' Long. 72° - 54'
7 - 14C in Lat. 38° - 55' Long. 72° - 53'

Readjusted and accepted. H.W.M.

These soundings were omitted because they were considered less reliable than those taken with the type 312 Fathometer.

The junction with H-5350 (1933) on the south is in good agreement except: (1) In Lat. 38° 28', Long. 73° 20' the soundings on this sheet appear to be considerably shoaler than those on H-5350. This area should be studied when the three sheets 5350, 6220 and 6219 can be considered simultaneously. The discrepancy in the valley in Lat. 38° 30', Long. 73° 30' was brought into fairly good agreement by the rejection of the doubtful soundings from 17A to 19A.

Adjusted. See Rev., par. 6d for details. H.W.M.

7. The field plotting was executed in the office.

Respectfully submitted,

William R. Jackson

William R. Jackson,
Asst. Cartographic Engineer.

February 7, 1938.

XQC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 14, 1938.

Division of Hydrography and Topography:

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

Plane of reference
~~Tide Reducers are~~ approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 6219

Locality Off Delaware Bay, Coast of New Jersey

Chief of Party: H. A. Seran in 1937
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.

U. S. GOVERNMENT PRINTING OFFICE

GEOGRAPHIC NAMES

Survey No. H6219

Name on Survey	On Chart No. 1219 A,	On previous survey No. B,	On U. S. quadrangle Maps C,	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Delaware Bay										1
										2
										3
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Names underlined in red approved by GSE on 2/11/38

M 234

	Remarks	Decisions
1	For Title only.	
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M 234

Field Records Section (Charts)

H6219

HYDROGRAPHIC SHEET NO. .....

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

Number of positions on sheet	15,227
Number of positions checked	12.
Number of positions revised	4.
Number of soundings recorded	15,804
Number of soundings revised	0.
Number of signals erroneously plotted or transferred	.....

Date:

Verification by F. B. Kelly + C. F. McKenney / William R. Jackson } Time: 123 hrs.

Review by H. W. Murray Time: 8¾ "

Ver. Corrections 2 "

Plotting and penciling soundings

	Days	Hrs.
F. B. Kelly	23	5½
H. W. Murray	10	3
T. B. Reed	7	5½
H. Odessey	12	1
W. R. Jackson	41	5
Total	95 days	6 hrs.

Verification and Inking

	Days	Hrs.
F. B. Kelly	3	1½
C. F. McKenney	4	4
W. R. Jackson	9	5½
Total	17 days	4 hrs

HYDROGRAPHIC SURVEY NO. H-6219

Smooth Sheet Yes (Executed in Office)

Boat Sheet Yes (Returned to the Field)

Sounding Records 10 Vols.
Bomb " 6 Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals (Buoys) In D.R.

Landmarks for Charts (Form 567) ---

Statistics Yes

Approved by Chief of Party No.

Recoverable Station Cards (Form 524) None

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

Remarks

31

Aug. 7, 1937

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT } No. H-6219

~~PHOTOSTAT OF~~ ~~No.~~

{ received Sept. 13,1937
registered Feb. 9, 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			
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24			
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62			
63			
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83			
88			
90			

RETURN TO

82	T. B. Reed

✓

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6219 (1937) FIELD NO. 122

Off Delaware Bay, Continental Shelf, New Jersey
Surveyed in May - August 1937, Scale 1:120,000
Instructions dated April 9, 1936, March 19 and June 10, 1937
(OCEANOGRAPHER)

Dorsey Fathometer Soundings. RAR Control.

Chief of Party - H. A. Seran.
Surveyed by - Various officers.
Protracted by - Herman Odessey and W. R. Jackson.
Soundings plotted by - W. R. Jackson, F. B. Kelly and H. W. Murray.
Verified and inked by - W. R. Jackson and C. F. McKenney.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual.

The Descriptive Report is clear and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project. Two or three additional cross lines, however, would have been desirable over the main body of the survey, the only cross lines run being in the vicinity of the Continental Shelf.

3. Shoreline and Signals.

a. This is an offshore survey and no shoreline is shown.

b. Hydrophone stations were located by a traverse based on taut wire and bomb distances and sun azimuths. The computations are filed in a cahier marked "Traverse Computations of Buoy Control System" (OCEANOGRAPHER, 1937) under the accession number S-1511.

4. Sounding Line Crossings.

Sounding line crossings run in the vicinity of the Continental Shelf are generally satisfactory. It was necessary, however, to readjust or reject portions of several lines. These are enumerated in the discussion of the junction with H-6220 (1937) discussed in par. 6c, this review.

5. Depth Curves.

The usual depth curves may be satisfactorily drawn.

6. Junctions with Contemporary Surveys.

a. The junction on the NW will be considered when that work is received from the field.

b. The junction on the NE with H-6192 (1936) is satisfactory.

c. The junction on the SW with H-6220 (1937) disclosed several disagreements. These were brought into satisfactory agreement by readjustment or rejections of portions of several sounding lines on both surveys, the decisions made being arrived at through a study of the bottom based on 25 fm. depth curve intervals drawn on Special Charts 1316 and 1317.

On the present survey, line 7 to 14 C in lat. 38° 55', long. 72° 53', and line 24 - 34 R, in lat. 38° 32', long. 73° 19' were readjusted to fit the slope of the bottom and selected portions of lines 22 to 27A in lat. 38° 35', long. 73° 15', 43 to 44 EE in lat. 38° 38', long. 73° 13'; 46 to 60 D in lat. 38° 50', long. 72° 58'; 28 to 34 E in lat. 38° 52', long. 72° 53'; and 63 - 68 EE in lat. 39° 05', long. 72° 44' were rejected.

Rejections made on H-6220 (1937) are enumerated in par. 6 of the review of that survey.

d. The junction on the south with H-5350 (1933) is satisfactory. Line 17 to 19A in lat. 38° 29', long. 73° 31', however, disagreed with the closely developed depths here on the 1933 survey and were rejected because of the unreliability of these soundings in depths of around 100 fathoms (see Descriptive Report, page 1, last par.) On H-5350 (1933) line 39 - 43 D in lat. 38° 29', long. 73° 25', consistently varied 5 to 10 fathoms deeper than the present survey depths and was rejected.

7. Comparison with Prior Surveys.

H-100 (1842), H-101 (1844), H-670 (1859), H-1498a (1880-83) H-1531 (1882), H-1558 (1882-83), H-1720 (1886) and H-2920a (1882-87).

The above surveys are on various scales ranging from 1:200,000 to 1:1,200,000. Portions of each taken singly or together cover the entire area of the present survey. The hydrography is unusually sparse, is controlled by dead reckoning and but a few soundings fall within the present survey limits. Because of the small scale and sparseness of detail, no satisfactory comparison can be made with the present survey. It is noted, however, that all the soundings charted from these surveys are in very good agreement with the present survey, except the 31 fm. sounding in lat. 39° 00', long. 73° 50', and the 35 near lat. 38° 50', long. 74° 00' which originate with H-1558 (1882-83) and are 11 to 12 fms. deeper than the present survey depths. The present survey bears out the essential hydrographic features and should supersede these surveys in future charting.

8. Comparison with Chart 1000 (New Print dated Dec. 28, 1937).
Chart 1108 (New Print dated May 13, 1938).
Chart 1109 (New Print dated March 1, 1938).

a. Hydrography.

Within the area of the survey the charts are based entirely on surveys discussed in the foregoing paragraphs.

b. Aids to Navigation.

There are no navigational aids within the area of the survey.

9. Field Plotting.

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

10. Additional Field Work Recommended.

This is an excellent survey and no additional field work is required.

11. Superseded Prior Surveys.

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

H-100	(1842)	in part
H-101	(1844)	" "
H-670	(1859)	" "
H-1498a	(1880-83)	" "
H-1531	(1882)	" "
H-1558	(1882-83)	" "
H-1720	(1886)	" "
H-2920a	(1882-87)	" "

12. Reviewed by - Harold W. Murray, May 19, 1938.

Inspected by - J. A. McCormick.

Examined and approved:

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

K.T. Adams
Chief, Division of Charts.

Fred. L. Peacock
Chief, Section of Field Work.

G Rude
Chief, Division of H. & T.

Applied to chart 1108 D.M.A. July 1938 after review but prior to approval.
" " " 1109 " " " " " " " " " "
" " " 1000 " " " " " " " " " "