6231

1217-2
6231

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

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } Sheet No. 18

State New Jersey

LOCALITY

Intracoastal Waterway

Ludlam Bay to Townsend Inlet

1937

CHIEF OF PARTY

L. D. Graham

U. S. GOVERNMENT PRINTING OFFICE

Form 537

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. 18

REGISTER NO. H6231

State New Jersey

General locality Intracoastal Waterway

Locality Ludlam Bay to Townsend Inlet

Scale 1:10,000 Date of survey Aug. - Sept., 1937

Vessel Launch MIKAWE

Chief of Party L. D. Graham

Surveyed by G. W. Lovesee and T. M. Williams

Protracted by 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. A. McGann

Verified by L. A. McGann

Instructions dated May 16, 1935

Remarks:

U. S. GOVERNMENT PRINTING OFFICE

DESCRIPTIVE REPORT

To Accompany Hydrographic Sheet 18 H-6231

INSTRUCTIONS - May 16, 1935 Project HT-205

SURVEY METHODS

The usual hydrographic survey methods were used on this sheet. The soundings in Townsend Inlet and off-shore near the inlet, were taken from a 33 foot hired motor launch, with a hand lead line, graduated in fathoms and feet. This work was done by Lieutenant (j.g.) George W. Lovesee previous to the general work done on this sheet. The inside work was done with a 24 foot skiff, propelled by outboard motors. In general the lines were run on ranges, however, in small winding creeks the lines were run by following the general trend of the shoreline and as described in the sounding volumes. The positions in general were taken with sextants on shore signals that had been located on aluminum mounted graphic control sheets. In some small unimportant creeks, and at places where a sextant fix was not practicable, positions were spotted by estimating the location with respect to topographic features that could be identified on the compiled shoreline. The shoreline and geographic names were obtained from the air planimetric sheets T-5646, T-5645 and T-5644. This shoreline was checked on the graphic control sheets. No lines were run in places where it was found to be too shoal for sounding, but at low tide, sextant positions were taken at various points to describe these areas as shown on the boat sheet.

DISCREPANCIES

Erosion has changed the shoreline just south of the docks at Townsend Inlet. The correct high water line is being submitted with graphic control sheet HH.

The shoreline where Middle Thorofare empties into Stites Sound appears to disagree with that shown on the air-planimetric sheet. These parts of shoreline and islands are not actually fast land but places where the water is very shoal and thickly covered with marsh grass. The same occurs at the point where Townsend Channel empties into Townsend Sound.

CHANNELS

The New Jersey Intracoastal Waterway crosses this sheet beginning in the north at Main Channel and Ludlam Bay, follows a dredged channel across Ludlam Bay, then by way of Ludlam Thorofare, Townsend Channel and Ingram Thorofare to the southern extremity of the sheet.

AIDS TO NAVIGATION

There is one flashing light mounted on a single pile at Townsend Inlet.

The mid channel through the inlet is buoyed with red 55 gallon drums. The channel in the Intracoastal Waterway is marked by temporary stakes. Stakes which display red crosses are to be left on the port side, while stakes displaying black triangles are to be left to starboard when proceeding north. The stake markers are of temporary nature and subject to change.

During the winter months they are usually destroyed by ice and they are renewed in the spring by the State Board of Commerce and Navigation.

ADJOINING SHEETS

H-6262 H-6236

This sheet joins sheet 17 on the north and sheet 19 on the south. The soundings at the northern and southern limits check well with the soundings on the adjoining sheets, differences being one foot or less.

BRIDGES AND CLEARANCES

All bridges and clearances on this sheet are submitted with the graphic control sheets of this area. These were plotted on the smooth sheet in the office.

COMPARISON WITH CHART 3243, NEW PRINT NO. 37-7/7

In general the soundings check well with chart 3243. There are so few soundings on the chart that not much comparison can be made. The chart shows only 3 feet across the bar at Townsend Inlet. This survey shows 4 feet as the least depth across the bar. The entrance is now closer to the shoreline on the south than shown on chart 3243.

REMARKS

The controlling depth of the inland waterway on this sheet is 4 feet, which is found at Lat. 39°06.55', Long. 74°44.38'. For a detailed survey of this area see the blue print of a survey by the N. J. State Board of Commerce and Navigation. Dredging by this bureau was planned in the fall of 1937, in this area. Deeper water on North. H.W.M.

Another 4 foot spot is found on the inland waterway at Lat. 39°10.30', Long. 74°41.98'. A detailed survey of this area was also made by the N.J. State board of Commerce & Navigation, a blue print of which is inclosed. Dredging was also planned here in the fall of 1937.

Submitted by:

T. M. Williams
Hydrographer

Approved by:

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

LIST OF STATISTICS FOR HYDRO SHEET 18

Date	Day Letter	Statute miles	Soundings	Positions
Aug. 17	a	25.9	798	153
18	b	24.3	646	133
31	A	12.8	617	104
Sept. 1	B	10.5	523	93
2	C	18.5	872	138
3	D	13.8	594	120
7	E	16.5	727	134
8	F	7.0	333	60
9	G	22.0	1058	188
10	H	20.2	912	156
14	J	14.5	638	112
15	K	14.0	565	105
16	L	12.8	693	100
17	M	3.5	160	28
20	N	14.0	679	114
21	P	3.5	298	67
		233.8	10113	1805

Area in square statute miles = 7.8

H-6231

Smooth sheet No. 18 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

VERIFIER'S REPORT ON H- 6231 (1937)

The records conform to the requirements of the Instructions as given in the Hydrographic Manual.

The field party failed to show detached positions 71 to 89 D (blue) day on the boat sheet. (Vicinity lat. 39° 08' long. 74° 43'). Position 39P (blue) was moved in position as the ones shown in records and on smooth sheet are in error. The boat sheet position was plotted on the smooth sheet. Lat 39° 06.9' Long. 74° 43.6'

The soundings were poorly spaced for the most part. As an aid to the work of verification it would be desirable to omit pencilled depth curves from the smooth sheet as the hard degree of pencil used by the field parties is difficult to erase without obliterating the soundings.

Lat. 39 11.1 39 11.7 39 07.1
Long 74° 42.5 74 41.5 74 44.2

Signals OIL, RAY, and YES are shown offshore. No information is at hand to show what they are located on.

There are no serious discrepancies of soundings.

Bridge clearances are shown transferred from topographic maps except ~~No bridge clearances could be found either in the reports or on the sheets of the graphic control work, contrary to the statement on page 2 of the descriptive report. The two clearances shown are from the soundings records. All clearances except the two mentioned above are shown on the topographic maps of this area.~~ (on H-6229) two clearances for railroad bridges (abandoned)* which originate with records.

The shoreline of H-6231 originates with T-5644 (1936), T-5645 (1936), and T-5646 (1936) The signals originate with Graphic Control Surveys CS 113 M, CS 114 M, CS 116 M, and CS 126 M, all filed with Mr. B. G. Jones in room 1209. and revisions to shoreline

Junctions. Satisfactory junctions have been made with the following surveys: H-6236 (1937) on the South, H-6227 (1937) on the East. The survey on the North has not been completed.

Leonard A. McGann

Leonard A. McGann
April 16, 1937.

* One at lat. 39° 10.2 long 74° 43.1 other at lat. 39° 09.75 long. 74° 42.45'. Leonard A. McGann

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H6231

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

Number of positions on sheet	1805
Number of positions checked	65
Number of positions revised	4
Number of soundings recorded	10113
Number of soundings revised	79
Number of signals erroneously plotted or transferred	—

Date: April 13, 1938.

Verification by Leonard A. McGann Time: 70½ hours.

Review by Harold W. Murray Time: ~~10 3/4 "~~ 11 3/4

Ver. corrections by " 3/4 "

HYDROGRAPHIC SURVEY NO. H-6231

Smooth Sheet Yes

Boat Sheet Yes

Sounding Records 7 Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

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 (Circular Nov. 30,1933) Yes

Remarks HYDROGRAPHY
Total Days 16
Last Date Sept. 21, 1937

	Remarks	Decisions
1		see T-5644
2		" "
3		" "
4		USGB decision
5		see T-5645
6		" "
7		" "
8		" "
9		USGB decision
10		see T-5645
11		" "
12		see T-5645
13		" "
14		" "
15		" "
16		" "
17		" "
18		" "
19		" "
20		" "
21		" "
22		" "
23		" "
24		" "
25		see T-5646
26		see T-5645
27		" "
M 234		

GEOGRAPHIC NAMES

Survey No. H-6231

Name on Survey	On Chart No. 1217 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	
Main Channel	GNS									1
Flat Creek	✓									2
Burroughs Hole	GNS									3
Ludlam Bay	✓									4
Townsend Sound	✓									5
Mill Creek	GNS									6
Ware Thorofare	GNS									7
Sunk Creek	GNS									8
Ludlam Thorofare	GNS									9
Sea Isle City	✓									10
Jonadab Creek	GNS									11
Clem Thorofare	GNS									12
Mill Thorofare	✓									13
Townsend Channel	✓									14
Crab Creek	GNS									15
Stites Sound	✓									16
Kitts Thorofare	GNS									17
North Channel	GNS									18
Bottle Creek	GNS									19
Middle Thorofare	✓									20
Townsend Inlet	✓									21
Leaming Creek	GNS									22
Leonard Thorofare	GNS									23
Dead Thorofare	GNS									24
Paddy Thorofare	GNS									25
South Channel	✓									26
Graven Thorofare	✓									27

M 234

	Remarks	Decisions
1		see T-5645
2		" "
3		" "
4	Not a Geog. Name	
5		see T-5645
6		" "
7		see T-5646
8		" "
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234		

GEOGRAPHIC NAMES

Survey No. H-6231
(Continued)

Name on Survey	On Chart No. 1217 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	
Pennsylvania Harbor	✓									1
Princeton Harbor	✓									2
Cornell Harbor	✓									3
Waterway										4
Avalon	✓									5
Ingram Thorofare	✓									6
Long Reach	✓									7
Peermont	✓									8
										9
										10
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										12
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										14
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										25
										26
										27

Names underlined in red approved
by HHE on 3/1/38

M 234

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT } No. H -6231
~~PHOTOSTAT OF~~ No. T

received Jan. 26, 1938
registered Feb. 2, 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	✓	BSA	Sent memo
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed

✓

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 7, 1938.

Division of Hydrography and Topography:

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

Plane of reference approved in
7 volumes of sounding records for

HYDROGRAPHIC SHEET 6231

Locality Ludlam Bay to Townsend Inlet, New Jersey

Chief of Party: L. D. Graham in 1937
Plane of reference is mean low water reading
2.9 ft. on tide staff at Ben Hands Thorofare
6.7 ft. below B.M.1
2.6 ft. on tide staff at Sea Isle City Bridge
7.7 ft. below B.M. 1
1.2 ft. on tide staff at Townsend Inlet
11.9 ft. below B.M. 1
1.1 ft. on tide staff at Long Reach
4.0 ft. below B.M. 1
2.3 ft. on tide staff at Sea Isle City Pier
7.8 ft. below B.M. 1

Height of mean high water above plane of reference is 3.7 feet at Ben Hands Thorofare; 3.8 feet at Sea Isle City Bridge, Townsend Inlet and Long Reach; 4.1 feet at Sea Isle City Pier.
Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6231 (1937) FIELD NO. 18

Ludlam Bay to Townsend Inlet, Intracoastal Waterway, New Jersey
Surveyed in August - September, Scale 1:10,000
Instructions dated May 16, 1935 (E. H. Kirsch)

Hand Lead Soundings. 3 Point fixes on shore signals.

Chief of Party - L. D. Graham.
Surveyed by - G. W. Lovesee and T. M. Williams.
Protracted by - G. W. L.
Soundings plotted by - G. W. L.
Verified and inked by - L. A. McGann.

1. Condition of Records.

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

a. It is preferable that bridge clearances shown on the contemporary topographic sheets be also shown on the smooth sheet. These were added in the office.

b. Neither topographic features nor descriptive notes were shown for topographic signals "Oil", in lat. 39° 11.1', long. 74° 42.5'; "Ray", in lat. 39° 11.9', long. 74° 41.5'; and "Yes", in lat. 39° 07.1', long. 74° 44.2', all outside the high water line. As they fall within or close outside the low water line it is assumed that they are of a temporary nature and of no importance in charting.

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.

3. Shoreline and Signals.

The shoreline originates with 1932-36 topographic maps T-5644, T-5645 and T-5646, and has been supplemented by revision information shown on 1937 correction sheets CS 113M and CS 114M.

The signals originate with 1937 correction sheets CS 113M, CS 114M, CS 116M and CS 126M.

4. Sounding Line Crossings.

Agreement of depths at sounding line crossings is satisfactory.

5. Depth Curves.

The usual depth curves may be satisfactorily drawn.

6. Junctions with Contemporary Surveys.

a. The junction on the south with H-6236 (1937) is satisfactory.

b. The junction on the east with H-6227 (1937) is satisfactory.

c. The junction on the north with H-6262 (1937) will be considered in the review of that survey.

d. There are no contemporary surveys in the inshore area on the north and south of the present survey limits at the entrance to Townsend Inlet. New surveys are, however, contemplated here in the near future.

7. Comparison with Prior Surveys.

a. H-116 (1843), H-670 (1859), and H-1696 (1886), Scales 1:40,000, 1:400,000 and 1:40,000.

Of the above sheets, the 1859 survey is a compilation of previous surveys on a very small scale. But a few soundings from the above sheets fall within the outer limits of the present survey at Townsend Inlet and these are in disagreement with the present survey depths. Shoreline changes in the vicinity of the Inlet are discussed in paragraph b, below. The larger scale present survey should supersede these surveys in future charting.

b. H-2165 (1891), Scale 1:20,000.

This survey covers the entire area of the present survey except that many of the streams and portions of the bays are not surveyed. The hydrography consisting in general of 1 to 2 sounding lines in the thorofares is very sparse and an adequate comparison cannot be made. It is noted however, that the general depths in Ludlam Bay, Townsend Sound and the southeastern part of Stites Sound generally agree within one foot or less. The boat basins in the vicinity of Sea Isle City as well as the Cornell, Pennsylvania and Princeton Harbors and the waterway at Avalon are developments subsequent to the 1891 survey.

At Townsend Inlet, shoreline details have changed considerably as has also the hydrography to the eastward. In 1843 (H-116) the inlet was about 400 meters to the northeast of its present location and had twice its present width. The inlet shifted gradually to its present location and the sand beach on the north side doubled in width, the shoreline accretion being on the west. In the vicinity of latitude

39° 06.7', long. 74° 42.6' the shoreline in 1843 (H-116) approximated that of the present survey. By 1886-91, (H-1696 and H-2165) it had built out about 450 m. and then receded to its present position.

The present survey with its greater detail should supersede this survey in future charting.

8. Comparison with Chart 1217 (New print dated Aug. 27, 1937)
Chart 3243 (New print dated Dec. 10, 1937)

a. Hydrography.

Hydrography shown on the charts originate with surveys discussed in previous paragraphs of this review except that several soundings just inside the inlet originate with blueprint 14934 (1911) and are considerably deeper than the present survey depths. They should be superseded by the present survey in future charting.

b. Controlling Depths.

A general note on the chart states that the controlling depth in the New Jersey Inland Waterway is 4 to 10 feet as of Sept. 1935. The present survey shows a controlling depth of 4 feet in the southern part of Ludlam Bay.

c. Aids to Navigation.

A general note on the chart states that the buoys at the Inlet are not charted as they are frequently shifted in position.

The only aid charted within the limits of the present survey is the light just inside the Inlet on Chart 3243. This was located on the present survey approximately 400 m. south of its charted position. Chart Letter 49 of 1938 dated Jan. 7, 1938, which is subsequent to the present survey also bears out the present survey position. The latter position marks better the feature intended.

The remaining aids located on the present survey 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.

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

11. Note to Compiler.

The compiler's attention is called to the following:

a. The bulkhead and old piling in lat. 39° 10.1', long. 74° 41.2', and the shoreline change in lat. 39° 07.7', long. 74° 43.3', which originates with information contained in the sounding records and boat sheet and are not shown on the contemporary topographic surveys.

b. Blueprints 31087 of 1936, 31086 and 31088 of March and April 1937, are pre-dredging surveys covering portions of the boat basins at Sea Island City, Ludlam Bay and Ingram Thorofare. These are prior to the present survey and have not been applied to the chart. Agreement of depths is generally good except that several areas on the present survey vary 1 to 3 feet shoaler in some cases and 1 to 8 feet deeper in others. The present survey should supersede these surveys in future charting.

c. Blueprint 31548 of June 16-30, 1937, on a scale of 1:1200 covers the vicinity of the Inlet. It was made just prior to the present survey and has not been applied to the chart. Agreement of depths is good, and it may be used to supplement the present survey particularly in the unsurveyed shoal areas just north and south of the entrance channel.

12. Superseded Prior Surveys.

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

H-116 (1843) in part	H-1696 (1886) in part
H-670 (1859) in part	H-2165 (1891) in part

13. Reviewed by - Harold W. Murray, May 5, 1938.

Inspected by - J. A. McCormick and E. P. Ellis.

Examined and approved:

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

K.T. Adams
Chief, Division of Charts.

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

Chief, Division of H. & T.

Applied to drawing of Chart 1217 - July 13, 1938 - JFWalker

Applied to Compilation of new chart 827 July 1939 BP.