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DESCRIPTIVE REPORT

Hydrographic Sheet No. 11.

BRIGANTINE INLET 1935. 46

DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY

LIBRARY AND ARCHIVES OF DEC 29 1936

HYDROGRAPHIC TITLE SHEET

PROJECT No. HT-205

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. 11

REGISTER NO. H6145

State New Jersey
General locality Atlantic Coast
Locality Little Egg Inlet to Brigantine Inlet June 1935
Scale 1:10,000 Date of survey July - September, 19 36
Vessel Party No. 19 and MIKAWE
Chief of Party Lt. Benjamin H. Rigg and Lt. Comdr. L. D. Graham
Surveyed by Lt.(j.g.) E. B. Brown, Jr. and Ensign John C. Bull
Protracted by Lt.(j.g.) Karl B. Jeffers and Ensign E. L. Jones
Soundings penciled by Lt.(j.g.) Karl B. Jeffers and Ensign W. N. Martin
Soundings in fathems- feet
Plane of reference M.L.W.
Subdivision of wire dragged areas by None
Inked by
Verified by
Instructions datedMay 16, 1935
Remarks: Lt. B. H. Rigg Chief of Party 1935. Lt. John A. Bond
Chief of Party to Sept. 1, 1936. Lt.Comdr. L.D. Graham chief of Party to end of season.

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 11.

VICINITY OF LITTLE EGG INLET

JUNE 1935 B.H. RIGG, CHIEF OF PARTY

INSTRUCTIONS:

Work on this sheet was done under authority of Instructions dated May 16, 1935.

LIMITS AND JUNCTION:

This sheet was only partially completed. It's northern limit is Lat. 39° 30.5' and the offshore limit is approximately two miles.

This sheet joins hydrographic sheet No. 8 south of Tucker Island; the junction is satisfactory.

SURVEY METHODS:

The usual three point sextant fix and hand lead sounding methods were used thruout. Control was based on a second order breakdown of the triangulation executed in 1932 by Lieutenant C. D. Meaney. The shoreline is taken directly from the air photo compilations furnished by Lt. (j.g.) E. H. Kirsch.

INCOMPLETED AREA:

The hydrography on this sheet was executed at such times as the weather permitted, in conjunction with the work on Sheet No. 8. Due to the curtailment of funds, no work was done on this sheet after June 30th. The small amount of work done in this area does not warrant a discussion of channels or dangers. While the work partially covers two bars, they cannot be called "Dangers" until the channels are sounded and their relation to the bars determined.

COMPARISON WITH CHART:

The south half of Tucker Island has been washed away and in its place is a bar and one channel; the northern edge of latter is indicated by the soundings on this sheet. No detailed comparison has been made.

GEOGRAPHIC NAMES:

The geographic names which appear on this sheet are all verified charted names.

TIDAL DATA AND STATISTICS:

Tidal data and statistic sheets are appended.

Respectfully submitted.

Lt.(j.g.) Karl B. Jeffeys.

Forwarded by:-

it. Benjamin Dies, Heg

TIDAL DATA NOTES TO ACCOMPANY HYDROGRAPHIC SHE T No.11 VIGINITY TUCKER ISLAND

Party No. 19; Benjamin H. Rigg, Chief of Party.

The soundings on this sheet are reduced for tide from the Atlantic City Steel
Pier observations direct.

STEEL PIER STANDARD STATION:

Lat. 39° 21' Long. 74° 25'

M.L.W. on tape 14.1'

STATISTICS FOR HYDROGRAPHIC SHEET NO. 11

Vol. No.	Statute Miles of	Number of	Number of
	Sounding Line	Soundings	Positions
1	43.6	1893	295
2	6.6	300	4 3
Total	50.2	2193	338

Area, Sq. Statute miles, 1.7

SUPPLEMENTAL DESCRIPTIVE REPORT

To Accompany Hydrographic Sheet 11. H-4145

DATE OF INSTRUCTIONS: May 16, 1935

Project No. HT-205

LIMITS

Sheet 11 is joined on the north by sheet 15, which is a survey of Beach Haven Inlet and the outer coast off Beach Haven. On the south sheet 11 is joined by sheet 16, which is a survey of the outer coast off Brigantine Beach. This sheet is bounded on the west by sheet 9, which is a survey of Brigantine Channel and vicinity. Limits of adjoining work are shown by usual method on the smooth sheet.

SURVEY METHODS

Standard Coast Survey methods of hand lead soundings and sextant fixes were used throughout. The leadline was Samson mahogany tiller rope number 8, graduated in feet and fathoms, used with an 8 pound lead. The leadline held its length well and no corrections were necessary throughout the work. The survey was made by Ensign John C. Bull. The work off Brigantine Inlet was done with a 24 foot skiff equipped with sounding chair and plotting table powered by two Johnson 9 H.P. outboard motors. This was found satisfactory on very calm days. Later a 30 foot sea-skiff, powered with a Chevrolet motor was used. This proposed very satisfactory in any weather permitting work on the outer coast. This type of boat is very seaworthy and is very good to work in inlets where shoals and breakers are found. With a little care and judgement most of the breaker areas can be sounded out.

DANGERS

Brigantine Inlet is completely blocked off with shoals. The controlling depth being 4 feet. This small channel is continually shifting and local knowledge is needed to navigate it. There is a continuous line of breakers across the inlet and boats should not try to get through unless sea is very calm, at which time a break in the line of breakers can be seen and safely navigated.

About $\frac{1}{2}$ mile south of the buoyed channel into Little Egg Inlet and $\frac{1}{2}$ mile east of Salt Island there is a 4 foot shoal, Lat. 39° 27.4' Long. 74° 18.0'. Heavy seas break on this area at all times and should be avoided. Care should be taken to follow buoys into Little Egg Inlet as the inlet, with exception of the small channel just north of Salt Island, Lat. 39° 28.25' Long. 74° 18.7', is completely blocked by shoals.

Tucker Island is eroding rapidly as shown on sheet 15. The southwest tip and beach has washed about 100 meters. After the storm in September 18, 1936 a small inlet was found to have broken through a narrow part of island between signals "SAN" and "TOP".

DISCREPANCIES

Errors in sounding records, principally in the recording of angles and fixes, have been adjusted during the smooth plotting and noted in colored pencil in the sounding records. Discrepancies in check lines between positions 31 and 32 p day, 32 and 33 p day and positions 181 and 182 1 day are believed to have been caused by swell.

Evidently means e day, 9/p to 33p make excellent crossings with m day.

It was noted at the junction of this years work and last years work in the area found just south of Tucker Island that the soundings did not agree by several feet, in spots. It is believed that these discrepancies were caused by the eroding of the island as shown by penciled 1936 shoreline and changing of shoals. This area was resurveyed in 1936. This is the reason for the overlaping of junctions of sheet 15, 1936 and sheet 8, 1935 as shown on the smooth sheet.

H 4935(1936)

The junction of this years work and work executed in 1935 prooved satisfactory out past the two fathom curve. Work up to the two fathom curve has been resurveyed as stated above.

CHANNELS

There is only one entrance channel and that is through Little Egg Inlet. This channel is buoyed and maintained by the Lighthouse Service.

This channel has a controlling depth of 9 feet across the bar on this hydrographic sheet with the buoys in present location. See sheet 8, 1935 for junction and controlling depth to junction with Instracoastal Waterway.

There is no channel in to Brigantine Inlet. A controlling depth of 4 feet can be carried across the bar. This inlet is not buoyed.

Formarly

The bell buoy (black and white), located at Lat. 39° 29.75' Long. 74° 16.3' has been moved north and is now found on sheet 15 off Beach Haven Inlet.

ANCHORAGES

There are no protective anchorages on this sheet.

COMPARISON WITH PREVIOUS SURVEYS

Chart No. 1217 is the only previous survey data available for comparison. This comparison shows marked changes in the location of shoals and channels.

In Brigantine Inlet there is a general shoaling. Now 4 feet is the \checkmark controlling depth where previous surveys show 6 feet.

Off Little Egg Inlet the shoals show a general westward movement of about 0.4 mile.

The deep channel shown on chart 1217 has filled in and has moved westward about 0.5 mile and is now located about 0.15 mile north of Pullen Island and is well buoyed.

23

The sea buoy and bell buoy have been moved about 0.4 mile north.

SHORELINE

All shoreline for the smooth sheet was carefully transferred by / projector from photo compilation sheets.

There is considerable erosion on the outer coast on this sheet. The photographs for this area are 4 years old and there has been large changes since they were taken. The beach along Tucker Island has washed away 100 meters since 1935. The extreme eastern portion of Pullen Island shows evidence of building up. The shore is sketched in on the hydrographic sheet in pencil.

GEOGRAPHIC NAMES

No change in names are recommended on this sheet.

LANDMARKS FOR CHARTS

"Landmarks for Charts" and "Non-Floating Aids to Navigation" have been made the subjects of reports submitted under separate cover.

Submitted by,

John C. Bull Aid, C. & G. S.

Approved and Forwarded:

L. D. Graham

H. & G. Engineer

Chief of Party

LIST OF STATISTICS - HYDROGRAPHIC SHEET 11

1936

Date	Day Letter (blue)	Statute miles	Soundings	Positions
July 15	a	26.6	822	152
16	Ъ	21.0	649	114
17	C	2.0	73	12
30	ď	30.2	958	174
31	e .	19.5	544	121
Aug. 6	f	11.0	420	7 9
12 .	g	10.0	367	75
20	h	16.6	558	100
21	j	8•4	281	50
24	k	28.1	801	143
25	3	36. 0	1174	193
28	m	15.0	396	72
31	n	16.4	532	115
Sept. 8	p	6.6	195	34
9	q	6.1	198	34 26
11	r		1	1
23	S	5•8	193	51
25	t	2.3	63	13
		261.6	8225	1525

H- $\zeta/4\sqrt{}$ Smooth sheet No. 11 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

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 13, 1937

Division of Hydrography and Topography:

/ Division of Charts: Att: Mr. E. P. Ellis

Tide Reducers are approved in g volumes of sounding records for

HYDROGRAPHIC SHEET 6145

Locality Little Egg Inlet to Brigantine Inlet, Coast of N. J.

Chief of Party: B. H. Rigg and L. D. Graham in 1935-1936
Plane of reference is mean low water reading
4.1ft. on tide staff at Atlantic City
15.8ft. below B.M.32
1.4 ft. on T. S. at Tucker I.
7.1 ft. below B. M. 1

Height of mean high water above plane of reference is 4.1 ft. at Atlantic City; 3.3 ft. at Tucker I.

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE

Decisions

1		sec T-5635
2		
3		VSGB decision
4		See 7- 5635
5		
6		,
7	Shown as Signal or A on T-142, 1166	,
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GEOGRAPHIC NAMES Survey No. H614		ر مار ج	No C	D P P P P P P P P P P P P P P P P P P P	is a significant of the signific	have was	di 3 de of	Mag Not Me all and Mag Not Me all and Me all	N. J. S. Jahr.	
Name on Survey	A A	B B	No. Or	D Kro	TROCO STOR	F	, o . G	H	S K	
Tucker I.	appid									1
SXMex Fy.										2
Eittle Egg Inlet	appid									3
Salt I.	appid									4
Pullen I.	app'd									5
Brigantine Inlet	appd									6
Brigantine Beach	/		V	Pg 2 D.R.	$\overline{}$					7
TA SGARLOUNG INCIDENCE										8
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HYDROGRAPHIC SHEET NO. H6145

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

Number of positions on sheet	1628
Number of positions checked	77.
Number of positions revised	/3
Number of soundings recorded	2418
Number of soundings revised	53
Number of signals erroneously	
plotted or transferred	none

Date: Mar. 1, 1937 Everitt

Verification by S. Pisegari

Review by P.J. Christman

H.W. Murray

Time: 10 days 3 hr...

Time: 193/4 11

HYDROGRAPHIC SURVEY NO. H-6145

Smooth Sheet Yes	- Carabardana - A - Canad Cabardana administra companya administra
Boat Sheet Yes	
Sounding Records 8 Vols.	Vols.
Descriptive Report Yes	
Title Sheet Yes	8
List of Signals	Vol: #1
Landmarks for Charts (Form 567)	Yes
Statistics	Yes
Approved by Chief of Party	Yes
Recoverable Station Cards (Form	n 524) None
Special Chart for Lighthouse Se (Circular Nov. 30, 1933)	ervice Yes chart 3243
Remarks	. PRODUKTUR.
Lote Days	21 Days Sept. 25, 1936

MEMORANDUM IMMEDIATE ATTENTION

SURVEY DESCRIPTIVE REPORT ************************************	MARKXXIX	received Dec. 28, 193 registered Jan 15, 193 verified reviewed approved
DESCRIPTIVE REPORT	MARKXXIX	verified reviewed

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		
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V 25		Supplemental D.R.
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RETURN TO

82 C. K. Green

Report ou 74-6145 (1935-36)

- 1. The records are nest and ligible and conform to the requirements of the Hydrographic Manual.
- 2. The photo-compilation sheets from which was transferred the shoreline shown on the smooth sheet are not available as this date.

The topographic signals are from Graphic Controls
sheets, T-6400 b (1935.39), T-6401 a (1935), and
T-6501 b (1958-36).

3. The sounding line crossings are in general satisfactory, except in the area at the south tip and of Jucker Island where the 1936 crosses the overlapse the 1935 work. This area has undergone a complete change in depth as well as shoreline.

Bo further inking in this area was stopped and the work held in abujance arraiting the arrival of Sheeth. 15 (1936) which from protectly comes most of this area.

The usual depth currer may be satisfacturily of drawn, including portions of the low water line our the 6 food curn.

is not complete outside the area blocked-off on the smooth shut, is satisfactory. The remaining portion of the function will be reported on when Field Shut Ho. 15 is received in the Office. (see pag. 3, this report)

vinction with H. 6144 (1936) on the west will be mentioned in the report for this sheet when completes.

6. Field pertracting and plotting was well done, except, on account of the closeness of the hydrographic signal "US" and "CUP" a confusion resulted and 13 positions were formed examensly pertracted.

7. Attention of the reviewer is called to the 16 foot sounding (po. 57a (blu)) which falls in lot. 31° 25.5' long. 74°- 18.7'. This sounding was not check-marker against by the field facty mith record by the field party and it falls between a 19 + 24 on "a" day (blu) line and between a 21+25 on the another line (64 g-the). The work show no even in plotting or portuding. The fact this is an outstanding wheat winding, it whenter have been foother taxet of the Disc. Rep. make any recommendation relative to the 16, it has been retained. At

Respectfully submitted, B. Prisegari Mar. 1, 1937.

NOTES TO BE ADDED TO VERIFIERS REPORT OF H-6145

In the vicinity of Lat. 39-29.8, Long. 74-17.8 the 1935 Soundings (Red Pos. Data) were inked in blue only in the area of change in depth as shown by the 1936 Soundings (Blue Pos. Data). Within this area, the 1936 Soundings are in black.

The line of breakers as shown in this area were located in 1935 work.

In making the change of color of the 1935soundings, erasure was made so as to maintain the
originally plotted positions. A few positions were
checked by plotting. The soundings were inked
from the records and checked by a previously
made tracing. There is no need of further check
on the soundings it is believed

For more detailed discussion of the above, see reviews pars. 4 and 66 x c. yeurs.

Submitted Aug. 3, 1937

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6145 (1935-36) FIELD NO. 11

Little Egg Inlet to Brigantine Inlet, Atlantic Coast, New Jersey Surveyed in 1935-6, Scale 1:10,000 Instructions dated May 16, 1935 (B.H.Rigg)

Hand Lead Soundings.

3 Point fixes on shore signals.

Chief of Party - B. H. Rigg, J. A. Bond, L. D. Graham. Surveyed by - E. B. Brown, John C. Bull. Protracted by - Karl B. Jeffers, E. L. Jones. Soundings penciled by - Karl B. Jeffers, W. N. Martin. Verified and inked by - G. Risegari.

1. Condition of Records.

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

However, notes indicating the result of special examination should be entered in the records, as for example, the 16 foot sounding near pos. 57a (lat. 39°25.5' long. 74°18.7') apparently was disproved by a later investigation (pos. 64-65g) but no reference was made to it either in the sounding records or in the D. R. (See par. 11 of this review.)

The Descriptive Report fails to make certain recommendations as noted above but otherwise satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of the development are in accordance with the instructions for the project.

3. Shoreline and Signals.

Shoreline is derived from air photo compilations T-5445 and T-5635 of 1932-3, revised from planetable surveys T-6400b (1936), T-640la (1935-36) and T-650lb (1935-36).

The topographic signals are from graphic control surveys T-6400b (1935-36), T-640la (1935), and T-650lb (1935-36).

4. Sounding Line Crossings.

The sounding line crossings are in general satisfactory agreeing in depth within about 1 foot or less. In the vicinity of Tucker Island, however, a portion of the 1935 work is in conflict with the 1936 work on the present survey and also 1936 work on H-6195 (1936). The differences of 1 to 6 feet noted are due to natural changes in bottom occurring between the

working seasons. Inasmuch as this conflicting 1935 work is completely covered by the other combined 1936 work and is therefore superseded, it has been shown on the present survey in blue and should not be used in charting. (See par. 6c, this review.)

5. Depth Curves.

Within the area covered the usual depth curves can be satisfactorily drawn including the greater portion of the 6 foot curve.

In the vicinity of Tucker Island where the 1935 work has been superseded by 1936 work (see par. 4 and 6b and 6c, this review), portions of the 6 and 12 foot curves have been omitted because they would represent neither the 1935 nor the 1936 condition. The curves in this area, however, are completely drawn on H-6195 (1936) and will harmonize with the incomplete curves that are shown here on the present survey.

6. Junction with Contemporary Surveys.

- a. The junction with H-6144 (1936) at Brigantine Inlet is satisfactory.
- b. The junction with H-5893 (1935) in Little Egg Inlet is generally satisfactory. Southward of approximate lat. 39°29' the overlapping soundings from the present survey have been shown on H-5893 (1935). Northward of this latitude where the area becomes very changeable it has been resurveyed in 1936 (H-6195) and therefore no soundings from the present survey have been transferred in this area.

(See par. 6a(1) review of H-6195 for consideration of junction of H-5893 with the 1936 work.)

c. The junction with H-6195 (1936) in the vicinity of Tucker Island is satisfactory in part only. The present survey includes soundings taken in 1935 (red position numbers) and 1936 (blue position numbers). There are disagreements between these two years work within the sheet itself (see par. 4, this review) and between the 1935 work on the present survey and H-6195 (1936). In the highly changeable portion to the south of Tucker Island the area was resurveyed in 1936 (H-6195). In order to preserve the record of conditions in 1935, the 1935 soundings that were in conflict with the 1936 work or that were covered by the later work have been shown in blue and should not be used in charting. None of the blue work has been used to effect a junction with H-6195 (1936). (See review H-6195, par. 6b.)

d. Surveys to the eastward are contemplated and probably will be made during the 1937 field season. The present survey overlaps H-116 (1843) but there are differences up to 10 feet shoaler on the latter survey in the junction area.

7. Comparison with Prior Surveys.

a. H-109 (1840), H-110 (1840), H-116 (1843), H1125 (1871), H-1158a (1872), H1158b (1874).

These surveys are on scale 1:10,000 except H-116 (1843) which is an offshore survey on scale 1:40,000 that slightly overlaps the present survey. The area represented by the present survey is extremely changeable and there is little or no resemblance in details with the above surveys. Practically none of the information from the above surveys is in use on the present charts. Because of the changeable nature of the area, the lapse of time since the surveys were made and the adequate development on the present survey, H-6145 (1935-36) should supersede the above surveys for charting.

b. H-2657 (1903), H-2693 (1904), H-4387 (1924).

These surveys are on scale 1:10,000, 1:10,000 and 1:5000 respectively, the last showing a very small overlap with the present survey at the northern edge. These surveys are the authority for the present representation on the chart but the area is extremely changeable and the details show little resemblance to those on the present survey. Because of the many changes, the lapse of time since the surveys were made, and the close development of the present survey, H-6145 (1935-36) should supersede the above surveys for charting purposes.

8. Comparison with Chart 1217 (New Print dated Oct. 20, 1936).

a. Hydrography.

Within the area covered by the present survey the chart is based on surveys discussed in the foregoing paragraphs and contains no other information that needs consideration in this review. The shoreline however was modified to conform to air photos taken in 1921 and to information contained in Chart Letter 290 of 1934 relative to changes in the vicinity of Tucker Island.

b. Aids to Navigation.

The lighted buoy off Little Egg Inlet (lat. 39°27.5' long. 74°16') is the only buoy shown on the chart within the area of the present survey. It is charted about 400 meters NNW of the position (hydrographic fix) given on the survey. Buoys are shifted as made necessary by changes in the channel. (See note on chart.)

9. Field Plotting.

Field plotting in general was well done. Apparently there was some carelessness in plotting positions using signals US or CUP and 13 positions were corrected.

10. Additional Field Work Recommended.

The survey is satisfactory and no further work is required.

11. Doubtful Sounding.

The 16 in lat. 39°25.55' long. 74°19.75' apparently was discredited by a subsequent sounding line (64-65g blue) but as there was no reference to it in the sounding record or in the D. R. it has been retained on the smooth sheet.

12. Note to Compiler.

The compiler's attention is called to the following:

- a. Paragraph 4 and 6b and 6c relative to the treatment of conflicting soundings at junctions which have been superseded. The transfer of soundings from the present survey to H-6195 (1936) out to the 12 foot curve was intentional so that no confusion would result in applying this area to the chart. It will simplify the application of these two surveys to the chart if H-6195 (1936) is applied first and charting then continued from the present survey.
- b. Par. 6d, this review regarding surveys to the eastward of the present survey.
- c. Paragraph 5 of this review relative to depth curves in the vicinity of Tucker Island.

13. Superseding Old Surveys.

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

H-109 (1840) in part. H-110 (1840) in part. H-116 (1843) in part. H-1125 (1871) in part. H-1158a (1872) in part. H-1158b (1874) in part. H-2657 (1903) in part. H-2693 (1904) in part. H-4387 (1924) in part. 14. Reviewed by R. J. Christman, March 10, 1937.

Inspected by A. L. Shalowitz.

Examined and approved:

Chief, Section of Field Work.

Chief, Division of Charts.

Chief, Section of Field Records.

Chief, Section of H. & T.

Applied to drawing of Chart 1216 - Lept. 2, 1937 - gowaller " " 1217 apr. 4, 1938 Jowaller " " chart 826 aug. 1, 1938 XME.