

6228

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

DESCRIPTIVE REPORT

Topographic }
Hydrographic } Sheet No. 1.

State North Carolina

LOCALITY
Oregon Inlet
Vicinity Oregon Inlet & Vicinity

1937

CHIEF OF PARTY

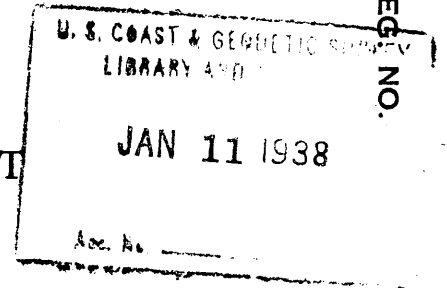
Lieut. Henry E. Finnegan

U. S. GOVERNMENT PRINTING OFFICE

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6228

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



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. 1

REGISTER NO. H6228

State North Carolina

General locality Oregon Inlet

Locality Oregon Inlet and Vicinity

Scale 1-10,000 Date of survey Oct. 13-Nov. 12, 19 37

Vessel Chartered Launch; U.S.L.H.S. Cargo Boat

Chief of Party Henry E. Finnegan

Surveyed by Henry E. Finnegan

Protracted by Joseph P. Lushene

Soundings penciled by J. P. Lushene and J. C. Bull

Soundings in ~~fathoms~~ feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by _____

Inked by G. C. McGlasson

Verified by G. C. McGlasson

Instructions dated October 1st, 4th, 9th, 1937

Remarks: _____

Report to Accompany Hydrographic Sheet No.1
Resurvey of Oregon Inlet N. C.

INSTRUCTIONS

The Director's instructions dated October 1st and October 4th, and paragraph four of his letter of October 9, 1937 is the authority for this work.

In accordance with paragraph four of the original instructions the Superintendent of the 5th Lighthouse District was consulted before starting the survey. For the approximate limits in which the Lighthouse Bureau is interested, see letter of Chief of Party dated October 6th:

LIMITS and LAYOUT of SHEETS

Two boat sheets were used in executing this survey, which is plotted on one smooth sheet.

To start the survey a boat sheet which was laid out and prepared by the Washington Office was used. This boat sheet (field number 1A) does not include the limits in which the Lighthouse Service is interested. Upon completion of the development of the Inlet and most of the area inside the inlet which was included on sheet 1A, it was estimated that with funds allotted, the hydrography could be extended to the limits requested by the Lighthouse Service. Therefore, a second boat sheet (field number 1B) was prepared to include such limits as desired. Upon completion of the survey it was found possible and considered advisable to plot the entire survey on one smooth sheet.

RECORDS

In the field, before it was decided to plot all the work on one sheet, red ink for position numbers was used on both sheets. When one

smooth sheet was laid out to include the work of both sheets, the letter days in the records of boat sheet 1B were changed to blue. On the smooth sheet the position numbers for the work which was done on boat sheet 1A are lettered in red; and the position numbers for the work which was done on boat sheet 1B are lettered in blue.

BOATS and SURVEYING EQUIPMENT

fishing?

A shallow draft launch, which was generally used for sounding at the inlet, was chartered by the day. This vessel was fitted with a sounding chair drafting table etc. and was used for hydrography outside Oregon Inlet, in the inlet, and for the wider parts of the channels just inside the inlet.

For the narrow channels and the shoal water work inside Oregon Inlet, a flat bottom cargo boat, which was borrowed from the Lighthouse Service was used. It was fitted-up for hydrography and propelled with a nine horse-power outboard motor. This boat, when loaded, drew slightly less than one foot, but the outboard motor required one and one half to two feet of water to run effectively. When first sounding with this boat lines were carried into one and one half feet of water, but so much time was lost due to difficulty with motor after scraping over the sand bottom that later the lines were carried into depths of two feet only. Of course while sounding in depths of about two feet or less, the propellor was less effective and hence the speed over the ground reduced.

Soundings were obtained with a standard marked leadline and lines were controlled by sextant fixes. Objects used were located either by triangulation or topography.

SURVEY METHODS

1; Inlet and Outside Work

In the Inlet itself and outside, an original system of lines were run approximately normal to the beach. In addition to this a system of about 50 meter lines were run over the bar in the general direction of the best channel across the bar.

The work in the vicinity of the breakers at the inlet required very favorable weather conditions. Most of the time during the period of this survey the inlet was bottled up by a circle of breakers, extending from the north to the south shore. This made entrance or departure at the inlet impossible or highly dangerous. The hydrography outside the inlet was done during a favorable period. The breakers were few and it was possible to cross the bar and to sound close to the breakers. It is believed that the extent of breakers as shown is about average for a smooth sea and a little or no swell.

2: Flats and Channels Inside.

When laying out the work over the flats inside the inlet a system of two to three hundred meter lines running in an E-W direction were planned, so that the general trend of all channels could be determined readily.

Most of the flats lying northwest of the inlet were surveyed on two days when a rather high water level existed, due to a combination of favorable westerly winds and high tides at the inlet occurring about the middle of the day. On these two days it was possible to follow the system of lines laid out and to carry the lines inshore over the flats.

During the time available for the sounding of ^{the} this area southwest of the inlet, a low water level prevailed and the flats could not be crossed. Therefore, the system of lines laid out could not be followed. Two channels leading over these flats were developed to the

limits of the sheets and control by a system of parallel lines running about normal to or at a small angle to the axis of the channels. Parallel lines across the channels in preference to zig-zag lines were run so that the limits of the channels as well as the limits of the sand flats could be outlined more thoroughly.

At one point in the development of the westerly channel it was expected that the channel was changing direction to the westward; the system of lines were changed from a general E-W direction to approximately NNW-SSE. However, the channel continued in about the same SSW direction and the lines at a later point were changed to the E-W direction again.

It was hoped that in the development of these channels, especially the western channel, a connection would be made with the deeper water of Pamlico Sound within the limits of the sheets and control laid out. It appears that the development of the western channel (known as Old House Channel) has been extended beyond the high point, that is, the controlling depth between Oregon Inlet and Pamlico Sound. However, the deeper water of Pamlico Sound was not reached and funds allotted for this survey were not sufficient for the cost of additional labor and materials required for the extension of the control and execute an additional hydrographic sheet.

A crab slough which crosses the sand flats about midway between the two main channels was investigated with zig-zag lines. With a depth of only one and one half feet existing near the Oregon Inlet end of the slough it is practically closed to all through traffic. The fisherman use this slough for crabbing and enter it from the Pamlico Sound. This slough is referred to as the Main Road.

Very few notations of the compass courses are entered in the record books. This is due to the fact that an attempt was made to run most of the lines by ranges because the coxwain was unable to steady the boat by watching the compass especially the cargo boat propelled by the outboard motor.

Discrepancies

8729-H

On E day there was a light swell and frequently while sounding in the channel over the bar evidence of scattered shoals were observed since the light swell piled-up and occasionally broke.

4. Between 203-207 F (boat sheet 1A) a number of soundings are 2 feet shoaler than the soundings on the cross-lines of B and J day. This is an area of very irregular bottom and narrow ridges of sand shoals. It is believed that the soundings obtained are correct.

Lat 35°47.0'
Long. 75°34.4'

5. The soundings from position 170 to 175 J (boat sheet 1A) appear to be one to two feet too deep.

No positions of this number recorded.

6. Occasionally near the steep-to banks at the edges of the various channels there are differences in crossings of 2 to 4 feet. This is probably due to a slight displacement of positions of soundings. In many places the banks are so steep that there were differences of 4 to 6 feet in depth at the bow and stern of the boat which is a distance of about $3\frac{1}{2}$ meters.

PLOTTING

In general soundings were plotted to the nearest foot. Half foot soundings were plotted in critical areas or areas of controlling depths; and in areas of one half foot depth so that the zero curve can be clearly defined. Also in areas where a difference in the 6 or 12 foot curve would result by dropping the half foot.

In the record books at the ends of ² turns of the lines in the channels notes were entered giving the distances to the shoal banks. For the lack of a designated symbol the edges of these banks have not been indicated on the hydrographic sheet. It is estimated that the general depth over the flats which have not been surveyed to be from one half foot to one and one half feet.

DANGERS

The low, even, sandy coast of this area gives assurance that dangers such as rocks and reefs do not exist. However, there are frequent changes in the bottom due to wave action, currents, and storms and hence extreme care must be taken in navigating boats drawing depths which approximate the controlling depths. The shifting shoals on the exposed region of the inlet are a menace to small craft and local knowledge should be obtained before navigating the bar.

CHANNELS

1. Oregon Inlet

The controlling depth over the bar into Oregon Inlet is limited by the numerous scattered sand shoals over which there is a depth of 6 feet at M.L.W. After crossing the bar there is a deep channel leading inside to the south side of the Inlet. A sand bar of 3 to 6 feet divides the north and south sides of the inlet. A car ferry which runs between the north and south shores of the inlet crosses over this bar at its narrowest part passing close by and to the westward of a temporary barrel beacon which is located on the hydrographic sheet in Lat. 35-47' 376 meters and Long. 75-32' 768 meters.

2. Davis Slough

This is the local name of one of the channels which connects Oregon Inlet with Pamlico Sound. From the inlet it leads S by E close along shore toward Green Island, then SW between Green and Bild Island, and then in a generally SSW direction between sand flats to Pamlico Sound. This channel was developed to the limits of the control established and the sheet laid out. The shoalest part of this channel was not reached so that the controlling depth is unknown. Fisherman state that the channel is used frequently by fishing boats and the Coast Guard.

3. Main Road.

This is the local name of a crab slough leading across the flats from Oregon Inlet to Pamlico Sound about three-quarters of a mile west of Davis Slough. It is practically closed to all traffic at its N.E. end. Fishermen use this slough for crabbing and enter it from Pamlico Sound.

4. Old House Channel.

This is the local name of a channel connecting Oregon Inlet with Pamlico Sound. About one to one and one-half miles west of the inlet this channel leads in a general SSWly direction between the flats and the sound. This channel was developed to the limit of the control established and the sheet lay-out. It is believed that the development of this channel extends slightly beyond the shoalest part, that is, the controlling depth, which is five feet. Fishermen in the vicinity of Oregon Inlet state that they prefer Davis Channel.

5. Walter Slough.

This is the local name of the channel which connects Oregon Inlet with Roanoke Sound, passing about a quarter of a mile to the northeast of Duck Island. It is narrow and winding with a controlling depth of two feet at M. L. W. Small fishing boats from Wanchese and Manteo use this channel almost exclusively when proceeding to Oregon Inlet. This is the channel for which requests for aids to navigation have been made to the Lighthouse Service.

ANCHORAGES

Small vessels such as the Coast Guard 75 foot patrol boats anchor in the deep part of the channel north of station Sand; and also at the turn in the channel of Davis Slough north of Green Island.

GEOGRAPHIC NAMES

1. Davis Slough: Local name generally accepted.
2. Main Road: Ironically called this by local fishermen.
3. Old House Channel: Local name generally accepted.
4. Walter Slough: Local name generally accepted.

CURRENTS

Strong currents were encountered at Oregon Inlet and in the channels adjacent to the inlet. It was estimated that the currents reach a maximum of about two knots both at the flood and ebb tide.

JUNCTIONS with PREVIOUS SURVEYS

The limits of the present survey with relation to previous surveying is as follows:-

- No. 3772 (1915) joins northwest portion of present survey. ✓
- No. 1180a (1873) includes (inside Oregon Inlet) and extends beyond the limits of the present survey. ✓
- No. 1862 (1886) joins the southwest portion of the present survey. ✓
- No. 762 (1862) is practically all within the limits of the present survey. ✓
- No. 3000 (1909) is practically all within the limits of the present survey. ✓
- No. 1053 (1870) joins the present survey outside Oregon Inlet. ✓

COMPARISONS with PREVIOUS SURVEYS

The present survey includes a portion of the northeast section of hydrographic sheet No. 1180a (1873) which sheet extends to the westward and southward of the present survey. Sheet No. 1862 (1886) also joins the present survey on the southwest side. ✓

Roanoke Sound in the area between Duck Island and Broad Creek Point appears to have shoaled slightly since the survey of sheet No. 1180a (1873) as shown by a comparison with the three foot curves. Also at the entrance to Roanoke Sound from Pamlico Sound northwest of Duck Island the six foot curve is less extensive now than on the former survey. Southwest of Duck Island along the western limit of the present survey a comparison of the three foot curves indicates that general shoaling to the westward has occurred.

Previous surveys show the beginnings of Old House Channel and Davis Slough.

Outside Oregon Inlet- Two lines of sheet No. 3000 (1909) extend a little beyond the limits of the present survey near the northern part of the work. The thirty foot curve on the 1909 survey runs about two to three hundred meters outside of the present thirty foot curve.

Two lines of sheet No. 1053 (1870) cross a portion of the present survey just north of the entrance to Oregon Inlet. From a comparison of these two surveys it appears that the twenty four and thirty foot curves now lie about three hundred meters further offshore than in 1870.

At the northern limit of the work of the present survey a line of the sheet No. 1053 (1870) indicates that the eighteen and thirty foot curves now lie about three hundred meters inshore of those of the former surveys.

TIDAL DATA
Hydrographic Sheet No. 1
Oregon Inlet
N.C.

Portable automatic tide gages were maintained at Oregon Inlet and in the vicinity of Cut-off Island for the entire period of the hydrographic survey.

A third portable gage was maintained at Duck Island from November 2nd until noon of November 10th 1937.

For the reduction of soundings the area was divided into three zones.

In Zone 1, which includes the inlet and the area outside and also an area one fourth to one half mile inside the inlet, the reducers were obtained from the Inlet tide gage observations.

In Zone 2, which includes an area extending about one mile beyond the limits of Zone 1, the reducers were obtained from a mean of the Oregon Inlet and Cut-off tide gage observations.

In Zone 3, which includes all the area beyond Zone 2, the reducers were obtained from the Cut-off or Duck Island tide gage observations. In this third Zone Duck Island observations were used, after that gage was established, on areas lying generally closer to Duck Island than to the Cut-off gage. For the period of this survey the reducers obtained from these two stations seldom varied more than one tenth of a foot.

The exact limits of the zones are indicated on boat sheet 1A as follows:- A red dashed line divides Zones 1 and 2 and a blue dashed line divides Zones 2 and 3. These zones are also indicated by dashed pencil lines on the smooth sheet. In the record books appropriate notes are made in red pencil where changes from one zone to another occur.

In addition to the above explanation the following list gives the days and/or parts of days which fall in the various zones.

ZONE 1. (Inlet Gage)

(a) Boat Sheet 1A.

A day -- Positions 1-43; 64-103.

B day -- Positions 1-58.

C day -- Entire day.

D day -- Entire day.

E day -- Entire day.

F day -- Positions 163 (5th sdg) to 168; 216-end of day.

G day -- Entire day.

L day -- Positions 1-18; 219-end of day.

M day -- Positions 1-18; 145-end of day.

(b) Boat Sheet 1B

None

- ZONE 2. (Mean of Inlet - Cut-off gages)
- (a) Boat Sheet 1A
 A day -- Positions 44-63.
 B day -- Positions 59-141; 198-end of day.
 F day -- Positions 115 (4th sdg) to 140; 155-163 (4th sdg);
 Positions 168-177 (3rd sdg); 207-216.
 H day -- Positions 1-33.
 L day -- Positions 19-52; 185-219.
 M day -- Positions 19-54; 102 (2nd sdg) to 145 (1st sdg).
- (b) Boat Sheet 1B
 None

- ZONE 3. (Cut-off or Duck Island gage)
- (a) Boat Sheet 1A
 B day -- Positions 142-197. (Cut-off)
 F day -- Positions 1-115 (" "
 Positions 140-155 (" "
 Positions 177-207 (" "
 H day -- Positions 34-end of day (Duck Island)
 J day -- Entire day (Duck Island)
 K day -- Entire day (" "
 L day -- Positions 53-184 (Cut-Off)
 M day -- Positions 55-102 (1st sdg) (Cut-off)
- (b) Boat Sheet 1B
 A day -- Entire day (Cut-off)
 B day -- Entire day (Cut-off)
 C day -- Entire day (Cut-off)
 D day -- Entire day (Duck Island)
 E day -- Entire day (" "
 F day -- Entire day (" "
 G day -- Entire day (" "
 H day -- Entire day (" "
 J day -- Entire day (" "

STAFF READINGS

| Gage | Month | Day | Hour | High Water | Low Water | Plane of Reference M.L.W. | Remarks |
|--------------|-------|-----|------|------------|-----------|------------------------------|---------|
| Oregon Inlet | Oct. | 23 | 10 | 5.3 Ft. | | 2.2 | |
| Oregon Inlet | Nov. | 3 | 13 | | 1.6 Ft. | 2.2 | |
| Cut-off Id. | Oct. | 23 | 12 | 4.9 Ft. | | 2.3 | |
| Cut-off Id. | Nov. | 3 | 15 | | 1.85 Ft. | 2.3 | |
| Duck Island | Nov. | 2 | 10 | 3.3 Ft. * | | 2.3 | |
| Duck Island | Nov. | 3 | 15 | | 2.1 Ft. | 2.3 | |

* Duck Island Gage installed Nov. 2nd 1937. This height of high water occurred on several days during this period. No outstanding high water noted during period of operation of this gage.

SHORELINE

The shoreline as sketched by the hydrographer along Roanoke Island and around Duck Island has been inked with a broken line on the boat sheets and penciled with a broken line on the smooth sheet. The shoreline that had not been roded by the topographer around Bodie Island is being compiled from air-photographs by the party of Lieut. S. B. Grenell at Norfolk, Virginia. ✓

RECORD BOOKS

There are a total of 10 volumes of record books for hydrographic sheet No. 1. Six volumes of record books comprise boat sheet 1A and are numbered 1 to 6 and four volumes of record books for boat sheet 1B which are numbered 7 to 10 inclusively. See statistics on following page. ✓

STATISTICS FOR FIELD SHEET NUMBER 1.

Boat Sheet No. 1A

| Letter Day | Positions | No. of Soundings | Statute Miles | Area |
|------------|-----------|------------------|---------------|------|
| A | 103 | 543 | 08.1 | |
| B | 210 | 1015 | 23.5 | |
| C | 82 | 382 | 06.4 | |
| D | 202 | 1017 | 28.4 | |
| E | 219 | 1085 | 27.0 | |
| F | 218 | 1253 | 26.4 | |
| G | 34 | 174 | 03.2 | |
| H | 114 | 473 | 09.0 | |
| J | 57 | 268 | 05.3 | |
| K | 64 | 281 | 05.5 | |
| L | 228 | 1070 | 23.5 | |
| M. | 148 | 659 | 11.0 | |

Boat Sheet No. 1B

| | | | |
|---|-----|------|------|
| A | 89 | 658 | 14.5 |
| B | 84 | 638 | 13.8 |
| C | 75 | 523 | 10.8 |
| D | 160 | 1066 | 23.8 |
| E | 80 | 369 | 06.8 |
| F | 128 | 635 | 12.9 |
| G | 111 | 547 | 12.3 |
| H | 167 | 932 | 19.4 |
| J | 32 | 157 | 03.9 |

Totals 2605 13745 295.4 24.2 Sq. Mi.

Party organized on October 13th 1937 and season closed on November 12th 1937.

Respectfully submitted,

Joseph P. Lushene
 Joseph P. Lushene,
 Jr. H. & G. Engr.

Approved and forwarded,

Henry E. Finnegan
 Henry E. Finnegan,
 Chief of Party, C.&G.S.

Field Records Section (Charts).

HYDROGRAPHIC SHEET NO. **H6228**

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

| | |
|--|--|
| Number of positions on sheet | 2605 |
| Number of positions checked | 29 |
| Number of positions revised | 1 |
| Number of soundings recorded | 13,745 |
| Number of soundings revised | 2,163 <i>Due to changes in tide reductions in the Office</i> |
| Number of signals erroneously plotted or transferred | 0 |

Date: **15 March, 1938**

Verification by **G.C. McGlasson.**

Time: **15 days 1 hour.**

Review by **J.A. McCormick, May 12, 1938.**

Time: **9½ hrs.**

HYDROGRAPHIC SURVEY NO. H6228

Smooth Sheet Yes

Boat Sheet Yes

Sounding Records 10 Vols. _____

Descriptive Report Yes

Title Sheet Yes

List of Signals Vol.#1

Landmarks for Charts (Form 567) No

Statistics Yes

Approved by Chief of Party No Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service No
(Circular Nov. 30, 1933)

Remarks HYDROGRAPHY

Total Days 16

Last Date Nov. 10, 1937

Remarks

Decisions

| | Remarks | Decisions |
|----|---------|----------------------|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | <i>USGB decision</i> |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | <i>USGB decision</i> |
| 10 | | |
| 11 | | <i>see T-5580</i> |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| 21 | | |
| 22 | | |
| 23 | | |
| 24 | | |
| 25 | | |
| 26 | | |
| 27 | | |

GEOGRAPHIC NAMES
 Survey No. **H6228**

| Name on Survey | <div style="display: flex; justify-content: space-between; font-size: small;"> On Chart No. 1229 On Previous survey No. 7-364 On U. S. Quadrang. Maps From local information On local Maps P. O. Guide or Map Rand McNally Atlas U. S. Light List </div> | | | | | | | | | | | |
|--|--|--------|---|---------------|---|---|---|---|---|------|----|----|
| | A | B | C | D | E | F | G | H | K | USCP | | |
| <u>Roanoke</u> Roanoke <u>Island</u> | ✓ | ✓ | | | | | | | | | ✓ | 1 |
| <u>Duck Island</u> | ✓ | ✓ | | | | | | | | | | 2 |
| walter <u>Alter Slough</u> | | | | D.R. Pg. 9 | | | | | | | | 3 |
| <u>Bodie Island</u> | ✓ | | | | | | | | | | | 4 |
| <u>Oregon Inlet</u> | ✓ | T-2951 | | | | | | | | | ✓ | 5 |
| <u>Old House Channel</u> | | | | D.R. Pg. 9 | | | | | | | | 6 |
| <u>Davis Slough</u> | | | | D.R. Pg. 9 | | | | | | | | 7 |
| <u>Main Road</u> | | | | D.R. Pg. 9 | | | | | | | | 8 |
| <u>Pamlico Sound</u> | ✓ | | | | | | | | | | | 9 |
| <u>Roanoke Sound</u> | ✓ | ✓ | | | | | | | | | / | 10 |
| <u>Cutoff Island</u> | cutoff | | | | | | | | | | | 11 |
| | | | | | | | | | | | | 12 |
| | | | | | | | | | | | | 13 |
| | | | | | | | | | | | | 14 |
| | | | | | | | | | | | | 15 |
| | | | | | | | | | | | | 16 |
| | | | | | | | | | | | | 17 |
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| | | | | | | | | | | | | 19 |
| | | | | | | | | | | | | 20 |
| | | | | | | | | | | | | 21 |
| | | | | | | | | | | | | 22 |
| | | | | | | | | | | | | 23 |
| Names underlined in red approved | | | | | | | | | | | 24 | |
| by <u>GHE</u> on <u>1/26/38</u> | | | | | | | | | | | 25 | |
| | | | | | | | | | | | | 26 |
| | | | | | | | | | | | | 27 |

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY }
 DESCRIPTIVE REPORT } No. H -6228
 PHOTOSTAT OF } ~~No. H -6228~~

{ received Jan. 11, 1938
 { registered Jan. 12, 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 | | <i>LRJ</i> | <i>Pages 7 and 8</i> |
| 26 | | | |
| 30 | | | |
| 40 | | | |
| 62 | | | |
| 63 | | | |
| 82 | | | |
| 83 | | | |
| 88 | | | |
| 90 | | | |
| | | | |
| | | | |

RETURN TO

| | |
|----|------------------------|
| 82 | G. K. Green |
|----|------------------------|

T.B. Reed



TIDE NOTE FOR HYDROGRAPHIC SHEET

January 27, 1938

Division of Hydrography and Topography:

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

Plane of reference

~~Tide Reducers were~~ approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 6228

Locality Oregon Inlet and vicinity, North Carolina

Chief of Party: H. E. Finnegan in 1937

Plane of reference is mean low water reading

2.2 ft. on tide staff at Oregon Inlet

3.0 ft. below B.M. 1

2.8 ft. on T.S. at Cutoff I.

3.1 ft. below B.M. 1


2.8 ft. on T.S. at Duck I.

3.4 ft. below B.M. 1

Height of mean high water above plane of reference is 1.8 feet at Oregon Inlet. In Pamlico Sound there is practically no periodic tide and the plane of reference is taken 0.5 feet below mean water level.

Condition of records satisfactory except as noted below:

The plane of reference furnished the field party for the reduction of soundings was subsequently revised in the office and the reduced soundings changed accordingly.



Chief, Division of Tides and Currents.

15 March, 1938.

Report on H 6228
Verifying and Inking

1. The records conform to the requirements of the General Instructions.
2. The usual depth curves can be completely drawn within the limits of the sheet. However the one half foot was added to the six and twelve foot soundings, when justified, in order to smooth the one and two fathom curve.
3. The field plotting was completed to the extent prescribed in the Hydrographic Manual. The excess number of soundings which were corrected as noted on the statistic sheet is a direct result of changing the tide reducer in this office.
4. The office draftsman did not have to do over any part of drafting done by the field party except as noted on the statistic sheet.
5. There are no junctions at this

time with contemporary adjacent sheets.

6. The signals and shoreline were taken from T 6562 a and b (1937), T 5580 (1937), and the dashed shoreline was sketched from the boat by the hydrographic party and transferred to the smooth sheet.
7. The buoys on the smooth sheet were located by the hydrographic party consequently no discrepancies were noted.
8. In lat. $35^{\circ} 48.7'$ position 47 A
long. $75^{\circ} 37.0'$

Volume 7. The hydrographic party notes an island. The verifier does not have sufficient information about this island consequently it was left for the reviewer to make final disposition on the smooth sheet.

This island checks with one now charted. As new surveys are not available to the west the charted feature will be retained.

9. In lat. $35^{\circ} 48.2'$
long. $75^{\circ} 36.1'$ between position 15 and 16 D, Volume 8.

The hydrographic party notes "Point of land 40 meters on starboard!" This information is rather vague under the circumstances and it was left for disposition by the reviewer.

Evidently a recorder's error. No land on air photo or on old surveys.

Respectfully submitted,
L. C. McElwain

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6228 (1937) FIELD NO. 1

Oregon Inlet and Vicinity, Oregon Inlet, North Carolina
Surveyed in Oct. - Nov. 1937, Scale 1:10,000
Instructions dated October 1, 4 and 9, 1937 (H. E. Finnegan)

Hand Lead Soundings.

3 Point fixes on shore signals.

Chief of Party - H. E. Finnegan.
Surveyed by - H. E. Finnegan.
Protracted by - J. P. Lushene.
Soundings plotted by J. P. Lushene and J. C. Bull.
Verified and inked by - G. C. McGlasson.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except that no information was furnished regarding the nature of topographic signal "Sand" in lat. $35^{\circ} 47.1'$ long. $73^{\circ} 33.6'$, located in the water area. As it is inside the low water line it is not considered of any importance in charting.

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

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project.

3. Shoreline and Signals.

- a. The shoreline eastward of long. $75^{\circ} 36'$, originates with topographic map T-5580 (1937), westward of this line the shoreline (dashed) originates with the present survey. The latter area has been flown but compilation of the photographs has not yet been started.
- b. Topographic signals originate with T-6562a & b (1937) and control sheet CS-6228 (1937).

4. Sounding Line Crossings.

The 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.

There are no contemporary surveys adjoining the present survey nor are any contemplated by the instructions for the project. The junction with older surveys as represented on the chart is, however, acceptable for charting purposes.

7. Comparison with Prior Surveys.

- a.- H-762 (1862), 1:10,000; H-1053 (1870), 1:40,000;
H-1180a (1873), 1:20,000.

The present survey falls entirely within the combined area of these three surveys. A comparison of the old and new surveys shows many minor and some major changes. Oregon Inlet has shifted approximately one mile to the south and depths along the outside coast are displaced similarly. Depths on the present survey in Pamlico and Roanoke Sounds are, in general, about 2 feet shoaler than those on H-1180a (1873) but the deeper water in Old House Channel and Davis Slough has extended somewhat and changed course slightly. Much of the information on these surveys is shown on the latest chart. The present survey, however, adequately covers the common area and should supersede the above surveys in future charting.

- b. H-1862 (1887), 1:20,000.

This survey overlaps a small area in the southwestern corner of the present survey. Depths on the old survey are widely spaced and average 2 to 3 feet deeper than those on the present survey. No information from the old survey is now charted in the common area and it need not be considered further in the review.

- c. H-3000 (1909), 1:20,000

This survey falls almost entirely within the limits of the present survey and covers Oregon Inlet and the immediate vicinity. The middle of the inlet is in approximately the same position on the two surveys but the inlet has doubled in width since 1909 and the seaward approach is now from the east and southeast instead of from the north as shown on the old survey. The changes are of such magnitude that a detailed comparison would be of little value. The 1909 survey contains no information which needs to be retained and should be superseded by the present survey in future charting.

d. H-3772 (1915), 1:20,000.

This survey covers that portion of the present survey west of Bodie Island. Depths on the two surveys are in fair agreement. The present survey adequately covers the common area and should supersede the 1915 survey for charting purposes.

8. Comparison with Chart 1229 (New Print dated Feb. 15, 1938).a. Hydrography.

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs and contains no other information which needs consideration in this review.

b. Aids to Navigation.

Positions on the present survey of all fixed navigational aids in this area are in substantial agreement with the positions charted. The position determined for Whistle Buoy "1" in lat. $35^{\circ} 47.1'$, long. $75^{\circ} 30.4'$ falls approximately 0.15 mile southwest of and is subsequent to the charted position. The buoy would more adequately mark the entrance to the inlet if it were shifted southward. As this survey was made primarily for the use of the Lighthouse Service, a bromide copy of the survey has been sent to that Bureau.

9. Field Plotting.

The field plotting was satisfactory.

10. Additional Field Work Recommended.

The survey is complete and no additional field work is required.

11. Superseded Old Surveys.

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

| | | |
|---------|--------|---------|
| H-762 | (1862) | in part |
| H-1053 | (1870) | " " |
| H-1180a | (1873) | " " |
| H-1862 | (1887) | " " |
| H-3000 | (1909) | " " |
| H -3772 | (1915) | " " |


12. Reviewed by - J. A. McCormick, May 12, 1938.

Inspected by - H. W. Murray and E. P. Ellis.

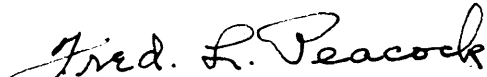
Examined and approved:




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



K.T. Adams
Chief, Division of Charts.



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



G. H. de
Chief, Division of H. & T.

6228

U. S. COAST AND GEODETIC SURVEY
LIBRARY AND ARCHIVES

JAN 11 1938

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

DESCRIPTIVE REPORT

Topographic }
Hydrographic } Sheet No. "C"

4938

State .. North Carolina

LOCALITY

Boëie Island

Vicinity of Oregon Inlet

193⁷

CHIEF OF PARTY

Henry E. Finnegan

6228

CONTROL SHEET

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. "C"

REGISTER NO. T4938

State North Carolina

General locality ~~Dare County~~ Bodie Island

Locality ~~Bodie Island~~ Vicinity of Oregon Inlet

Scale 1/10,000 Date of survey October, 1937

Vessel Shore Party

Chief of party Henry E. Finnegan

Surveyed by John C. Bull

Inked by John C. Bull

Heights in feet above ---- to ground to tops of trees

Contour, Approximate contour, Form line interval, --- feet

Instructions dated October 1, 1937

Remarks: This sheet is graphic control and was used for the location of one object only

REPORT TO ACCOMPANY
TOPOGRAPHIC SHEET "C"

This sheet is submitted as a topographic sheet because it is the only authority for the location of Bodie Island Coast Guard Building (CHIM).

In the original instructions, dated Oct. 1, 1937 paragraph one, it was anticipated that this sheet, which was prepared in the Washington Office, would be used as a smooth hydrographic sheet. It was utilized as a topographic sheet to identify Bodie Island Coast Guard 1933, which was found to be the flagpole, an inconspicuous object; and was used to locate Bodie Island Coast Guard Building (CHIM) a good landmark and a hydrographic signal. The limits of sheets "A" or "B" did not include this Coast Guard Station.

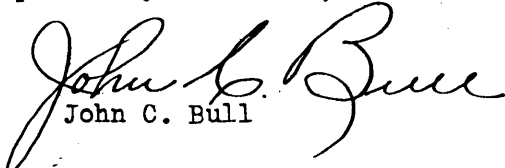
Upon completion of the hydrographic survey, which was accomplished on two boat sheets it was found that all hydrography could be plotted to advantage on one large smooth sheet, therefore this sheet "C" which was too small was discarded as a smooth hydrographic sheet.

But as noted above it is submitted as a record of the location of the Bodie Island Coast Guard Building (CHIM). This sheet was not included in the layout of sheets on the seasons progress sketch submitted.

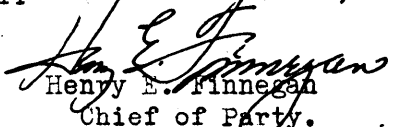
Except for the location of the Coast Guard Building and the identification of triangulation station Bodie Island Coast Guard 1933 and the magnetic meridian which was drawn on the sheet by the use of a declinatore, this sheet includes no other information.

The magnetic meridian was drawn on the sheet at a set up in the vicinity of Bodie Island Lighthouse.

Respectfully submitted,


John C. Bull

Approved and forwarded,


Henry E. Finnegan
Chief of Party.

MEMORANDUM

IMMEDIATE ATTENTION

| | | | |
|--|---|--|--|
| SURVEY DESCRIPTIVE REPORT PHOTOSTAT OF | } | No. T-4938 No. T-4938 <i>Graphic Control</i> | { received Jan. 11, 1938 registered Jan. 14, 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 |
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RETURN TO

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| 82 | C. K. Green |
|----|-------------|



REVIEW OF GRAPHIC CONTROL SURVEY T-4938, SCALE 1:10,000

Date of Review *March 30, 1938*

1. This survey has been reviewed in connection with Air Photo Compilation Nos. T-5580, , with particular attention to the following details:

- ✓ (a) Projection has been checked in the Field. *drawn in office by machine not ckd. in fld.*
- ✓ (b) Accuracy of location of plane table control points. *compilation differs no check.*
- ✓ (c) Discrepancies between detail on this survey and the air photo compilations listed above. *no detail given.*
- ✓ (d) Discrepancies found in descriptions submitted on Form 524 when compared with the air photo compilations listed above. *no form 524 submitted*

2. Refer to the reviews and descriptive reports of air photo compilations Nos. T-5580, , for a more complete discussion of any errors or discrepancies found.

✓ Any material errors found on this survey are noted in subsequent paragraphs of this review, and these have been reported to the Field Records Section and the Cartographic Section.

✓ Notes and corrections resulting from the review are shown on this survey in green.

*Comparison with T 5580
by T.M. Price
March 30, 1938*

Patented February 19, 1924

Globe-Wernicke