

5574a
5574b

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

DEC 3 1964

5574a
5574b

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: Georgia

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic

Sheet No.

9 5574a
5574b

LOCALITY

WILMINGTON, HERB, HALF MOON

AND SKIDAWAY RIVERS

1934

CHIEF OF PARTY

C. A. Egnor

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5742

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. 9

REGISTER NO. **55742**

State Georgia

General locality Wassaw Sound

Locality Wilmington River and Skidaway River

Scale 1:10,000 Date of survey Feb.-June 1934 192

Vessel OGLETHORPE (FIELD PARTY #23)

Chief of Party C.A. Egner

Surveyed by C.A. Burmister

Protracted by M.C.B., C.A.E., V.F.S. *immense*

Soundings penciled by V.F.S., G.F. *fortune*

Soundings in fathoms feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by G.F.

Verified by

Instructions dated Dec. 5, 1933 192

Remarks:

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5574b

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. 9a

REGISTER NO. **5574b**

State Georgia

General locality Wassaw Sound

Locality Half Moon River

Scale 1:10,000 Date of survey Feb.-June, 1934 ~~-192~~

Vessel OGLETHORPE (FIELD PARTY 23)

Chief of Party C. A. Egner

Surveyed by C. A. Burmister

Protracted by M. C. B., C. A. E., V. F. S. ~~Imman~~

Soundings penciled by V. F. S., G. F. ~~Fortuna~~

Soundings in ~~fathoms~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by ~~SA~~ E. W. Smith

Verified by h h

Instructions dated Dec. 5, 1933 ~~, 192~~

Remarks: This title sheet made up from the title sheet submitted
under field no. 9

REPORT TO ACCOMPANY
HYDROGRAPHIC SHEET

NO. 9

DESCRIPTIVE REPORT TO ACCOMPANY SHEET NO. 9

INSTRUCTIONS:

This sheet was executed under instructions dated December 5, 1933, and was part of assignment undertaken by Field Party #23. ✓

PURPOSE:

For the purpose of revising any existing survey. ✓

LIMITS AND LOCALITY:

This sheet, in the main, is a survey of the Wilmington River. It joins sheet 3 at Wassaw Sound; sheet #8 in Skidaway River at the mouth of Grimal's Creek; sheet #11 up the Wilmington River near Causton Bluff and in Turner's Creek at the Tybee Road swing bridge. It covers all small tributary creeks leading to this river. ✓

METHODS:

All sounding was done with the 10 lb. hand lead using the launch Oglethorpe. All hydro. was controlled by sextant fixes on triangulation or topographic signals, supplemented by a few photo spotted signals in Herb River which is relatively unimportant. ✓

Sounding was done with the current in depths above 18 feet and in either direction below that depth. Only lines parallel with the channel were run supplemented by cross lines spaced $\frac{1}{2}$ mile apart in the main body of the Wilmington River. An attempt was made to delineate the zero curve along both banks of the stream, but this was not always successful as in most cases the high and low water lines are so nearly superimposed as to make it impracticable to approach the grass line so closely.

CONTROL--HORIZONTAL:

Topo sheets G, H, K cover the area of this hydro sheet. These were well controlled by triangulation, partly of the 1st order and 2nd order Breakdown schemes of 1932-33. However, quite a number of additional points were located this year of 3rd order calibre to amplify this control.

Based on these stations, the topo signals were located by intersection on the banks of the streams. On this sheet, as opposed to the later general practice, the principle of many small signals was used instead of a few large ones. However, in a number of cases these were laid out in straight lines to facilitate their location and increase the accuracy, besides furnishing better sextant fixes.

In Herb River, some signals were located by spotting directly from the aerial photographs.

SHORELINE:

All shoreline was gotten from aerial photographs, the bulk of it from the single lens 1/10000 flights, with the exception of the upper Herb River and all the area bordering on Wassaw Sound, which was on the 5-lens 1/21,500 flights. Little difficulty was experienced with the single lens shoreline. Very much, on the contrary, was had with the 5-lens.

It happened that the area of Wassaw Sound and adjacent territory was executed by the photocompilation party as their initial undertaking. Control was inadequate, experience was limited with the result that eventually this celluloid sheet was almost entirely done over again after it became apparent that the shoreline was largely in error as disclosed, by sextant fixes plotting many meters inside the High Water Line.

While still under the delusion that the early shoreline was O. K. the hydrography was smooth-plotted with the result that there developed the necessity of placing that area around Half Moon River on a separate sub-plan rather than take the old work off the sheet.

CONTROL--VERTICAL:

Tide gauges at Thunderbolt, Wilmington River and the Savannah Oglethorpe Hotel Dock (Wilmington Island) were used for the control of tidal observations. Division

lines between these gauges are shown on the boat sheet. All planes were determined by comparison with the standard gauge at Ft. Screven.

COMPARISON WITH PREVIOUS SURVEYS:

Due to the fact that previous surveys have not had the advantage of Aerial Photography, any comparison would be inadequate.

GEOGRAPHIC NAMES:

Those charted have been retained in the absence of better information.

THE INSIDE ROUTE:

This sheet covers a comparatively important area, being so close to Savannah and having within its confines the small town of Thunderbolt which is an important small yachting haven, with fishing fleet headquarters, repair yards, etc.

Likewise, the Inside Route which is now a much-used thoroughfare follows down the Wilmington River past Thunderbolt to the Skidaway River, thence westward toward Isle of Hope.

More development was therefore given to these channels than might otherwise have been the case, with particularly closely spaced lines in the northern part of the sheet.

This waterway is marked by day-marks to assist the navigator, all of which are located by triangulation.

DANGERS AND ANCHORAGES:

In the main channels plenty of water is available for moderate-sized vessels able to navigate the Inside Route at ^{cri}critical depths not present on this sheet.

But one really important danger to navigation presents itself, if such it could be called. This is the bar which makes off the grassy point at Beacon #4 with a similar bar on the opposite side of the channel immediately up stream from this point. This necessitates care at low tide in crossing from one side to the other with a wide swing around the beacon. North and east of Thunderbolt the main channel is easily navigated.

Thunderbolt offers anchorage ground for small craft and numerous docks for gasoline and supplies.

AIDS TO NAVIGATION:

No lighted beacons are found but numerous day-mark beacons along the Inside Route.

COAST PILOT INFORMATION:

This is being prepared as a general report to supplement that contemplated by Lt. Deily later with the Launch Elsie.

BRIDGES:

Two swing-span steel bridges are found on the sheet where Route U. S. 80, Savannah to Tybee Island, crosses the Wilmington River (Near Thunderbolt) and Turner's Creek. Clearance data on these appear on the smooth sheet. ✓

Respectfully submitted

A. Ogden
Lt. C. & G. Survey
Chief of Party

Approved and forwarded

HYDROGRAPHIC STATISTICS FOR SHEET NO. 9

VOLUME	DATE	DAY-LETTER	BOAT	SOUNDINGS	POSITIONS	MILES
1	Feb. 19	a	OGLETHORPE	404	104	12.8
1	" 20	b	"	640	167	17.0
1	" 21	c	"	591	127	16.9
1 & 2	" 23	d	"	364	108	12.9
2	" 26	e	"	333	96	12.7
2	Mar. 1	f	"	505	136	15.1
2	" 2	g	"	481	142	12.9
3	" 5	h	"	677	191	19.2
4	" 6	j	"	476	163	13.7
4	" 7	k	"	533	141	18.2
3	Apr 13	l	"	330	85	11.0
5	" 17	m	"	425	111	17.2
5	" 18	n	"	258	68	9.1
5	" 20	p	"	154	55	6.4
5	June 13	q	"	367	104	9.2
5 & 6	" 15	r	"	640	160	18.3
TOTALS....				7178	1958	217.6

February 9, 1935

Division of Hydrography and Topography:

✓ Division of Charts: *Attention Mr. E.P. Ellis.*Tide Reducers are approved in
6 volumes of sounding records forHYDROGRAPHIC SHEET 5574 a. *(cont.)*

Locality Wilmington River, Skidway River and Half Moon River, Georgia

Chief of Party: *C. A. Egnor in 1934.*

Plane of reference is mean low water, reading

- 2.4 ft. on tide staff at Petit Chou
- 14.7 ft. below B.M. 1
- 2.9 ft. on tide staff at Romerly Marsh Creek
- 7.5 ft. below B.M. 1
- 1.9 ft. on tide staff at Savannah-Oglethorpe Hotel
- 12.9 ft. below B.M. 1
- 1.7 ft. on tide staff at Thunderbolt
- 27.8 ft. below B. M. 1

Height of mean high water above plane of reference is 6.90 feet at
Petit Chou; 7.1 feet at Romerly Marsh Creek; 7.9 feet at Thunderbolt;
7.8 feet at Savannah-Oglethorpe Hotel

Condition of records satisfactory except as noted below:

Tide reducers for "C" day were found in error and have been corrected.

Storrarnes
Acting Chief, Division of Tides and Currents.

SECTION OF FIELD RECORDS

Verification report on H-5574 (A & B)

1. The records do not conform to the requirements of the Hydrographic Manual in the following respects:
 - a. There are numerous cases where the man plotting the smooth sheet in the field made changes of angles and signals as regards fixes in black lead pencil. There was also evidence that the man penciling soundings made a few changes in the same way. This lead to confusion as to just what ^{changes} positions were made while actually doing hydrography and those made in the office. In so far as noted, all such positions were checked by the verifier.
 - b. The prevailing sounding interval throughout the sheet is thirty seconds regardless of the depth of water or whether the boat was running with or against the current.
 - c. There is an insufficiency of notes in regard to curving lines and the only way these could be adjusted was with reference to adjoining lines and the general bottom slope. This was done upon the orders of the Chief of the Section. *good agreement except in some cases.*
2. Considering the nature of the hydrography there is enough cross lines. On the "A" sheet some of these cross lines and converging lines are not in good agreement, *But these have been retained on the smooth sheet for further investigation in the review.* On the "B" sheet there are no true cross lines but several intersecting lines at junctions of streams. In the main these cases are in good agreement.
3. The usual depth curves can be drawn on the sheet, except that in some cases of steep slope some of the intermediate curves were left out to avoid congestion.
4. The field plotting was not completed to the extent prescribed in the Manual in the following respects:
 - a. Very few of the soundings for (Q) day were penciled on the smooth sheet, even though several of the lines were in the clear of any other sounding lines and the verifier could see no reason for omitting them.
 - b. Day letters and position numbers are much too large, especially in the congested areas.
 - c. The field plotter was not consistent in the use of upper or lower case letters for the day letters. But, since only one boat was used and only one series of the alphabet these were not changed on the sheet.
 - d. A prime (') was added to the R-day for about half of the days work on the smooth sheet. These primes do not appear in the sounding records nor can the verifier see any reason for them having been placed on the smooth sheet. However there is no other R-day to confuse them with so for the time being they have been retained on the sheet as inked in the field.
 - e. In cases of congested areas and converging lines, The field plotter penciled only those soundings from the earliest lines and those from the later days were left out. Such action in many cases eliminated critical soundings and also served as a clue for correcting the plotting of one of the two lines so that actually there was no conflict of soundings.
 - f. The reason for the "B" sheet is explained in the descriptive report. Upon verification of the plotting it was immediately noted that two check marks did not appear by the positions as it should have been if the positions had been plotted twice on two different sheets. It developed that when a position was poorly plotted on the "B" sheet it also appeared in error on the "A" sheet. Thus there was seemingly but one conclusion and that was that the positions were not actually plotted on the "B" sheet but transferred by tracing paper method from the "A" sheet. This was also the conclusion of the Chief of the Section upon investigating the work.

Further upon verification of the positions, practically every one of them was out; the error varying from ~~##~~ 10 meters to excessive errors. Therefore upon instructions from the Chief of the Section, an unusually large number of positions were checked but only those positions changed that were in considerable error or those that changed curves or conflicting soundings. This resulted in the verifier checking 143 positions of which 51 were changed.

g. Practically all of the soundings were plotted by eye and even then very poorly. Thus it was necessary for the verifier to use the spacing dividers practically all the time while inking soundings. ✓

5. It was necessary for the office draftsman to ink the centers of stations on both sheets since only the prick marks appeared on the sheet as sent in by the field party. ✓

It was also necessary to change a few names of the stations to bring them into agreement with the boat sheet and the names used in the sounding records. That portion of the triangulation station name that was used in the sounding records also had to be underlined. ✓

The datum note for the "B" sheet was not included by the field plotter, therefore was added by the office draftsman. ✓

6. The junctions that have been applied to this sheet are in satisfactory agreement.

7. Remarks:

a. Soundings from 81-84 C-day are not yet plotted pending the receipt of Air Photo. *Plotted ✓*

b. Soundings from 100-103 C-day are not yet plotted for the same reason. *Plotted ✓*

c. Dock soundings found on pages 34-39, Vol 3 are not yet executed pending receipt of Air Photo work. Also, all notes in regards to docks and wharves are to be checked upon receipt of the Air Photo work. *Rejected ✓*

d. The four lines of soundings in Richardson Creek at 32°-03' and 81°-01.7' were confusing. It is clearly indicated on the Boat Sheet that two lines of one day were to run on the low water line, while the two lines of the other day were to run out the channel. The protracting of positions checked by repeatedly shoal and deep soundings appear on the same spot and in some cases as many as three and four soundings appeared on the same spot. The use of near by signals for fixes while winding through the stream would lead to bad angles. Therefore upon orders of the Assist. Chief of the Section each day was plotted on a separate tracing then by a comparison of the two, the deepest soundings in each case were inked on the smooth sheet. ✓

e. Positions 152-154 J-day were rejected because the plotting of 152 and 153 were transposed with reference to the Boat Sheet, the explanatory note, and position 154. *These should not have been rejected & were plotted by reviewer*

f. The fixes for Stations Point and Camp do not agree with the positions taken from spotting on the air photo. Therefore positions 18-42 and 65-101 K-day are not yet inked pending the receipt of the air photo work. *Plotted ✓*

g. Soundings 35-40 Q-day are not shown as they are all 0 soundings or less and fall right on the shore line as shown at present. *See Suff 7*

h. The following soundings have not yet been inked on the "B" sheet pending the receipt of the Air Photo Compilation: 1-9 L-day; 1-6 M-day; and 107-111 M-day. *Plotted ✓*

The following information is not submitted with this sheet:
Landmarks for Charts (form 564) ✓
Recoverable Stations (form 524)
Special Chart for the U.S. Lighthouse Service.

March 30, 1935.

Respectfully submitted,

Edward W. Smith

SECTION OF FIELD RECORDS

Supplement to Verification Report on H-5574 (A & B)
(Based on comparison with Air Photo sheet Nos. 5319, 5214, 5114, 5113.)

1. The soundings from 81-84 C-day were adjusted through a slight change of the shoreline and a slight adjustment of the positions. ✓
2. The same disposition was made as regards soundings from 100-103 C-day.
3. The fixes for Air Photo Stations in the vicinity of Herb River were checked against the Air Photo Sheet No. 5214. There was evidence that these stations had been spotted on this compilation but had been subsequently erased. At the same time no prick marks for these stations could be found on any of the photographs. Thus while the hydrographic fixes for stations "Point" and "Camp" on pages 38 & 39 Vol. 4 do not agree with the Air Photo spotting, there is no check angle and it was therefore ordered by the Chief of the Section that the Air Photo spotting shall be accepted as correct and the fixes rejected. ✓
4. After the above decision, soundings from 18-42 and 65-101 K-day were inked. But upon transferring the shoreline that had not been supplied by the field party in the vicinity of positions 80-97 K-day there was a marked disagreement between the shoreline and the hydrography. Accordingly a replot of the shoreline was made by the Air Photo Section that resulted in a change of the shoreline that brought the work into good agreement. ### ✓
5. Upon comparison with Air Photo work the shoreline in Tybee Cut could not be changed. While the shoreline and sounding lines 1-9 L-day; 1-6 M-day; and 107-111 M-day are not in very good agreement, there is no information for changing either and it was ordered by the Assist. Chief of the Section to leave this work as now shown. ✓
6. The docks in the vicinity of Thunderbolt were changed so as to agree with the Air Photo work. Further investigation showed that the dock soundings on page 34 & 35 Vol. 3 are for docks on H-5551. Also since the sketches of the dock soundings on pages 37-39 (Thunderbolt) could not be reconciled against the Air Photo and because the docks would have to be enlarged to 1:2,500 scale to show the soundings effectively it was ordered by the Chief of the Section to reject that work. Many additional docks were added throughout the entire sheet upon comparison with the Air Photo sheets and appropriate remarks made against each note in the remarks columns regarding docks. ✓
7. Soundings for 35-40 Q-day have been shown on the sheet after an adjustment of the shoreline. ✓
8. The plotting of station Tee was found in error and the two positions using that station in the fixes were accordingly changed.
9. The shoreline in the two small creeks in the vicinity of 31°-58.5' and 81°-01' were found to be all out of position as shown by the field party. While positions 50-63 and 83-91 G-day and 23-26 & 44-46 G-day all fell between the correct shorelines, the soundings of these curved lines as controlled by the incorrectly plotted shoreline were not in agreement with the correct shoreline. Therefore the entire work in this area was taken out, the correct shoreline supplied by the verifier and the hydrography re-plotted. ✓

Note: The changes that it was necessary for the verifier to make upon comparison of the sheet with Air Photo work, again shows the careless execution of this sheet by the field party and previously mentioned in the first section of the "Verification Report". It was necessary to spend 6-days and 4-hours in the comparison and making changes.

Respectfully submitted,

Elbert W. Smith
Elbert W. Smith.

April 30, 1935.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H-5574 A

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

Number of positions on sheet	1958.....
Number of positions checked	Approx. 100
Number of positions revised	25
Number of soundings recorded	7178
Number of soundings revised	Many
Number of signals erroneously plotted or transferred	None

Date: March 30, 1935.

Verification by E. W. Smith

Time: 13 days, 3 1/4 hours

Review by

Harry T. Ketchum

Time: 13 hrs.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H-5574 B

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

Number of positions on sheet	.319..
Number of positions checked	..143.
Number of positions revised	...51
Number of soundings recorded	...1167
Number of soundings revised	...many.
Number of signals erroneously plotted or transferred	None

Date: March 30, 1935.

Verification by E. W. Smith

Review by *H. J. Kehring*

Time: 6-days.

Time: included in 55749

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5574 a - b

Wilmington River and Skidway^a River, Wassaw Sound, Georgia
Surveyed in February - June, 1934
Instructions dated December 5, 1933 (Egner)

Hand Lead Sounding

3 Point fixes on Shore Signals

Chief of Party - C. A. Egner.
Surveyed by - C. A. Burmister.
Protracted and soundings plotted by - M. C. Burr, C. A. Egner, V. F. Simmons and G. Fortune.
Verified and inked by - E. W. Smith.

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual, with the following exceptions:

- a. Position numbers and day letters do not appear in color on the cover and title page to conform with the records.
- b. There are insufficient notes regarding curved sounding lines in creeks.
- c. Lower case letters were used throughout most of the records with occasional use of capitals.
- d. No copy of landmarks for charts on form 567 accompanied this particular sheet. Landmarks for area submitted.

2. Compliance with Instructions for the Project.

The plan, character, and extent of the survey satisfy the instructions for the project.

3. Sounding Line Crossings.

Cross lines are in good agreement except for occasional single soundings. The 5 foot sounding at lat. $31^{\circ}58.4'$, long. $81^{\circ}00.7'$ is probably an error but there is not sufficient evidence to reject it.

4. Depth Curves.

Within the limits of the survey the usual depth curves can be satisfactorily drawn.

5. Junctions with Contemporary Surveys.

The junction with H-5550 (1934) on the north and east, H-5551A (1934) on the west, and H-5599 (1934) on the south are satisfactory.

6. Comparison with Prior Surveys.

a. H-866 (1865).

This survey, on a 1-20,000 scale covered with a fair degree of development the major waterways included in the present survey.

Considering the elapsed time, there is an excellent agreement in the lower section of the Wilmington River with the present survey. Some shoaling has occurred along the east bank of the stream.

The Sisters, three small islands, at lat. $31^{\circ}58.8'$, long. $81^{\circ}00.7'$, have merged into one and there is now considerably less water between this island and the west shore.

H-866 (1865) shows a ridge across the channel at lat. $32^{\circ}00.35'$, long. $81^{\circ}00.3'$. This has cut away leaving only a 29 foot area in the center of the channel.

The upper reaches of the Wilmington River, however, show extensive shoaling. Off the north side of the turn in the river with point at lat. $32^{\circ}01.35'$, long. $81^{\circ}01.8'$ is a shoal of considerable area showing 1 to 3 feet less water than at the time of former survey.

Off the town of Thunderbolt (lat. $32^{\circ}01.8'$, long. $81^{\circ}03.0'$) the whole channel has shoaled up, about 7 feet now being the controlling depth as against 14 feet minimum shown on H-866 (1865).

This shoaling, to a less extent, is found clear to the north limit of the sheet.

Richardson Creek (lat. $32^{\circ}02.6'$, long. $81^{\circ}01.5'$) has gone nearly dry.

In the Skidaway River depths are in reasonable agreement with the present survey.

A deep sounding of 64 feet was found on H-866 (1865) at lat. $31^{\circ}59.5'$, long. $81^{\circ}01.2'$. This hole still persists, 56 feet being found by the present survey, but 150 meters westward a shoal with 10 foot depth is building up in midstream.

The present survey shows the same deep hole at the mouth of Grimbals Creek (lat. $31^{\circ}59.3'$, long. $81^{\circ}02'$).

Herb River (approx. lat. $32^{\circ}01'$, long. $81^{\circ}02.5'$) at the present time shows somewhat more even depths than on H-866 with about the same depth at its mouth.

Grays Creek was not surveyed on H-866 (1865), nor was Half Moon River and its tributaries appearing on H-5574 b (1934).

b. H-4481 (1925).

This survey on a 1-20,000 scale covers only a few soundings in Wilmington River at the south end of the present survey.

The 10 foot sounding at lat. $31^{\circ}57'$, long. $80^{\circ}59.55'$ (charted) was found to be in-correctly plotted. Since the time of this survey, however, shoaling along the east shore of the Wilmington River brings this depth into fair agreement with the present survey. The 10 foot sounding should be disregarded in future charting.

7. Comparison with Chart 440.

a. Hydrography.

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

b. Controlling Depths.

The controlling depth for the section between St. Augustine Creek and Skidaway River is given as $5\frac{1}{2}$ feet as of June, 1934, under authority of letter 475/12 (1934).

The present survey indicates 7 foot minimum.

c. Aids to Navigation.

The beacons as located by the present survey are in good agreement with the charted locations.

8. Field Plotting.

Field plotting was poorly done and resulted in considerable extra work in the office.

Among the failures to comply with the requirements of the Hydrographic Manual were the following:

a. Changes were made in angles and signals in black pencil and without initials or explanation.

b. Soundings were omitted without apparent reason.

c. Day letters and position numbers were too large.

d. The hydrography of Half Moon River was apparently transferred to the sub-plan by tracing instead of re-protracting the positions. This resulted in numerous excessive errors. Of 143 positions checked by the verifier, 51, or 35%, had to be changed.

e. Soundings were apparently spaced by eye, necessitating re-spacing in the office of most of the soundings on the sheet.

9. Additional Field Work Recommended.

No additional work is required.

10. Superseding Old Surveys.

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

H- 866 (1865) In Part
H-4481 (1925) " "

11. Reviewed by - Harry T. Kelsh, May, 1935.

Supervised by - A. L. Shalowitz.

Examined and approved:

C. K. Green, *C. K. Green.*
Chief, Section of Field Records.

F. S. Borden
Chief, Section of Field Work.

L. O. Tolbert.
Chief, Division of Charts.

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

*Applied to chart 440.
Aug. 24, 1936 J.H.S.*

25 June 13, 1936

EMG