

6396

6397

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

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Form 504
Rev. April 1938

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 6396 & 6397
Hydrographic }

State TEXAS

LOCALITY

GULF OF MEXICO

OUTER COAST OF OTTAPADRE ISLAND

1938

CHIEF OF PARTY

G. C. Mattison

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES
APR 1 1931

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. 27

REGISTER NO. H-6396 H 6396

State TEXAS

General locality GULF OF MEXICO
OUTER COAST OF

Locality PADRE ISLAND

Scale 1 : 20,000 Date of survey September, October 1938

Vessel Launch FARIS

Chief of Party G. C. Mattison

Surveyed by James N. Jones

Protracted by James N. Jones

Soundings penciled by James N. Jones

Soundings in ~~fathoms~~ feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by

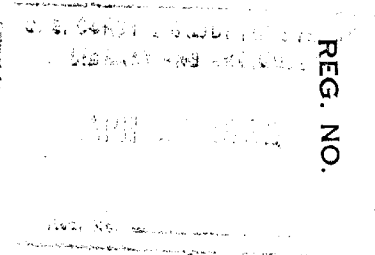
Inked by

Verified by G. B. Littlepage

Instructions dated Feb. 17, 1937 : Feb. 23, 1938, 19

Remarks:

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



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. Hydrographic Sheet 27

REGISTER NO. (H-6396)

State TEXAS

General locality Padre Island

Locality _____

Scale 1:20,000 Date of survey September, 1938

Vessel Launch FARIS

Chief of party G. C. Mattison

Surveyed by J. N. Jones and J. W. Stirni

Inked by J. N. Jones

Heights in feet above _____ to ground to tops of trees

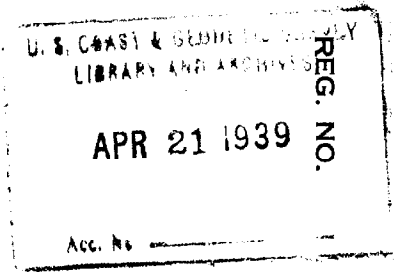
Contour, Approximate contour, Form line interval _____ feet

Instructions dated Feb. 17, 1937 - Feb. 23, 1938, 19____

Remarks: The shore line on this sheet was plotted directly on the smooth hydrographic sheet from data obtained when a traverse was run with tape and theodolite for a preliminary location of the signals. The signals were cut in by triangulation early in 1939 by the party of P. L. Bernstein. The traverse was adjusted to triangulation positions and the high and low water lines drawn in with topographic accuracy. Plotting verified by the field party.

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. 28

REGISTER NO. H-6397 H6397

State TEXAS

General locality GULF OF MEXICO
OUTER COAST OF F

Locality OFF PADRE ISLAND

Scale 1:20,000 Date of survey October, 19 38

Vessel Launch FARRIS

Chief of Party G. C. Mattison

Surveyed by James N. Jones

Protracted by James N. Jones

Soundings penciled by James N. Jones

Soundings in ~~fathoms~~ feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by --

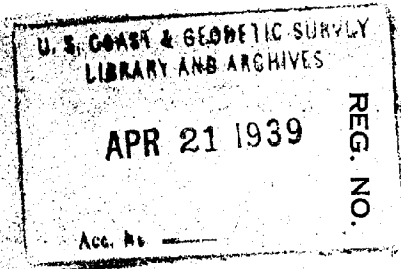
Inked by _____

Verified by G. B. Littlepage

Instructions dated Feb. 17, 1937 : Feb. 23, 19 38

Remarks: _____

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



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. Hydrographic Sheet 28

REGISTER NO. (H-6397)

State TEXAS

General locality Padre Island

Locality _____

Scale 1:20,000 Date of survey September, 1938

Vessel Launch FARIS

Chief of party G. C. Mattison

Surveyed by J. N. Jones and J.W. Stirni

Inked by J. N. Jones

Heights in feet above _____ to ground to tops of trees

Contour, Approximate contour, Form line interval _____ feet

Instructions dated Feb. 17, 1937 - Feb. 23, 1938, 19____


Remarks: The shore line on this sheet was plotted directly on the

smooth hydrographic sheet from data obtained when a traverse was run with tape and theodolite for a preliminary location of the signals. The signals were set up by triangulation early in 1939 by the party of P. L. Bernstein. The traverse was adjusted to triangulation positions and the high and low water lines drawn in with topographic accuracy. Plotting verified by the field party.

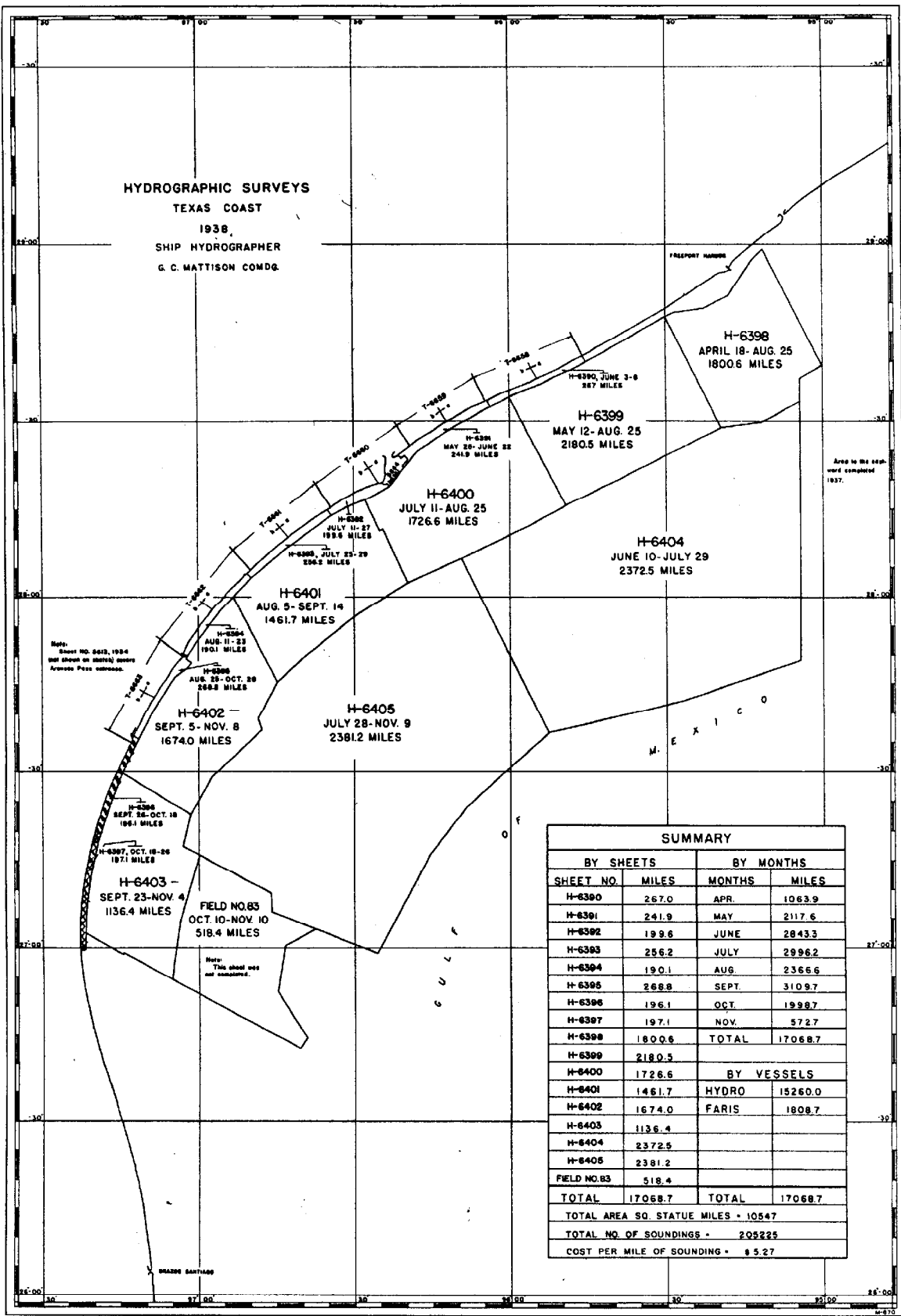
Notes by Chief of Party

The records and sheets have been examined and are approved. ✓
No additional work is necessary in the area covered by these sheets.

These sheets are combined hydrographic and topographic sheets. Owing to lack of topographic features, the only topography necessary was the location of shoreline. The shoreline has been accurately plotted from traverse notes. The traverse was run between stations which were subsequently located by second order triangulation by the party of P. L. Bernstein. ✓


G. C. Mattison,
Commanding Officer,
Ship HYDROGRAPHER.

HYDROGRAPHIC SURVEYS
TEXAS COAST
1938,
SHIP HYDROGRAPHER
G. C. MATTISON COMD&



SUMMARY			
BY SHEETS		BY MONTHS	
SHEET NO.	MILES	MONTHS	MILES
H-6398	267.0	APR.	1063.9
H-6399	241.9	MAY	2117.6
H-6399	199.6	JUNE	2843.3
H-6399	256.2	JULY	2996.2
H-6399	190.1	AUG.	2366.6
H-6399	268.8	SEPT.	3109.7
H-6399	196.1	OCT.	1999.7
H-6399	197.1	NOV.	572.7
H-6398	1800.6	TOTAL	17068.7
H-6399	2180.5		
H-6400	1726.6	BY VESSELS	
H-6401	1461.7	HYDRO	15260.0
H-6402	1674.0	FARIS	1808.7
H-6403	1136.4		
H-6404	2372.5		
H-6405	2381.2		
FIELD NO. 83	518.4		
TOTAL	17068.7	TOTAL	17068.7
TOTAL AREA SQ. STATUE MILES - 10547			
TOTAL NO. OF SOUNDINGS - 202225			
COST PER MILE OF SOUNDING - \$ 5.27			

DESCRIPTIVE REPORT

TO ACCOMPANY SHEETS 6396 and 6397 (1938)

GULF OF MEXICO, OFF PADRE ISLAND

DATE OF INSTRUCTIONS:

These surveys are made in accordance with the Director's Instructions for Project 214, dated February 17, 1937, supplemental instructions dated February 23, 1938, and letter 22AB, 1995 HY 4, dated July 2, 1938.

GENERAL STATEMENT:

These sheets cover the inshore hydrography of the northern part of Padre Island out to the thirty foot curve. The high and low water lines are also plotted on these sheets from data obtained when running a traverse along the beach for control.

CONTROL:

It was found necessary near the end of the 1938 season to rapidly expand the control south of station FISH 1931 (the last recoverable station previously located) to enable the hydrography to be carried south to Latitude $27^{\circ} 00'$.

Two fairly weak figures of fourth order triangulation were put in and a single closed triangle extended to signal SPRINT. South of SPRINT a 100 meter sounding wire was used as a tape and a traverse run along the beach and offsets measured to locate the signals. Azimuth was carried with one set of six repetitions with a 7" theodolite with turning points about five miles apart. This method proved to be fast and fairly accurate.

During the first part of 1939 all the signals thus located, with the exception of signals STRAY and BEAR, were out in from the arc

of second order triangulation executed by P. L. Bernstein. The error at SPRINT, from preliminary computations of this triangulation, was three meters in latitude and longitude correct. At GOAL, the most southerly signal thus located, the error was fifteen meters in latitude, longitude correct.

The positions plotted on the smooth sheets are from the field computations of the second order triangulation made by the party on the HYDROGRAPHER.

The traverse positions of signals STRAY AND BEAR were adjusted to the adjacent triangulation positions. The correction used was 5 and 7 meters respectively in latitude. The data for the location of these signals is included in the REPORT OF LOCATIONS OF HYDROGRAPHIC SIGNALS, SHIP HYDROGRAPHER, 1938. The correct positions for signals computed from triangulation is also included in that report.

SURVEY METHODS:

With the exception of a slight bulge at station FISH, the shoreline is very regular, and could be determined from a relatively few number of points. Over the portion of the beach where a traverse was run the distance to the high water line was noted at every other tape length; where the signals were located by theodolite cuts, a sufficient number of positions were determined by setting a theodolite at the high water line and taking a round of cuts to adjacent located signals (these points average half a mile apart). The offset to the low water line was measured or estimated by pacing at each point at which the high water line was determined. These data have been plotted on the smooth sheets and the high and low water lines drawn in. This has given a determination of these lines which is as accurate as if determined by a plane table.

The hydrography was done using the twin screw Launch FARIS. The FARIS was run at a speed of 4 or 5 knots on one engine and the soundings taken with a 8 or 12 pound lead, depending on the weather and depth.

Sounding lines were located by three point sextant fixes on shore signals.

The inshore line was run as close as was practicable to the breakers (average 60 m.) and the breakers plotted by the hydrographer on the boat sheets.

There was generally two or three lines of breakers on apparently shifting sand bars with somewhat deeper water between them. The line of breakers as plotted represents average conditions.

DISCREPANCIES:

The usual number of small errors in recording and reading angles have been corrected in the sounding records.

The crossings are good; one foot or less.

DANGERS:

There are no dangers in the area covered by these sheets.

CHANNELS:

There are no channels in the area covered by these sheets.

GEOGRAPHIC NAMES:

There are no new geographic names in the area covered by this survey.

COMPARISON WITH PREVIOUS SURVEYS:

These sheets join Sheets 6402, 6403 and 6395 of 1938. These junctions are good.

The comparison with charted soundings is satisfactory.

The junction at the southern end of Sheet 6397 is not complete

with contemporary surveys south of the limits of Sheet 6403. ✓

STATISTICS:

	Miles of sounding lines	No. of Soundings	No. of Positions
Sheet 6396	196.1	3954	520
Sheet 6397	197.1	3609	471
Statute miles of shoreline on both sheets			42.5

Respectfully submitted,

James N. Jones

James N. Jones, Jr. H. & G. Eng.,
U. S. Coast & Geodetic Survey.

Approved and forwarded:

G. C. Mattison

G. C. Mattison,
Chief of Party,
Commanding HYDROGRAPHER.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6396**

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

Number of positions on sheet	.....	<i>520</i>
Number of positions checked	.....	<i>31 (by GBL)</i>
Number of positions revised	.....	<i>0</i>
Number of soundings recorded	.....	<i>39.54</i>
Number of soundings revised	.....	<i>14</i>
Number of soundings erroneously spaced	.....	<i>36</i>
Number of signals erroneously plotted or transferred	.....	<i>0</i>

Date: *Sept. 25, 1939.*

Verification by *G. B. Littlepage Jr. - 9 1/2*
L. S. Straw - 15 hr. Time: *24 3/4 hours.*

Review by *L. S. Straw - Sept. 25, 1939.* Time: *6 hours.*

HYDROGRAPHIC SURVEY NO. M-6396

Smooth Sheet Yes

Boat Sheet Yes

Records; Sounding 2 Vols., Wire Drag Vols., Bomb Vols.

Descriptive Report Yes (Covers M-6397 as well)

Title Sheet Yes (One for Hydro. Work & One for Topo. Work)

List of Signals Vol.#1

Landmarks for Charts (Form 567) None

Statistics See Page #4 of D.R.

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) ---

Special Chart for Lighthouse Service None
(Circular Nov.30, 1933)

Hydrography: Total Days 5; Last Date October 18, 1938

Remarks _____

Remarks

Decisions

1		268973
2		
3		
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M 234		

GEOGRAPHIC NAMES
 Survey No. **X-6396**

Name on Survey											
	A	B	C	D	E	F	G	H	K		
<u>Padre Island</u>											1
<u>Gulf of Mexico</u>											2
											3
											4
											5
											6
											7
											8
											9
											10
											11
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											26
											27

COPIES IN RED INK APPROVED
 BY L. HECK ON 6/11/39

Verification Report of A-6396 (1938)

All matters pertaining to the verification of this survey have been included in the review.

Ed Straub Sept. 25. 1938

Verification Report of H-6398

1- Condition of Records.

The records conform with the general requirements of the Hydrographic Manual.

2- Shoreline and Signals.

No recent plane table surveys extend below Lat. $27^{\circ}36'$. The shoreline is plotted on this survey from data obtained when running a traverse along the beach for control. For further information see page 1 of the descriptive report.

3- Sounding Line Crossings.

The crossings are good.

4- Depth curves.

Complete depth curves were shown.

5- Junctions.

Junctions with contemporary surveys will be made when H-6403 and H-6396 are verified.

6- Aids to navigation.

There are no aids to navigation on this sheet.

7- Field Plotting.

The field plotting is very good.

July 20, 1939

Submitted by
Gordon B. Littlepage Jr.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6397**

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

Number of positions on sheet	<i>.471.</i>
Number of positions checked	<i>..63.</i>
Number of positions revised	<i>.....</i>
Number of soundings recorded	<i>3600</i>
Number of soundings revised	<i>..19.</i>
Number of soundings erroneously spaced	<i>..72.</i>
Number of signals erroneously plotted or transferred	<i>.....</i>

Date:

Verification by *Anton R. Littlepage Jr* Time: *50 hrs.*
Review by *J.A.M^cCormick* 7/21/39 Time: *7 hrs.*

HYDROGRAPHIC SURVEY NO. M-6397

Smooth Sheet Yes

Boat Sheet Yes

Records; Sounding 2 Vols., Wire Drag Vols., Bomb Vols.

Descriptive Report Same one as for M-6396

Title Sheet Yes

List of Signals Vol. #1

Landmarks for Charts (Form 567) None

Statistics See Page #4 of D.R.

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) ---

Special Chart for Lighthouse Service None
(Circular Nov.30, 1933)

Hydrography: Total Days 4; Last Date October 26, 1938

Remarks _____

Remarks

Decisions

	Remarks	Decisions
1		268 973
2		
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4		
5		
6		
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M 23*		

GEOGRAPHIC NAMES

Survey No. **M-6397**

Name on Survey	On Chart No.		On previous survey No.		On U. S. quadrangle Maps		From local information		On local Maps		P. O. Guide or Map		Rand McNally Atlas		U. S. Light List	
	A	B	C	D	E	F	G	H	K							
<u>Padre Island</u>																1
<u>Gulf Of Mexico</u>																2
																3
																4
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																8
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L. Heck on *5/1/39*

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTATIC~~

No. H-6396, H-6397
~~No. 63~~

received April 21, 1939
 registered April 27, 1939
 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			
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26			
30			
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62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
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TBR

220

Form 718
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Hydrography and Topography:

May 5, 1939

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

Plane of reference approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 6396

Locality Outer Coast of Padre Island, Texas Coast

Chief of Party: G. C. Mattison in 1938
Plane of reference is mean low water reading
2.2 ft. on tide staff at Port Aransas
5.0 ft. below B. M. 1

Height of mean high water above plane of reference is 1.1 feet.

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents.

TIDE NOTE FOR HYDROGRAPHIC SHEET

May 5, 1939.

Division of Hydrography and Topography:

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

Plane of reference approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 6397

Locality Outer Coast of Padre Island, Texas Coast.

Chief of Party: G. C. Mattison in 1938
Plane of reference is mean low water reading
2.2 ft. on tide staff at Fort Aransas
5.0 ft. below B. M. 1

Height of mean high water above plane of reference is 1.1 feet.

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6396 (1938)

Outer Coast of Padre Island, Gulf of Mexico, Texas
Surveyed in Sept.-Oct. 1938, Scale 1:20,000
Instructions dated Feb., 17, 1937 and Feb. 23, 1938

Hand Lead Soundings.

3 Point fixes on shore signals.

Chief of Party - G. C. Mattison
Surveyed by - J. N. Jones
Protracted by - J. N. Jones
Soundings plotted by - J. N. Jones
Verified and inked by - G. B. Littlepage and L. S. Straw

1. Shoreline and Signals.

The shoreline and topographic signals were located by theodolite and tape traverse, tied into frequent triangulation stations, and plotted directly on the present survey.

2. Depth Curves.

The usual depth curves may be satisfactorily drawn.

3. Sounding line crossings.

The sounding line crossings are satisfactory.

4. Junctions with Contemporary Surveys.

The junction with the hydrography on H-6397 on the south is satisfactory. The junctions with H-6395 (1938) on the north, H-6402 (1938) and H-6403 (1938) on the east, will be considered in the reviews of those surveys. The junction of the topography on the present survey with that on T-6663b (1938) at signal TEX is satisfactory.

5. Comparison with Prior Surveys.

a. Topography.

T-1621 (1881-82), T-1627 (1881-82) and T-1628 (1881-82)
scales 1:20,000 and T-4905 (1934) scale 1:10,000.

The topographic detail on the present survey is confined to high and low water lines on the Gulf coast of Padre Island. The shore line north of lat. 27°33', when compared with T-1621 (1881-82) has shifted considerably. For example in lat. 27°35', long. 97°13' the present survey locates the highwater line 160 meters west of the location on T-1621 (1881-82) and a mile northward (lat. 27°36') 500 meters east of the old location. South of lat. 27°33' differences from 20 to 100 meters exist between the present survey and T-1627

(1881-82) and T-1628 (1881-82). T-4905 (1934) is a comparatively recent topographic survey, it covers about a mile and a quarter of the shoreline on the north end of the present survey and shows the shoreline 20 to 40 meters east of its present location. Such changes are to be expected along sand barrier beaches. Radical changes often occur during severe storms. The high and low water lines as delineated on the present survey should supersede that on the above topographic surveys, within the common area.

b. Hydrography.

1. H-994 (1869) scale 1:10,000 and 1288b (1875) scale 1:10,000

These surveys of Corpus Christi Pass, show that it was located in the vicinity of lat. 27°36', long. 97°12.5'. A brief inspection of the old surveys shows that the pass moved progressively northward and finally closed, leaving a straight shoreline as delineated on the latest topographic survey, T-6663b (1938). These old surveys are of no value in charting and should be disregarded.

2. H-1465 (1880) scale 1:40,000, H-1484a (1881) scale 1:40,000.

These old surveys cover the entire area of the present survey. They consist of a single line of soundings run parallel to the beach in the vicinity of the 3 fathom curve with cross-lines at intervals of 5 to 6 miles. The depth curves on the old surveys are displaced with reference to the present survey in amounts proportional to the shoreline displacement discussed in the preceding paragraph. The present survey should supersede H-1465 (1880) and H-1484a (1881).

6. Comparison with Chart 1286 (New Print dated March 3, 1938)

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs.

7. Condition of Survey.

- a. The sounding records are neat legible and conform to the requirements of the hydrographic manual.
- b. The descriptive report satisfactorily covers all matters of importance.
- c. The field drafting was very good.

8. Compliance with Instructions for the Project.

Satisfactory.

9. Additional Field Work Recommended.

No additional field work is required.

10. Superseded Surveys.

Within the area covered, the present survey supersedes the following surveys.

For Topography

T-1621	(1881-82)	in part.
T-1627	(1881-82)	" "
T-1628	(1881-82)	" "
T-4905	(1934)	" "

For Hydrography.

H-994	(1869)	in part
H-1288b	(1875)	" "
H-1465	(1880)	" "
H-1484a	(1881)	" "

11. Reviewed by Leo S. Straw, September 25, 1939.

Inspected by H. R. Edmonston, September 25, 1939.

Examined and Approved:

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

Chief, Division of Charts.

Chief, Section of Field Work.

Chief, Division of H. & T.

Applied to Chart 1286
" " " 1117

Apr. 15, 1940
May 10, 1940

J. H. S.
J. H. S.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6397 (1938)
FIELD NO. 28

Outer Coast of Padre Island, Gulf of Mexico, Texas.
Surveyed in October, 1938, Scale 1:20,000
Instructions dated February 17, 1937; February 23,
1938 (HYDROGRAPHER)

Hand Lead Soundings. 3 Point fixes on shore signals.

Chief of Party - G. C. Mattison,
Surveyed by - J. N. Jones,
Protracted by - J. N. Jones,
Soundings plotted by - J. N. Jones,
Verified and inked by - G. B. Littlepage.

1. Shoreline and Signals.

Shoreline and topographic signals were located by theodolite and tape traverse, tied into frequent triangulation stations, and plotted directly on the present survey.

2. Depth Curves.

The usual depth curves may be satisfactorily drawn.

3. Sounding Line Crossings.

Satisfactory.

4. Junctions with Contemporary Surveys.

Junctions with hydrography on H-6396 (1938) on the north and H-6403 (1938) on the east will be considered in the reviews of those surveys. Junction of topography on the present survey with that on H-6396 (1938) is satisfactory. New surveys are contemplated on the south, but had not been made at the end of the 1938 season.

5. Comparison with Prior Surveys.

a. Topography.

T-1627 (1881-82), Scale 1:20,000; T-1678 (1881),
Scale 1:20,000; T-1679 (1881), Scale 1:20,000.

Topographic detail on the present survey is confined to high and low water lines on the Gulf

coast of Padre Island. Differences of as much as 100 meters in the delineation of these features on old and new surveys are to be expected on a sand beach in 57 years. The present survey should supersede the old topographic surveys in future charting of the common area.

b. Hydrography.

H-1484 a and b (1881), Scale 1:40,000.

The old survey consists of a single line of soundings run parallel to the beach in the vicinity of the 3 fathom curve with crosslines at intervals of about 5 miles. Depth curves on the old survey are displaced with reference to the present survey in amounts proportional to the shoreline displacement discussed in the preceding paragraph. The present survey should supersede the above survey in future charting of the common area.

6. Comparison with Chart 1286 (New Print dated March 3, 1938)
Chart 1287 (New Print dated Feb. 4, 1935)

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

7. Condition of Survey.

- a. The sounding records are neat and legible.
- b. The descriptive report satisfactorily covers all items of importance.
- c. The field drafting was very good.

8. Compliance with Instructions for the Project.

Satisfactory.

9. Additional Field Work Recommended.

None.

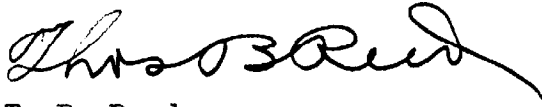
10. Superseded Surveys.

H-1484 a and b (1881) in part.

11. Reviewed by - J. A. McCormick, July 21, 1939.

Inspected by - H. R. Edmonston, July 24, 1939.

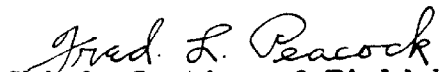
Examined and approved:



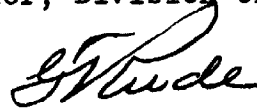
T. B. Reed,
Chief, Section of Field Records.



Chief, Division of Charts.



Chief, Section of Field Work.



Chief, Division of H. & T.

Applied to chart 1286
" " " 1287

4/14/40 J. H. S.
5/6/40 J. H. S.