5478

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R.S.Patton, *Director*

State: Louisiana

DESCRIPTIVE REPORT

~~Topographic~~ } *Sheet No.* 1 5478
Hydrographic }

LOCALITY

Southern part of Timbalier

Bay and outer coast.

1934

CHIEF OF PARTY

Wm. D. Patterson

U. S. GOVERNMENT PRINTING OFFICE: 1933

5478

Form 537
Ed. Dec., 1930

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.

State Louisiana

General locality Gulf of Mexico

Locality Southern part of Timbalier Bay and outer coast.

Scale 1:20,000 Date of survey February-May, 1934

~~Vessel~~ Field Party No. 5.

Chief of Party Lieut. Wm. D. Patterson

Surveyed by G. F. Jordan & V. A. Bishop, Surveyors.

Protracted by C. R. Smith

Soundings penciled by C. R. Smith

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by

Inked by J.W.Day

Verified by J.W.D.

Instructions dated October 27, 1933.

Remarks:

XWW 11/2/92

U. S. GOVERNMENT PRINTING OFFICE: 1931

For fundamental
see Chart Letter 11/24/(1934)

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SHEET No. 1 (Field Number)

TIMBALIER BAY, LOUISIANA.

1934

Project HT-157, Lieut. Wm. D. Patterson, Chief of Party.

DATE OF INSTRUCTIONS

Instructions for this survey are dated October 27,1933.

LIMIT AND EXTENT

This survey covers the area from the eastern pass of Bayou Lafourche (called Pass Fourchon) in the Gulf of Mexico, from the beach to 1.6 miles off-shore to a point 2.3 miles west of Timbalier Lighthouse, from the beach to 1.8 miles off-shore; with the exception of the off-shore development converged 2.2 miles south of Timbalier Lighthouse. This area also includes Timbalier Bay from the Gulf north to Latitude 29° 09.0' which passes through Bull Island; and from the east shore of the Bay, including Bayou Lafourche, west to Longitude 90° 25.5', which includes the waters around the eastern end of Brush and Pelican Islands.

SURVEY METHODS

The method employed in this hydrographic survey was the standard three-point fix taken at position of sounding by sextant angles. A sounding pole, marked in feet, was used for obtaining depths in the bay; and hand leadline, marked in fathoms and feet, for obtaining depths in the Gulf. The mahogany wire-centre tiller rope was used for leadline and a cupped lead for weight.

All signals used in obtaining three-point fixes were located by triangulation of 1928 and 1934 or by topography of 1934, sheets A, B and F, with the exception of three hydrographic signals noted on list of signals contained in Volume 1, Page 1 of the sounding records.

DISCREPANCIES

There are no discrepancies to note, with the exception that for future reference, in-shore depths, especially about the passes into the Bay and Bayou Lafourche, may be found different than at present. This locality is subject to shifting sand bottom and constantly changes with storm and tide. It has been noted that there has been considerable erosion on the east end of Timbalier Island during the period of this survey. Local reports are that this pass has been working westward. Shifting sand bottom has been particularly noted also at Grand Pass Timbalier.

DANGERS

steel framework

Latitude 29° 03.05', Longitude 90° 20.97', is a wrecked lighthouse, 0.4 mile E.N.E. from present Lighthouse. Ten feet of base projects above the water, 90 feet extends south from location under water.

There are no rocks or reefs to report in this area. The dangers are the shoal areas shown on the sheet, and breakers. It is to be noted that Pass Fourchon is fully closed and that there is a narrow bar across Belle Pass which 3' draft shrimp boats hit at low water in passing over.

The area about Grand Pass Timbalier and the pass at the eastern end of Timbalier Island are the only passes used by local fishermen; and are navigable only to those boats which are constantly working in this territory. The sand bottom changes rapidly with storm and tide, and a channel present now may not exist at the same place a month later. Local fishermen claim that the passes tend to fill up during the summer months, and the fall and winter storm-waters break through new channels. In several places about these channels, bars and passes reported by our launch engineer as of the previous summer were not found present during the survey.

REMARKS

Bayou Lafourche and Belle Pass are used extensively by small fishing boats of a 2' to 4' draft. They are narrow winding passes with a V type contour bottom, with deepest water in the middle to zero depth at the banks. Pass Fourchon is not navigable.

Respectfully submitted,

George F. Jordan

George F. Jordan, Surveyor.

Fieldwork completed after chief of Party left for the North to new working grounds. Channels not properly developed and offshore lines too far apart.

Hans D. Rathmann

NOTES BY CHIEF OF PARTY.

SHORELINE

The shoreline has been transferred from photostats of the air-photo sheets as compiled by Lieut. Reese. The photostats were made by a concern in New Orleans and were not properly reduced to 1:20,000 scale from 1:24,000 scale used by Lieut. Reese. However, by transferring square by square it is believed that the shoreline as shown on the smooth sheet is fairly accurate.

The shoreline has been inked where it agrees with the hydrography. In other areas, where the shoreline appeared to be in error, we have shown the shoreline in pencil as we believe it existed at the time of the survey. The air-photo sheets were not received until the party left the field and consequently it was impossible to check the discrepancies in the field. It is believed that most of the discrepancies are due to actual change which has taken place since the time the photos were taken. Other discrepancies may be caused by it being difficult to identify the highwater line on the photographs.

The greatest discrepancy occurs at the eastern end of Timbalier Island. Here we have indicated the approximate shoreline from the description of topographic signal "Gad" and from a study of the air-photo sheet. Probably a study of the original photographs will assist in improving the shoreline in the office.

SPACING OF LINES

The Instructions did not direct a definite spacing of sounding lines inside the bay. A spacing of two hundred meters was adopted by the Chief of Party. On April 1st. the Chief of Division of Hydrography and Topography inspected the party and directed a spacing of three hundred meters for inside areas where the bottom appeared to be of uniform depth. Most of this sheet, however, had already been completed with two hundred meter spacing.

Single lines run in the bayous were run in the deepest part of the bayou to show the greatest depth that can be carried through.

CHARACTER OF BOTTOM

The bottom is uniformly soft mud with sand along the outer coast. There are no rocks but there are occasional oyster reefs of small extent, particularly in the northern part of the bays. Most of the oyster reefs are indicated by stakes.

COMPARISON WITH PREVIOUS SURVEYS

Due to the extensive changes which have taken place since the previous survey a detailed comparison of changes is impossible. In general, the new survey shows the outer coast to be moving back, the islands to be wearing away and the depths inside the bays to be shoaling.

CHANNELS

Grand Pass Timbalier has been filling up and is little used. The present channel is narrow and winding, and difficult to navigate. If the best water were indicated by stakes or buoys, $5\frac{1}{2}$ feet could be carried across the outer bar and $4\frac{1}{2}$ feet across the inner bar into the bay.

The main channel, two miles westward from Grand Pass Timbalier, is wider, straighter, and more generally used. A least depth of 6 feet can be carried across the outer bar and 4 feet across the inner bar, using either branch of the channel, the western branch being safest and more generally used.

GEOGRAPHIC NAMES

A list of new names has been forwarded with the topographic sheets of this area.

LANDMARKS FOR CHARTS

Forwarded with topographic sheets.

Respectfully submitted,

Wm. D. Patterson, Lieut.,
Chief of Field Party No. 5.

STATISTICS

HYDROGRAPHIC SHEET No. 1, (Field Number).

DATE 1934	LETTER	VOLUME	POSITIONS	SOUNDINGS	STATUTE MILES
Feb. 6	Red A	1	122	1247	33.8
" 7	" B	1	3	21	0.4
" 8	" C	1	113	1248	31.2
" 9	" D	2	67	714	19.6
" 15	" E	2	42	457	12.3
" 16	" F	2 & 3	126	1219	31.2
" 17	" G	3	41	432	9.8
" 18	" H	3	114	1257	28.8
" 19	" J	3	9	79	1.8
" 21	" K	3 & 4	140	1522	36.1
" 22	" L	4 & 5	140	1450	35.6
" 23	" M	5	91	918	24.5
Mar. 8	" N	5	13	102	2.7
" 13	" P	5	39	362	8.8
" 14	" Q	5 & 6	109	860	27.2
" 15	" R	6	112	1071	23.2
" 16	" S	6	103	769	24.5
" 19	" T	7	17	117	3.8
" 20	" U	7	175	1307	46.4
" 21	" V	7 & 8	158	1526	35.8
" 22	" W	8	136	1201	28.6
" 23	" X	8 & 9	97	757	27.0
" 28	" Y	9	68	566	19.4
" 29	" Z	9 & 10	173	1432	45.4
" 30	" AA	10	52	346	11.6
Apr. 2	" BB	10	96	887	24.0
" 5	" CC	10	70	636	15.8
" 13	" DD	11	28	175	4.9
" 25	" EE	11	18	137	4.0
" 26	" FF	11	71	479	20.8
" 27	" GG	11	36	214	11.3
May 3	" HH	11 & 12	149	989	38.9
" 4	" JJ	12	137	1066	26.3
" 5	" KK	12	105	811	27.1
Apr. 10	Green a	13	78	695	16.9
" 11	" b	13	24	207	4.4
" 17	" c	13	46	435	11.1
" 18	" d	13 & 14	143	1428	32.6
" 19	" e	14	86	790	16.5
" 17	Blue a	15	155	1047	39.0
" 18	" b	15 & 16	163	1153	36.0
" 23	" c	16	53	355	11.5
" 24	" d	16	119	751	22.9
43 Days		16	3837	33235	933.5

Area - 101 square statute miles.

MEMORANDUM TO ACCOMPANY DESCRIPTIVE REPORT OF SHEET NO. 5299

The error found on sheet No. 5299 was between Lat. 29°02'-29°04' and Long. 90°26'-90°23', or the east end of Timbalier Island. The area in question is a mud flat. The shoreline of this area should have been rodded in by Lieut. Patterson's party as the photographs were available for his use, and could have been checked for hazy areas.

Reasons of error on this sheet were due to the photographs being taken at low water, and failure of the field inspection party to trace in the high water line on the photographs.

Another field inspection was made on July 10, 1934, during high water, and the high water line was sketched on the photographs. The sheet has been corrected from information received on this date.

~~There is attached to the sheet a rough tracing of the area corrected.~~

M. H. Reese

MEMORANDUM TO ACCOMPANY DESCRIPTIVE REPORT OF SHEET NO. 5303

The two errors in this sheet were found in the lower portion of the southwest branch of Bayou La Fourche along Belle Pass, and in the position of the lower portion of the southeast branch of Bayou La Fourche along Pass Fourchon.

A three point fix was established by a theodolite on Topographic Station ASH and the position recomputed. This gave a position of Lat. 29°-06'--1284.5m. and Long. 90°-12'-825.8m. against Lat. 29°-06'-1302.0 and Long. 90°-12'-819.0m. as the position by Patterson.

Additional radial points were picked in the areas of discrepancy and new radial intersections established with the corrected position of Station ASH. Due to the more than average tilt of the photograph in this area, the additional points made possible a more accurate orientation in the areas in question.

The revised position of the portion of the S.W. Branch is approximately 15m. east of the former position and the revised position of the S.E. branch of the Bayou is approximately 8m. southwest of the former position.

The shoreline on the Gulf of Mexico at Pass Fourchon has been revised to correspond with its present location at that point as determined by more recent field inspection.

The revised positions now check with the positions of the areas as shown by Hydrographic Sheet No. 1

M. H. Reese

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5478.

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

Number of positions on sheet	3837.
Number of positions checked	186.
Number of positions revised	9.
Number of soundings recorded	33235.
Number of soundings revised	408 (approx.)
Number of signals erroneously plotted or transferred	0

Date: Oct. 30, 1934

Cartographer: J.W. Day

X Verification of protracting
Verification & inking of rocks & shoals } by J.W. Day Time: } 130.5 hr.

Verification of inking by J.W. Day Time: }

Review by H.W. Murray Time: 16¾ hrs.
R L Johnston 6 hrs

Mr. Ellis 2ac

August 30, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
16 volumes of sounding records for

HYDROGRAPHIC SHEET 5478

Locality **Southern Part of Timbalier Bay and Outer Coast, La.**

Chief of Party: **Wm. D. Patterson in 1934**
Plane of reference is **mean low water reading**
2.4 ft. on tide staff at **Timbalier Id.**
2.8 ft. below B. M. **1**
1.8 ft. on tide staff at Pelican Island
2.3 ft. below B. M. 21
3.5 ft. on tide staff at Bayou Lafourche
1.3 ft. below B. M. 1
2.1 ft. on tide staff at Raccoon Island
2.2 ft. below B. M. 1
Height of mean high water above plane of reference is 1.2 ft. at Timbalier and Pelican Islands; 1.0 ft. at Bayou Lafourche; 1.1 ft. at Raccoon Island.
Condition of records satisfactory except as noted below:

Paul A. Whitney
Chief, Division of Tides and Currents

Section of Field Records

Report on H-5478 — Surveyed in Feb-May 1934
Chief of Party W. D. Patterson — Surveyed by G. T. Jordan, V. A. Bishop
Protracted by C. R. Smith — Sounding plotted by C.R.S.
Verified by J. W Day

The six, twelve and eighteen foot depth curves were completely drawn. The hydrography established the low water line in scattered locations.

The junction on the east with sheet H-5490 was fairly satisfactory. The sheet H-5480 on the north was not available. Sheet H-5479 on the west has not been verified.

In the vicinity of φ 29°-05′ λ 90°-24′ some discrepancy was noted in the plotting of the following positions 42A, 96A, 98A. As revised they correspond nearly to the boat sheet.

A sounding of 2 feet between positions 94V and 95V approx. φ 90°-21.0 λ 29-05.4 was not plotted on the strength of note in sounding record by the chief of party (Vol 8. pp. 6).

Bad Crossings

A bad crossing exists at position 141V and line 28GG-29GG approx. φ 29°-01.1 λ 90°-22.7. A Depth of 19 feet was recorded at 141V and the adjacent depths on the crossing line are 25 feet.

A poor crossing exists on lines 14A-15A and 10F-11F approx. φ 29.06.2 λ 90°-17′.

A bad crossing occurs at the junction of lines 48Q-49Q and 123Z-124Z. Soundings of 14 feet on Q day and 11 feet on Z day are indicated. Approx. φ 29°-03.5 λ 90°-17.1

At the time the inking of the soundings was nearly completed it was reported from the field that the topographic signals "Brush" and "Sad" were incorrect. The new positions were plotted and showed "Brush" to be about 15 metres east of the original position and "Sad" to be about 40 metres north west of the original position. A few positions were replotted involving signal "Brush" and it was decided that the hydrography was not changed to a degree to warrant a complete readjustment. Over one hundred positions were replotted involving signal "Sad". In some cases the lines appeared to be satisfactory according to the corrected positions. But the majority of the corrected lines displayed irregularities to such a degree as to deem it unwise to accept the corrected position of the signal "Sad". The signals "Brush" and "Sad" ~~have~~ ~~been corrected~~ however. ~~are shown on the smooth sheet in their original positions~~.

In many places where the six foot depth curve was irregular the soundings were inked to half feet in order to straighten out the curves.

At approx. ϕ 29°-03 λ 90°-21' the ruins of a lighthouse are symbolized and marked with a note and leader on the smooth sheet. No plane of reference was available.

~~The low water and shoal lines have not been completely verified as the air photo compilations are not available due to changes located by subsequent field work.~~

Respectfully submitted,

October 30, 1934

J.W. Pay

Survey No. H-5478

GEOGRAPHIC NAMES

Date. Oct. 30, 1934

Chart No. 197

Diagram No. 1116

Names underlined in red approved Oct 31, 1934. H.B.

*, Approved by the Division of Geographic Names, Department of Interior.

¢, Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Names on this survey have been compared with Chart 197 and the U.S.G.S. Quadrangles. All names in agreement with these sources have been approved.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
✓	Pelican Islands	Pelican Islands ✓			
✓	Casse Tete Island	Casse Tete Island ✓ (on-uses Cht. 1116.)			
✓	Calumet Island	Calumet Island ✓			
✓	Timbalier Island	Timbalier Island ✓			
✓	Grand Pass Timbalier	Grand Pass Timbalier ✓	Timbalier Pass. — Cht. 1116.		
		East Timbalier Island ✓			
		Raccoon Pass. ✓			
✓	Belle Pass	Belle Pass ✓			
		Bay Marchand ✓			
✓	Pass Fourchon	~~Pass Fourchon~~ ✓ (out, closed, see G.N.S.)			
✓	Bayou Lafourche	Bayou Lafourche ✓			
✓	Timbalier Bay	Timbalier Bay ✓			
✓	Gulf of Mexico	Gulf of Mexico ✓			
	Bull Island	Withhold inking of this name until names on T 5298 have been approved. Said to be local name #10.			
✓	Brush Island ✓	Brush Island			

(M 100)

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5478 (1934)

Southern Part of Timbalier Bay and Outer Coast, Gulf of Mexico, La.
Instructions dated October 27, 1933 (L. C. Wilder).
Surveyed - Feb. - May, 1934

Hand Lead and Pole Soundings - 3 Point Control on Shore Signals.

Chief of Party - W. D. Patterson.
Surveyed by - G. F. Jordan and V. A. Bishop.
Protracted and soundings penciled by - C. R. Smith.
Verified and inked by - J. W. Day.

1. Condition of Records.

The records are neat, legible and conform to the requirements of the Hydrographic Manual except the following:

a. Signals "Brush" (lat. 29°05'.3, long 90°25'.6) and "Gad" (lat. 29°03'.0, long 90°24'.8) were incorrectly transferred. Most of the affected soundings are in inshore areas and were not considered of sufficient importance to warrant a replotting. The position of signals Brush and Gad, however, were corrected in the office.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project except the following:

a. According to a verbal statement furnished by the Chief of Party, the failure to extend lines further inshore in certain areas between longitudes 90°18' and 90°24' is probably due to the use of excessive tide reducers on the boat sheet which in some cases are as much as 2 and 3 feet greater than the true reducer, making the inshore limits appear to be in shoaler water than was actually the case.

b. The spacing of sounding lines outside the 18 foot curve is frequently in excess of 200 meters. (par. 9).

3. Sounding Line Crossings.

Average agreement of soundings in inshore areas is within one foot. Those in the offshore area vary from 1 to 2 feet except the following:

	Lat.	Long.							Average Depths
a.	29°03'.5,	90°17'.1	line	122	to 124Z	varies	1 to 3'	shoaler.	8 to 15'
b.	29°01'.6,	90°23'.0	"	66	" 67F	"	1 " 3'	deeper.	18 " 21'
c.	29°02'.0,	90°23'.0;	"	1	" 3Z	"	2 " 3'	shoaler.	8 " 13'

4. Depth Curves.

Within the limits of the survey, the usual depth curves may be satisfactorily drawn including portions of the zero and the major part of the 6 foot curve.

5. Junctions with Contemporary Surveys.

a. The junction on the east with H. 5490 (1933-34) is adequate. The average agreement of soundings varies from 1 to 2 feet with those of the present survey being generally shoaler.

b. The junctions with H. 5480 (1934) on the north and H. 5479 (1934) on the west will be considered in the reviews of those surveys.

There is no contemporary work south of this survey at the present time.

6. Comparison with Prior Surveys.

Prior surveys made within the limits of the present survey are as follows:

H. 442 (1853)	H. 2072 (1891)
H. 2069 (1891)	H. 2810 (1906)
H. 2071 (1891)	

It is evident from a comparison with the above surveys that radical changes have occurred. Grand Pass Timbalier is now about three quarters miles to the westward and the shore line in long. 90°15' has receded about 1 mile northward. There are now new channels through Timbalier Island between long. 90°22' and long. 90°23'.5. Soundings of the present survey are from 1 to 2½ feet shoaler in the inland areas and from 2 to 16 feet deeper on the outer coast.

7. Comparison with Chart No. 197.

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

8. Field Plotting.

Field protracting and plotting were accurate and conform to the requirements of the Hydrographic Manual.

9. Doubtful Soundings.

The 19 foot sounding (pos. 141U) in lat. 29°01'.1, long. 90°22'.7, falling in depths of 22 to 25 feet and the 20 foot (pos. 1Y) in lat. 29°01'.0, long. 90°22'.9, falling in depths of 24 feet, appear doubtful and should have been investigated in the field. No satisfactory reason could be adduced in the office which would suffice as a basis for their rejection. The soundings have been retained on the smooth sheet.

10. Additional Field Work Recommended.

It would have been desirable if the pass west of Timbalier Lighthouse,

in long. 90°22'.4 had been more fully developed. Also the southern part of the main channel in the vicinity of lat. 29°02'.3, long. 90°23'.0 should have been more closely covered. (See note by Chief of Party in Descriptive Report, pg. 2).

Since this area is evidently subject to constant changes no additional work is recommended.

11. Superseding Previous Surveys.

Within the area covered, H. 5478 (1934) supersedes the following surveys for charting purposes:

H. 442 (1853) In part.	H. 2072 (1891) in part.
H. 2069 (1891) " "	H. 2810 (1906) " "
H. 2071 (1891) " "	

12. Note to Compiler.

Hydrographic Signal "Nor" (Pos. 63JJ) in Grand Pass Timbalier represents a position of the launch "ELEANOR" and is not an obstruction.

13. Reviewed by - Harold W. Murray and R. L. Johnston, Nov. 28, 1934.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

L. O. Colbert
Chief, Division of Charts.

Paul S. Bender
Chief, Section of Field Work.

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

Applied to Cht.	1273 - Nov. 1935	H.O. Gamble	"
" " "	1274 - Apl 1937	H.O. Gamble	
MBS Cht. 11365B	Fully applied 10/82 Tab (New Chart construction)		
Applied to new Chart	11366	10-30-91	John Pierce