

5334

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 DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY

State: LOUISIANA

11-5613

DESCRIPTIVE REPORT.

Field ~~Sheet~~ No. 2 5334

LOCALITY:

Gulf Coast of Louisiana

Calcasieu Pass and River

1933

CHIEF OF PARTY:
W. E. Parker

5334

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SHEET NO. 2, CALCASIEU PASS, LOUISIANA.

INSTRUCTIONS:- December 17, 1932, Project HT-123

SURVEY METHODS:- Survey was made by a detached launch party in charge of Lieutenant (j.g.) E. H. Kirsch, based at Cameron, Louisiana. Soundings were by hand lead and controlled by three point fixes on structures and flags located by plane table, which was controlled by triangulation executed by Lieutenant L. C. Wilder and Lieutenant (j.g.) E. R. McCarthy in the winter of 1932 - 3.

Soundings were reduced as follows: A standard automatic gauge was maintained at the Calcasieu Lighthouse wharf. Portable automatic gauges were set up midway of the east jetty and at the north end of the Pass, just below Calcasieu Lake, and both gauges were operated simultaneously with the standard gauge for more than one week. The jetty gauge and the standard gauge showed no appreciable differences in range or time and it was therefore assumed that for the reduction of soundings the records from the standard gauge might be used without correction from the entrance to a little above the wharf. The gauge at the north end showed no lunar tides there, but only fluctuations in the lake level due to winds. The entire Pass was divided into five zones, as nearly equal in length as practicable, except that the first zone included all area south of the first bend, at about latitude $29^{\circ} - 47'$. Reducers for the first zone were taken direct from the records at the standard gauge and for the next three zones, the records at the standard gauge reduced in proportion to their distance from that gauge. The reducers in the 5th zone are 0 or the amount the lake level was altered by winds as indicated on the portable gauge there.

DISCREPANCIES:- No discrepancies of importance have been detected except on cross lines in rapidly changing depths. These mostly occur at the beginning and ending of the short cross-channel lines and are undoubtedly due to changes in speed. No adjustment has been made because the soundings are so close that erasure would make the sheet illegible. It is recommended that when the soundings are inked, preference be given to the soundings on lines parallel to the channel. The following are examples of poor crossings: Line 192 to 193A crossing 64 to 65A, 37 feet over 19 feet; Line 87 to 88D crossing 28 to 29D, 20 feet over 25 feet, and crossing 45 to 47D, 8 feet over 4 feet; Line 158 to 159A, shallower soundings outside deeper soundings on channel lines. Also the following soundings at positions: 129C, $5\frac{1}{2}$ feet inshore of 3 feet; 130C, $4\frac{1}{2}$ feet inshore of $2\frac{1}{2}$ feet; and 132C, $4\frac{1}{2}$ feet inshore of 1 foot. These latter are the result of sounding against a steep slope where a slight error in position gives a large difference in depth.

Discrepancy
due to discrepancy
of time interval
on 87-88d.
A.L.S.

Except in a very few places the Pass is adequately developed by the parallel channel lines and the cross lines add little if anything to the survey. South of \odot Rod, between \odot Bob and \odot Cap and between \odot Aid and \odot Bob an additional short channel line between the deep line and the adjacent shallow line would improve the survey.

Depth curves have been drawn wherever possible without obscuring the soundings, but they are so close that all curves can not be drawn until the soundings have been inked.

CHANNEL AND DANGERS:- The controlling depth is 9 feet, one foot more than shown on chart 518 and stated in the Coast Pilot, and is found just inside the east jetty. Otherwise this survey shows no important change from the chart.

The range for entering, consisting of a white tower (fixed red light) in front of and in line with Calcasieu Lighthouse, passes very close to the east jetty, so close that a stranger might fear to hold to it after coming up to the south end of the jetty. However, that is not necessary, for somewhat greater depths will be found if the range is opened to westward and the east jetty, which is always visible except during storm tides, is followed at a distance of from 100 to 150 yards until the shore line is reached. Then mid-channel courses give the best depth as far as Cameron. The west jetty is submerged except for a short length near shore and is not readily made out.

The Pass is a series of deep troughs, 20 to 40 feet, separated by flats of 12 to 15 feet. A depth of 12 feet can be carried from the inner end of the jetties to Calcasieu Lake but local knowledge is necessary to keep off the shoals and oyster bars above Cameron. A small oyster covered shoal lies nearly in midstream off © Red, about half a mile below Cameron. It has a least depth of 13 feet and is surrounded by depth of 25 feet or more. At Rod, about $2\frac{1}{2}$ miles above Cameron, there is an oyster bar with a least depth of $4\frac{1}{2}$ feet nearly in midstream and 700 yards further upstream, just around the next bend, there is a shell pile with a least depth of 9 feet in midstream. One hundred and fifty yards farther an extensive shoal with depths of 3 to 5 feet fills the eastern half of the stream.

NAVIGATION:- Apparently no use is made of this waterway except by fishermen and oystermen using small skiffs and open launches. A new road, paved with oystershells, fairly typical of secondary roads in this part of the State, runs from opposite Cameron through Hackberry to the town of Sulphur on the main highway between Lake Charles and Beaumont. The road extends eastward from Cameron to beyond Grand Chenier. A small ferry at Cameron operates on a half hourly (hourly during the night) schedule and carries persons and vehicles free of charge. All transportation between Cameron and villages eastward thereof and places to the north and west is by means of vehicles over this road.



STATISTICS FOR SHEET NO. 2

Vol. No.	Positions	Soundings	Miles (stat.)	Sq. Stat. Miles
1	363	2101	41.0	
2	337	1755	41.5	
Total	700	3856	82.5	1.5

LAC

January 9, 1934

✓ Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 5334

Locality Calcasieu Pass and River, Louisiana

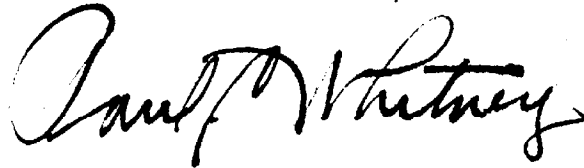
Chief of Party: W. E. Parker in 1933

Plane of reference is mean low water reading
3.5 ft. on tide staff at Calcasieu Lighthouse
5.8 ft. below B. M. 1

3.2 ft. on tide staff at Calcasieu Pass, North End
1.9 ft. below B.M. 1

Mean high water above plane of reference is 1.5 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents

Jan. 17, 1934

Section of Field Records
Report on Hydrographic Sheet No. 5334
Calcasieu Pass and River
Gulf Coast of Louisiana

Chief of Party W. E. Parker
Surveyed by E. L. Kirsch and O. B. Hartzog.
Protracted by D. H. Bassett.
Soundings penciled by D. H. B.
Verified and inked by W. L. Muller.

The records conform to the requirements of the Hydrographic Manual.

The field plotting was accurately done with the exception of two or three positions which have been corrected.

The depth curves may be completely drawn.

The sheet contains many bad crossings. (See Description Report) and while positions at end of lines plot correctly, it is believed by the writer that the position observations and the soundings were not taken simultaneously thus accounting for these discrepancies. Where these discrepancies occur preference has been given to the lines running parallel to the Channel.

Respectfully submitted

W. L. Muller

SECTION OF FIELD RECORDS
Report on Hydrographic Survey No. 5334.
Calcasieu Pass and River, Louisiana
Surveyed in 1933
Instructions dated Dec. 17, 1932 (HYDROGRAPHER)

Hand Lead Sounding and Three Point Control

Chief of Party - W. E. Parker.
Surveyed by - E. H. Kirsch and O. B. Hartzog.
Protracted and soundings plotted by - D. H. Bassett.
Verified and inked by - W. L. Mullen.

1. Records.

The records are in conformity with the Hydrographic Manual except that the tide reducers were entered in the wrong column.

2. Instructions for the Project.

The work is in conformity with the Instructions for the project with the following exceptions:

- a. The work should have been extended northward to the limit of the deep water.
- b. Between \odot Aid and \odot Bob an additional channel line would have been desirable.
- c. Additional development in the area between \odot Cap, \odot Shed and \odot Bar to determine the least depth of water on the 8 foot shoal and to better develop the depth curves in the area.
- d. To the southeastward of \odot Rod an additional line would have better defined the limits of the shoal area making out from the eastern bank.
- e. The 17 foot spot in lat. $29^{\circ}49'.05$, long. $93^{\circ}20'.85$ should have been further investigated. It appears to be 1 fathom in error.

3. Depth Curves and Crossings.

Except as indicated in the preceding paragraph the usual depth curves can be adequately drawn.

The cross lines that were run checked in a general way the depths on the channel lines and insured against systematic errors in those lines. However an accurate check on the work in such a waterway is difficult to obtain by cross lines due to the change of speed and to the steepness of the slope along the sides of the channel. In most cases where the soundings on the cross lines failed to agree with the channel lines, the soundings on the cross lines were adjusted to con-

H. 5334 - 2.

form more or less to the channel lines. But where no additional information was furnished by the cross lines in such cases, they were omitted.

4. Junctions with surveys.

There are no contemporary surveys joining this survey, the latest survey in this area having been made in 1924 (H. 4365).

5. Comparisons with Previous Surveys.

a. The surveys prior to 1924.

These comprise hydrographic sheets H. 487, H. 1572 and H. 1648 surveyed in 1855, 1883 and 1885, respectively. None of these surveys extend more than half way up the Pass and were all made prior to the construction of the jetties at the entrance. The first of these H. 487 is a survey of the bar and comparison with that is unnecessary. The survey of 1883 (H. 1572) is a reconnaissance survey on a 1-10,000 scale. The general depths are in agreement. The only depth of importance on the 1883 survey is the $8\frac{1}{2}$ foot shoal to the south of Leesburg (now Cameron). This shoal with 9 feet was located on the present survey about 100 meters to the northward. The survey of 1885 (H. 1648) is in general good agreement with the present survey. The oyster bar about $\frac{1}{2}$ mile south of Cameron is new.

b. The U. S. Engineer's Survey of 1905 (B.P. 10795)

This is the first complete survey of the Pass. The new survey indicates no radical departures from the Engineer's survey except in the area between West Pass and @ Rat and in the vicinity of @ Min about $\frac{1}{3}$ mile south of Cameron. In the first locality the shoreline appears to have shifted about 75 meters to the northwest carrying the depths with it while near @ Min the entire pass seems to have shifted about 75 meters to the eastward. It is doubtful, however, whether any actual change has taken place here between the dates of these two surveys for a comparison with the shoreline on the 1885 survey shows a close agreement with the present survey. It is unlikely that this portion of the Pass is subject to oscillating changes. The inference is that the Engineer's survey is in error.

c. The Survey of 1924 (H-4365).

This survey takes in the approaches to the Pass as well as a short distance inside the Pass. The agreement with the present survey at the mouth of the Pass is excellent and one survey can be eased into the other without jumps in the depths. The controlling depth over the bar has increased from 8 to 9 feet.

H. 5334 - 3.

6. Additional Work.

Because of the low controlling depth across the bar and through Lake Calcasieu, no additional work is recommended for immediate execution. However, if work is resumed in this locality or if the project depth through this waterway should be increased, then the desirability of accomplishing the work outlined in paragraph 2 of this review should be considered. In addition a line of soundings should be carried through West Pass.

7. Information for Compiler.

The present survey should within its limits supersede all previous surveys for charting purposes. The soundings in West Pass as shown on the Engineer's Survey of 1905 (B.P. 10795) can be continued on the charts in the absence of further work.

8. Reviewed by - A. L. Shalowitz, Feb. 1934.

K.T. Adams
K. T. Adams,
Chief, Section of Field Records.

Examined and approved:

L.O. Pollett
Chief, Division of Charts.

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

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

*Applied to chart 1279
12/27-35 G.H.S.*

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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. 2

REGISTER NO. 5334

State Louisiana

General locality Gulf Coast of Louisiana

Locality Calcasieu Pass and River

Scale 1:10,000 Date of survey March 5th - 8th, 1933

Vessel Starboard Launch of HYDROGRAPHER

Chief of Party W. E. Parker

Surveyed by E. H. Kirsch and O. B. Hartzog

Protracted by D. H. Bassett

Soundings penciled by D. H. Bassett

Soundings in ~~fathoms~~ feet

Plane of reference MLW

Subdivision of wire dragged areas by _____

Inked by _____

Verified by _____

Instructions dated December 17th, 1933

Remarks: _____