

5939

U. S. COAST & GEODETIC SURVEY  
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Form 504  
Ed. June, 1928

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

State: LOUISIANA

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**DESCRIPTIVE REPORT**

*Topographic* } Sheet No. 16  
*Hydrographic* }

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**LOCALITY**

GULF OF MEXICO

---

SOUTH OF SHIP SHOAL

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1935

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**CHIEF OF PARTY**

R. F. LUCE

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DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

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. 16

REGISTER NO. **H5939**

State LOUISIANA

General locality GULF OF MEXICO<sup>13</sup>

Locality SOUTH OF SHIP SHOAL<sup>18</sup>

Scale: 1:120,000 Date of survey August-September, 1935

Vessel HYDROGRAPHER

Chief of Party R. F. LUCE

Surveyed by Ship's Officers

Protracted by Clarence A. Burmister

Soundings penciled by Clarence A. Burmister

Soundings in fathoms ~~feet~~

Plane of reference M.L.W.

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by C. W. O'Melveny

Verified by C. W. O'Melveny

Instructions dated December 17th, 1932

Remarks: \_\_\_\_\_

# MEMORANDUM

## IMMEDIATE ATTENTION

SURVEY }  
 DESCRIPTIVE REPORT } No. H 5939  
 PHOTOSTAT OF } ~~No. T~~

{ received Feb. 3, 1936  
 { registered Feb. 7, 1936  
 { 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    |  |         |                     |
| 26    |  |         |                     |
| 30    |  |         |                     |
| 40    |  |         |                     |
| 62    |  |         |                     |
| 63    |  |         |                     |
| 82    |  |         |                     |
| 83    |  |         |                     |
| 88    |  |         |                     |
| 90    |  |         |                     |
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RETURN TO

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| 82 |  |
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C. K. Green      Feb. 10, 1936

DESCRIPTIVE REPORT

TO ACCOMPANY SMOOTH HYDROGRAPHIC SHEET NO. 16

LOUISIANA COAST

SHIP HYDROGRAPHER

1935

INSTRUCTIONS

This survey was made under authority of and in accordance with Director's Instructions dated December 17, 1932, covering Project H. T. 125.

SURVEY METHODS

A series of five survey buoys in an approximate east and west line furnished the horizontal control for this survey. The positions of these five buoys were determined by the usual sound ranging methods from buoys previously located by similar means or by visual fixes. The system of buoys for the entire season's survey was carefully plotted on an aluminum sheet (for the inshore work) and a well seasoned smooth sheet (#15) (for the offshore work). The system is thus adjusted through out for the entire project.

The positions for this survey were fixed by the usual RAR methods using the Launches "FARIS" and "PRATT" as station ships. The hydrophone position relative to the buoys was determined at half-hour intervals and the data furnished the surveying vessel.

The velocities used in plotting the positions were taken from the British Admiralty Tables using a daily mean of temperatures of the sea water at the station ships and "HYDROGRAPHER" in the computations.

The velocities then used were computed for the mean depth of water at the stations ships and the surveying ship. There was sufficiently close agreement in velocity computations for the entire season to permit the use of a single curve. The velocities used varied from 1535 meters per second at the inshore end to 1515 meters per second at the offshore end of the lines. This information is given in a separate report.

R.A.R. positions were supplemented by bearings on the survey buoys or on the station ships. These in general were in good agreement but occasionally the bearings would not check bomb arc intersections by as much as 2 degrees.

Soundings were taken by both the "Dorsey" Fathometer and the 515 type Fathometer - The former being used to depths up to about 35 fathoms and the latter in the greater depths (and in general in all depths after having once passed the 50 fathom curve). Soundings are plotted in fathoms.

#### DESCREPANCIES

Arcs indicating the distances from the various buoys are shown at 10,000 meter intervals in the color appropriate to the station ships, vis: "Faris" - Green; "Pratt" - Blue. These were used to allow adjustment due to distortion in the smooth sheet during the plotting. Positions are shown in red with short intersecting arcs of the appropriate colors and were supplemented by bearings by a short dot-dash line also in its proper color.

In general, preference was given to bomb arcs over bearings in plotting the smooth sheet, although there was good agreement in most cases. An occasional bearing appears to be "wild" and is so rejected.

Log distances and courses, in general, check the bomb positions well.

The usual depth curves are drawn, supplemented by the 40, 60 and 80 fathom curves to show the general bottom formation more clearly.

#### DANGERS

The characteristic bottom formations near and along the 100 fathom curve (as discovered in the surveys of 1933 and 1934) are found to prevail in the area covered by this survey. The shoals surveyed rise in general from the surrounding depths of about 60 fathoms. However, there are no dangers to navigation found in the area covered by this survey.

#### COMPARISON WITH PREVIOUS SURVEYS

A satisfactory junction with the surveys of 1934 have been made on the west and north, eastward to longitude  $91^{\circ} 50'$  and further to the eastward with the survey of 1935, Sheet 15.

Since there has been no adequate survey of this area, no comparison with previous surveys is practical. However, the shoal areas shown on the charts (1116) are substantiated to some extent by the present survey. Least depths do not agree particularly well.

A list of least depths and their respective positions follow:

|              |                             |  |
|--------------|-----------------------------|--|
| 29 fathoms ✓ | Latitude $28^{\circ} 06.0'$ | Longitude $91^{\circ} 01.5'$ to $91^{\circ} 02.5'$ |
| 31 fathoms ✓ | " 27 56.7                   | " 92 01.0  |
| 32 fathoms ✓ | " 27 57.7                   | " 92 02.0  |
| 42 fathoms ✓ | " 28 06.7                   | " 90 55.5  |
| 48 fathoms ✓ | " 28 00.5                   | " 91 45.5  |
| 49 fathoms ✓ | " 27 56.5                   | " 91 29.2  |
| 45 "         | " 27° 56.2'                 | " 91° 29.1'  |

|              |                    |                     |
|--------------|--------------------|---------------------|
| 49 Fathoms ✓ | Latitude 28° 01.3' | Longitude 91° 28.0' |
| 51 Fathoms ✓ | " 28 03.2          | " 91 29.0           |
| 57 Fathoms ✓ | " 28 03.8          | " 91 18.0           |
| 58 Fathoms ✓ | " 28 00.3          | " 91 39.1           |
| 58 Fathoms ✓ | " 28 01.1          | " 91 40.5           |
| 60 Fathoms ✓ | " 28 00.5          | " 91 16.0           |
| 95 Fathoms ✓ | " 27 51.5          | " 91 59.5           |

TIDAL DATA

The vertical control for this survey was from the Standard Tide Guage (No. 268) at Eugene Island Light. No time or range corrections are applied.

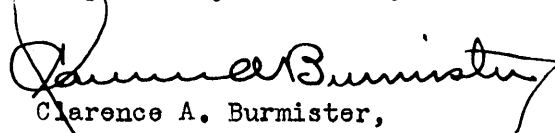
The following data is given:

Position of Guage Latitude 29° 22.35' N, Longitude 91° 23.05' W.  
MLW on staff 1.4 feet  
Highest tide observed 4.7 feet (on staff)  
Lowest tide observed 0.5 feet (on staff)  
Time meridian 90° W.

STATISTICS

|                                 |        |
|---------------------------------|--------|
| Statute miles of sounding lines | 1380.8 |
| Number of soundings,            | 7197   |
| Number of positions,            | 912    |

Respectfully submitted,

  
Clarence A. Burmister,  
Jr. H. & G. Engineer,  
U.S.C. & G. Survey.

Examined and Approved:

  
R. F. Luce, H. & G. Engineer,  
Chief of Party, U.S.C. & G. Survey.

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## TIDE NOTE FOR HYDROGRAPHIC SHEET

February 8, 1936

Division of Hydrography and Topography:

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

Tide Reducers are approved in  
4 volumes of sounding records for

HYDROGRAPHIC SHEET 5939

Locality South of Ship Shoal, Louisiana Coast

Chief of Party: R. F. Luce in 1935  
Plane of reference is mean low water reading  
1.4 ft. on tide staff at Eugene Island  
4.2 ft. below B.M. 1

Height of mean high water above plane of reference is 1.4 feet.

Condition of records satisfactory except as noted below:

*P. Schurman*  
*Acting*, Chief, Division of Tides and Currents.



# GEOGRAPHIC NAMES

Survey No.

| 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 |    |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 1  |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 2  |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 3  |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 4  |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 5  |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 6  |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 7  |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 8  |
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|                |              |                        |                          |                        |               |                    |                    |                  |   | 10 |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 11 |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 12 |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 13 |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 14 |
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|                |              |                        |                          |                        |               |                    |                    |                  |   | 25 |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 26 |
|                |              |                        |                          |                        |               |                    |                    |                  |   | 27 |

*No names on sheet*

*W. J. Adams*

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H5939**

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

|  |         |
|--|---------|
| Number of positions on sheet                         | .912..  |
| Number of positions checked                          | ...9..  |
| Number of positions revised                          | ...0..  |
| Number of soundings recorded                         | .7197.. |
| Number of soundings revised                          | ...15.. |
| Number of signals erroneously plotted or transferred | ....0.. |

Date: *Feb. 24, 1936*

Verification by *C.W. O'Melveny*

Time: 70 hrs.

Review by *R. J. Christman*

Time: 14 hrs.

HYDROGRAPHIC SURVEY NO. **H5939**

Smooth Sheet Yes

Boat Sheet 1

Sounding Records Yes Vols. 6

Descriptive Report Yes

Title Sheet Yes

List of Signals Vol. 1

Landmarks for Charts (Form 567) No

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) No

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

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

VERIFICATION REPORT FOR H 5939

1. Conformity to Hydrographic Manual

The records are neat, legible and conform to the requirements of the Hydrographic Manual. ✓

2. Depth Curves

All depth curves could be completely drawn. ✓

3. Field Plotting

The field plotting was excellent. (See note in Remarks, this report.) ✓

4. Junctions

Three modern surveys adjoin this sheet on the north and west; they are H 5938 and H 5767 on the north and H 5768 on the west. No sheet joins on the east. ✓

The agreement with H 5767 was excellent, although the 20-fathom curve was changed to conform with the sounding lines of both sheets. ✓

A transfer of sounding lines to H 5768 showed no overlap of lines. The soundings as transferred indicated good agreement. ✓

No junction was made with H 5938 as it has not yet been verified. ✓

5. Remarks

Considerable displacement of lines was found by comparison with the boat sheet, due probably to the fact that no arcs were drawn on the boat sheet and that the plotting was likely done with a beam compass with no allowance for sheet distortion. The displacement occurs in an east-west direction and consequently does not cause any error in the bottom configuration. ✓

The crossings in all cases were excellent; well within the 2% limit prescribed. ✓

February 24, 1936.

Submitted by C. W. O'Melveny

*C. W. O'Melveny*

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5939 (1935) FIELD NO. 16

South of Ship Shoal, Gulf of Mexico, Louisiana  
Surveyed in Aug. - Sept. 1935  
Instructions dated Dec. 17, 1932 (HYDROGRAPHER)

Fathometer Soundings.

RAR control.

Chief of Party - R. F. Luce.  
Surveyed by - Ship's Officers.  
Protracted by - C. A. Burmister.  
Soundings penciled by - C. A. Burmister.  
Verified and inked by - C. W. O'Melveny.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual, except that too few bottom characteristics were obtained (par. 50 Hydrographic Manual). The comparative soundings taken did not always note the character of the bottom and in a number of cases no definite fix was recorded making it impossible to plot the comparisons. In fathometer work it is desirable that comparisons be made at the beginning and end of the day's work and at least once during the day. This would give a well distributed number of vertical casts throughout the sheet.

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

2. Compliance with Instructions for the Project.

The plan and character of development are in accordance with the instructions, except that some of the shoal indications between the 50 and 100 fathom curves and the submarine valley in approximate latitude 28°00', longitude 91°34', were not developed. (See par. 10 this review).

3. Shoreline and Signals.

No shoreline is shown on this sheet.

The signals are hydrographic buoys located by taut wire or bomb distances and sun azimuths. A list of geographic positions for all buoys as determined by graphical plotting on H-5938 (1935) is included in the cahier of RAR data. (876, SHS, H-5938-9, 1935, L).

4. Sounding Line Crossings.

The depths at crossings of sounding lines are in satisfactory agreement.

5. Depth Curves.

The usual depth curves may be satisfactorily drawn.

6. Junction with Contemporary Surveys.

The junctions with H-5938 (1935) and H-5767 (1934) to the north and with H-5768 (1934) to the west are satisfactory. Surveys to the eastward have not yet been made.

7. Comparison with Prior Surveys.a. H-657 (1858)

This is a reconnaissance survey on a scale 1:635,000. The 19 fathom (charted) in latitude  $28^{\circ}28\frac{1}{2}'$ , longitude  $91^{\circ}54'$  and the 20 fathom (charted) in latitude  $28^{\circ}31'$ , longitude  $91^{\circ}36\frac{1}{2}'$ , come from this survey. They are probably not in their proper location as they fall in depths of 28 and 25 fathoms, regular bottom, on the present survey, with no indication of shoaling anywhere in the vicinity. These soundings should be disregarded in future charting.

b. H-1350 (1875-7).

This survey on a scale 1:600,000, shows two lines of widely spaced soundings in an east and west direction, and two lines north and south. The depths in general are in fair agreement with the present survey, although some of the soundings are 2 to 3 fathoms shoaler and others that much deeper than shown on H-5939 (1935). The survey may be classed as reconnaissance and should be superseded by the present survey in future charting.

8. Comparison with Chart 1116 (New Print dated Sept. 18, 1935).a. Hydrography.

Within the limits of the present survey the chart is based on surveys discussed in the foregoing paragraphs together with certain miscellaneous soundings as follows:

- (1) 31 fathoms in lat.  $28^{\circ}03'$ , long.  $91^{\circ}40'$ .
- (2) 30 fathoms " "  $28^{\circ}04'$ , long.  $91^{\circ}36'$
- (3) 32 fathoms " "  $28^{\circ}05'$ , long.  $91^{\circ}30'$
- (4) 32 fathoms " "  $28^{\circ}05'$ , long.  $91^{\circ}02'$

These soundings originate with a copy of Chart 1007 of Aug. 1910, on which they were spotted (apparently by fishermen operating in these waters.) This chart is filed as blue print 13790. All of these soundings fall in the broken area

between the 50 and 100 fathom curves and, with the exception of No. 4, which was developed and a least depth of 29 fathoms obtained, should be retained on the charts until further examined.

- (5) 26 fathoms in lat. 28°02', long. 90°58'.  
 (6) \*32 " " " 28°04', long. 91°05'.

*Listed in Letter 160 (1911)  
 Murray 8/15/43*

The 26 fathom sounding originates with Chart Letter 6 of 1916, and was reported by the fishing schooner FORTUNA; the source of the 32\* fathom sounding is unknown but has appeared on the charts since the 1st edition of Chart 1116 in 1918. Both of these soundings may be displacements of the 29 fathom shoal found on the present survey in latitude 28°06', long. 91°01'. However, they should be retained on the charts pending additional work in this area. (See par. 10 this review).

b. Aids to Navigation.

No aids to navigation are charted within the limits of the survey.

9. Field Plotting.

The field plotting was excellent.

10. Additional Field Work Recommended.

Inasmuch as field work is to be resumed in this locality in the near future, the following additional work should be accomplished:

- a. Split lines should be run in the area between the 50 and 100 fathom curves where four mile spacings now exist and all indications found developed. In this connection attention is called to the fact that this area is characterized by a series of small banks and shoals between the 50 and 100 fathom curves and just outside the 100 fathom curve that oftentimes rise to a depth of 18 fathoms. (See also H-5768 and H-5417 to the westward).

*overlap with H-6502 is considerable though it does not extend to 50 fm curve*

- b. A further development of the various shoal indications found on the present survey, such as the 49 fathom depth in latitude 28°01', longitude 91°28', and the 45 fathom shoal in latitude 27°56', longitude 91°29', and the 51 fathom shoal in latitude 28°03', longitude 91°29'. The shoals reported in this locality (see par. 8a this review) may be displacements of the indications obtained on the present survey.

*Accomplished on H-6502*

- c. An examination of the charted depths mentioned in par. 8a, (1) (2) (3) (5) (6) of this review.

*(1), (2), (3) accomplished to a limited extent on H-6502 (1934-40)*

- d. The submarine valley in the vicinity of latitude 28°00' longitude 91°33', should be developed in the same manner as is done with the valleys on the east coast. They are of importance from a navigational and geological point of view.

H-6502

11. Note to Compiler.

Attention is called to par. 8a of this review regarding the retention of certain charted soundings.

12. Superseding Old Surveys.

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

H-657 (1858) in part  
H-1350 (1875-7) " "

13. Reviewed by - R. J. Christman, Mar. 10, 1936.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

*J. L. Peacock*  
Chief, Section of Field Work.

*L. D. Robert*  
Chief, Division of Charts.

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