

# FE391

Diagram No. 1116-3

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SERVICE

## DESCRIPTIVE REPORT

Type of Survey ... Side Scan Sonar  
Field No. .... MI-10-4-93  
Registry No. .... FE-391SS

### LOCALITY

State ..... Louisiana  
General Locality ... Gulf of Mexico  
Sublocality ..... 34 NM Southwest of  
..... Raccoon Point  
.....  
..... 1993  
.....  
CHIEF OF PARTY  
CAPT D.B. MacFarland

### LIBRARY & ARCHIVES

DATE ..... May 31, 1994

# FE391

A/G

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11340

411

## HYDROGRAPHIC TITLE SHEET

FE-391SS

INSTRUCTIONS - 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.  
MI-10-4-93

State Louisiana

General locality Gulf of Mexico

Locality 34 ~~1~~ nm SW of <sup>RACCOON</sup> Raccoon Point, Isles Dernieres, LA

Scale 1:10,000 Date of survey August 2, 1993

Instructions dated April 6, 1993 Project No. OPR-SK904-8620-~~MI-93~~

Vessel NOAA Ship MT MITCHELL

Chief of party CAPT David B. MacFarland

Surveyed by R.L. Harris, M. Hulsbeck, K.A. Pavelle, M.P.M. Soracco, J.D. Swallow, S.R. Williams

Soundings taken by echo sounder, hand lead, pole DSF-6000N

Graphic record scaled by MT MITCHELL survey personnel

Graphic record checked by MT MITCHELL survey personnel

Protracted by N/A Automated plot by Zeta 936 Plotter (FIELD)  
SYNETICS PLOTTER  
(AHS)

Verification by ATLANTIC HYDROGRAPHIC SECTION PERSONNEL

Soundings in ~~fathoms~~ ~~feet~~ ~~at~~ ~~MLW~~ MLLW meters

REMARKS: Field Examination of AWOIS item # 8620

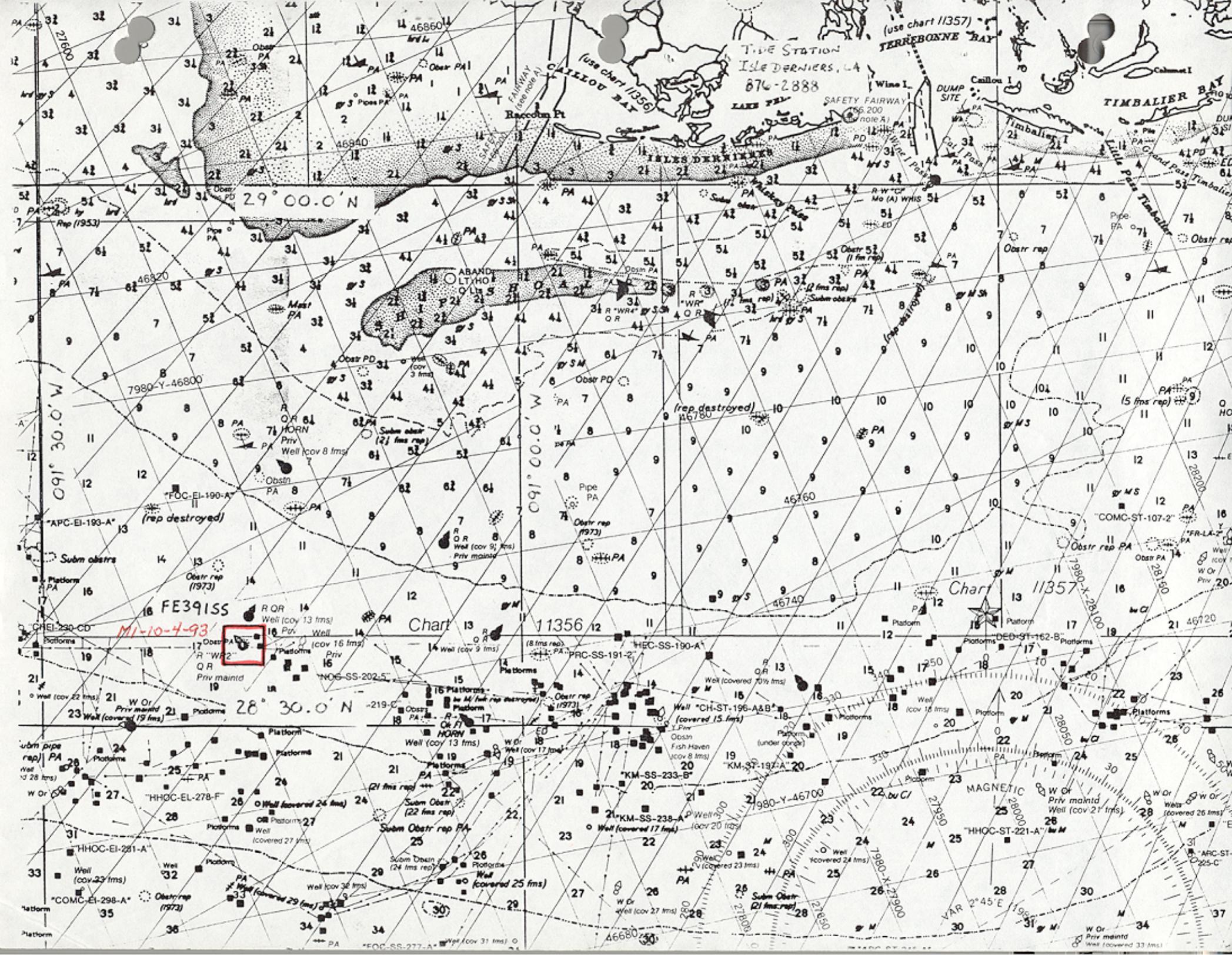
Time zones used: 0 (UTC) for data collection, +6 (CST) for tidal data

400% side scan sonar coverage

NOTES IN RED WERE MADE DURING OFFICE  
PROCESSING.

AWOIS/SURF ✓ 6/3/94, JSV

ZWW 7/19/94



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\* FILED WITH THE ORIGINAL FIELD RECORDS

## **A. PROJECT**

**A.1** This survey was conducted in accordance with Project Instructions OPR-SK904-MI-93, Louisiana Coast Item Investigation, Louisiana.

**A.2** The original date of the instructions is April 6, 1993.

**A.3** The following changes to the original instructions are relevant to this survey:

June 3, 1993 - An amendment to the project instruction was received from the Director, Atlantic Marine Center. This amendment instructed MT MITCHELL to monitor both the New Orleans DGPS beacon and the NOAA HF DGPS transmitter with the NOS program *SHIPDIM*. The *OUTLIER.SUM* file from this program is to be forwarded to N/CG241.

July 23, 1993 - Change #1. Tide gage installation on Gulf of Mexico side is not required. Loran-C chart verification not required.

**A.4** A sheet letter was not specified in the project instructions.

**A.5** Project OPR-SK904-MI-93 responds to concerns expressed by the Eighth Coast Guard District regarding the effect of Hurricane Andrew in 1992 in the vicinity of Ship Shoal. Various types of wreckage, including jack-up oil rigs destroyed in previous hurricanes, have either disappeared or been moved to unknown locations by the strong currents generated by Andrew's storm surge.

## **B. AREA SURVEYED**

**B.1** This survey is located 34.2 nautical miles SouthWest of <sup>Raccoon</sup>~~Raccoon~~ Point, Isles Dernieres, Southern Louisiana Coast. Existing depths are between 31 and 34 meters (102 to 111 feet). AWOIS Item # 8620 is covered on this sheet. This item was assigned after the project began at the request of the Eight Coast Gaurd District, and exists on the Southern extreme of the Ship Shoal project area.

The primary traffic in the area is oil rig tending / supply transports, tug and barge traffic, and small shrimp trawling vessels. The traffic is almost exclusively shallow draft vessels.

**B.2** The area is delineated by a 500 meter radius circle centered on 28° 34' 35.47" N Lattitude and 91° 17' 21.43" W Longitude. The search radius is for AWOIS Item# 8620. A red privately maintained buoy, "WR2", marks the center of the search area.

**B.3** All the survey data was acquired on 02 August, 1993 (DN 214).

### **C. SURVEY VESSELS**

**C.1** The following vessels were used during this project:

| <b><u>VESSEL</u></b>         | <b><u>ELECTRONIC DATA<br/>PROCESSING NUMBER</u></b> | <b><u>PRIMARY FUNCTION</u></b>              |
|------------------------------|---|---|
| JENSEN LAUNCH 1017<br>(MI-3) | 2223  | Hydrography/Side Scan Operations,           |
| JENSEN LAUNCH 1002<br>(MI-4) | 2224  | Diving Operations/DGPS Performance<br>Check |
| MOUNT MITCHELL<br>(S222)     | 2220  | CTD cast                                    |

## **D. AUTOMATED DATA ACQUISITION AND PROCESSING**

**D.1** Survey data acquisition and processing were accomplished using the HDAPS system with the following software versions:

| <b><u>Program Name</u></b> | <b><u>Version</u></b> | <b><u>Date Installed</u></b> |         |
|----------------------------|-----------------------|------------------------------|---------|
| AUTOST                     | 3.01                  | May 17                       |         |
| BACKUP                     | 2.00                  | May 17                       |         |
| BASELINE                   | 1.14                  | May 17                       |         |
| BIGABST                    | 2.05                  | May 17                       |         |
| BIGAUTOST                  | *.**                  | June 30                      |         |
| BLKEDIT                    | 2.02                  | May 17                       |         |
| CARTO                      | 2.06                  | May 17                       |         |
| CONTACT                    | 2.04                  | May 17                       |         |
| CONVERT                    | 3.54                  | May 17                       |         |
| DAS_SURV                   | * 6.341               | May 17                       |         |
| DAS_SURV                   | * 6.37                | June 30                      | UPDATED |
| DIAGNOSE                   | 3.03                  | May 17                       |         |
| DISK_UTIL                  | 1.00                  | May 17                       |         |
| DP                         | 2.14                  | May 17                       |         |
| EXCESS                     | 4.11                  | May 17                       |         |
| FILESYS                    | 3.05                  | May 17                       |         |
| GRAFEDIT                   | 1.04                  | May 17                       |         |
| HIPSTICK                   | 1.01                  | May 17                       |         |
| HPRAZ                      | 1.26                  | May 17                       |         |
| INSTALL                    | 4.02                  | May 17                       |         |
| INVERSE                    | 2.01                  | May 17                       |         |
| LISTDATA                   | 1.02                  | May 17                       |         |
| LOADNEW                    | 2.04                  | May 17                       |         |
| LSTAWOIS                   | 3.03                  | May 17                       |         |
| MAINMENU                   | 1.01                  | May 17                       |         |
| MAN_DATA                   | 2.01                  | May 17                       |         |
| NEWPOST                    | 6.01                  | May 17                       |         |
| PLOTALL                    | 2.11                  | May 17                       |         |
| POINT                      | 2.10                  | May 17                       |         |
| PREDICT                    | 2.01                  | May 17                       |         |
| PRESURV                    | 7.02                  | May 17                       |         |
| PRINTOUT                   | 4.03                  | May 17                       |         |
| QUICK                      | 2.03                  | May 17                       |         |
| RAMSAVER                   | 1.02                  | May 17                       |         |
| REAPPLY                    | 2.03                  | May 17                       |         |
| RECOMP                     | 2.02                  | May 17                       |         |
| SCANNER                    | 1.00                  | May 17                       |         |
| SELPRINT                   | 2.03                  | May 17                       |         |
| SYMBOLS                    | 2.00                  | May 17                       |         |
| ZOOMEDIT                   | 2.12                  | May 17                       |         |

**D.1 (Cont'd)**

To conduct DGPS performance checks a *LOTUS 1-2-3* spreadsheet was used. A copy of the spreadsheet is included in the Electronic Control Report.

**D.2** Two programs were used to determine velocities: *VELOCITY* (Ver. 2.00) and *CAT* (Ver. 2.00), both dated December 18, 1992.

**D.3** There were no nonstandard automated acquisition or processing methods used.

**E. SIDE SCAN SONAR EQUIPMENT**

**E.1** Side scan sonar operations were conducted using an EG&G Model 260-TH slant range corrected side scan recorder and a Model 272-T (single frequency) towfish. All side scan operations were conducted from Launch MI-3 (VesNo 2223 ). The following list shows the equipment serial numbers.

| <u>Vessel Number</u> | <u>Equipment Type</u> | <u>Serial Number</u> |
|----------------------|-----------------------|----------------------|
| 2223                 | Recorder              | 016672               |
| 2223                 | Towfish               | 016699               |

**E.2** The side scan sonar towfish was configured with a 20° beam depression, which is the normal setting.

**E.3** The 100 kHz frequency was used throughout this entire survey.

**E.4 a)** Due to the large depth of the water, the 150 meter range scale was used throughout the entire survey to maintain proper towfish height off the bottom. The launch ran at near idle speed with the entire scope of towfish cable (45 meters) out. The average fish height off the bottom was 23 meters, which is 15% of the 150 meter range scale. The Line spacing for main scheme coverage was based on 100 meter range scale coverage and determined using the formula provided in section 7.3.2.2 of the Field Procedures Manual ( $LS_{max} = 2RS - 2EPE_{max}$ ). The predicted maximum estimated position error (EPE) did not exceed 15 meters within the survey area, so a line spacing of 170 meters was used.

**b)** A confidence check was obtained prior to, and after data collection by towing the SSS fish within 150 meters of MT MITCHELL's anchor chain.

**c)** Four hundred percent side scan sonar coverage was obtained over the AWOIS search area. The 100% and 300% lines were run in the North-South direction, and the 200% and 400% lines were run in the East-West direction.

**d)** There were no SSS fish interference or trace degradation problems during the course of data acquisition.

E.5 Overlap was checked on-line using the real-time plot, and on the edited swath plot for gaps. No gaps were found.

## F. SOUNDING EQUIPMENT

F.1 All hydrographic soundings were acquired using a Raytheon 6000N digital survey fathometer (DSF), Serial Number A122N (Launch 2223).

F.2 Both the high (100kHz) and the low (24 kHz) frequency sounding data were recorded during data acquisition. Only high frequency soundings were digitized and selected for plotting. Low frequency sounding data were examined for spikes indicating nearby items. These spikes were also plotted.

F.3 No other sounding equipment was used during this survey.

## G. CORRECTIONS TO SOUNDINGS

G.1 a) Detailed information and tables used to determine all corrections to soundings can be found in the **Sounding Equipment Calibration and Corrections Report**.

The velocity of sound through water was determined using a Seacat conductivity, temperature and density gauge (S/N 192472-0284 ) manufactured by Sea-Bird Electronics, Inc. A Data Quality Assurance (DQA) Test was conducted before each velocity cast to ensure the meter was within tolerance. The DQA test was performed using a hydrometer manufactured by H-B Instrument Company.

All data were processed using *VELOCITY* Version 2.00 and *CAT* Version 2.00 software. Launch 2223 ran HDAPS with a velocity table of 0. The HDAPS program "Reapply" was then used to reapply the computed sound velocity correctors to the data. The Cast information follows:

| <u>Cast Number</u> | <u>Date</u> | <u>Latitude</u> | <u>Longitude</u> | <u>HDAPS Table #</u> | <u>Applied To Day #</u> |
|--------------------|-------------|-----------------|------------------|----------------------|-------------------------|
| 10                 | 8/2/93      | 28° 34.70' N    | 091° 18.80' W    | 10                   | 214                     |

b) There was no variation in the DSF-6000N instrument initial.

c) No instrument correctors to the DSF-6000N were required.

d) No instrument corrections were determined from the bar check.

**G.1 (Cont'd)**

A bar check was conducted at the end of data collection with satisfactory results. A comparison of digital and analog readings was also done in the check.

e) All sounding correctors were applied to both the narrow (100 kHz) and the wide (24 kHz) beams.

f) The static draft of launches MI-3 (VesNo 2223) and MI-4 (VesNo 2224) was determined in April, 1993 while the launches were out of the water at the Atlantic Marine Center, Norfolk, Virginia. A calibrated steel tape was used to measure the distance from the transducer to a reference line on the launch above the waterline. The launches were then put in the water and the distance from the waterline to the reference line was measured. Static drafts of 0.6 meters were used in HDAPS Offset tables for both launches (refer to Separate III). \*

g) Settlement and squat correctors for each launch were determined, using procedures outlined in the Hydrographic Manual, on the Elizabeth River on April 30, 1993. An observer, stationed with a level on a pier, measured changes in relative height as each launch ran toward and away from the observer at various speeds. Settlement and squat correctors were applied to soundings through the HDAPS offset table. Refer to the **Sounding Equipment Calibrations and Corrections Report** for a more detailed description of static and dynamic draft determination. \*

h) Neither launch is equipped with a heave, roll and pitch indicator. For this sheet wave action was minimal to nonexistent.

**G.2** Pneumatic depth gauges were not used in this survey.

**G.3** a) The tidal datum for this project is mean lower low water. The operating tide station at Grand Isle, Louisiana (876-1724) served as reference station for predicted tides, and a tide station at East Isles Dernieres (876-2888) was established by ship's personnel as the direct control for datum determination. Predicted tidal data for Grand Isle tides was provided on floppy magnetic disk before the start of the project. *APPROVED TIDES WERE APPLIED DURING OFFICE PROCESSING.*

b) The height and time correctors listed below were provided in the Project Instruction for the project area, and applied to the Grand Isle predicted tides to generate an on-line predicted tide table:

| HYDROGRAPHIC AREA                                | TIME             |                  | HEIGHT RATIO |
|--|------------------|------------------|--------------|
|  | High             | Low              |              |
| East of 090° 30.0' W and<br>West of 090° 20.0' W | Water<br>-30 min | Water<br>-30 min | * 1.26       |

The tide tables were applied on-line and during processing of sounding data. For a more detailed overview of tidal information please refer to Appendix V. \*

*\* FILED WITH THE ORIGINAL FIELD RECORDS.*

### G.3 (Cont'd)

c) No zoning is required for this project.

## H. CONTROL STATIONS *SEE ALSO SECTION 2.2 OF THE EVALUATION REPORT*

H.1 The horizontal datum for this project is the North American Datum of 1983 (NAD 83).

H.2 The list of Horizontal Control Stations is <sup>APPENDED TO THIS REPORT.</sup> ~~located in Appendix III.~~

H.3 The two DGPS reference stations listed below were used during this survey. A NOAA HF Flyaway DGPS transmitter was installed on station Muench and used to control this survey. The USCG Beacon in New Orleans was used as an independent DGPS station for performance checks of the HF station and as a backup.

The position for the USCG New Orleans beacon was published via memo from Hydrographic Surveys Branch on July 16, 1993 and is a B-order position. Station Muench was established by Coastal Survey Unit, Field Photogrammetry Section, Photogrammetry Branch, in 1989 for a NOAA Ship Whiting project. The Third order Class I position for station Muench was obtained from the Field Photogrammetry Section and verified by MT MITCHELL personnel using the NOS *MONITOR* program.

| <u>Reference Station</u>     | <u>Latitude</u>    | <u>Longitude</u>     | <u>Frequency</u>           |
|------------------------------|--------------------|----------------------|----------------------------|
| USCG Beacon, New Orleans, LA | 29° 52' 43.87808"N | 089° 56' 31.38025" W | 293 kHz                    |
| Muench 1989, Grand Isle, LA  | 29° 15' 57.30111"N | 089° 57' 17.39008" W | 2.7745 MHz &<br>6.9790 MHz |

H.4 No horizontal control stations were established by the MT MITCHELL during this survey.

H.5 Refer to the Electronic Control Report submitted with this survey for a description of station recovery and verification procedures of station Muench.

H.6 No problems or anomalies were encountered in positioning control of this survey.

## I. HYDROGRAPHIC POSITION CONTROL *SEE SECTION 2.2. OF THIS REPORT.*

I.1 The primary method of sounding position control was Differential Global Positioning System (DGPS).

I.2 At no time in this survey did the estimated position error consistently exceed 15 meters (1.5 mm at the survey scale).

**I.3** On each launch there is a DGPS receiver, a beacon receiver for USCG differential radiobeacons, and a receiver for our own HF beacon. The units used are as follows:

| <u>VESSEL #</u> | <u>MODEL</u>                   | <u>S/N</u>  | <u>DATES USED</u> |
|-----------------|--------------------------------|-------------|-------------------|
| 2223            | Ashtech DGPS Receiver          | 700417B1197 | August 2          |
| 2223            | Magnavox MX50R Beacon Receiver | 313         | August 2          |
| 2223            | LRD HF Beacon Receiver         | 204         | August 2          |
| 2223            | GPS Antenna                    | 700391A0520 | August 2          |
| 2224            | Ashtech DGPS Receiver          | 700417B1190 | August 2          |
| 2224            | Magnavox MX50R Beacon Receiver | 207         | August 2          |
| 2224            | LRD HF Beacon Receiver         | 206         | August 2          |
| 2224            | GPS Antenna                    | 700378A0468 | August 2          |

**I.4** As stated in section H.3, the two DGPS reference stations used were the NOAA HF Flyaway system at Grand Isle, LA, and the USCG Beacon New Orleans. To ensure Estimated Positional Errors (EPE's) of less than 15 meters the following HDOP<sub>max</sub>'s were determined using the formula from the FPM section 3.4.2:

| <u>Station</u>   | <u>ESE</u> | <u>EDE</u> | <u>HDOP</u> |
|------------------|------------|------------|-------------|
| NOAA HF          | 4          | 2.0        | 3.4         |
| USCG New Orleans | 4          | 2.0        | 3.4         |

A DGPS performance check was performed on the day of data collection by comparing the positioning of the two independent DGPS stations. The inverse distance between the two stations' computed positions was calculated to ensure it did not exceed the EPE<sub>max</sub> of 15 meters. A copy of the spreadsheet and formulas, along with a more precise description of the performance check technique, can be found in the **Electronic Control Report**.

**I.5** No calibration data is applied to the DGPS raw positioning data.

**I.6** a) No unusual methods of operation were employed with the DGPS equipment.

d) No weak signals or poor geometric configurations were observed.

f) Antenna positions were corrected for offset and layback, and referenced to the position of the DSF-6000N transducer. These correctors were located in the HDAPS Offset table, and applied on-line to the positioning algorithm. Launch MI-3 (VesNo 2223) used offset table #7. Refer to Separate III for a copy of the offset table used during this survey. \*  
*\* FILED WITH THE ORIGINAL FIELD RECORDS.*

g) Offset and layback distances for the A-frame (tow point) were also located in HDAPS Offset table #7 and applied on-line. This offset, along with the cable length, towfish height, and depth of water, were used by the HDAPS system to compute the position of the towfish.

**J. SHORELINE** *SEE ALSO SECTION 2.6. OF THE EVALUATION REPORT.*

No shoreline areas are present within the limits of this survey.

**K. CROSSLINES** *SEE SECTION 3. OF THE EVALUATION REPORT*

Since this is an item investigation, side scan sonar survey, crosslines are not required.

**L. JUNCTIONS** *SEE ALSO SECTION 5. OF THE EVALUATION REPORT.*

This survey does not junction with any current basic or item investigation survey.

**M. COMPARISON WITH PRIOR SURVEYS** *SEE ALSO SECTION 6. OF THE EVALUATION REPORT.*

This item was assigned after the final project instruction was issued. No prior surveys were available for comparison. *CONCUR.*

**N. ITEM INVESTIGATION REPORTS**

No significant items were discovered in the survey area. Two insignificant items are described below as AWOIS item #8620 and Contact "A". Neither item was entered into a contact table.

**AWOIS 8620**

State and Locality: Louisiana, Ship Shoal, Gulf of Mexico

Charted Position: 28° 34' 35.47" N 091° 17' 21.43"<sup>W</sup>~~E~~ Position Approximate

Datum: MLLW Reported Depth: 2.4m (8ft.)

Type of Feature: Submerged, dangerous obstruction, position approximate. Described as a verticle, cylindrical object. Possibly an oil platform leg extending from the bottom to 2.4m (8ft.) below the surface.

Source: Reported to U.S. Coast Gaurd Eighth district by private survey company. Survey company claims a tow cable from one of their vessels collided with the obstruction.

## N. ITEM INVESTIGATION REPORTS - CONTINUED

### AWOIS 8620 (Cont'd)

Survey Requirements: 400% side scan sonar coverage, 200 meter search radius, diver investigation, salvage documentation.

Method of Investigation: A 500 meter search radius was covered by 400% side scan sonar coverage. 200% of the lines were in the North-South direction and 200% in the East-West direction. Two diver investigations were conducted on the privately maintained buoy, "WR2", which is marking the obstruction position.

Results of Investigation: There were no significant contacts found within the search radius. A 90mX45m rectangular area of scattered wreckage was discovered around the buoy site. Diver's descended down the buoy chain and conducted three circle searches out to 20m along the bottom around the buoy chain. Bottom depth [corrected to MLLW] was 33.5m (110ft.), and visibility was 4-5m (12-15ft.). The search area was covered with metal debris, with the least depth of 31.1m (102ft.) [depth is corrected to MLLW], a "T" shaped metal object, extending only 2.4m (8ft.) from the bottom. The debris appeared to be broken and bent metal beams and various diameter pipeing. A large concrete block was found which anchors the buoy in place. This concrete block creates the largest shadow on the SSS trace.

Comparison with Prior Surveys: Refer to section M.

Comparison with Chart: Refer to section O.

Recommendation: The privately maintained red structure buoy "WR2" (private identification #SS-199-A) adequately marks the debris on the botom, but none of this debris is significant or a danger to navigation. The buoy should be charted at position:

028° 34' 34.66" N Latitude

091° 17' 21.79" W Longitude

\* CONCUR

The buoy is not lighted, therefore delete the charted notation "QR"\* and delete the charted notation "PA" for "Position Approximate" (Chart #11340). Insert a sounding on the chart, at Bouy "WR2's" observed position, to indicate the least depth for the area which is 31.1m (102ft.) [depth is corrected to MLLW]. *DO NOT CONCUR. THE DEBRIS IS CONSIDERED INSIGNIFICAND. DELETE THE CHARTED Obst PA. CHART SOUNDINGS AS SHOWN ON THE PRESENT SURVEY SHOULD THE SCALE OF THE CHART ALLOW.*

**N. ITEM INVESTIGATION REPORTS - CONTINUED**

**CONTACT "A"**

LOCATION: *E*  
 Located 500m SW of Bouy "WR2"      WATER DEPTH: 33.6 meters  
 CONTACT HEIGHT: .9 meters

| History: | DN  | REF. FIX #'S | ACTIVITY  |
|----------|-----|--------------|---|
|          | 214 | 1023.57      | SSS 100% <i>INSIG.</i>                          |
|          | 214 | 1025.10      | SSS 100% <i>INSIG.</i>                          |
|          | 214 | 1078.10      | SSS 300% <i>INSIG.</i>                          |
|          | 214 | 1107.48      | SSS 400% <i>INSIG.</i>                          |
|          | 214 | 1113.67      | SSS 400% <i>INSIG.</i>                          |
|          | 214 | 1053.67      | Fathometer trace (SSS 200%) <i>Pos. 1053 +7</i> |
|          | 214 | 1084.65      | Fathometer trace (SSS 300%)                     |

**Results of Investigation:** The SSS and fathometer trace of the contact, reduced to MLLW with predicted tides, describe a square shaped object with a least depth of 32.7m (107ft.) in a water depth of 33.6m (110ft.) [Corrected depths]. The contact was considered insignificant and no further investigations were conducted.

**Recommendation:** The contact is shown on the sheet as a *32m (105ft)* *3.9m (3.0ft.)* obstruction. *LAT. 28°34'24.63"N*  
*20N. 91°17'07.14"W*  
 The contact is not significant, and is not charted. It is not recommended that this obstruction be charted due to the small scale of the chart (Chart #11340). *CONCUR. - NOTE CARTOG -*

*PO. Telcon. R. Whitfield  
 and S. Verry; Smooth  
 plotted obstruction FYI  
 only - do not chart  
 6/3/94  
 JS*

**O. COMPARISON WITH THE CHART**

O.1 The following chart is affected by this survey:

| Chart# | Edition   | Date   | Scale     |
|--------|-----------|--|-----------|
| 11340  | 58th<br>6 | <del>September 12, 1992</del><br>July 17, 1993 | 1:458,596 |

There have been no notice to mariner updates for this chart which affect the survey area.

O.2 No Danger to Navigation Reports were submitted.

O.3 There are no charted soundings within the 500 meter search radius of this item. However, a comparison to nearby charted soundings show the soundings from this survey are 2-3 meters (7-10ft.) deeper than the charted depths. It is recommended that the least depth of 31.1m (102 ft.) [depth is corrected to MLLW] from this survey be charted as a sounding.

*DO NOT CONCUR. SEE ALSO RECOMMENDATION FOR AWO15 #8620, PAGE 11, OF THIS REPORT.*

**P. ADEQUACY OF SURVEY** *SEE ALSO SECTION 9. OF THE EVALUATION REPORT.*

P.1 The AWOIS item reported on this sheet has been resolved.

P.2 This survey is complete and adequate for the purpose of updating the wrecks, obstructions and fixed objects in the survey area, as well as the updating of the charted sounding data.

**Q. AIDS TO NAVIGATION** *SEE ALSO SECTION 7. C. OF THE EVALUATION REPORT.*

Q.1 The MT MITCHELL conducted no correspondence with the U.S. Coast Guard regarding floating aids to navigation.

Q.2 A red privately maintained obstruction bouy "WR2" is the only floating aid to navigation in the survey area. It is discussed in section N. (L.L. Vol. IV, No. 860)

Q.3 No other aids were located during the survey.

Q.4 No bridges, overhead cables or pipelines are within the survey limits.

Q.5 a) No submarine cables crossing to shore are present within the survey limits.

b) No pipelines crossing to shore are present within the survey limits.

c) There are no ferry routes in the survey area.

Q.6 There are no ferry terminals in the survey area.

**R. STATISTICS**

|  | <u>VN2220</u> | <u>VN 2223</u> | <u>VN 2224</u> | <u>Total</u> |
|--|---------------|----------------|----------------|--------------|
| R.1 a) Number of positions:                        | 0             | 123            | 0              | 123          |
| b) Lineal nautical miles of SSS/sounding lines:    | 0             | 16.3           | 0              | 16.3         |
| R.2 a) Total square nautical miles of hydrography: | 0             | 2.6            | 0              | 2.6          |
| b) Total days of production:                       | 1             | 1              | 1              | 1            |

**R. 2 (Cont'd)**

|                        | <u>VN2220</u> | <u>VN 2223</u> | <u>VN2224</u> | <u>Total</u> |
|------------------------|---------------|----------------|---------------|--------------|
| c) Detached positions: | 0             | 1              | 0             | 1            |
| e) Tide stations:      | 0             | 0              | 0             | 1            |
| g) Velocity casts:     | 1             | 0              | 0             | 1            |
| j) Dives:              | 0             | 0              | 5             | 5            |

No bottom samples, current stations, magnetic stations or XBT drops were established or performed.

**S. MISCELLANEOUS**

S.1 a) No unusual silting was noted during this survey.

b) All unusual submarine features have been discussed previously.

c) No anomalous tidal conditions were encountered.

d) A Southwesterly flowing surface current of 1.0 knots was encountered during diving operations.

e) No magnetic anomalies were encountered during this survey.

S.2 No bottom samples were taken.

**T. RECOMMENDATIONS** *SEE ALSO SECTION 9. OF THE EVALUATION REPORT.*

T.1 No inadequacies have been noted.

T.2 There is no present or planned construction or dredging that will affect results of this survey.

T.3 This survey should supersede all other prior AWOIS reports. No further investigation of this area is recommended.

## **U. REFERRAL TO REPORTS**

MT MITCHELL Electronic Control Report - Project OPR-SK904-MI-93

Sounding Equipment Calibration and Corrections Report - Project OPR-SK904-MI-93

User Evaluation Report

Coast Pilot Report

**SUBMITTAL SHEET**  
**Survey FE-391SS**

This descriptive report accurately describes all activities pertaining to the control, collection, and processing of data for this survey, and is respectfully submitted by:

  
Ensign Jon D. Swallow, NOAA

## Letter of Approval

Registry No. FE-391SS

Field operations contributing to the accomplishment of this survey were conducted under my supervision with frequent personal checks of progress and adequacy. This report and field sheets have been closely reviewed and are considered complete and adequate for updating the AWOIS database.

A handwritten signature in black ink, reading "David MacFarland". The signature is written in a cursive style with a large initial "D" and a long, sweeping tail.

David B. MacFarland, CAPT, NOAA  
Commanding Officer  
NOAA Ship MT MITCHELL

**APPENDIX III**  
**List of Horizontal Control Stations**

Station 001 - MUENCH 1989

LAT: 29° 15' 57.<sup>28905</sup>~~30111~~" N

LON: 089° 57' 17.<sup>3808</sup>~~39008~~" W

ANTENNA ELEVATION: -22.555 meters

CARTOGRAPHIC CODE: <sup>250</sup>~~890~~

SOURCE: Coastal Survey Unit, from a 1989 Whiting survey.

Station 002 - United States Coast Guard, English Turn, Louisiana Differential Beacon

LAT: 29° 52' 43.<sup>89485</sup>~~87808~~" N

LON: 089° 56' 31.<sup>34427</sup>~~38205~~" W

(Rowe, 1993)

ANTENNA ELEVATION: -23.85 meters

CARTOGRAPHIC CODE: <sup>250</sup>~~890~~

SOURCE: Hydrographic Surveys Branch, July 16, 1993.

# NOAA SHIP MT. MITCHELL DIVER INVESTIGATION REPORT

## Dive Operations Information:

DATE/DN: 02 AUG 93 / DN 214 Project/Sheet: SK904-8620  
Dive Supervisor: LTjg Hulsbeck / Enr Soracco Dive Item #: AWOIS# 8620  
Vessel #: 2224 AWOIS #: 8620

### DIVE # 1

DIVERS: Hulsbeck, Pavelle Surface Interval/RNT: \_\_\_\_\_  
TIME IN: 1719 DEPTH: 110 feet  
TIME OUT: 1735 Bottom Time: 15:39 minutes  
Diver Type (Letter Class): G

DIVE DESCRIPTION: Divers descended down buoy & conducted 20m circle search.  
Spotted objects 8' high in 110' of water. Objects are  
various sized metal debris scattered along bottom. Found large  
concrete block at end of anchor chain

Visibility 10-15' Strong surface current (1.0 kts?) down to depth of 15'

### DIVE # 2

DIVERS: Soracco, Swallow, Williams Surface Interval/RNT: \_\_\_\_\_  
TIME IN: 18:18 DEPTH: 110'  
TIME OUT: 18:35 Bottom Time: 17:30  
Diver Type (Letter Class): G

DIVE DESCRIPTION: Divers descended down buoy chain & conducted two circle searches  
out to 20m. Measured least depth of 102' w/ diver depth  
gages on "T" shaped metal object. Scattered debris looked like it  
was from an old oil rig. Some large diameter pipe lay along the bottom

### DIVE #

DIVERS: \_\_\_\_\_ Surface Interval/RNT: \_\_\_\_\_  
TIME IN: \_\_\_\_\_ DEPTH: \_\_\_\_\_  
TIME OUT: \_\_\_\_\_ Bottom Time: \_\_\_\_\_  
Diver Type (Letter Class): \_\_\_\_\_

DIVE DESCRIPTION: /FLK

### DIVE #

DIVERS: \_\_\_\_\_ Surface Interval/RNT: \_\_\_\_\_  
TIME IN: \_\_\_\_\_ DEPTH: \_\_\_\_\_  
TIME OUT: \_\_\_\_\_ Bottom Time: \_\_\_\_\_  
Diver Type (Letter Class): \_\_\_\_\_

DIVE DESCRIPTION:



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Office of Ocean and Earth Sciences  
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: November 17, 1993

MARINE CENTER: Atlantic

HYDROGRAPHIC PROJECT: S-K904-MI

HYDROGRAPHIC SHEET: FE-391SS

LOCALITY: Gulf of Mexico, 34 Nautical Miles SE of Raccoon Point  
Isle Dernieres, Louisiana

TIME PERIOD: August 2, 1993

TIDE STATION USED: 876-2888 East Isle Dernieres, La.  
Lat.  $29^{\circ} 4.3'N$  Lon.  $90^{\circ} 38.5'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 8.58 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.3 ft.

REMARKS: RECOMMENDED ZONING

Apply a -1 hour 15 minute correction to all times and a 1.19 range ratio to all heights using East Isle Dernieres, La. (876-2888).

Note: Times are tabulated in Central Standard Time.

*William M. H. [Signature]*  
-----  
CHIEF, DATUMS SECTION



GEOGRAPHIC NAMES

FE-391 SS

| Name on Survey          | A ON CHART NO. 11340<br>B ON PREVIOUS SURVEY NO.<br>C ON U.S. QUADRANGLE MAPS<br>D FROM LOCAL INFORMATION<br>E ON LOCAL MAPS<br>F P.O. GUIDE OR MAP<br>G RAND McNALLY ATLAS<br>H U.S. LIGHT LIST<br>K |   |  |  |  |  |  |  |  |  |  |    |
|-------------------------|---|---|--|--|--|--|--|--|--|--|--|----|
|                         | LOUISIANA (title)   | X |  |  |  |  |  |  |  |  |  |    |
| MEXICO, GULF OF (title) | X   |   |  |  |  |  |  |  |  |  |  | 2  |
| RACCOON POINT (title)   | X   |   |  |  |  |  |  |  |  |  |  | 3  |
|                         |   |   |  |  |  |  |  |  |  |  |  | 4  |
|                         |   |   |  |  |  |  |  |  |  |  |  | 5  |
|                         |   |   |  |  |  |  |  |  |  |  |  | 6  |
|                         |   |   |  |  |  |  |  |  |  |  |  | 7  |
|                         |   |   |  |  |  |  |  |  |  |  |  | 8  |
|                         |   |   |  |  |  |  |  |  |  |  |  | 9  |
|                         |   |   |  |  |  |  |  |  |  |  |  | 10 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 11 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 12 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 13 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 14 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 15 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 16 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 17 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 18 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 19 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 20 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 21 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 22 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 23 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 24 |
|                         |   |   |  |  |  |  |  |  |  |  |  | 25 |

Approved:

*Charles B. Harrington*  
Chief Geographer - 12/16/93

MAR 15 1994

05/20/94

HYDROGRAPHIC SURVEY STATISTICS  
REGISTRY NUMBER: FE-391SS

|                            |     |
|----------------------------|-----|
| NUMBER OF CONTROL STATIONS | 2   |
| NUMBER OF POSITIONS        | 117 |
| NUMBER OF SOUNDINGS        | 721 |

|                                       | TIME-HOURS | DATE COMPLETED |
|---------------------------------------|------------|----------------|
| PREPROCESSING EXAMINATION             | 66         | 12/10/93       |
| VERIFICATION OF FIELD DATA            | 33         | 03/09/94       |
| ELECTRONIC DATA PROCESSING            | 7          |                |
| QUALITY CONTROL CHECKS                | 4          |                |
| EVALUATION AND ANALYSIS               | 28         | 05/19/94       |
| FINAL INSPECTION                      | 3          | 04/29/94       |
| TOTAL TIME                            | 141        |                |
| ATLANTIC HYROGRAPHIC SECTION APPROVAL |            | 05/20/94       |

N/CG244-25-94

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY  
(Check):

- ORDINARY MAIL
- AIR MAIL
- REGISTERED MAIL
- EXPRESS
- GBL (Give number) \_\_\_\_\_

TO:

Chief, Data Control Section, N/CG243  
 NOAA/National Ocean Service  
 Station 6813, SSMC3  
 1315 East-West Highway  
 Silver Springs, Maryland 20910

DATE FORWARDED

May 28, 1994

NUMBER OF PACKAGES

1 (one) box

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

FE-391SS

Louisiana, Gulf of Mexico, 34 NM SW of Raccoon Point

1 Box Containing:

- ~~1~~ Envelope containing the Original Descriptive Report for FE-391SS
- ~~1~~ Envelope containing Position Overlay
- ~~1~~ Envelope containing original Separates and Appendices removed from the original Descriptive Report
- ~~1~~ Cahier containing final Position, Sounding and Control File printouts
- ~~1~~ Envelope containing supplemental data removed from printouts
- ~~1~~ Accordion file with field printouts, fathograms and sonargrams for:  
VESNO 2223 for JDs: 214
- ~~1~~ Envelope containing CD Tape for FE-391 (no L-File) - *Baumgardner N/CG243*  
*5/26/94*

FROM: (Signature)

Richard H. Whitfield

RECEIVED THE ABOVE  
(Name, Division, Date)

*S. Clark*

MAY 26 1994

Return receipted copy to:

Atlantic Hydrographic Section  
 N/CG2441  
 439 West York Street  
 Norfolk, VA 23510-1114

**COAST AND GEODETIC SURVEY**  
**ATLANTIC HYDROGRAPHIC SECTION**  
**EVALUATION REPORT**

**SURVEY NO.:** FE-391SS

**FIELD NO.:** MI-10-4-93

Louisiana, Gulf of Mexico, 34 NM SW of Raccoon Point

**SURVEYED:** 2 August 1993

**SCALE:** 1:10,000

**PROJECT NO.:** OPR-SK904-MI-93

**SOUNDINGS:** RAYTHEON DSF-6000N Fathometer, EG&G Model 260  
Side Scan Sonar

**CONTROL:** ASHTECH GPS Sensor/MAGNAVOX MX50R Beacon Receiver  
Differential Global Positioning System, (DGPS)

Chief of Party.....D. B. MacFarland

Surveyed by.....M. Hulsbeck  
.....K. A. Pavelle  
.....M. P. Soracco  
.....J. D. Swallow  
.....S. R. Williams  
.....R. L. Harris

Automated Plot by.....XYNETICS 1201 Plotter (AHS)

**1. INTRODUCTION**

**a.** This is primarily a side scan sonar survey. A RAYTHEON DSF-6000N fathometer was operated concurrently with the side scan sonar.

**b.** A 1:10,000 scale page size plot was generated during office processing and is attached to this report. This plot is considered the smooth plot for this survey.

**c.** No unusual problems were encountered during office processing.

**d.** Notes in the Descriptive Report were made in red during office processing.

**2. CONTROL AND SHORELINE**

**a.** Control is adequately discussed in sections H., I., and U. of the Descriptive Report.

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values. The smooth sheets have been annotated with ticks

showing the computed mean shift between the NAD 83 and the North American Datum of 1927 (NAD 27).

To place this survey on the NAD 27, move the projection lines .849 seconds (26.143 meters or 2.61 mm at the scale of the survey) north in latitude, and .317 seconds (8.600 meters or .86 mm at the scale of the survey) west in longitude.

b. There is no shoreline within the limits of the smooth plot for this survey.

### 3. HYDROGRAPHY

a. Soundings at crossings are in adequate agreement.

b. There are no depth curves shown on the smooth plot for this survey.

### 4. CONDITION OF SURVEY

The smooth plots and accompanying overlays, hydrographic records and reports conform to the requirements of the HYDROGRAPHIC MANUAL, SIDE SCAN SONAR MANUAL and FIELD PROCEDURES MANUAL.

### 5. JUNCTIONS

There are no junctional requirements for this survey.

### 6. COMPARISON WITH PRIOR SURVEYS

There were no prior surveys available at the time of the survey for comparison.

### 7. COMPARISON WITH CHART 11340 (56th Ed., July 17/93)

#### a. Hydrography

The charted hydrography is adequately discussed in section O., page 12, of the Descriptive Report and requires no further discussion.

The present survey is adequate to supersede the charted hydrography in the common area.

#### b. Dangers to Navigation

There were no dangers to navigation submitted by the field unit. No dangers were discovered during office

processing.

c. Aids to Navigation

One floating aid to navigation was located by the present survey. This aid appears adequate to serve its intended purpose.

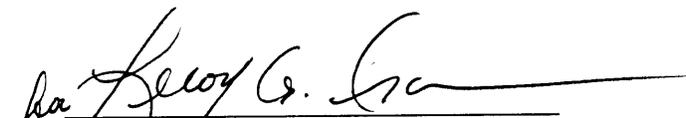
8. COMPLIANCE WITH INSTRUCTIONS

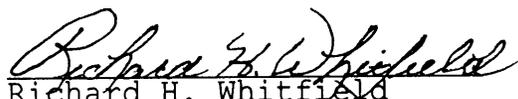
This survey adequately complies with the Project Instructions.

9. ADDITIONAL WORK

This is an adequate side scan sonar survey. No additional work is recommended.

MT MITCHELL Processing Team  
Verification and Evaluation and Analysis

  
Reginald L. Keene Sr.  
Cartographic Technician

  
Richard H. Whitfield  
Cartographer



APPROVAL SHEET  
FE-391SS

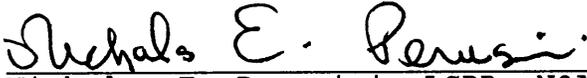
Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts of the survey have been made. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

  
\_\_\_\_\_  
Norris A. Wike  
Cartographer  
Atlantic Hydrographic Section

Date: 5/20/94

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

  
\_\_\_\_\_  
Nicholas E. Perugini, LCDR, NOAA  
Chief, Atlantic Hydrographic Section

Date: 5-20-94

\*\*\*\*\*

Final Approval:

Approved:   
\_\_\_\_\_  
J. Austin Yeager  
Rear Admiral, NOAA  
Director, Coast and Geodetic Survey

Date: 7/18/94

