F00401

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-10-6-94

Registry No. FE-401

LOCALITY

State Louisiana

General Locality Gulf of Mexico

Sublocality 11 NM South of Isles Dernieres

19 94

CHIEF OF PARTY
CAPT N. A. Prahl

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DATE JUL 14 1995

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Diagram No. 1274-2

C/C
PRODUCTS
CPS
11357
11340
411 NC

NOAA FORM 77-28
(11-72)

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

REGISTRY NUMBER:

FE-401~~SS~~

HYDROGRAPHIC TITLE SHEET

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 NUMBER:
MI-10-06-94

State: Louisiana

General locality: Gulf of Mexico

Locality: 16 ~~Nautical Miles~~ NM Southwest of Isles Dernieres, ~~LA~~

Scale: 1: 10,000 Date of survey: June 22 - July 26, 1994

Instructions dated: 06 April 1993 Project Number: OPR-~~J~~K904-MI-94

Vessel: NOAA Ship MT MITCHELL S-222

Chief of Party: CAPT Nicholas A. Prahl

Surveyed by: J.A. Ferguson, M. W. Stukes, M.P.M. Soracco, J. D. Swallow, S. R. Williams, S.A. Shaulis, J. A. Mann, E. J. Van Den Ameele, U.L. Gardner, P.L. Lewit, M.E. Ahern, M.J. Annis, L.A. Butler, M.T. Lathrop, and E. R. Yniguez.

Soundings taken by echo sounder, hand lead-line, or pole: DSF 6000N fathometer

Graphic record scaled by: MT MITCHELL personnel

Graphic record checked by: MT MITCHELL personnel

Protracted by: N/A Automated plot by: Zeta 936 Plotters (AHB)

Verification by: ~~Hydrographic Surveys Branch~~ ATLANTIC HYDROGRAPHIC BRANCH PERSONNEL

Soundings in: Feet: * Fathoms: ____ Meters: ~~(*)~~ at MLW: ____ MLLW: (*) :

Remarks: Field Examination of AWOIS Items 272 and 273

Time zones used: 0 (UTC) for data acquisition

0 (UTC) for tidal data

NOTES IN RED WERE MADE DURING OFFICE PROCESSING

AWOIS V 9/15/95 SJV

NOAA FORM 77-28 SUPERSEDES FORM C & GS - 537 * U.S. GOVERNMENT PRINTING OFFICE: 1976-665-661/1222 REGION NO.6

SC 7/10/95

Table of Contents

* filed with the original field records

A. PROJECT

A.1 This survey was conducted in accordance with Project Instructions OPR-SK904-MI-94, 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:

July 23, 1993 - Change #1.

April 15, 1994 - Change #2.

See Appendix VI for copies of these changes. FILED WITH THE ORIGINAL FIELD RECORDS

A.4 A sheet letter was not specified in the project instructions. Sheet letter "B" was assigned by MT MITCHELL.

A.5 Project OPR-SK904-MI-94 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 16 nautical miles SW (southwest) of the eastern tip of Isles Dernieres, Southern Louisiana Coast. Existing depths are between 18 and 20 meters (59 to 66 feet). AWOIS Items 272 and 273 are covered on this sheet.

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

B.2 The survey area is rectangular in shape and has a skew of 270 degrees. The latitude and longitude of the corners of the survey area are:

028° 44' 00.00''N	090° 42' 48.00''W
028° 44' 00.00''N	090° 47' 28.00''W
028° 50' 36.00''N	090° 47' 28.00''W
028° 50' 36.00''N	090° 42' 48.00''W

B.2 (cont.)

The AWOIS Listing indicated that AWOIS items 272 and 273 were informational items. The ship designated a search radius of 3000 meters and side scan coverage of 100%. The charted positions and search radii for the AWOIS items on this sheet are as follows:

Item	Charted Position	Search Radius
AWOIS 272	28° 47' 00.86"N 090° 45' 00.32"W	3000 meters
AWOIS 273	28° 47' 00.86"N 090° 45' 00.32"W	3000 meters

B.3 Data acquisition began on June 22, 1994 (DN 173) and concluded on July 26, 1994 (DN 207).

C. SURVEY VESSELS

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

VESSEL	ELECTRONIC DATA PROCESSING NUMBER	PRIMARY FUNCTION
MT MITCHELL (MI-0)	2220	Side Scan Operations
JENSEN LAUNCH 1002 (MI-4)	2224	Side Scan Operations
JENSEN LAUNCH 1021	2225	Detached Position, Tide Gage Support
JENSEN LAUNCH 1008	2226	Detached Position, Diving Operations
BOSTON WHALER (MI-1)	N/A	Diving Operations, Tide Gage Support

C.2 There were no unusual vessel configurations used for side scan sonar data acquisition during this field investigation. No problems were encountered with the standard stern tow of the side scan sonar towfish.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

SEE ALSO THE EVALUATION REPORT.

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

Program Name	Version	Date Installed
BACKUP	2.00	June 02, 1994
BASELINE	1.14	June 02, 1994
BIGABST	2.07	June 02, 1994
BIGAUTOST	3.01	June 02, 1994
BLKEDIT	2.02	June 02, 1994
CARTO	2.13	June 18, 1994
CLASSIFY	1.05	June 02, 1994
CONTACT	2.35	July 18, 1994
CONVERT	3.62	June 02, 1994
DAS_SURV	6.70	June 18, 1994
DIAGNOSE	3.04	June 18, 1994
DISK_UTIL	1.00	June 02, 1994
DP	2.14	June 02, 1994
EXCESS	4.21	June 02, 1994
FILESYS	3.24	June 18, 1994
GRAFEDIT	1.06	June 02, 1994
HIPSTICK	1.01	June 02, 1994
HPRAZ	1.26	June 02, 1994
INVERSE	2.01	June 02, 1994
LISTDATA	1.02	June 02, 1994
LOADNEW	2.10	June 02, 1994
LSTAWOIS	3.07	June 18, 1994
MAINMENU	1.20	June 02, 1994
MAN_DATA	2.01	June 02, 1994
NEWPOST	6.01	June 02, 1994
PLOTALL	2.27	June 18, 1994
POINT	2.10	June 02, 1994
PREDICT	2.01	June 02, 1994
PRESURV	7.08	June 18, 1994
PRINTOUT	4.03	June 02, 1994
QUICK	2.05	June 18, 1994
RAMSAVER	1.02	June 02, 1994
REAPPLY	2.10	June 02, 1994
RECOMP	2.02	June 02, 1994
SCANNER	1.00	June 02, 1994
SELPRINT	2.04	June 02, 1994
SYMBOLS		June 02, 1994
VERSIONS	1.00	June 02, 1994
ZOOMEDIT	2.24	June 18, 1994

D.1 (cont.)

To conduct DGPS performance checks with MT MITCHELL (VesNo 2220), *SHIPDIM* computer program was used. Launches used a *LOTUS* spreadsheet to compute tolerances. Section I.4 lists the dates of each performance check.

D.2 Two programs were used to determine velocity correctors: *VELOCITY* (Ver. 2.10), dated March 15, 1994 and *CAT* (Ver. 2.00), dated December 18, 1992.

D.3 There were no nonstandard automated acquisition or processing methods used. Some side scan data was plotted at a reduced range scale to eliminate side scan sonar data containing questionable outer edge side scan traces. Appropriate splits were run to ensure adequate overlap between these lines.

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 either MT MITCHELL or Launch MI-4 (2224). The following list shows the equipment serial numbers and corresponding dates used for each boat:

Vessel Number	Equipment Type	Serial Number	Dates Used(DN)
2220	Recorder	016672	173 - 203
	Towfish	011902	173 - 203
	Fathometer	A122N	173
	Fathometer	A110N	175 - 176
	Fathometer	A122N	176
	Fathometer	A110N	176 - 207
2224	Recorder	016946	188
	Towfish	0011591	188
	Fathometer	B042N	188
2225	Fathometer	B053N	193
2226	Fathometer	B051N	201

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

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

E.4 **a)** In sufficiently deep water and calm sea states, the 100 meter range scale was used for main scheme coverage. If it was felt that the edges of the 100 meter range were not being picked up sufficiently, lines were reduced to a 75 meter range scale. Often, sea return on the outer edges of the side scan sonar trace overlayed the bottom picture. In extreme cases, the swath width was considered to be effective at the next lower range scale. The data was not changed; however, swath widths were plotted at the reduced scale to ensure proper overlap and side scan sonar coverage.

Line spacing for main scheme coverage was 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 maximum line spacing of 170 meters was established for the 100 meter range scale, 120 meter line spacing for the 75 meter range scale, and 70 meter line spacing for the 50 meter range scale.

b) Daily opening and closing confidence checks were obtained either by towing the fish past a nearby platform, pipeline, or MT MITCHELL's anchor scours.

c) As described in Section B.2, AWOIS items 272 and 273 were listed as informational items. A required search coverage and search radius was not defined by project instructions. MT MITCHELL designated a 3000 meter search radius and 100% coverage to prove / disprove the listed items.

Upon completion of 1994 survey operations in the Ship Shoal area, nearly 100% side scan sonar coverage had been completed. Side scan lines were run north / south, at the highest range scale possible. Water depths permitted 100 meter range scale, but on most days of operation, sea return reduced the quality of side scan trace on the outer edges. The data was accepted but only at a range of which the trace was of acceptable quality. Adjustments to line turns and range scales (100, 75, or 50 meter) were made to ensure adequate coverage.

To date, several gaps in side scan coverage remain to be completed. ~~See Final Swath Plot with highlighted gaps~~.

d) Through the course of data acquisition diminished quality on the outer edges of the side scan sonar trace occured repeatedly. Weather conditions played a crucial role in side scan trace quality. On windy days, the sea state would reflect on the trace, producing unacceptable results. In heavy rain squalls, a similar effect occurred. When these factors obscured the sonar traces the effective range scale was reduced during processing, or the entire line was rejected and rerun.

e) The towfish were deployed from the sterns of both vessels during the entire survey period.

E.5 Time constraints did not allow contact development of all side scan sonar contacts. Other field examinations of higher priority were in progress and thus received survey resources. Ship side scan sonar was conducted on this sheet when weather conditions precluded shallow-water launch operations on FE-397SS and FE-398SS.

The most significant contact acquired during this survey was investigated by divers and is discussed in Section N. The following contacts are considered significant and warrant further development or investigation: CONSIDERED INSIGNIFICANT DURING OFFICE PROCESSING

Name	DN	Calculated Contact Height(m)	Raw Depth(m)	Table #
1131.06	176	0.9	14.2	11
1190.02	176	0.6	14.1	11
1192.02	176	1.0	14.4	11
1241.13	176	0.7	14.9	11
1241.14	176	0.9	14.4	11
1276.59	189	1.5	15.0	11
1300.07	189	1.0	14.7	11
1386.45	190	1.9	15.1	11
1405.37	190	1.7	14.4	11
1452.86	193	1.2	14.8	12
1478.88	194	1.4	14.8	12
1507.57	194	2.5	14.9	12
1718.59	195	4.5	14.8	12
1880.71	207	1.2	14.8	12

E.6 Overlap was checked on-line using the real-time swath plot and checked again during processing using the edited swath plot. Any overlap less than two millimeters at the scale of the survey was considered a gap. Gaps were filled by running additional side scan sonar lines.

During routine data acquisition for this sheet several gaps in the side scan sonar coverage were created. The sources of these gaps include reduced swath width, DGPS reception failures, bad helm, and reduced swath width due to processing. The majority of these gaps were created during data processing and lines were rerun or split to achieve appropriate side scan sonar coverage.

F. SOUNDING EQUIPMENT

F.1 All hydrographic soundings were acquired using a Raytheon 6000N Digital Survey Fathometer (DSF). The following list shows the equipment serial numbers and corresponding dates used for each boat:

Vessel Number	Manufacturer's Serial Number	Dates Used(DN)
2220	A122N	173
	A110N	175 - 176
	A122N	176
	A110N	176 - 207
2224	B042N	188
2225	B053N*	193
2226	B051N	201

*Launch 2225 was used for Detached Positions. No sounding data was collected.

F.2 No other sounding equipment was used during this survey.

Lead line comparisons to the DSF-6000N were conducted twice during the times of survey. These lines were calibrated as per instructions in the Hydrographic Manual section 7.2.1.2.

F.3 No faults in the sounding equipment were observed. Mechanical failures in the sounding equipment required replacement in order to continue data collection. The dates of each fathometer in use are listed in Section F. 1.

F.4 Both the high (100 kHz) and the low (24 kHz) frequency sounding data were digitized during data acquisition. High frequency soundings were primary and selected for plotting. On day number 190 (Dataset with Fix:1330-1370), some low frequency sounding data were primary because of repeated high frequency missed depths. These missed depths may have been caused by water column properties or fathometer error. Because of the flat bottom of the ship shoal area and the low frequency values are consistent with surrounding high frequency values, the data containing low frequency as primary sounding data is regarded as valid.

G. CORRECTIONS TO SOUNDINGS

G.1 a) Detailed information and tables used to determine all corrections to soundings can be found in Separate IV: Sounding Equipment Calibrations and Corrections. DATA FILED WITH THE ORIGINAL FIELD RECORDS

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 with each velocity cast to ensure the meter was within tolerance. The DQA test was performed using hydrometers manufactured by H-B Instrument Company.

All data were processed using *VELOCITY* Version 2.10 and *CAT* Version 2.00 software. The computed velocity correctors were entered into the HDAPS sound velocity tables and applied on-line to digitized high frequency soundings except on the day of the cast. Data gathered on the day of the cast used table zero and then the velocity table was re-applied. Sound velocity correctors applied to ship data were obtained on the following dates:

Cast Number	DN	Latitude	Longitude	HDAPS Table #	Applied To Day #'s
94170174	170	28° 51.00' N	090° 42.9' W	2	173-176
94188174	188	28° 51.1' N	090° 42.8' W	4	189-195
94200175	200	28° 51.5' N	090° 44.0' W	6	203-207

Sound velocity correctors applied to launch data were obtained on the following dates:

Cast Number	DN	Latitude	Longitude	HDAPS Table #	Applied To Day #'s
94170174	170	28° 51.00' N	090° 42.9' W	1	173-176
94188174	188	28° 51.1' N	090° 42.8' W	3	189-195
94200175	200	28° 51.5' N	090° 44.0' W	5	203-207

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 direct comparison of lead-line checks.

G.1 d (cont.)

Lead line comparisons with the DSF-6000N were made for the ship on DN ~~209~~ 189 and DN ~~240~~ 204. Leadline comparisons for launch MI-4 (2224) were made on day numbers 188, 200, and 205. For launch MI-6 (2226) day numbers 200 and 205. Results are as follows:

VN	S/N	Corrected Lead Line Depth (m)	Corrected Digital Depth (m)	Δd (m)
2220	A110N	16.2	16.1	+0.1
2220	A110N	16.4	16.6	-0.2
2224	B042N	11.7	11.6	+0.1
2224	B042N	17.3	17.2	+0.1
2224	B042N	10.8	11.0	-0.2
2226	B051N	11.6	11.5	+0.1
2226	B051N	10.8	11.0	-0.2

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

f) The static drafts of launches MI-4 (2224), MI-5 (2225), and MI-6 (VesNo 2226) were determined in March, 1994 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 water line. The launches were then put into the water and the distance from the water line to the reference line was measured. A static draft of 0.6 meters was determined for launch MI-4, 0.5 meters for MI-5, and 0.5 meters for launch MI-6. These drafts were used in the HDAPS Offset tables online and during post-processing (refer to Separate III). FILED WITH THE ORIGINAL FIELD DATA

The static draft of MT MITCHELL's DSF-6000N transducer was determined while the ship was alongside Pier 'B' at Naval Air Station Pensacola, Florida. The static draft, measured by pneumogage, was 4.3 meters. This result was applied on-line and during processing in the HDAPS offset table.

g) Settlement and squat correctors for launch MI-4 was determined, using procedures outlined in the Hydrographic Manual, on the Elizabeth River on March 31, 1994. 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. The settlement and squat correctors were applied to soundings through the HDAPS offset table. MI-4 was the only launch used to collect data requiring dynamic offset correctors. Refer to Separates III for copies of the observed settlement and squat data. FILED WITH THE ORIGINAL FIELD DATA

G.1 g (cont)

The dynamic draft of the MT MITCHELL was determined on June 14, 1994 off the Louisiana coast in approximately 7 meters of water. The method used in measuring the dynamic draft was the "buoy and flat bottom" method described in Chapter 7 of the Hydrographic Manual. The results of the measurement are applied on-line and during processing in the HDAPS offset table. Refer to Separate III* for more information.
* FILED WITH THE ORIGINAL FIELD RECORDS

h) None of the launches is equipped with a heave, roll and pitch indicator. The MT MITCHELL is equipped with a Datawell HIPPY 120CS Heave, Roll, and Pitch sensor (serial number 19079-CS). Sea/wave action has not been meaned out for this sheet. SEA ACTION HAS BEEN MEANED OUT DURING OFFICE PROCESSING

The data collected by MT MITCHELL contains HIPPY correctors generated online during data acquisition. In some cases where soundings overlapped different depths were obtained. Analysis revealed that the corrector values generated by the HIPPY were often not representative between different sea states. For example, in three feet sea action a typical HIPPY corrector was 0.1 meter. In higher seas, correctors remained low in magnitude. Corrected soundings which gathered under various sea states were compared. These soundings differed up to one-half meter and the difference was attributed to the correctors generated by the HIPPY. It is assumed that the HIPPY did not apply magnitudes representative of the sea state in which the data was gathered.

Additional inspection was performed on outliers. The outliers were observed on the fathogram and found to occur on peaks. The data was not meaned, so outliers remain on the final plots and are due to insufficient HIPPY correction. Additional details concerning the MT MITCHELL HIPPY have been forwarded under separate cover.

G.2 The HDAPS program "Reapply" was frequently used for data collected on the same day as a velocity cast. Casts were performed every other week, so the new velocity tables for those days were reapplied to the data during processing.

G.3 There were no special correctors to be applied to the fathometers or velocity zoning required.

G.4 Pneumatic depth gauges were not used during this survey.

G.5 Sea conditions greater than 0.5 meters affected the fathogram, creating a trace of constant peaks and deeps. Launches are not equipped with heave, pitch and roll indicators, so MITCHELL personnel scanned the sea action out of the fathograms and edited the selected soundings accordingly. MT MITCHELL fathograms were not scanned for sea action. SCANNED FOR SEA ACTION DURING OFFICE PROCESSING.

G.6 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.

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 Water	Low Water	
East of 091 30.0' W and West of 090 20.0' W	-30 min	-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

c) No zoning is required for this project.
APPROVED TIDES WERE APPLIED DURING OFFICE PROCESSING

H. CONTROL STATIONS SEE ALSO 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 ~~located in Appendix III~~. APPENDED TO THIS REPORT

H.3 Three DGPS reference stations were used to control this survey. These are listed below. The position for the USCG Galveston beacon was provided by Hydrographic Surveys Branch on April 12, 1992 and is a Second Order Class I position. 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 in 1993. For more information, refer to Electronic Control Report submitted for OPR-S-K904-MI-93.

Reference Station	Latitude	Longitude	Frequency
~~USCG Beacon~~, Galveston, TX	29° 19' 45.09171" N	094° 44' 10.48430" W	296 kHz
~~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 .28905	089° 57' 17.~~39008~~" W .38080	2.7745 MHz

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

H.5 Refer to Separates IV submitted with this survey for a description of station recovery and verification procedures of station Muench. NOT SUBMITTED

H.6 No problems or anomalies were encountered in positioning control of this survey. There were three independent DGPS stations available for use. The USCG New Orleans beacon served as the primary control. The NOAA HF station at Grand Isle was used as an alternate or DGPS check station. USCG Galveston beacon was available but not used during this survey. A table showing the dates each station was used (by vessel) is in Section I.6.

I. HYDROGRAPHIC POSITION CONTROL

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

I.2 The estimated position error did not exceed 15 meters (1.5 mm at the survey scale). On occasion, DGPS correctors would not be received for 30 seconds. When this happened HDAPS entered "DR Mode" and began estimations of the vessel's position. If HDAPS is in "DR Mode" for thirty seconds and a failure to receive DGPS correctors continues, HDAPS forces a fix at the next selected sounding and breaks the survey line, thereby preventing questionable positioning data.

I.3 The following table lists the positioning equipment used by each vessel during the survey:

VESSEL #	MODEL	S/N
2220	Ashtech DGPS Receiver	700417B1196
	Ashtech DGPS Receiver	700417B1182
	Magnavox MX50R Beacon Receiver	CD0000458849
	Magnavox MX50R Beacon Receiver	CD0000458851
	LR HF-1 Receiver	A002719
2224	Ashtech DGPS Receiver	700417B1190
	Magnavox MX50R Beacon Receiver	207
	LR HF-1 Receiver	206
	GPS Antenna	700378A0468
2225	Ashtech DGPS Receiver	700417B1129
	Magnavox MX50R Beacon Receiver	036
	LR HF-1 Receiver	204
	GPS Antenna	700391A0517

I.3 (cont)

VESSEL #	MODEL	S/N
2226	Ashtech DGPS Receiver	700417B1197
	Magnavox MX50R Beacon Receiver	168
	LR HF-1 Receiver	233
	GPS Antenna	700391A0533

I.4 As stated in section H.3, three DGPS reference stations were used: USCG Galveston, USCG New Orleans, and a NOAA HF Flyaway system at Grand Isle, LA. To ensure EPE's of less than 15 meters the following $HDOP_{max}$'s were determined using the formula from FPM section 3.4.2.

Station	ESE	EDE	HDOP
~~NOAA HF~~ MEUNCH	4	1.17	3.6
~~USCG~~ Galveston, TX	4	5.15	2.3
~~USCG New Orleans~~ ENGLISH TURN, LA	4	1.54	3.5

DGPS performance checks were performed by comparing positioning of two independent DGPS stations. The inverse distance between the two independent stations' computed positions was calculated to ensure it did not exceed the EPE_{max} of 15 meters.

MT MITCHELL monitored two stations and recorded performance checks with the *SHIPDIM* computer software. The results of these performance checks were output into a *PERFORM.CHK* file submitted with this survey.

The following table lists the dates and maximum inverse observed for each MT MITCHELL performance check.

DN	Observed Maximum Inverse	Station
171	0.9	NOAA HF - New Orleans
189	1.6	NOAA HF - New Orleans
190	2.9	NOAA HF - New Orleans
195	6.2	NOAA HF - New Orleans
204	4.0	NOAA HF - New Orleans

} ENGLISH TURN, LA

Launch performance checks were done with each launch using a different DGPS station. The launches approach each other and as the launches meet the OIC's simultaneously marked their position and printed it out. The Easting and Northing values from each boat, along with the HDOP and number of satellites were entered into a spreadsheet for computation of position error.

I.4 (cont)

The following table lists the dates for each launch performance check.

Vessel	DN	Stations
2224	170	NOAA HF - New Orleans
2225	188	NOAA HF - New Orleans
2226	200	NOAA HF - New Orleans

ENGLISH TURN, LA

A copy of the spreadsheet and formulas can be found in Separate IV. FILED WITH THE ORIGINAL FIELD RECORDS

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.

b) The following list summarizes which DGPS reference station was used by each vessel. USCG NEW ORLEANS IS ENGLISH TURN, TX
NOAA HF IS STATION MEUNCH, 1989

DN	2220
173	USCG New Orleans
175	USCG New Orleans
176	USCG New Orleans
189	NOAA HF
190	NOAA HF / USCG New Orleans
193	NOAA HF / USCG New Orleans
194	USCG New Orleans
195	USCG New Orleans
203	USCG New Orleans
207	USCG New Orleans

2224

188	USCG New Orleans

2225

193	USCG New Orleans

2226

201	USCG New Orleans

I.6 (cont)

c) On several occasions thunderstorms in the vicinity would block the incoming DGPS beacon signal. If the signal is blocked for more than 30 seconds, HDAPS starts to DR. Data collected with high HDOP values was rejected. If the signal was lost momentarily data was not rejected.

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

e) No adjustments or systematic errors were discovered.

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. MT MITCHELL (VesNo 2220) used Offset Table 01; Launch MI-4 (VesNo 2224) used offset Table 04; MI-5 (VesNo 2225) used Table 05; and MI-6 (VesNo 2226) used Table 06. Refer to Separate III for a copy of offset tables used during this survey.

g) Offset and layback distances for the A-frame (tow point) were located in the HDAPS Offset Table and applied on-line. These offsets, along with the cable length, towfish height, and depth of water, were used by the HDAPS system to compute the position of the towfish. Offset Tables 1,4,5,and 6 were used during this survey. Refer to Separate III for offset tables. FILED WITH THE ORIGINAL FIELD RECORDS

J. SHORELINE

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

K. CROSSLINES

Since this is an informational item investigation, crosslines are not required.

L. JUNCTIONS

This survey does not junction with any current basic or item investigation survey. ~~The sheet overlaps with Sheet 'D' FE 398SS, but there is not an overlap of AWOIS radii.~~

M. COMPARISON WITH PRIOR SURVEYS SEE ALSO THE EVALUATION REPORT

M.1 The following surveys are the most recent prior surveys in the FE-401SS survey area:

Registry #	Scale	Date
H-6154	1:40,000	1936

M.2 Eighteen soundings from H-6154 were picked off and compared to observed depths. The flat bottom of this survey is similar to H-6154. The soundings from this survey which were compared to H-6154 are 0.85 (2 Ft) meters deeper. The minimum difference was 0.30 meters (1 Ft) and the maximum was 1.2 (4 Ft) meters. There were no shoaling trends observed in this survey when compared with the 1936 surveys. Concur

M.3 No significant features in the survey area are present on H-6154 ~~or H-6173~~.

M.4 The ~~general~~ area is ~~approximately~~ GENERALLY 0.85 (2 Ft) meters deeper than the 1936 depths. The deepening is, on average, uniform throughout the survey area. Concur

M.5 There are no contemporary non-NOS surveys in this area.

N. ITEM INVESTIGATION REPORTS See also the Evaluation Report

There were two AWOIS items in the survey area. Neither AWOIS item was located. One significant item was discovered during side scan sonar operations.

AWOIS 272

State and Locality: Louisiana, Eastern Ship Shoal

Charted Position: 028° 47' 00.86''N
090° 45' 00.32''W

Datum: MLLW Reported Depth: --

Type of Feature: R.M. PARKER JR Tanker

Source: NM5/44-- Reported demolished and no longer a hazard to navigation.

Description: 20 TKR., 6779 tons, torpedoed 08/13/42
24 No. 679; Tanker, 6779 GT; Sunk 08/13/42 by submarine. Located 01/31/44 (Source unknown), Position accuracy 1-3 miles.
27 No. 535; Tkr., 4302 NT, sunk 08/13/42. Buoy discontinued.

Survey Requirements: Informational

Method of Investigation: A 3000 meter search radius was covered by nearly 100% side scan sonar coverage.

Results of Investigation: No contacts resembling the AWOIS description were observed within the search radius. One hundred percent side scan sonar was not completed.

Comparison with Prior Surveys: Refer to section M.

Comparison with Chart: Refer to section O.

Recommendation: No change recommended until completion of survey.
Do not concur. See section N.1 of the Evaluation Report

AWOIS 273

State and Locality: Louisiana, Eastern Ship Shoal

Charted Position: 028° 47' 00.86''N
090° 45' 00.32''W

Datum: MLLW Reported Depth: 60 feet

Type of Feature: Submarine

Description: 20 German submarine, 740 tons, sank 08/01/42 in 60 feet.
24 No. 11, Submarine, 740 GT, sunk 08/01/42, Position accuracy within 1 mile. Reported through H.O. files dated 07/16/43.

Survey Requirements: Informational

Method of Investigation: A 3000 meter search radius was covered by nearly 100% side scan sonar coverage.

Results of Investigation: No contacts resembling the AWOIS description were observed within the search radius. One hundred percent side scan sonar was not completed.

Comparison with Prior Surveys: Refer to section M.

Comparison with Chart: Refer to section O.

Recommendation: No change recommended until completion of survey.

~~DO NOT CONCUR. SEE SECTION N.2. OF THE EVALUATION REPORT~~ RHW

CONCUR. ADDITIONAL WORK FOR ADEQUATE DISPROVAL IS RECOMMENDED AT AN OPPORTUNE TIME.

Item B1

State and Locality: Louisiana, Eastern Ship Shoal

Location: 028° 47' 27.103''N
090° 46' 17.639''W

Type of Feature: Exposed pipeline (submerged)

Description: On DN 190 contact # 23 Table 11 (Fix number #1354.05) was discovered on side scan sonar. A dive was conducted on DN 201 to investigate the contact.

Divers descended down a buoy line dropped on the contact site and discovered a pipeline covered by concrete mats emerging from the mud bottom. The length of the exposed pipeline was greater than 60 meters (195 FT) with a width of approximately 5 meters (16 FT). This item corresponds to charted pipeline.

A raw fathometer least depth of 16.4 meters (16.9 (55 FT) meters corrected for ~~predicted~~ tides, offset, and velocity) was taken at time 15:57:36 UTC (Detached Position # 5347). Surrounding water depths were 18 (6) meters (6 FT). See the attached sketch. Additional dive investigation forms are ~~included in Separate VI~~. ATTACHED TO THIS REPORT

A Danger to Navigation report was submitted for this item.

Recommendation: Chart DANGEROUS SUBMERGED "Obstruction" at position: 028° 47' 27.103''N
090° 46' 17.639''W

CONCUR

O. COMPARISON WITH THE CHART SEE ALSO THE EVALUATION REPORT

O.1 The following charts are affected by this survey:

Chart #	Edition	Date	Scale
11340	56th	July 17, 1993	1:458,596
11357	29th	October 2, 1993	1:80,000

During the period of survey operations, there have been no pertinent notice to mariner updates for the above charts affecting the survey area other than reports originating from MT MITCHELL (Section O.2a).

O.2 a) A danger to navigation report referencing one item (refer to Section N, Item B1) was submitted with Date-Time-Group 212126Z4. A copy of the report is included in Separate VI.

b) The following danger to navigation was found:

Item	Latitude	Longitude	Position Number
Exposed Pipeline	28° 47' 27.103" N	090° 46' 17.639" W	5347.0

O.3 The twenty charted soundings from chart 11357 which lie in the search radii were compared to soundings from this survey. All of the charted depths were shallower than the surveyed depths. On average, soundings from this survey were 0.91 (3 FT) meters deeper than the charted depths. The maximum difference between charted soundings and recent survey soundings was 1.3 (4 FT) meters. The minimum difference was 0.32 (1 FT) meters. This deepening trend is uniform over the entire survey area. Sounding data from this survey should supersede prior survey data. CONCUR

There are no maintained channels, safety fairways, or traffic schemes within the survey area.

O.4 The following non-sounding feature was found in the survey area:

Item	Designation	DP Fix #	Height	Appearance	Charted	Latitude	Longitude
Platform	Trunkline-SS-139	9000	35 meters	light, horn	YES	28° 47' 06.005" N	090° 46' 01.851" W

RECOMMEND NO CHANGE IN CHARTING UNLESS OTHER INFORMATION INDICATES OTHERWISE.

O.5 No changes to the scale or coverage of the published charts of the survey are recommended.

P. ADEQUACY OF SURVEY See also the Evaluation Rept.

P.1 One hundred percent coverage was nearly completed; several significant gaps remain. ~~Refer to side scan swath plot for gaps.~~

P.2 This survey is incomplete. The sounding data, as corrected by the MT MITCHELL HIPPY requires additional inspection. Refer to Section G.1.h. for detailed discussion on HIPPY correctors. This survey is considered complete after office verification

Q. AIDS TO NAVIGATION

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

Q.2 There are no aids to navigation within the limits of the survey.

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

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

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

b) There are several submarine pipelines within the survey limits. These pipelines form a network connecting the wellheads and platforms in the area. Refer to Section N. for details concerning an exposed submarine pipeline.

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

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

R. STATISTICS

		VN 2220	VN 2224	VN 2225	VN 2226	Total
R.1	a) Number of positions:	1940	23	-	-	1963
	b) Lineal nautical miles of SSS/sounding lines:	174.3	4.7	-	-	179
R.2	a) Total square nautical miles of hydrography:	15.3	.4	-	-	15.7
	b) Total days of production:	10	1	1	1	13
	c) Detached positions:	0	-	1	1	2
	d) Bottom samples					0
	e) Tide stations:					1
	f) Current stations					0
	g) Velocity casts:					3
	h) Magnetic stations					0
	i) XBT drops					0
	j) Dives:					4

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

S. MISCELLANEOUS *See Also the Evaluation Report*

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) There is a current running in an East-West direction in the project area. The current can be as strong as 1.5 knots.

e) No magnetic anomalies were encountered during this survey.

S.2 No bottom samples were taken or submitted to the Smithsonian Institution.

T. RECOMMENDATIONS

T.1 Further investigation is required to disprove the existence of AWOIS Items 272 and 273. It is recommended that 100% side scan sonar coverage is sufficient to ~~disprove~~ / prove the existence of these AWOIS Items. *NO FURTHER WORK IS RECOMMENDED*

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

T.3 Further investigation of this area is recommended to complete the 100% side scan coverage.

U. REFERRAL TO REPORTS

Coast Pilot Report - Submitted August 12, 1994 to N/CG2223 with a copy to N/CG244.

SUBMITTAL SHEET
Survey FE-401SS

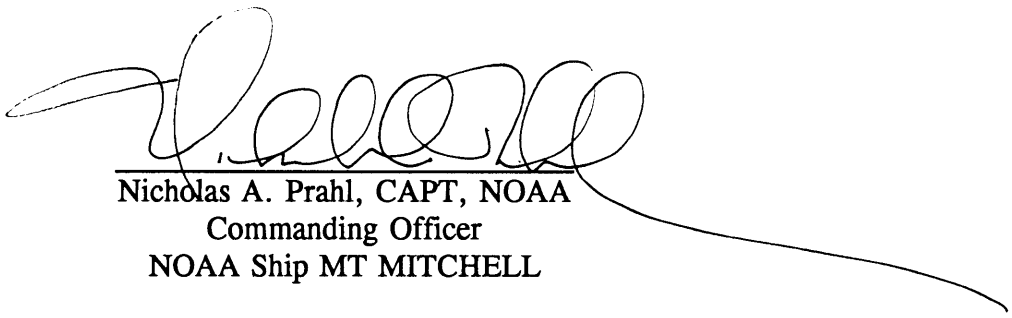
This descriptive report accurately describes all activities pertaining to the control, collection and processing of data for this survey, and is respectfully submitted by:

Ensign Michael P. Soracco, NOAA

Letter of Approval

Registry No. FE-401SS

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 for accuracy pertaining to the control, collection and processing of data for this survey. As noted in this report this survey is incomplete for updating the AWOIS database. The hydrography and above waterline features are adequate for updating the chart.



Nicholas A. Prahl, CAPT, NOAA
Commanding Officer
NOAA Ship MT MITCHELL

APPENDIX III
List of Horizontal Control Stations

Station 001 - MUENCH 1989

LAT:29° 15' 57.~~30111~~ 28905" N
LONG:089° 57' 17.~~39008~~ 38080" WANTENNA ELEVATION: -22.555 meters

CARTOGRAPHIC CODE: 890

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

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

LAT:29° 52' 43.87808" N
LONG:089° 56' 31.38~~205~~ 025" WANTENNA ELEVATION: -23.85 meters

CARTOGRAPHIC CODE: 890

SOURCE: Hydrographic Surveys Branch, July 16, 1993.

Station 003 - ~~United States Coast Guard~~, Galveston, TX ~~Texas Differential Beacon~~

LAT:29° 19' 45.09171" N
LONG:094° 44' 10.48430" WANTENNA ELEVATION: -20.154 meters

CARTOGRAPHIC CODE: 890

SOURCE: Hydrographic Surveys Branch, April 12, 1992.

R 211626Z4 JUL 94
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
CCGDEIGHT NEW ORLEANS LA //OAN
DMAHTC (NAVWARN) WASHINGTON DC//MCNM//
BT
UNCLAS

SUBJ REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: FE-401SS
SURVEY TITLE: LOUISIANA COAST ITEM INVESTIGATION
STATE: LOUISIANA
GENERAL LOCALITY: GULF OF MEXICO
SUBLOCALITY: 16 NM SW OF ISLE DERNIERES
PROJECT NUMBER: OPR-SK904-MI-94, NOAA SHIP MT MITCHELL

THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS BY THE NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: EXPOSED PIPELINE WAS DISCOVERED AT POSITION 28-47-27.103N4, 090-46-17.639W5. THE PIPELINE HAS A PROTECTIVE CONCRETE COVER OVER THE ENTIRE EXPOSED LENGTH. THE ESTIMATED LENGTH IS 210 FEET AND HAS A WIDTH OF 12 FEET. THE LEAST DEPTH OF 55.4 FEET, CORRECTED TO MLLW USING PREDICTED TIDES, OCCURS AT THE MIDDLE OF EXPOSED PIPELINE. THE POSITION OF THE PIPELINE WAS DETERMINED USING DIFFERENTIAL GPS . CORRESPONDS TO THE CHARTED PIPELINE IN THAT POSITION. THE CHARTED WATER DEPTH IN THIS AREA IS 59 FEET.

THIS ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	11357
EDITION NUMBER	29TH
DATE	02 OCT 93
REPORTED DEPTH	55.4 FEET
CHARTED HORIZ. DATUM	NAD 83
GEOGRAPHIC POSITION	
LATITUDE	28-47-27.103N4
LONGITUDE	090-46-17.639W5

QUESTIONS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ATLANTIC MARINE CENTER AT (804) 441-6206.
BT
NNNN

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 20 JUL 94 / 201 Project/Sheet: SK904 MI 94 / MI10-069

Dive Supervisor: SORACCO / VAN DEN AMEELE Dive Item #: B1

Vessel #: 2226 AWOIS #: —

DIVE # 1

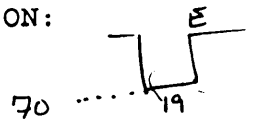
DIVERS: SORACCO, SWALLOW Surface Interval/RNT: —

TIME IN: 0930 DEPTH: 63 feet

TIME OUT: 0949 Bottom Time: 19 minutes

Diver Type (Letter Class): E

DIVE DESCRIPTION:



DIVERS DESCENDED DOWN ANCHOR LINE. CONDUCTED CIRCLE SEARCH — BUOY PREVIOUSLY DROPPED WAS NOT FOUND.

DIVE # 2

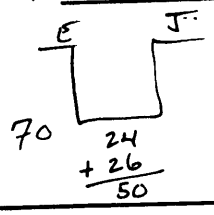
DIVERS: SORACCO, SWALLOW Surface Interval/RNT: 26 · RNT SI: 15

TIME IN: 1020 DEPTH: 70

TIME OUT: 1044 Bottom Time: 24

Diver Type (Letter Class): J

DIVE DESCRIPTION:



REPOSITIONED ANCHOR LINE. DIVERS DESCENDED. DISCOVERED PROTECTED PIPELINE. BUOY PLACED AT LEAST DEPTH ON SHORT STAY DP TAKEN W/ FATHO LD.

SEE SKETCH ON REVERSE

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Least-Depth Dive Investigations

Dive Operations Information: GAUGE S/N __ 0-21 m S/N 245419
__ 0-42m S/N 245418
__ 0-70m S/N 8302079N

DATE/DN: 20 JULY 94 / 201 Project/Sheet: SK904MI94/MI-10.06-94

Dive Supervisor: SORACCO/VAN DEN AMEELE Dive Item #: B1

Vessel #: 2226 AWOIS #: —

DIVE # 2

DIVERS: 1 SORACCO 2 SWALLOW

TIME IN: 1020 Pressure In: 2000

TIME OUT: 1044 Pressure Out: 400

BOTTOM TIME: 24 MAX DEPTH: 70

PROFILE:

DISCOVERED PROTECTED PIPELINE. ITEM GREATER THAN 60m LONG. DEPTH GAUGE USED FOR LEAST DEPTH W/ FATHO.

PNEUMOFATHOMETER CALIBRATED: Y N

LEAST-DEPTH DETERMINATION ☐ Pneumogauge ☐ Leadline ☑ Depth gage /Other

DP FIX NUMBER(s): 5347 AVERAGE DEPTH READING: _____

FATHOMETER DEPTH: 16.4 TIME OF READINGS (GMT): 15:57:36

DRAFT CORRECTOR: + 0.5 PREDICTED TIDE CORR.: - _____

VELOCITY CORR.: + 0.4 CORRECTED LEAST-DEPTH: 16.9 M (55 Ft)

PRED. TIDE CORR.: - −0.4 (Positive in TABLE) HAZNAV REPORT FILED: (Y) N 21 Jul

READING #1: _____

READING #2: _____

READING #3: _____

AVG : _____

POSITION / SUPPORTING INFORMATION

LAT: 28°47'27.103" N LONG: 090°46'17.639" W

N 13773.1 E 44166.5

28°47.452 N 090°46.294 W

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: December 8, 1994

MARINE CENTER: Atlantic

HYDROGRAPHIC PROJECT: S-K904-MI

HYDROGRAPHIC SHEET: FE-401SS

LOCALITY: Ship Shoal, Louisiana

TIME PERIOD: June 22 - July 26, 1994

TIDE STATION USED: 876-2888 East Isle Dernieres, La.
Lat. 29° 4.3'N Lon. 90° 38.5'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 8.43 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.4 ft.

REMARKS: RECOMMENDED ZONING

Apply a -45 minute correction to all times and heights are direct using East Isle Dernieres, La. (876-2888).

Notes: Times are tabulated in Greenwich Mean Time.
East Isle Dernieres, La. (876-2888) is stored in temporary file #676-2888.

William M. Hubbard

CHIEF, DATUMS SECTION

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

FE-401SS

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 11357	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H	U.S. LIGHT LIST K	
DERNIERES, ISLES (title)	X		X							1
LOUISIANA (title)	X		X							2
MEXICO, GULF OF	X		X							3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
					Approved					20
										21
										22
					Chief Geographer					23
					APR 3 1995					24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

07/06/95

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: FE-401

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	1963
NUMBER OF SOUNDINGS	7203

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	117.50	12/09/94
VERIFICATION OF FIELD DATA	129.50	02/22/95
QUALITY CONTROL CHECKS	0	
EVALUATION AND ANALYSIS	7	
FINAL INSPECTION	13	05/05/95
COMPILATION	9	06/02/95
TOTAL TIME	276	

ATLANTIC HYDROGRAPHIC BRANCH APPROVAL 07/05/95

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR FE-401 (1994)

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

The following software was used to process data at the Atlantic Hydrographic Branch: Hydrographic Processing System (HPS). The smooth sheet was plotted on a ZETA 936 plotter.

H. CONTROL

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 sheet has 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 0.863 seconds (26.56 meters or 2.66 mm at the scale of the survey) north in latitude, and 0.322 seconds (8.74 meters or 0.87 mm at the scale of the survey) west in longitude.

M. COMPARISON WITH PRIOR SURVEYS

The differences in depths between prior survey H-6154 (1936) and present survey depths can be attributed to natural causes, improved hydrographic surveying methods and equipment, and to subsidence due to the withdrawal of gas and oil from the region.

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

N. ITEM INVESTIGATIONS

Automated Wreck and Obstruction Information System (AWOIS) item #272 is a charted dangerous sunken wreck (rep destroyed) in Latitude 28°47'00.86"N, Longitude 90°45'00.32"W. Notice to Mariners 5 of 1944 (NM5/44) reported the wreck as being demolished. No significant contacts were located within the required 3000 meter search radius. It is recommended that the dangerous sunken wreck (rep destroyed) be deleted from the chart.

O. COMPARISON WITH CHARTS 11357 (29th Ed., Oct. 2/93) 11340 (56th Ed., July 17/93)

The charted hydrography originates with prior survey H-6154 (1936). An adequate

comparison is discussed in section 0., page 21, of the Descriptive Report and needs no further discussion. The following should be noted:

A charted well (covered 50 ft) in Latitude 28°45'45"N, Longitude 90°46'05"W was neither investigated nor discussed by the hydrographer. No change in charting status is recommended.

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

P. ADEQUACY OF SURVEY

This is an adequate side scan sonar survey. Additional work is recommended for adequate disproval of AWOIS item #273 at an opportune time.

S. MISCELLANEOUS

Chart compilation using the present survey was done by Atlantic Hydrographic Section personnel in Norfolk, Va. Compilation data will be forwarded to Mapping and Charting Division upon completion of survey.

MT MITCHELL Processing Team

Richard H. Whitfield
Cartographer
Evaluation and Analysis

APPROVAL SHEET
FE-401

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. A final sounding printout of the survey has been made. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Date: 5 JULY 95

Norris A. Wike
Cartographer
Atlantic Hydrographic Branch

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 Date: July 5, 1995

Nicholas E. Perugini, CDR, NOAA
Chief, Atlantic Hydrographic Branch

****

Final Approval:

Approved: Jack L. Wallace ACTG for Date: 9/18/95

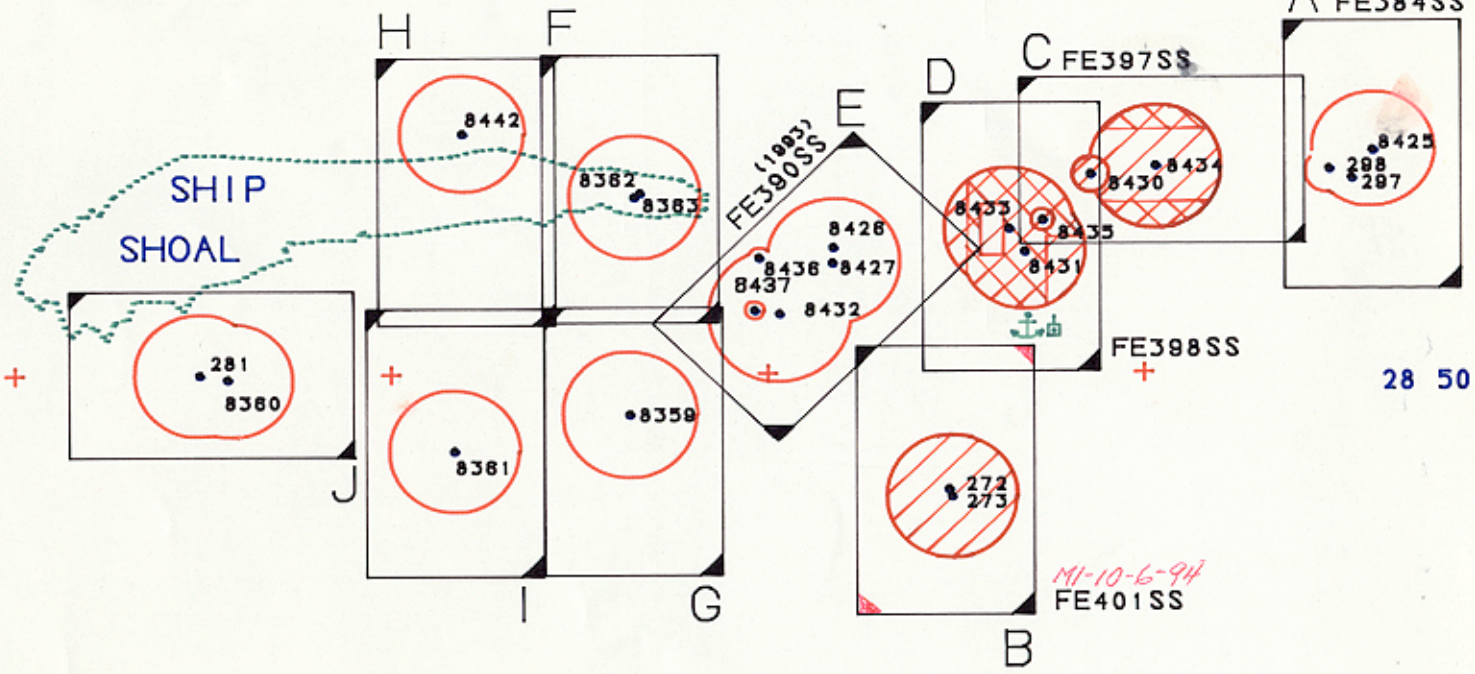
Andrew A. Armstrong III
Captain, NOAA
Chief, Hydrographic Surveys Division

PROJECT SKETCH
S-K904-MI-94
NOAA SHIP MT MITCHELL
CAPT. NICHOLAS A. PRAHL

TIDE GAUGE
876-2888

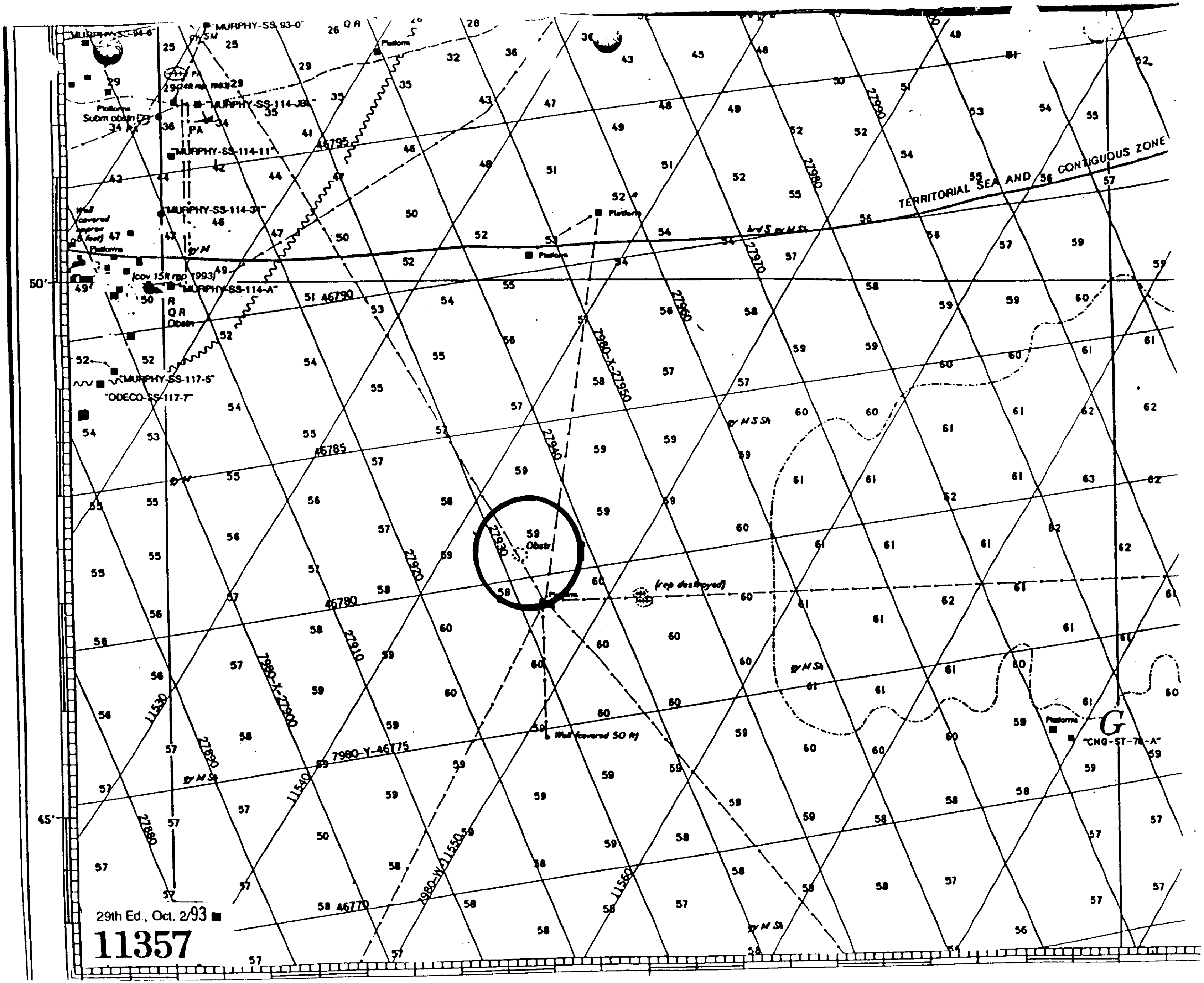
ISLES DERNIERES

LEGEND
AWOIS ITEM AND SEARCH RADIUS
100 % COVERAGE
200 % COVERAGE
CTD
ANCHORAGE



JUN	JUL	AUG		TOTALS
14.0	23.0		DAYS AT SEA	37.0
241.3	580.6		LNM	821.9
21.2	44.3		SQNM	65.5
1	2		CTD'S	3
0	8		DIVES	8
0	0		AWOIS RESOLVED	0
0	3		NEW ITEMS	3

28 50
28 40
65
91 10
91 00
90 50
90 40
90 30


"MURPHY-SS-93-0"
"MURPHY-SS-114-JB"
"MURPHY-SS-114-11"
"MURPHY-SS-114-3"
"MURPHY-SS-114-A"
"MURPHY-SS-117-5"
"ODECO-SS-117-7"
"CNG-ST-76-A"
Platform
Platforms
Subm obstn
Obstn
Obstn
(cov 15ft rep 1993)
(rep destroyed)
Well (covered 50 ft)
TERRITORIAL SEA AND CONTIGUOUS ZONE
7980-X-27950
7980-X-27900
7980-Y-46775
7980-W-11550
27880
27890
27910
27920
27930
27940
27960
27970
27980
27990
46770
46780
46785
46790
46795
11530
11540
11560
50′
45′
G
29th Ed., Oct. 2/93
11357

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-401

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
11357	6/2/95	[signature]	Full ~~Part~~ Before ~~After~~ Marine Center Approval Signed Via
			Drawing No.
11340	9/22/95	Mark S. Duffin	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via thru 11357
			Drawing No. 76
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED