F00404

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. HE-10-6-94

Registry No. F00404

LOCALITY

State Texas

General Locality Gulf of Mexico

Sublocality 18 Miles Southwest of Freeport Entrance Channel

1994

CHIEF OF PARTY
LCDR G.E. White

LIBRARY & ARCHIVES

DATE March 29, 1996

DIAGRAM 1283-2

Ref BP157697

Charts

CP5

JT 11321 RS

AN 1330

RS 11300 CS

EM 411 DR

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

FE-404SS

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.

HE-10-6-94

State Texas

General locality Gulf of Mexico

Locality 18 NM Southwest of Freeport Entrance Channel

Scale 1:10,000 Date of survey August 9, 1994

Instructions dated July 21, 1994 Project No. OPR-K353-HE

Vessel NOAA Ship HECK, S591 (EDP No. 9140)

Chief of party Lieutenant Commander George E. White, NOAA

Surveyed by LT Gerd F. Glang, ENS Lawrence T. Krepp, ST Kevin B. Shaver

Soundings taken by echo sounder, ~~hand lead, pole~~

Graphic record scaled by LTK, KBS

Graphic record checked by GFG

Protracted by N/A Automated plot by ZETA ~~824~~ 937 Plotter (Field)
ENCAD NOVAJET III Plotter (AHB)

Verification by Atlantic Hydrographic ~~Section~~ Branch, N/~~CG244~~ /CS331

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

REMARKS: See paragraph A for discussion of project instructions.

All times UTC.

Notes in the Descriptive Report were made in red during Office Processing

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978-665-010-1174

TABLE OF CONTENTS

DESCRIPTIVE REPORT TO ACCOMPANY
SURVEY FE-404SS
FIELD NUMBER HE-10-6-94
TEXAS
GULF OF MEXICO
18 NM SOUTHWEST OF FREEPORT ENTRANCE CHANNEL
Scale: 1:10,000

NOAA Ship HECK, S591
LCDR George E. White, NOAA
COMMANDING OFFICER

A. PROJECT

Survey FE-404SS is a field examination conducted at the request of the 8th USCG District (Mr. Phil Johnson, 504-589-6277), New Orleans, LA to locate an obstruction reported in position 28°43.7'N, 095°32.6'W. HECK requested and received approval to incorporate this field examination (FE) into project OPR-K353-HE, Approaches to Galveston, TX, *although no specific mention of this field exam is made in the project instructions dated July 21, 1994.* Original instructions were accumulated through numerous communications with N/CG24 up to August 5, 1994, and final authorization to conduct this FE was received from N/CG24 (LCDR John Humphrey, NOAA, 301-713-2702) via telephone on August 5, 1994.

No sheet letter is specified for this FE.

This survey responds to an obstruction reported to the USCG (Local Notice to Mariners 0915-94, MSO Galveston) on July 22, 1994, by the RV BESSIE CHOUEST (Captain Joe Estrada, 713-249-1959, owner PGS Exploration). The RV BESSIE CHOUEST, a seismic research vessel operating out of Freeport, TX, lost approximately $1M of seismic gear on this obstruction. Owners of the RV BESSIE CHOUEST retained John E. Chance & Associates (Mr. Andre Preshan, 1-800-237-5322) to conduct a preliminary survey of the obstruction for insurance purposes. The survey by John E. Chance was completed on July 21, 1994. Data from the John E. Chance survey was used to report this obstruction to the 8th USCG District.

B. AREA SURVEYED

HECK's instructions were to accomplish a 200% side scan sonar survey, centered around the obstruction's reported position 28°43.7'N, 095°32.6'W, with a 1NM radius, approximately 18 NM southwest of the Freeport Entrance Channel, Freeport, TX, in the Gulf of Mexico.

Approximate limits of the surveyed area are from latitude 28°43'18"N, north to latitude 28°44'04"N, and from longitude 095°32'~~34~~ 56"W, west to longitude 095°~~33'04~~ 32'34"W.

All shipboard survey operations and dive investigations were conducted on Tuesday, August 9, 1994 (DOY 221).

C. SURVEY VESSELS

All sonar, sounding, and velocity data were acquired aboard NOAA Ship HECK (EDP No. 9140). Pneumatic depth gauge readings, obtained by divers, were acquired from NOAA Ship HECK's dive launch, HE-20 (No EDP number available).

No unusual vessel configurations were used.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

SEE also Evaluation Report

Survey data acquisition and processing were accomplished with the HDAPS suite of programs, maintained and released by N/CG24. A list of programs, current versions, and version dates can be found in Appendix VI, Supplemental Correspondence. *

Velocity corrections were determined using the PC program VELOCITY, version 2.10, dated March 15, 1994.

Only standard automated acquisition and processing methods occurred.

E. SONAR EQUIPMENT

Sonar equipment used aboard HECK on DOY 221 was the EG&G Model 260 Image Correcting Side Scan Sonar (SSS) recorder (S/N 0012105) and the EG&G Model 272 Tow Fish (S/N 10823).

Vertical beamwidth and downangle are not adjustable on the EG&G Model 272 Tow Fish.

The EG&G Model 272 Tow Fish operates on a fixed nominal frequency of 100 khz (105 ± 10 khz).

The range scale selected for mainscheme lines was 75 meters for the generally 12-meter deep water, with a line spacing of 55 meters. The hydrographer chose this very conservative line spacing to ensure timely detection of the obstruction and to avoid any accidental collision of the tow fish into the obstruction. Development lines were acquired on the 50-meter range scale.

A confidence check was obtained early during data acquisition on both the port and starboard channels of the tow fish by maneuvering in close to a fixed oil production platform. This confidence check appears on the data sonargram for DOY 221, provided in the original data transmittal.

Coverage obtained in areas of mainscheme hydrography meets or exceeds 100%. Quality of bottom coverage to the outer edges of the sonargrams was assured both during data acquisition and during check scanning. The 200% coverage requirement, necessary for disproval, was not achieved since the obstruction was located during the first 100% mainscheme coverage.

No sonar equipment anomalies were observed. The EG&G tow fish was deployed in conventional fashion off HECK's stern.

Contact examination methodologies and processing procedures for this field exam are discussed in Section N, Item Investigation Reports, and are not mentioned here.

* Data Filed with Field records.

F. SOUNDING EQUIPMENT

The echosounder used aboard HECK on DOY 221 was the Raytheon DSF-6000N (S/N A116N).

The pneumatic depth gauge used to determine the obstruction's least depth by divers was a 3D Instruments air pressure gauge (S/N 8607004N, range 0-70 feet).

No equipment faults affecting accuracy or quality of sounding data are noted.

A leadline comparison conducted on June 3, 1994 (DOY 154) indicated no error in the DSF-6000N echosounder. Data records for this can be found in Separate IV, Sounding Equipment Calibrations and Corrections. *

The Raytheon DSF-6000N digitized high and low frequency depths are available in the HDAPS digital data records. High frequency depths were used for sounding plots.

G. CORRECTIONS TO SOUNDINGS

Sound Velocity Corrections:

Velocity of sound through water was determined using an ODOM Hydrographic Systems Digibar (S/N 168) sound velocimeter IAW HM 7.5.4.1. (*draft* Fifth Ed., January 8, 1993). The applicable SV cast was conducted in position 28°43'24"N, 095°33'30"W on DOY 221. SV profile data computed using the program VELOCITY and copies of the HDAPS SV table can be found in Separate IV, Sounding Equipment Calibrations and Corrections. * SV data, entered into HDAPS Sound Velocity Table 1, was merged with the HDAPS digital data records using the HDAPS REAPPLY program during data processing.

The ODOM Digibar velocimeter was calibrated February 8, 1994 by ODOM Hydrographic Systems. The calibration certificate can be found in Separate IV, Sounding Equipment Calibrations and Corrections. *

Echosounder Corrections:

No instrument initial variations or instrument correctors are necessary for the Raytheon DSF-6000N echosounder.

Dual leadline comparisons were conducted on DOY 154 (1994). A mean difference of 0.04 meter was obtained with a resulting corrector of 0.0 meter. Data from these comparisons can be found in Separate IV, Sounding Equipment Calibrations and Corrections. *

Static Draft Corrections:

HECK's static draft of 2.10 meters was applied during data acquisition using HDAPS Offset Table 1. Static draft was determined on June 3, 1994 (DOY 154) and records for this and a copy of HDAPS Offset Table 1 can be found in Separate IV, Sounding Equipment Calibrations and Corrections. *

Settlement and Squat Corrections:

Settlement and squat values for HECK were determined IAW HM 7.5.2.2. (*draft* Fifth Ed., January 8, 1993) on March 3, 1993, in Craney Island Reach, Norfolk, VA. Data from these observations

* Data Filed with Field records.

can be found in Separate IV, Sounding Equipment Calibrations and Corrections. *

Heave Correctors:

Heave correctors were determined with a Datawell b.v. HIPPY (S/N 19110-C, 120 seconds) sensor and were applied in near real time to HDAPS sounding records during data acquisition.

Pneumatic Depth Gauge:

The pneumatic depth gauge was calibrated on February 4, 1994 by Instruments East. The pneumatic depth gauge and leadline comparison sheets, as well as the calibration certificate, can be found in Separate IV, Sounding Equipment Calibrations and Corrections.* Daily system checks were performed IAW HSG 55 and correctors applied during least depth observations.

No unusual or unique methods or instruments were necessary for determination of sounding corrections. All correctors discussed above apply to the sounding data throughout the surveyed area. No unusual factors affected the echosounder records.

Tide Correctors:

Tidal datum used for this Field Exam is Mean Lower Low Water (MLLW). Because no tidal zoning for the Gulf of Mexico, off Freeport, TX, was available during data acquisition, the hydrographer used predicted tides based on the reference station at Pleasure Pier, Galveston, TX. Predicted tides on this reference station with a height corrector ratio of 0.94 for both high and low tide, with no time corrector, were applied using HDAPS Predicted Tide Table 1 during data acquisition. A copy of HDAPS Predicted Tide Table 1 can be found in Appendix V, Tides and Water Levels.*
Approved tides and zoning were applied during office processing.

H. CONTROL STATIONS See also Evaluation Report

Horizontal control datum for this field exam is the North American Datum of 1983 (NAD 83).

Geographic positions used during data acquisition for the Differential Global Positioning System (DGPS) reference beacons established in Galveston, TX, and Port Aransas, TX were previously located by N/CG241 to third-order, class I standards. Geographic positions for the Galveston DGPS reference beacon and the Port Aransas reference beacon can be found in* Appendix III, List of Horizontal Control Stations. *Appended to this Report.

No traditional terrestrial methods of horizontal control were employed. No horizontal control report shall be submitted as part of this field exam.

I. HYDROGRAPHIC POSITION CONTROL

Hydrographic position control during data acquisition was achieved using the DGPS reference beacons discussed in Section H, Control Stations. Accuracy requirements equalled or exceeded specifications set forth in FPM 3.4.2 (corrected to March, 1994) .

The DGPS suite of equipment used aboard HECK consists of two Ashtech OEM sensors (S/N 700417B1012 and 7004178B1195, both with version 1E11 D-P EPROMs) and two Magnavox MX50R DGPS beacon receivers (S/N 077 and S/N 079). Antenna serial numbers are not available.

* Data filed with field records.

Periodic performance checks were achieved using the PC program SHIPDIM (version 1.3, September 9, 1992) IAW FPM 3.4.5.2. Hard copies of the output file PERFORM.CHK were included in the original data transmittal.

DGPS reference stations used for this survey were the USCG beacons located in Port Aransas, TX (304 kHz), and in Galveston, TX (296 kHz). A maximum allowable HDOP of 3.0 was used for the Port Aransas beacon, and a maximum allowable HDOP of 3.7 was used for the Galveston beacon. Maximum allowable EPE was determined to be 15 meters for this scale survey. Any data not meeting these requirements were examined during processing and either accepted, smoothed, or rejected.

DGPS outages due to severe thunderstorms over Galveston and Port Aransas, and over the survey area, affected DGPS beacon reception aboard HECK during data acquisition. Frequent outages of both DGPS beacons caused the hydrographer to suspend data collection for up to two hours during DOY 221. Erroneous positions during data acquisition caused by DGPS outages were examined during processing and hard smoothed as necessary. Data was rejected during processing when the hydrographer determined poor DGPS availability had significantly corrupted position control.

All offset and layback correctors were applied during data acquisition from HDAPS Offset Table 1. A copy of HDAPS Offset Table 1 is available in* Separate IV, Sounding Equipment Calibrations and Corrections.

J. SHORELINE

No shoreline occurs within the limits of this field exam.

K. CROSSLINES

No crosslines were acquired during this field exam.

L. JUNCTIONS

No junction surveys were available for evaluation with this field exam.

M. COMPARISON WITH PRIOR SURVEYS See also Evaluation Report

No prior surveys were available for comparisons. Prior survey comparison will be accomplished by the Atlantic Hydrographic Section, N/CG241, during data verification.

N. ITEM INVESTIGATION REPORT

Area of Investigation:

See paragraph 1, Section B, Area Surveyed, of this report. This item was entered into the AWOIS database and assigned AWOIS No. 9005 on August 12, 1994, by N/CG24. A copy of this AWOIS report is provided in* Appendix VI, Supplemental Correspondence.

* Data Filed with Field records.

Description and Source of Item:

This field exam dealt entirely with the location of one reported obstruction. Telephone discussions with Mr. Phil Johnson, (8th USCG District), with Captain Joe Estrada (RV BESSIE CHOUEST), and with Mr. Andre Preshan (John E. Chance & Associates) indicated the obstruction was probably one leg of a jack-up barge lost in 1976. *No documentation or Local Notice to Mariners (LNM) supporting these reports was available to the hydrographer at the time of the investigation.*

The following information is considered anecdotal, and is provided only as background information:

In October, 1976, a three-legged jack-up barge (locally called a "spud barge"), the SEA JACK, reportedly capsized and sunk (no position given). Salvage efforts apparently recovered only the barge and two of the three jack-up legs. This third jack-up leg was reported "adrift" in position 28°43.9'N, 095°32.5'W. In 1978 (LNM 43/1978), an "unlighted object" was reported "protruding at an angle above water" (exact position not provided), apparently in the vicinity of the originally reported "adrift" jack-up leg.

Information provided to HECK by John E. Chance & Associates in late July, 1994, indicated an obstruction, described as 1-meter in diameter, submerged 6 meters, and protruding from the bottom in a vertical direction, was found in position 28°43.7'N, 095°32.6'W. This description by John E. Chance & Associates of the obstruction was scaled from their side scan sonar data. The position source was reportedly DGPS.

Survey Requirements:

See paragraph 1, Section B, Area Surveyed, of this report. In addition, HECK agreed that divers would attempt to identify the obstruction and obtain a least depth, provided sea and weather conditions were conducive to such operations and the obstruction was located.

Method of Investigation:

See paragraph 4, Section E, Sonar Equipment, of this report.

Results of Investigation:

During mainscheme side scan sonar operations, one significant contact was located. This contact, assigned fix number 65.43 (scaled time 18:50:56 UTC, DOY 221), occurred in a depth of water of 12.1 meters (MLLW), with a scaled target height of 4.9 meters. This same contact was again found on the following mainscheme line, and on three subsequent development lines. On the third development line, HECK's trackline was sufficiently close to the target that a clear spike was discernible on the echogram at fix number 71.10 (scaled time 19:13:53 UTC, DOY 221), in a depth of water of 12.0 meters, with a height of 6.3 meters. At this point, side scan sonar operations were suspended and HECK divers proceeded to investigate contact 65.43 using as a target the position for fix number 71.10.

The dive investigation commenced with a 15-meter circle search around the dive buoy line, with the dive buoy having been deployed at the fix number 71.10 position. Divers maintained a constant depth at approximately 35 feet during the circle search and quickly located the obstruction. Visibility at this depth was typically one meter due to silt suspension. Divers found a 1-1.2 meter diameter solid, irregular-shaped cylinder, heavily encrusted with marine growth, approximately 30° from the vertical, protruding upwards from the bottom approximately 23 feet (divers did not descend to the bottom due to decreasing visibility). Least depths by diver-held gauges indicated 18

feet at the top of the feature. The least depth obtained at time 20:55 (UTC, DOY 221) by pneumatic depth gauge was meaned to 17.43 feet (5.3 meters). Using a predicted tide corrector of -0.5 meters, a **corrected least depth of 4.8 meters** (15.8 feet) MLLW was determined. A detached position was taken (after divers relocated the buoy directly over the object) at time 21:02:06 (UTC, DOY 221), fix number 73, in **position 28°43'41.820"N, 095°32'37.396"W**. Based on first-hand knowledge and the anecdotal description, the hydrographer feels strongly that the obstruction located is the missing jack-up leg.

LORAN-C rates observed at this detached position (No. 73) were 7980-W-11052.2, X-25101.6, Y-46859.6, and Z-64024.3.

By agreement with the Eighth USCG District, the dive buoy was left in place, secured directly to the obstruction, to facilitate placement of a dangerous obstruction buoy by the USCGC PAPAW.

***Comparison with Prior Surveys:**

As in Section N, Comparison with Prior Surveys, no prior surveys were available for comparisons. Prior survey comparisons shall be performed by the Atlantic Hydrographic Section, N/CG244, during data verification. * See Section M. of the Evaluation Report

Comparison with the Chart and Charting Recommendations:

The largest scale chart depicting the area of this field exam is NOS Chart 11321 (1:80,000 scale), Edition No. 25, dated July 3, 1994.

A danger to navigation report was issued on August 10, 1994 and was telefaxed to the Eighth USCG District, New Orleans, LA the same evening. A copy of this danger to navigation report is available in Appendix I, Danger To Navigation Reports.* Appended to this report.

Charted soundings compared generally within 0.5-0.8 feet of the surveyed depths. There is no indication of any shoaling or deepening within the small area surveyed for this investigation. Any differences between charted depths and surveyed depths are likely due to the predicted tide correctors used on the survey.

The hydrographer recommends a dangerous, submerged obstruction with a danger curve ~~obstruction~~ be charted in position 28°43'41.820"N, 095°32'37.396"W (fix number 73, DOY 221), covering 4.8 meters (~~MLLW, to be~~ corrected with the application of smooth tides during data verification by N/CG244)(15 Feet) concur.

O. COMPARISON WITH THE CHART See Section O. of the Evaluation Report

See section N, Item Investigation Report, for discussion of items prescribed in this section by the FPM.

P. ADEQUACY OF SURVEY See Section P. of the Evaluation Report

The hydrographer considers the investigation of this obstruction resolved. No portion of this survey is considered incomplete or substandard at this time.

Q. AIDS TO NAVIGATION

No aids to navigation, fixed or floating, occur within the survey area.

R. STATISTICS

The following statistics apply:

Number of Positions	73
Lineal Nautical Miles of Sounding Lines (Side Scan)	9.14
Square Nautical Miles of Hydrography	0.26
Days of Production	1
Detached Positions	1
Velocity Casts	1

S. MISCELLANEOUS See Section S. of the Evaluation Report.

The water in this area of the Gulf of Mexico is silty, resulting in a soft muddy bottom which causes poor sonar energy reflection. The predominantly soft bottom type was evident on the sonargrams as lighter gray scale, requiring the recorder gain to be increased to ensure a uniformly acceptable gray background tone.

No unusual tide or current conditions were observed. No magnetic anomalies were noted. No bottom samples were collected for this item investigation.

T. RECOMMENDATIONS

The hydrographer has no further recommendations regarding this item investigation.

U. REFERRAL TO REPORTS

The User Evaluation Report and Coast Pilot Report will be submitted upon completion of project OPR-K353.

Respectfully Submitted,

Gerd F. Glang

Gerd F. Glang, LT, NOAA
Executive Officer
NOAA Ship HECK

Station No 2

No	Type	Lat	Lon	H	Cart	Freq	Vel Code	MM/DD/YY	Station Name
1		027:50:18.000	097:03:32.000	0	0	0.0	0	03/01/92	PORT ARANSAS DGPS BEACON
2		029:19:44.000	094:44:10.000	0	0	0.0	0	03/01/92	GALVESTON DGPS BEACON
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
		000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	

10-6-94
FE-40455
SPECIAL
AWOIS

DIVING OPERATIONS
OPR - K 353 -94 - HE
APPROACHES TO GALVESTON, TX
NOAA SHIP HECK S- 591

- DOY: 221
- Date: August 9, 1994
- Target # 65.43
- DP # 73

- Max Depth (Ft): 40
- Max Time (min): 21
- Least Depth (Ft): 17.4
- * Time ~~(min)~~: 2055 (pneumo rdg)

* TIME OF LEAST DEPTH

ATM. CONDITIONS
- WIND DIR: ESE
- WIND SPD (KNTS): 11 kts
- TEMP (C): 26.9

SEA CONDITIONS
- DIRECTION: 090
- HEIGHT (Ft): 2-4 ft
- TEMP (C): 29.0
- VISIBILITY: 2-3 ft

Diiver Name	Surf Int	GP	RNT	TNK Pressure In/Out	dP	Dive Times Up/Down	Bottom Time	Depth	Gr
Krepp				2800/1500		1557 LMT/ 1533 LMT	21 min	33 ft	C
Jiang				3000/1200		1557 LMT/ 1533 LMT	21 min	40 ft	C

DP # 73

Lat: 28°43'41.820"N East:

Long: 95°32'37.396"W North:

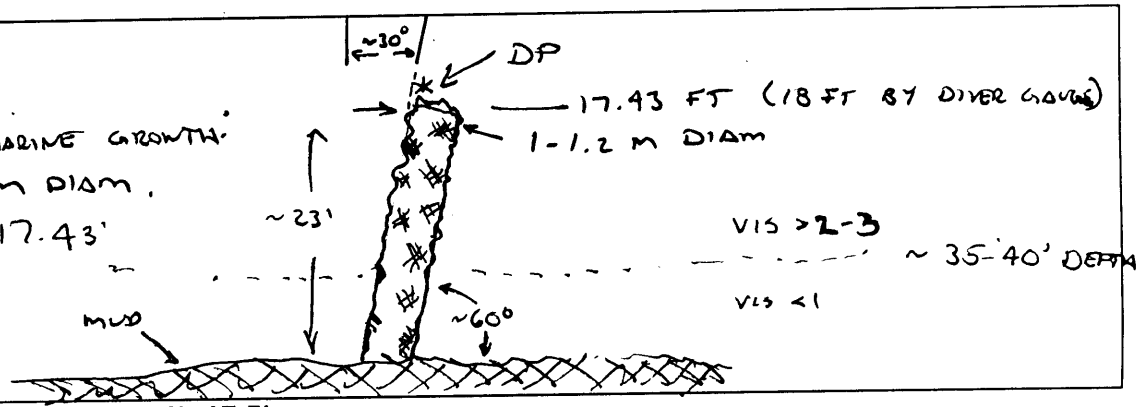
LORAN Rates

W: 11052.2 Y: 46859.6

X: 25101.6 Z: 64024.3

Diver Comments:

- HVY MARINE GROWTH.
- 1-1.2 m DIAM.
- LD = 17.43'



Pneumo Gauge Readings: 17.4', 17.4', 17.5'

GFC

LETTER OF APPROVAL

Field operations contributing to the accomplishment of this survey were conducted under my direct supervision with daily personal checks of progress and quality during data acquisition. This report, field sheets, and the data records were closely reviewed and are complete and adequate for charting.

Approved,

George E. White 10/26/94

George E. White, LCDR, NOAA — Date
Commanding Officer
NOAA Ship HECK

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: March 21, 1995

HYDROGRAPHIC SECTION: Atlantic

HYDROGRAPHIC PROJECT: OPR-K353

HYDROGRAPHIC SHEET: FE-404SS

LOCALITY: Texas, Gulf of Mexico, 18 Nautical Miles SW of Freeport Entrance Channel

TIME PERIOD: August 9, 1994

TIDE STATION USED: 877-2440 Freeport, Tx.
Lat. 28° 56.9'N Lon. 95° 18.5'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 3.45 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.7 ft.

REMARKS: RECOMMENDED ZONING

Times are direct, and apply a X1.03 range ratio to heights using Freeport, Tx. (877-2440).

Note: Times are tabulated in Central Standard Time.

William M. Hubbard

CHIEF, DATUMS SECTION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

FE-404

Name on Survey	A ON CHART NO. 11321	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	
FREEPORT HARBOR CHANNEL (title)	X									1
MEXICO, GULF OF (title)	X									2
TEXAS (title)	X									3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
				Approved:						16
										17
				Charles L. Harrington						18
				Chief Geographer - N/CG27						19
				DEC -5 1994						20
										21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

03/27/96

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: FE-404

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	74
NUMBER OF SOUNDINGS	228

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	21	11/17/94
VERIFICATION OF FIELD DATA	16	01/24/96
QUALITY CONTROL CHECKS	8	
EVALUATION AND ANALYSIS	19.50	
FINAL INSPECTION	4	03/15/96
COMPILATION	6	03/26/96
TOTAL TIME	75	

ATLANTIC HYDROGRAPHIC BRANCH APPROVAL 03/25/96

NOAA FORM 61-29
(12-71)

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

REFERENCE NO.
N/CS33-56-96

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 GROUP, N/CS3x1
NOAA/NATIONAL OCEAN SERVICE
SSMC3, STATION 6813
1315 EAST-WEST HIGHWAY
SILVER SPRING, MARYLAND 20910-3282

DATE FORWARDED
MAR 29, 1996

NUMBER OF PACKAGES
1(ONE) TUBE, 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.

OPR-K320

TEXAS, GULF OF MEXICO

1 BOX CONTAINING:

1 COPY OF THE DESCRIPTIVE REPORT FOR FE-404
1 COPY OF THE DESCRIPTIVE REPORT FOR FE-405

1 TUBE CONTAINING:

1 SMOOTH SHEET FOR FE-405

2 PAPER COMPOSITE PLOTS OF SURVEY FE-405 FOR NOS CHART 11313
1 MYLAR H-DRAWING FOR NOS CHART 11313
1 PAPER COMPOSITE PLOT OF SURVEY FE-404 FOR NOS CHART 11321
1 MYLAR H-DRAWING FOR NOS CHART 11321

FROM: *(Signature)*

DEBORAH A. BLAND Deborah A Bland

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

ATLANTIC HYDROGRAPHIC BRANCH
N/CS331
439 WEST YORK STREET
NORFOLK, VA 23510-1114

ATLANTIC HYDROGRAPHIC SECTION
EVALUATION REPORT FOR FE-404 (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:

AutoCAD, Release 12
Hydrographic Processing System
Microstation, version 5.0
NADCON, version 2.10

H. CONTROL STATIONS

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.

To place this survey on the NAD27 datum move the projection lines 0.929 seconds (28.594 meters or 2.86 mm at the scale of the survey) north in latitude, and 0.823 seconds (22.332 meters or 2.23 mm at the scale of the survey) west in longitude.

All geographic positions listed in this report are on NAD83 datum unless otherwise specified.

M. COMPARISON WITH PRIOR SURVEYS

A comparison with prior surveys was not performed. This is in accordance with section 4. of the memorandum titled "Changes to Hydrographic Survey Processing", dated May 24, 1995.

O. COMPARISON WITH CHART 11321 (25TH Ed., JUL 3, 1993)

Hydrography

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in sections N. and O. of the Descriptive Report.

The present survey is adequate to supersede the charted

hydrography within the common area.

Dangers To Navigation

One Danger to Navigation report was submitted to Commander (oan), Eighth Coast Guard District, New Orleans, Louisiana for inclusion in the Local Notice to Mariners, and to the Marine Chart Division, N/CS3x1, Silver Spring, Maryland. A copy of the report is appended to this report.

P. ADEQUACY OF SURVEY

This is an adequate item investigation/side scan sonar survey; no additional work is recommended.

S. MISCELLANEOUS

Chart compilation using the present survey was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to the Marine Chart Division, Silver Spring, Maryland.

HECK PROCESSING TEAM

Douglas V. Mason
Cartographic Technician

Deborah A. Bland
Cartographer

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
NOAA Ship HECK S-591
439 W. York Street
Norfolk, VA 23510-1114

August 10, 1994

Director
DMAHTC
Attn: MCNA
6500 Brooks Lane
Washington, DC 20315-0030

Dear Sir,

While conducting hydrographic survey operations in the Gulf of Mexico, off Freeport, Texas, the NOAA Ship HECK located one danger to navigation. This item has been reported to the Eighth Coast Guard District. A copy of the correspondence describing this danger is enclosed.

Sincerely,

George E. White

George E. White
Lieutenant Commander, NOAA
Commanding Officer

Enclosure

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
NOAA Ship HECK S-591
439 W. York Street
Norfolk, VA 23510-1114

August 10, 1994

Commander, Eighth Coast Guard District
Office of Aids to Navigation
Hale Boggs Federal Building
501 Magazine Street
New Orleans, LA 70130-3396

Dear Sir,

The following uncharted obstruction was located during hydrographic survey operations, and is considered a danger to navigation:

REPORT OF DANGER TO NAVIGATION

Hydrographic Survey Registry Number . . . . . *(unassigned at this time)*
State . . . . . Texas
General Locality . . . . . Gulf of Mexico
Locality . . . . . 18NM Southwest of Freeport
Project Number OPR-K353
Surveyed by . . . . . NOAA Ship HECK

Object Discovered: Jack-up Barge Leg.

An uncharted obstruction was discovered 18NM southwest of Freeport, Texas, Gulf of Mexico. This obstruction is submerged, and is covered with a least depth of 4.8 meters (15.8 feet) MLLW based on predicted tides. The preliminary position of this obstruction is Latitude 28°43'41.82"N, Longitude 095°32'37.40"W (NAD83). The presently charted depths in this area are approximately 45 feet.

Affected Nautical Charts:

CHART NUMBER	EDITION NO.	EDITION DATE	REPORTED DEPTH	HORIZ. DATUM	GEOGRAPHIC POSITION LATITUDE	GEOGRAPHIC POSITION LONGITUDE
11300	32	Apr. 16, 1994	2½ fm.	NAD83	28°43'41.82"N	095°32'37.40"W
11321	25	Jul. 3, 1994	16 ft.	NAD83	"	"

This is advance information subject to office review. Questions concerning this report should be directed to the Chief, Atlantic Hydrographic Section, at (804) 441-6746.

Sincerely,

George E. White
Lieutenant Commander, NOAA
Commanding Officer

Attachment:
Chartlet of 11321

cc: N/C244, N/CG241, N/CG221, DMAHTC

APPROVAL SHEET
FE-404

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. 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.

Deborah A. Bland Date: 25 March 1996
Deborah A. Bland
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: 25 March 1996
Nicholas E. Perugini,
Commander, NOAA
Chief, Atlantic Hydrographic Branch

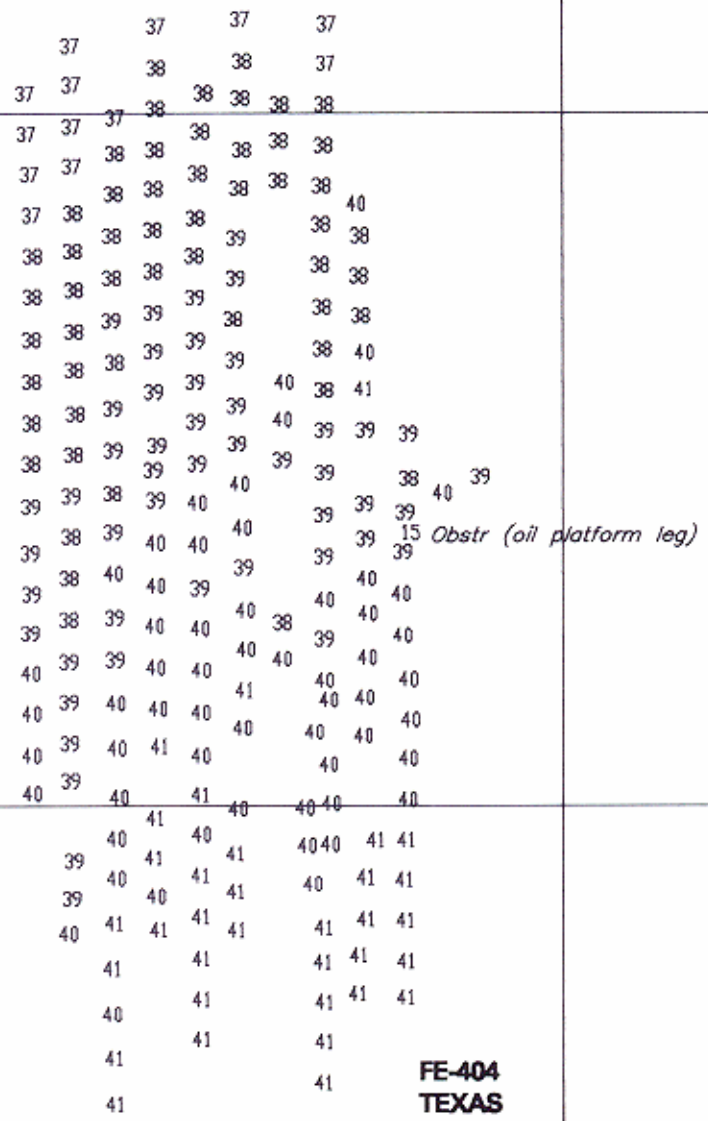
****

Final Approval:

Approved: Jack L. Wallace ACTG for Date: 3/29/96

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

28° 44′ 00″

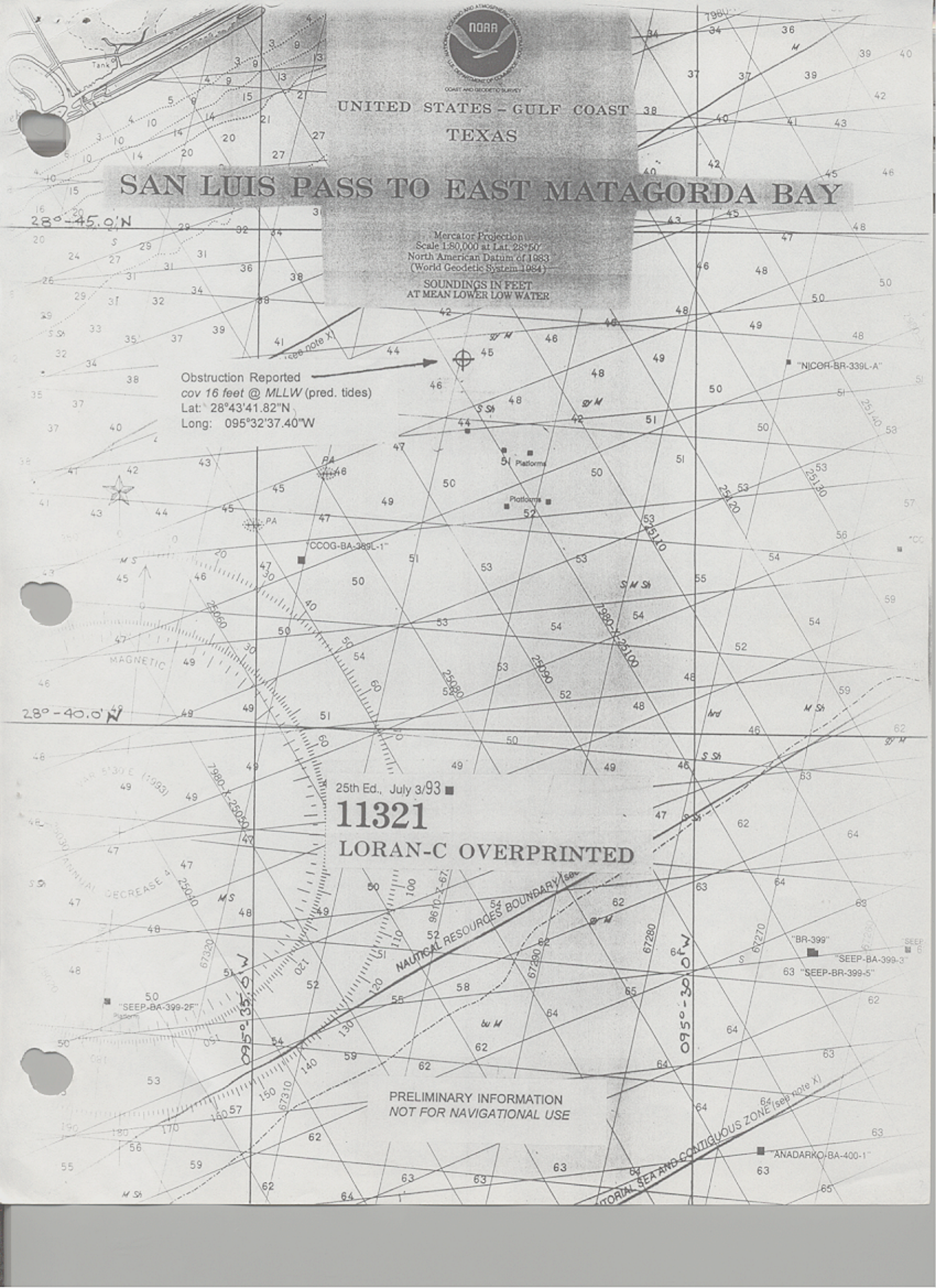


28° 43′ 30″

28° 43′ 00″

95° 33′ 00″ 95° 32′ 30″

FE-404
TEXAS
GULF OF MEXICO
18 NM SW OF FREEPORT ENTRANCE CHANNEL
9 AUG 1994
1:10,000
VERTICAL DATUM: SOUNDINGS IN FEET AT MLLW
HORIZIONTAL DATUM: NAD 83
SHEET 1 OF 1
AWOIS ITEM #9005


NOAA
UNITED STATES - GULF COAST
TEXAS
SAN LUIS PASS TO EAST MATAGORDA BAY
Mercator Projection
Scale 1:80,000 at Lat. 28°50'
North American Datum of 1983
(World Geodetic System 1984)
SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER
28°-45.0'N
Obstruction Reported
cov 16 feet @ MLLW (pred. tides)
Lat: 28°43'41.82"N
Long: 095°32'37.40"W
"NICOR-BR-339L-A"
Platforms
Platforms
"CCOG-BA-389L-1"
28°-40.0'N
25th Ed., July 3/93
11321
LORAN-C OVERPRINTED
NAUTICAL RESOURCES BOUNDARY (see
095°-35.0'W
095°-30.0'W
"BR-399"
"SEEP-BA-399-3"
"SEEP-BR-399-5"
"SEEP-BA-399-2F"
PRELIMINARY INFORMATION
NOT FOR NAVIGATIONAL USE
"ANADARKO-BA-400-1"
TORIAL SEA AND CONTIGUOUS ZONE (see note X)

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-404

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
11321	3/26/96	D.A. Bland	Full [redacted] After Marine Center Approval Signed Via
			Drawing No.
411	9-10-96	Dal [illegible]	Full [redacted] After Marine Center Approval Signed Via
			Drawing No.
	1/14/97		
11300	1/14/97	C James	Full [redacted] After Marine Center Approval Signed Via
			Drawing No. N.C.
			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
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.