H10561

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: Hydrographic
Side Scan Sonar

Field No.: MI-10-8-94

Registry No.: H-10561

LOCALITY

State: Louisiana

General Locality: Gulf of Mexico

Sublocality: 5 NM South of
Calcasieu Pass

19 94

CHIEF OF PARTY
CAPT N. A. Prahl

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DATE: DEC 5 1996

☆U.S. GOV. PRINTING OFFICE: 1987—756-980

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NOAA FORM 77-28
(11-72)

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

REGISTRY NUMBER:

H-10561

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-10-08-94

State: Louisiana

General locality: Gulf of Mexico

Locality: 5 ~~Nautical Miles~~ NM South of Calcasieu Pass, LA

Scale: 1: 10,000 Date of survey: 05 Aug - 25 Oct, 1994

Instructions dated: 26 July 1994 Project Number: OPR-K171-MI-94

Vessel: NOAA Ship MT MITCHELL S-222

Chief of Party: CAPT Nicholas A. Prahl, NOAA

Surveyed by: J.A. Ferguson, J.D. Swallow, T. Duffy, M.P.M. Soracco, S.R. Williams, S.A. Shaulis, J.A. Mann, E.J. Van Den Ameele, E.J. Sipos, M.W. Stukes, U.L. Gardner, P.G. 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 (FIELD) ENCAD NOVJET III PLOTTER (AHB)

Verification by: Hydrographic Surveys Branch PERSONNEL

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

Remarks: Basic Hydrographic Survey including a portion of AWOIS #6989 and #8967 search radii.

200% side scan sonar coverage of safety fairway and fairway anchorages.

Time zones used: +0 (UTC) for data collection and +0 (UTC) for tidal data.

NOTES IN RED IN THE DESCRIPTIVE REPORT WERE MADE DURING OFFICE PROCESSING.

AWOIS / SURF 12/10/96 SJV

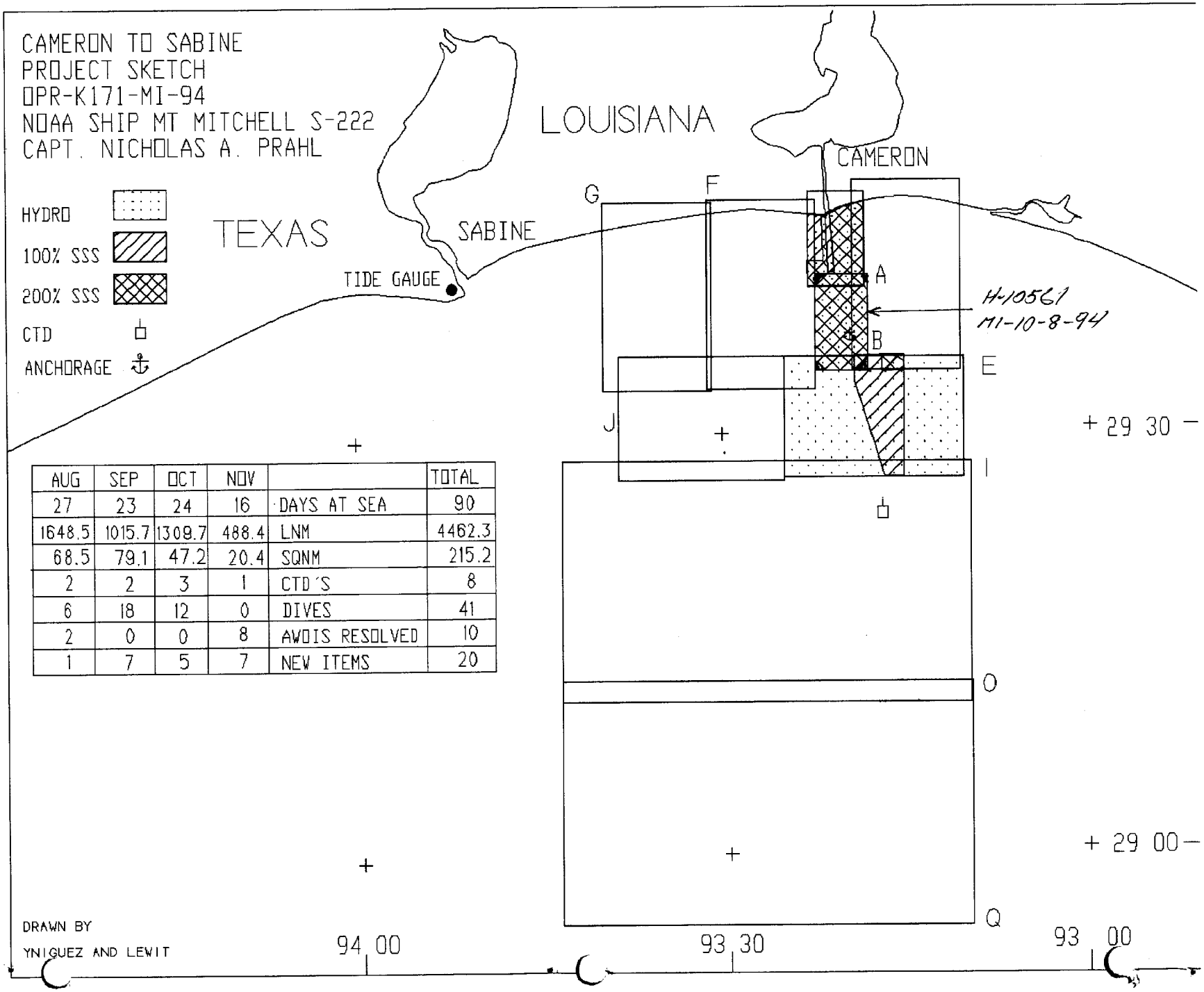
DJC 12-6-96

CHARTLET OF SURVEY AREA

Approaches to Cameron, Louisiana, Sheet B

H-10561

CAMERON TO SABINE
PROJECT SKETCH
OPR-K171-MI-94
NOAA SHIP MT MITCHELL S-222
CAPT. NICHOLAS A. PRAHL



AUG	SEP	OCT	NOV		TOTAL
27	23	24	16	DAYS AT SEA	90
1648.5	1015.7	1309.7	488.4	LNM	4462.3
68.5	79.1	47.2	20.4	SQNM	215.2
2	2	3	1	CTD'S	8
6	18	12	0	DIVES	41
2	0	0	8	AWOIS RESOLVED	10
1	7	5	7	NEW ITEMS	20

DRAWN BY
YNIGUEZ AND LEWIT

Table of Contents

* FILED WITH THE ORIGINAL FIELD RECORDS

A. PROJECT

A.1 This survey was conducted in accordance with Project Instructions OPR-K171-MI, Cameron, Louisiana, to Sabine, Texas.

A.2 The original date of the instructions is July 26, 1994.

A.3 One change was made to the project instructions. Permission was granted from the Hydrographic Surveys Branch to increase the line spacing for main scheme coverage within the safety fairway and fairway anchorage from 50 meters to 60 meters (See E-Mail in Appendix VI). This change was made so the main scheme sounding lines, which were run due east-west, could be run as splits to the 200% SSS lines which were run at 120 meter line spacing in a due east-west direction. The soundings collected during 200% SSS lines were evaluated as main scheme hydrographic sounding lines.

A.4 This sheet was designated by the project instructions as "Sheet B".

A.5 Project OPR-K171-MI is being conducted to accomplish a navigable area hydrographic survey, and to complete 200% side scan sonar coverage of the safety fairway and fairway anchorages at the approaches to Calcasieu Pass, Cameron, Louisiana.

B. AREA SURVEYED

B.1 The H-10561 survey area encompasses a portion of Calcasieu Pass Channel from Buoy "R22" Northward to Buoy's "G33" and "R34", including the surrounding safety fairway and fairway anchorage. Existing depths are between 8.7 and 14.6 meters. A portion of two AWOIS search radii are included on this sheet. The frequent traffic in the area includes various deep draft vessels, crew\supply boats, jackup rigs, barges, tugs, fishing boats, and pleasure craft.

B.2 The survey sheet is rectangular and delineated to the north and south by latitudes 029/40.7 N and 029/34.3 N respectively, and to the east and west by longitudes 093/17.3 W and 093/22.2 W, respectively.

The primary requirement on this survey sheet was basic hydrography. Two hundred percent side scan sonar coverage was conducted in the safety fairway and fairway anchorage.

B.3 Data acquisition began on August 5, 1994 (DN 217) and concluded on October 25, 1994 (DN 298).

C. SURVEY VESSELS

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

VESSEL	ELECTRONIC DATA PROCESSING NUMBER	PRIMARY FUNCTION
JENSEN LAUNCH 1008 (MI-6)	2226	Hydrography, Side Scan Operations, Diving Operations, Bottom Sampling, CTD Casts
JENSEN LAUNCH 1002 (MI-4)	2224	Hydrography, Side Scan Operations, Bottom Sampling, CTD Casts
JENSEN LAUNCH 1004 (MI-3)	2223	Hydrography, Diving Operations
BOSTON WHALER (MI-1)	N/A	Diving Operations, CTD Casts
SEA ARK (MI-7)	N/A	Diving Operations

C.2 There were no unusual vessel configurations used in this survey.

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
DISC_UTIL	1.00	22 Feb 1994
LOADNEW	2.10	22 Feb 1994
BACKUP	2.00	22 Feb 1994
BASELINE	1.14	22 Feb 1994
BIGABST	2.07	22 Feb 1994
BIGAUTOST	3.01	22 Feb 1994
BLKEDIT	2.02	22 Feb 1994
CARTO	2.15	23 Aug 1994
CLASSIFY	1.05	23 Aug 1994
CONTACT	2.41	23 Aug 1994
CONVERT	3.63	23 Aug 1994
DAS_SURV	6.74	23 Aug 1994
DIAGNOSE	3.05	23 Aug 1994
DP	2.15	23 Aug 1994
EXCESS	4.31	23 Aug 1994

D.1 (Con't)

Program Name	Version	Date Installed
FILESYS	3.27	23 Aug 1994
GRAFEDIT	1.06	22 Feb 1994
HIPSTICK	1.01	22 Feb 1994
HPRAZ	1.26	22 Feb 1994
INVERSE	2.01	22 Feb 1994
LISTDATA	1.02	22 Feb 1994
LSTAWOIS	3.07	04 Apr 1994
MAINMENU	1.20	22 Feb 1994
MAN_DATA	2.01	22 Feb 1994
NEWPOST	6.12	23 Aug 1994
PLOTALL	2.30	23 Aug 1994
POINT	2.10	22 Feb 1994
PREDICT	2.01	22 Feb 1994
PRESURV	7.09	23 Aug 1994
PRINTOUT	4.04	23 Aug 1994
QUICK	2.05	23 Aug 1994
RAMSAVER	2.11	23 Aug 1994
REAPPLY	2.11	23 Aug 1994
RECOMP	1.02	22 Feb 1994
SCANNER	1.00	22 Feb 1994
SELPRINT	2.05	23 Aug 1994
SYMBOLS	2.00	22 Feb 1994
VERSIONS	1.00	22 Feb 1994
ZOOMEDIT	2.30	23 Aug 1994

D.2 Two programs were used to determine velocities: *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.

E. SIDE SCAN SONAR EQUIPMENT

E.1 Side Scan Sonar (SSS) 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-6 (Vesno 2226) and MI-4 (Vesno 2224). The following list shows the equipment serial numbers and corresponding dates used.

Vessel Number	Equipment Type	Serial Number	Dates Used
2226	Recorder	016669	DN 217 - 278
2226	Towfish	011904	DN 217 - 278
2224	Recorder	016946	DN 217 - 220
2224	Recorder	016673	DN 222 - 272
2224	Towfish	011591	DN 217 - 220

E.1 (Con't)

Vessel Number	Equipment Type	Serial Number	Dates Used
2224	Towfish	011901	DN 222 - 272

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 the entire survey.

E.4 a) The 50, 75, and 100 meter range scales were used for main scheme coverage. Although water depths on the Southern portion of the sheet exceed 10 meters and could allow coverage with the 100 meter range scale, the 75 and 50 meter range scale was used to provide better data quality when encountering sea action or a thermocline layer in the water column. In shoaler areas of the sheet (less than 10 meters water depth) the 75 and 50 meter range scale was used.

Line spacing for main scheme SSS coverage was 170 meters for the 100 meter range scale, 120 meters for the 75 meter range scale, and 70 meters for the 50 meter range scale. Line spacing was adjusted to ensure sufficient overlap with adjacent lines.

b) Daily opening and closing confidence checks were obtained by towing the SSS towfish over the ship's anchor chain, over anchor scours along the bottom, or alongside jackup rigs in the area.

c) Complete 200% side scan coverage was obtained within the safety fairway and fairway anchorage on the sheet. The 100% lines were run parallel to the Calcasieu Pass channel running 352°/172° true. The 200% lines were run due East/West to cross the 100% lines at a near 90° angle. Quality coverage was not obtained within and directly adjacent to the dredged channel itself due to a large amount of sediment suspended in the water column. The continuous dredging operations and high volume of vessel traffic in the vicinity keeps the bottom sediment from settling out. The result is a whitened out SSS trace. The degraded return areas on the 200% SSS trace were processed at a 2 meter rangescale for delineation on the SSS plot.

d) SSS operations during this survey were significantly hindered by three factors: Sediment in the water column due to dredging, noise on the SSS trace due to sea action, and noise on the SSS trace due to a thermocline layer. Side scan operations within and directly adjacent to the channel toward the Northern portion of the sheet were degraded due to the large amount of silt stirred up by vessel traffic and continuous dredging operations. The water column contained so much suspended sediment that the towfish would loose bottom tracking and the trace completely whitened out. Several attempts were made to overcome this problem including varying the gain on the SSS recorder, adjusting the fish height and launch speed while in the channel, reducing the range scale, and rerunning the lines at

different times on different days. The whitened out areas were processed at a two meter range scale on the 200% coverage to delineate the area on the swath plot.

On several days the SSS traces were diminished by sea return during choppy weather conditions. This data was rerun if the quality of the trace was deemed unacceptable. Bottom scours picked up on the trace during data collection were used for online confidence checks of the data. Some of the data lines were processed at a reduced range scale due to sea return obscuring the outer edges of the trace.

During flat calm conditions a strong thermocline/silt layer formed several meters below the water surface. SSS traces were diminished if the towfish was not lowered below the thermocline layer. Data lines were run at a reduced range scale (75 meter) to facilitate the lower towfish heights. Any data lines deemed unacceptable due to the thermocline were rejected and rerun.

e) The towfish was deployed from the stern of Jensen launch 2226 (MI-6) and 2224 (MI-4).

E.5 Any contact appearing significant was entered into the contact tables. The tables (Table #'s 8-10, & 15) were reviewed and correlating contacts examined. Adjacent and 200% SSS coverage was scanned for each contact to see if it appeared on multiple traces. Contacts which occurred only once and appeared insignificant were labeled "Insig." (no further investigation required), those appearing multiple times were closely examined and calculated heights compared. Significant contacts were selected for SSS/fathometer development and diver investigation.

E.6 Overlap was checked on-line using the real-time plot and the edited swath plot was checked for gaps. Gaps were filled in by running additional side scan sonar lines.

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:

Vessel Number	Manufacturer's Serial Number	Dates Used
2226	B051N	DN 217 - 298
2224	B042N	DN 217 - 220
2224	047N	DN 222 - 272
2223	B046N	DN 297 - 298

F.2 System checks on launch fathometers were performed using lead lines in the area of survey at depths less than 13 meters. The lead lines were calibrated as per instructions in the Hydrographic Manual section 7.2.1.2.

F.3 No problems were encountered with data acquisition using the DSF-6000 fathometers.

F.4 Both the high (100 Khz) and the low (24 Khz) frequency sounding data were recorded during data acquisition. Only high frequency soundings were digitized and selected for plotting. Both high and low frequency sounding data were examined for spikes and deeps indicating bottom relief. These spikes and deeps were added as inserts to the digital records and plotted.

G. CORRECTIONS TO SOUNDINGS

G.1 **a)** The velocity of sound through water was determined by a Seacat conductivity, temperature, and density gage (serial numbers 192472-0284 & 192472-0285). The sensors on CTD unit 0284 were last calibrated on 22 December, 1993. The 0285 CTD unit was last calibrated on 15 December, 1993. On 05 August, 1994, a simultaneous independent test was made with these two units in 17 meters of water. Using the comparison utility of the *VELOCITY* program, the percent difference between the two casts was 0.00 at both the mid-depth, and the bottom of the cast.

A Data Quality Assurance test, performed using hydrometers manufactured by H-B Instrument Company, was run for each velocity cast to ensure the Seacat was within tolerance. 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.

Cast #	Date	Latitude	Longitude	HDAPS Table #	Applied To Day #'s	CTD S/N
01	05 AUG 94	029/24/24 N	093/17/12 W	1	217-223	284
02	16 AUG 94	029/24/24 N	093/17/12 W	3	228-238	285
03	08 SEP 94	029/24/24 N	093/17/12 W	5	251-252	284
04	20 SEP 94	029/24/24 N	093/17/12 W	7	263-278	284
05	06 OCT 94	029/24/24 N	093/17/12 W	9	279-287	284
06	20 OCT 94	029/24/24 N	093/17/12 W	11	291-298	285

b) There was no variation in the fathometer's instrument initial.

c) No instrument correctors to the fathometers were required.

G.1 (Con't)

d) No instrument corrections were determined from direct comparison of leadline checks.

Lead line comparisons with the fathometer were made for each vessel on the following days:

VN	DN	Fathometer Serial Number	Lead Line Depth (m)	Digital Depth (m)	Lead-Digital Δd (m)
2226	218	B051N	11.5	11.3	+0.2
	221	B051N	11.8	11.7	+0.1
	228	B051N	11.8	11.9	-0.1
	234	B051N	11.2	11.1	+0.1
	238	B051N	11.2	11.3	-0.1
	251	B051N	10.8	10.6	+0.2
	263	B051N	11.6	11.3	+0.3
	265	B051N	10.8	10.7	+0.1
	269	B051N	12.5	12.4	+0.1
	272	B051N	11.2	11.3	-0.1
	296	B051N	10.0	10.1	-0.1
2224	217	B042N	12.5	12.5	0.0
	220	B042N	11.0	11.0	0.0
	228	047N	11.6	11.6	0.0
	234	047N	11.9	11.8	+0.1
	238	047N	11.7	11.5	+0.2
	251	047N	13.9	14.0	-0.1
	263	047N	14.1	14.1	0.0
	268	047N	11.6	11.5	+0.1
	272	047N	11.5	11.6	-0.1
2223	296	B046N	10.2	10.0	+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 launch 1008 (MI-6), 1002 (MI-4), and 1004 (MI-3) were determined in April, 1993 (launch1002), and March, 1994 (launch1008 & 1004) while the boats 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 0.5 meters was used in the HDAPS Offset tables for launch 1008 (MI-6) and a static draft of 0.6 meters was determined for launch 1002 (MI-4) and 1004 (MI-3). Refer to Separate III. FILED WITH THE ORIGINAL FIELD RECORDS

G.1 (Con't)

g) Settlement and squat correctors for launch 1008 (MI-6), 1002 (MI-4), and 1004 (MI-3) were determined, using procedures outlined in the Hydrographic Manual, on the Elizabeth River in April, 1993 (launch1002), and March, 1994 (launch1008 & 1004). 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. Refer to Separates III* for copies of the observed settlement and squat data. FILED WITH THE ORIGINAL FIELD RECORDS

h) None of the launches is equipped with a heave, roll, and pitch indicator.

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 before 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, roll and pitch indicators, so MT MITCHELL personnel scanned the sea action out of the fathograms and edited the selected soundings accordingly.

G.6 a) The tidal datum for this project is mean lower low water. The operating tide station at Sabine Pass, Texas, (station number 877-0570) served as control station for tides during the course of this survey. Predicted tidal data for this survey was provided on floppy magnetic disk before the start of the project. APPROVED TIDES AND ZONING WERE APPLIED DURING OFFICE PROCESSING.

b) The height and time correctors listed below were provided in the project instructions for sheet B and applied to the Sabine Pass, Texas, (station number 877-0570) tides to generate online predicted tide tables:

TIME CORRECTOR	HEIGHT RATIO
-30 minutes	x1.40

c) No zoning was required for this sheet.

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 Four DGPS reference stations were used to control this survey. The list of horizontal control stations is located in Appendix III. APPENDED TO THIS REPORT.

H.3 Station USCG in Cameron, Louisiana, was established by MT MITCHELL personnel to third-order class I standards by a GPS geodetic survey. Refer to the Horizontal Control Report submitted for this project for a description of the survey. The positions for the USCG beacons were provided in the GPS User's Manual. The Galveston and Port Aransas beacons are both second-order class I positions. The New Orleans beacon is a B-order position. (ENGLISH TURN)

H.4 The USCG station mark was recovered and surveyed in Cameron, Louisiana using the North American Datum of 1983 (NAD 83).

H.5 Refer to the Horizontal Control Report submitted with this project for a description of station establishment. FILED AT AHB

H.6 No position anomalies, problems, or unconventional survey methods occurred during establishment of horizontal control for this project.

I. HYDROGRAPHIC POSITION CONTROL

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

I.2 In accordance with the Field Procedures Manual (FPM), the maximum expected positional error (EPE) for this survey was 15 meters (1.5 mm at a survey scale of 1:10,000). At no time in this survey did the EPE consistently exceed 15 meters.

I.3 The NOAA-HF shore system consists of :

Ashtech M-XII GPS receiver:	S/N 700354B2503 from 08 AUG to 10 SEP
	S/N 700354B2504 from 11 SEP to 10 NOV
L1/L2 GPS antenna:	S/N 700228D2311
Raytheon 152 transceiver:	S/N BS26421 from 08 AUG to 10 SEP
	S/N BS29239 from 11 SEP to 10 NOV
LRD-2 Long Range Data Modulator:	S/N 613

I.3 (Con't)

On each launch there is an Ashtech GPS receiver, a Magnavox MX-50R DGPS beacon receiver for U.S.C.G. differential beacons, and a LRD-1 long range data receiver for the NOAA-HF system. The units used are as follows:

VESSEL #	MODEL	S/N
2226	Ashtech GPS Receiver	700417B1197
2226	Magnavox MX-50R Beacon Receiver	168
2226	LRD-1 HF Receiver	299
2226	GPS Antenna	700391A0533
2224	Ashtech GPS Receiver	700417B1190
2224	Magnavox MX-50R Beacon Receiver	207
2224	LRD-1 HF Receiver	250
2224	GPS Antenna	700378A0468
2223	Ashtech GPS Receiver	700417B1004
2223	Magnavox MX-50R Beacon Receiver	219
2223	LRD-1 HF Receiver	249
2223	GPS Antenna	700391A0518

I.4 As stated in section **H.2**, four DGPS reference stations were used: USCG Galveston beacon, USCG New Orleans beacon, USCG Port Aransas beacon, and a NOAA-HF system at Cameron, 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	MAX HDOP
NOAA HF	4	1.17	3.6
USCG Galveston	4	1.54	3.5 - GALVESTON, TX
USCG New Orleans	4	3.86	2.7 ENGLISH TURN, LA
USCG Port Aransas	4	5.15	2.3 ARANSAS PASS, TX

DGPS performance checks were performed by comparing positioning of two independent DGPS stations. The inverse distance between the two independent stations' positions was computed to ensure it did not exceed the EPE_{max} of 15 meters. For the comparison, each of two launches brought up HDAPS, each using a different DGPS reference station for control. The launches would lay dead in the water alongside each other with their GPS antennae as close together as sea conditions permitted. The launch OIC's would then simultaneously mark their position by dumping the on-line HDAPS screen to the printer. The Easting and Northing values from each launch, along with the HDOP, and number of satellites used were entered into a spreadsheet for computation of position error. The performance checks were attempted once per week but were subject to down days due to bad weather. A copy of the performance checks are included in Separate III. FILED WITH THE ORIGINAL FIELD RECORDS

I.4 (Con't)

The following table summarizes the performance checks by day number, launches checked, and the maximum observed position error for each check. Except for DN's 217, 218, 228 & 234, the first launch listed in each sequence used the HF system for control and the second launch listed used the check station shown. For the above mentioned DN's, the first launch listed used the New Orleans beacon and the second launch used the check station shown.

Day Number	Launch #'s	Check Ref. Sta.	Max Dist. Error (m)
217	MI-4/MI-3	Galveston	5.85
218	MI-6/MI-5	Galveston	3.31
220	MI-6/MI-5	New Orleans	6.12
221	MI-4/MI-3	New Orleans	5.85
228	MI-5/MI-6	New Orleans	9.62
228	MI-4/MI-3	Galveston	4.50
234	MI-4/MI-6	Galveston	11.51
238	MI-4/MI-6	New Orleans	10.69
251	MI-4/MI-6	New Orleans	2.72
263	MI-3/MI-4	New Orleans	3.81
263	MI-5/MI-6	Galveston	6.11
268	MI-3/MI-4	Galveston	7.38
268	MI-6/MI-5	Port Aransas	3.45
272	MI-6/MI-5	Galveston	8.97
272	MI-3/MI-4	Galveston	4.61
278	MI-5/MI-6	Galveston	4.67
278	MI-4/MI-3	New Orleans	6.40
284	MI-6/MI-3	Galveston	10.69
284	MI-4/MI-5	Galveston	4.72
286	MI-4/MI-6	New Orleans	4.10
292	MI-6/MI-4	New Orleans	10.40
296	MI-6/MI-5	New Orleans	8.26
296	MI-3/MI-4	New Orleans	5.24
307	MI-3/MI-5	New Orleans	8.65
307	MI-6/MI-4	New Orleans	8.86

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

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

b) The primary control was the NOAA-HF system. The Coast Guard beacons were occasionally used as primary control on days when maintenance was performed on the NOAA-HF system. Coast Guard beacon use was also subject to their availability. On 13 October the Galveston beacon malfunctioned and remained inoperable for the rest of the project period. No positions were adversely affected.

I.6 (Con't)

c) Localized thunderstorms occasionally downgraded the signals of the DGPS stations and correctors would not be received for a few seconds at a time. After 30 seconds of losing correctors, HDAPS goes into a dead reckoning (DR) mode. After 30 seconds of being in DR mode, HDAPS stops data collection. Survey operations would stop until the signal returned or the control was changed. If the signal was lost for only a few seconds, and it was felt that the course was steady through the period, data collection would continue.

d) Weak beacon signals, which caused loss of correctors, were occasionally observed when using either the New Orleans or Port Aransas beacons. This was attributed to their larger distance from the project area. Control was changed before data collection would begin when this occurred.

e) No systematic errors 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. Refer to Separate III* for a copy of offset tables used during this survey. * FILED WITH THE ORIGINAL FIELD RECORDS

g) Offset and layback distances for the boom (tow point) were located in the HDAPS Offset table and applied on-line. The values of the offsets and laybacks are included in the same tables as discussed in paragraph (f) above. These values, 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

J.1 Shoreline verification was not required for this survey. NO SHORELINE WITHIN THE LIMITS OF THE PRESENT SURVEY

K. CROSSLINES

K.1 Crosslines on survey H-10561 equaled 10% of the total main-scheme sounding lines. Eleven of the North-South 100% SSS lines were selected for use as main-scheme crosslines. The crosslines were plotted on the mainscheme plot for depth comparison.

K.2 Crossline to main-scheme sounding intersection comparisons were generally good, with most of the soundings agreeing to within 0.3 meters or less with main-scheme soundings. Some of the sounding line intersections occurred over the steep bottom features found along the dredged edge of Calcasieu Channel, where a distance of only a few meters

K.2 (Con't)

could reveal a large change in the water depth. All of the soundings, however, conformed to the contours of the channel or surrounding area.

K.3 Crossline to main-scheme sounding intersections were considered a discrepancy if a crossline sounding on or near a main-scheme sounding differed by more than 0.3 meters. The discrepancies were investigated by viewing the fathometer traces of the main-scheme and comparing them to those of the crossline. Several discrepancies were found in groups and upon further investigation pinpointed to data gathered on DN 265 and DN 272. Data collected on these days plotted up to 0.5 meters deeper than surrounding data collected on different dates. Data sets from each of these days were rerun on DN 296 and DN 298 and agreed to within 0.3 meters to the original crosslines. After investigating several possible sources for the discrepancy, the differences were attributed to tidal variations in the area. A comparison of smooth tides with predicted tides for the month of October using the REALDATA tides program showed that actual tides often differed from predicted tides by as much as 0.6 meters. Unfortunately, smooth tidal data for DN 265 & 272 was not available during this survey. It is recommended that a close comparison be made between predicted and smooth tides for the above data.

K.4 The vessels and sounding equipment used to run crosslines was also used in the main-scheme.

L. JUNCTIONS SEE ALSO THE EVALUATION REPORT.

L.1 The northern edge of this survey sheet junctions with the southern edge of survey sheet H-10560 (Scale 1:10,000). The southern edge of this survey junctions with the northern edge of survey sheet H-10572 (Scale 1:20,000). All three surveys were run by MT MITCHELL during the same time frame.

L.2 Sounding comparisons were made by overlaying sounding plots from each of the surveys and comparing the overlap areas. The general agreement between the soundings on H-10561 and H-10560 is very good. Nearly all of the soundings agree to within 0.3 meters. Soundings not agreeing to within 0.3 meters are attributed to sea action or occur over the steep channel edge of Calcasieu Channel. The general agreement between the soundings of H-10561 and H-10572 is also good, with soundings generally agreeing to within 0.3 meters.

There is one gap in the mainscheme coverage of the Calcasieu Channel between position #'s 1094.6 - 1095.3. This area lies within the overlap coverage with sheet H-10560 and is adequately covered by that survey. VICINITY OF 29-40-26N, 93-19-36W

L.3 There were no significant differences found in the survey comparisons to warrant further investigation.

L.4 There are no recommended adjustments to sounding features or depth contours.

M. COMPARISON WITH PRIOR SURVEYS — SEE ALSO THE EVALUATION REPORT

M.1 Prior survey H-8796 (1:40,000, 1964) is the most recent survey to cover the H-10561 sheet area. Fix soundings from H-10561 were plotted on a 1:40,000 scale sheet in feet, then overlayed onto the H-8796 survey sheet for comparison.

M.2 Sounding agreement between the two surveys was very good, with nearly all soundings agreeing to within 1 foot across the entire sheet. CONCUR

M.3 No significant features for this survey area were found during the H-8796 survey.

M.4 Soundings on survey H-10561 were found to be generally 1 foot deeper than soundings on survey H-8796. This deepening trend is in agreement with other contemporary surveys conducted in the Gulf of Mexico. CONCUR.

M.5 No non-NOS / USC&GS surveys were provided or comparisons conducted.

THE PRESENT SURVEY IS ADEQUATE TO SUPERSEDE THE PRIOR SURVEYS IN THE COMMON AREA.

N. ITEM INVESTIGATION REPORTS

A total of 103 contacts were entered into the HDAPS contact utility program (Tables 8-10, & 15). The contacts were checked for correlation with other contacts, and if significant, were considered for development and diver investigation. Through diver investigation, some of the sonar contacts were discovered to be of insignificant least depth. All the newly found significant items are addressed below.

A portion of AWOIS item #6989 and #8967 search radii were included on this sheet. AWOIS #6989 was fully investigated during MT MITCHELL survey H-10572 which was conducted during the same field season as this survey. A portion of the north-west quadrant of the search radius overlaps onto H-10561. No evidence of the AWOIS item was found on H-10561. The AWOIS search requirements were completed and are described on survey H-10572.

The center of the AWOIS #8967 search circle lies on sheet "E" and extends westward onto this survey sheet. Although the search area on sheet "E" has not been surveyed, item "B3", which was found within the search radius on this survey, is believed to be the item. The item investigation is described below.

AWOIS 8967(Item B3)

State and Locality: Calcasieu Pass, Louisiana

Charted Position: 029/39/54.00 N 093/17/12.00 W Search Radius: 3000m

Datum: MLLW

Type of Feature: Sunken Wreck (PA)

Source: LNM 13/94--CGD8(#062-94); Reports the sunken wreck (PA) "SEA LARK" ~~*SEALARK*~~ (68ft. fishing vessel) in depths of 33 ft. (Entered 6/94 MBH).

Survey Requirements: 200% SSS, Echosounder Development, Diver Investigation, Salvage Documentation.

Method of Investigation: The portion of the AWOIS search radius which lies on this sheet was covered with 200% SSS. Diver investigations were conducted on DN 238 and DN 271.

Results of Investigation: A dive was conducted on DN 238 to investigate a side scan sonar contact within the AWOIS circle (Fix #'s 2043.37, 2173.73, 6337.60, 6343.23, 6392.33, 6392.35, & 6394.46). Divers descended down a buoy line dropped on the contact site and discovered the remains of a recently sunken fishing vessel. After a followup dive on

N. (AWOIS 8967/B3) (Con't)

DN 271 it is believed that this wreck is the fishing vessel *SEALARK*. The wreck was determined to be recent due to little marine growth on the item. Labeling on electrical cables on the mast were clearly legible. The wreck had large booms with nets attached which clearly identify it as a fishing vessel. Although a thorough search was made of the wreckage, no evidence of a pilot house was found. This concurs with Coast Guard reports that the pilot house of the vessel had broken off from the vessel and was reported adrift (See letter in Appendix VI from USCG district Eight, dated 02 September, 1994, which is a response to the Hazard to Navigation Report for this item). No vessel nameplate was found. The wreck lies 1400 meters to the west of the charted approximate position.

The highest part of the wreck rose 5.1 (16.7 FT) meters from the bottom. The wreck extended approximately 12 ~~meters~~ 39 FT along the bottom and scattered debris litters the bottom around the item. On DN 238 a raw leadline least depth of 4.3 (14.1 FT) meters (~~4.1~~ 3.8 meters corrected to ~~predicted~~ APPROVED tides) was taken at time 17:42:00 UTC (Detached Position # 6584). Surrounding water depths were 9-10 meters. See the attached sketch.
29-33 FT

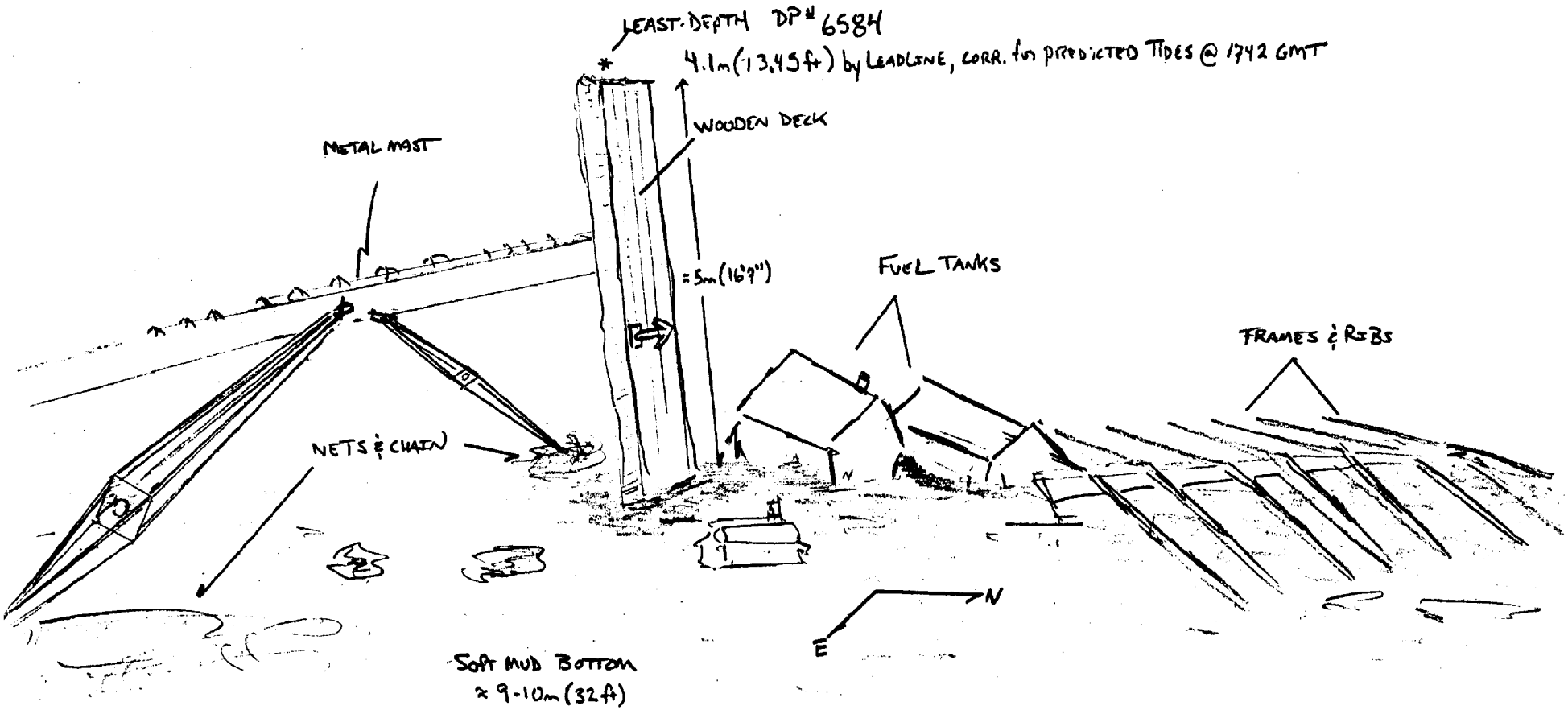
A Danger to Navigation Report was submitted on this item.

Comparison with Prior Surveys: Item is not reported in prior surveys.

Comparison with Chart: Chart #11344 was updated with LNM 13/94 to add a "Sunken Dangerous Wreck, PA" in position 029/39/54.00 N, 093/17/12.00 W.

Recommendation: Delete the "Dangerous Sunken Wreck, PA" charted in position CONCUR 029/39/54.00 N, 093/17/12.00 W on chart #11344. Add a "Dangerous Wreck, least depth ~~4.1~~m (~~13ft~~)," in position: 029/39/54.596 N, 093/18/07.857 W. CONCUR. REVISE CHARTED WRECK PA (13½ FT REP) TO 4 (12) WK.
3.8 MT 12 FT

B3


LEAST DEPTH DP# 6584
4.1m (13.45ft) by LEADLINE, CORR. for PREDICTED TIDES @ 1742 GMT
WOODEN DECK
METAL MAST
=5m (16'9")
FUEL TANKS
FRAMES & RIBS
NETS & CHAIN
N
E
SOFT MUD BOTTOM
≈ 9-10m (32ft)

New Item B1

State and Locality: Approaches to Cameron, Louisiana

Location: 029/40/26.072 N 093/19/28.000 W

Type of Feature: Submerged Obstruction

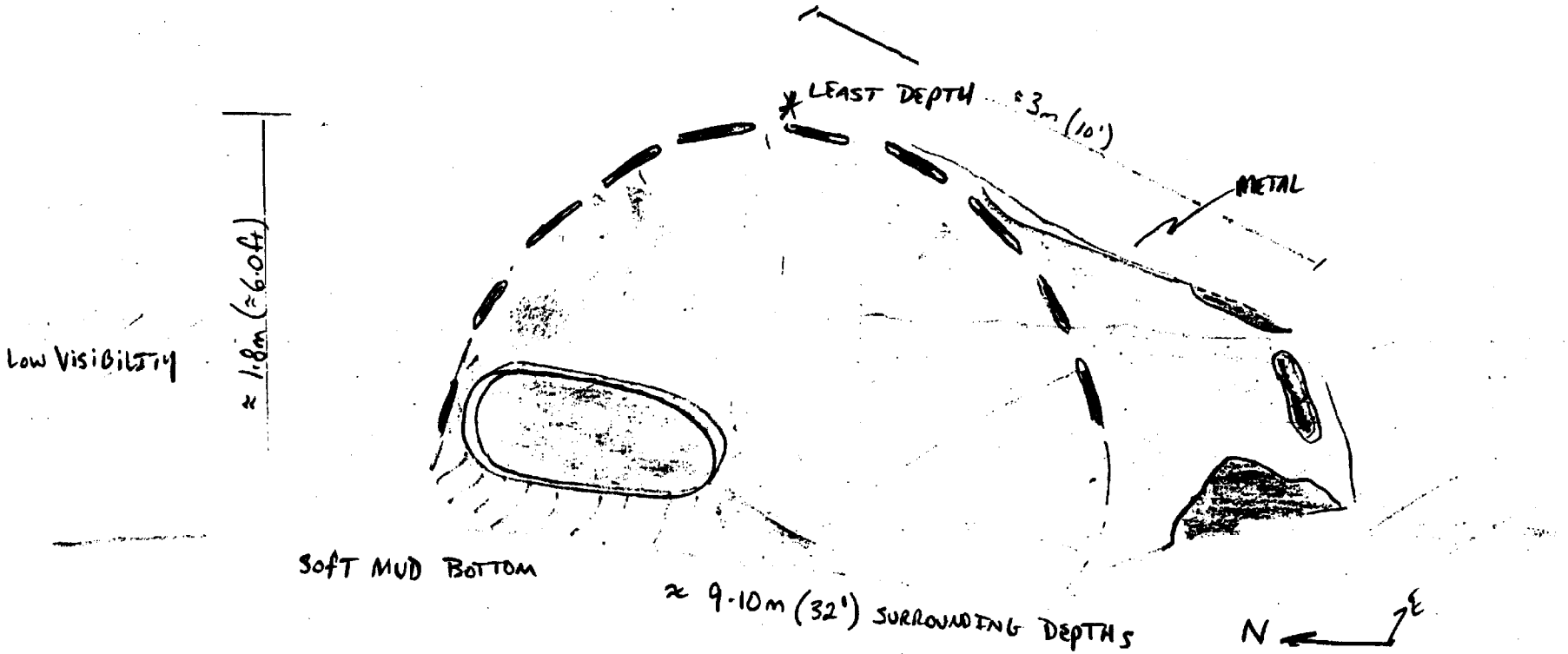
Description: A dive was conducted on DN 238 to investigate a side scan sonar contact (Fix #'s 5014.55, 6558.23, & 6560.70). Divers descended down a buoy line dropped on the contact site and discovered a heavily corroded, rectangular metal tank or boiler casing, laying on its side on the bottom. The tank was 3.0 meters long by 1.5 meters wide, and extended 1.8 meters off the bottom. A raw leadline least depth of 7.7 meters (7.5 meters corrected to ~~predicted~~ tides) was taken at time 16:25:00 UTC (Detached Position # 6582). Surrounding water depths were 9-10 meters. See the attached sketch.

A Danger to Navigation report was submitted for this item.

Recommendation: Recommend charting a "submerged obstruction, least depth 7.5m (24ft)," in position: 029/40/26.072 N, 093/19/28.000 W. CONCUR. DELETE THE OBSTN AA (24.6 FT REP). CHART AS 23 OBSTN

B1

* LEAST DEPTH: 7.5m (LEADLINE DEPTH) CORRECTED TO PREDICTED TIDES @ 1625 GMT)
(24.6ft)



New Item B5

State and Locality: Approaches to Cameron, Louisiana

Location: 029/37/30.858 N 093/18/47.038 W

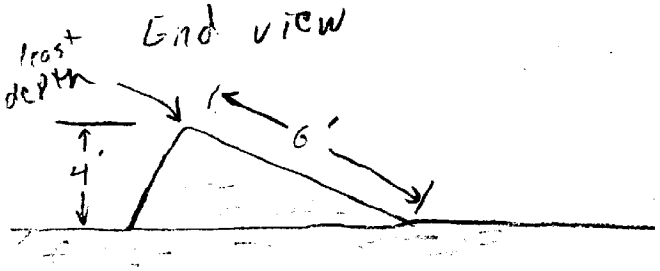
Type of Feature: Submerged Obstruction

Description: A dive was conducted on DN 270 to investigate a side scan sonar contact (Fix #'s 1683.81, 2826.52, 3533.13, & 3535.15). Divers descended down a buoy line dropped on the contact site and discovered a 5 foot square concrete anchor block sitting on it's edge and embedded in the bottom. The block extended 1.2 ~~meters~~ 4FT off the bottom and had a U-bolt with a large chain attached to the top. A raw leadline least depth of 9.8 ~~meters~~ 32 FT (9.7 meters corrected to ~~predicted~~ APPROVED tides) was taken at time 21:10:00 UTC (Detached Position # 7900). Surrounding water depths were 10-11 meters. See the attached sketch.

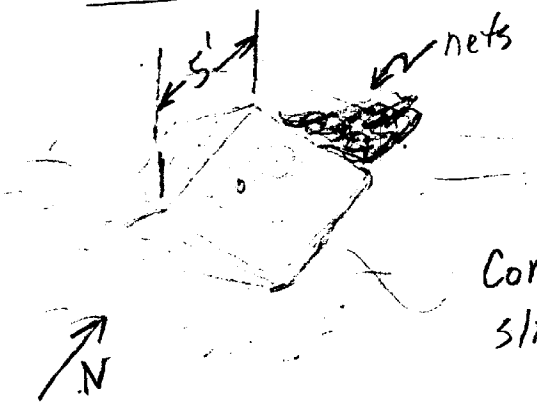
A Danger to Navigation report was submitted for this item.

Recommendation: Recommend charting a DANGEROUS "submerged obstruction, least depth 9.7m (31ft)," in position: 029/37/30.858 N, 093/18/47.038 W. CONCUR. DELETE THE DANGEROUS SUBMERGED 065TM (PA) (31 FT REP) FROM CHART 11347 (25TH ED.) CHART AS 31 065TM

DP#7900



looking down



Concrete w/ defined edges
slight marine growth

'B5'

New Item B6

State and Locality: Approaches to Cameron, Louisiana

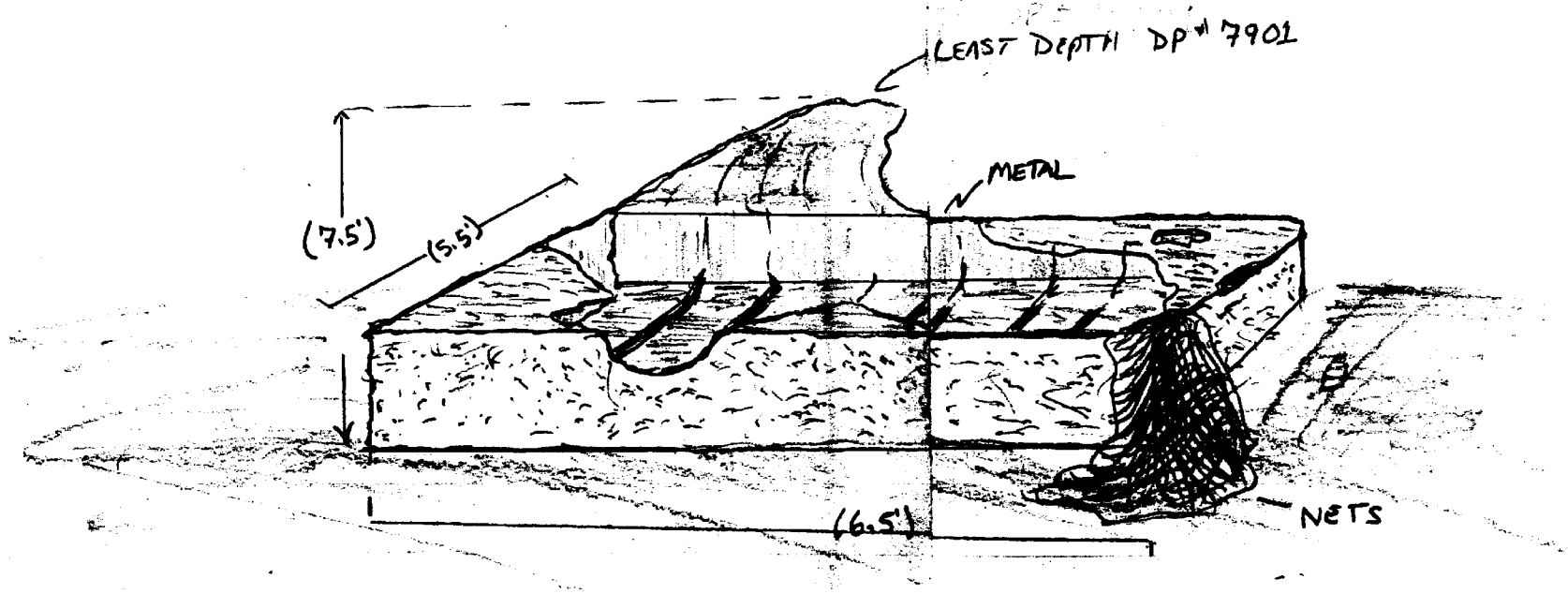
Location: 029/35/08.529 N 093/21/04.157 W

Type of Feature: Submerged Obstruction

Description: A dive was conducted on DN 271 to investigate a side scan sonar contact (Fix #'s 3235.75, 3313.26, 3537.24, 3541.21, 5644.13). Divers descended down a buoy line dropped on the contact site and discovered a corroded, rectangular metal ribbed container laying on the bottom. The container was 2.0 meters (6 FT) long by 1.7 meters (5 FT) wide, and extended 2.3 meters (7 FT) off the bottom. A raw leadline least depth of 10.1 meters (33 FT) (9.8 meters (31 FT) corrected to ~~predicted~~ APPROVED tides) was taken at time 14:31:00 UTC (Detached Position # 7901). Surrounding water depths were 11-12 meters (36-39 FT). See the attached sketch.

A Danger to Navigation report was submitted for this item.

Recommendation: Recommend charting a "submerged obstruction, least depth 9.8 m (32 ft)," in position: 029/35/08.529 N, 093/21/04.157 W. CONCUR. DELETE THE DANGEROUS SUNKEN WRECK (PA) (32 FT REP) ON CHART 11347 (27TH ED.). CHART 4 31 OBSTN


LEAST DEPTH DP # 7901
METAL
(7.5')
(5.5')
(6.5')
NETS

New Item B7

State and Locality: Approaches to Cameron, Louisiana

Location: 029/39/19.754 N 093/20/11.804 W

Type of Feature: Submerged Obstruction

Description: A dive was conducted on DN 297 and a hydro development was conducted on DN 298 (Fix #'s 301 - 326) to investigate a side scan sonar contact (Fix #'s 5211.76, 8037.00, 8039.13, 8043.05, 8045.12). Divers descended down a buoy line dropped on the contact site and discovered a large metal object extending approximately 2 meters off the bottom. More accurate measurements could not be taken by the divers due to the zero visibility conditions. A fathometer least depth of ~~8.8~~ 7.8 (26 FT) meters (Corrected to ~~predicted~~ APPROVED tides/Detached position # 300) was taken over the contact site. Surrounding water depths were 10-11 meters. 33-36 FT

A Danger to Navigation report was submitted for this item.

Recommendation: Recommend charting a "submerged obstruction, least depth ~~8.8~~ 7.9m (~~29~~ 26ft)," in position: 029/39/19.754 N, 093/20/11.804 W. CONCUR CHART AS 26 OBSTN

Insignificant Items B2, B4, & B8

Three other SSS contacts were developed with SSS lines but were determined to be of insignificant height. Item B2 can be seen on SSS contact #'s 5143.19, 8053.26, & 8055.24. CONCUR
A dive was conducted on Item B4 (SSS contact #s 2840.41, 3527.16, 3531.08, & 3535.15, Detached Position # 7898) which was a sunken navigation buoy and chain deeply buried in CONCUR the bottom. The item extended less than a meter off the bottom. Item B8 lies very close to buoy "G29" and can be seen on SSS contact #'s 6013.67, 8057.37, 8059.00, 8064.21, 8066.25, & 8068.21. DO NOT CONCUR. SEE SECTION N. OF THE EVALUATION REPORT FOR ITEM B8.

O. COMPARISON WITH THE CHART SEE ALSO THE EVALUATION REPORT.

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

Chart #	Edition	Date	Scale
11341	35th	May 07, 1994	1:80,000
11344	30th	January 29, 1994	1:80,000
11345	26th	~~March, 1993~~ JAN 22/94	1:175,000
11347 SC	26th	October 02, 1993	1:50,000

No Notice to Mariner changes affected the survey area during data acquisition.

O.2 Danger to navigation reports were submitted for five of the items discussed under section N. Copies of the Danger to Navigation reports can be found in Appendix I. APPENDED TO THIS REPORT.

O.3 **a)** Soundings from Chart #11341 and #11344 were compared to this survey. A 1:20,000 survey sheet with fix soundings plotted in feet was overlaid onto a 1:20,000 scale blow up of chart #11341 and #11344 for comparison. Sounding agreement between the survey and the charts was good, with the surveyed soundings generally 0 - 1 foot (0 - 0.3 m) deeper than charted soundings.

b) General trends depicted on Chart #11341 and #11344 were in agreement with this survey. Contour line agreement and channel delineation between the charts and this survey is good.

c) There were no hydrographic findings of special note.

d) Sounding data collected within Calcasieu Pass Channel was compared to the controlling depths listed on chart #11344. No surveyed depths were found to be shoaler than the controlling depths. DO NOT CONCUR. SEE SECTION O.3.d) OF THE EVALUATION REPORT.

O.3 (Con't)

e) The soundings within Calcasieu Pass Channel agreed with controlling depths listed on chart #11341 and #11344. The soundings collected inside the safety fairway and fairway anchorage on the sheet were generally 0 - 0.3 meters deeper than charted soundings. The dredged channel is uniformly maintained and is clearly delineated on the sounding plot. DO NOT CONCUR

O.4 There are no non-sounding features on chart #11341 and #11344.

O.5 The Lake Charles Pilots have major complaints with the current charting scheme covering the Calcasieu pass area. Chart 11344 ends just west of the main channel, while the east end of chart 11341 cuts the main shipping channel in half. While the pilots take major ships up to the Port of Lake Charles, they must refer to a small craft chart (#11347). They receive numorous complaints from foreign Captains who feel that this is not a "real" chart. In the early 1980s, the pilots were shown a prototype chart. It was full size, and split into three sections. One section covered from the sea buoy to the breakwater, while the other two sections covered the channel up to the port of Lake Charles. The pilots loved this prototype chart, however, it never made it into production. They would like to see this prototype chart again, or at the very least, they would like to see a 1:80,000-scale chart with Calcasieu Pass in the center.

P. ADEQUACY OF SURVEY SEE ALSO THE EVALUATION REPORT

P.1 The H-10561 survey is sufficiently complete to supersede prior surveys.

P.2 This survey is complete and adequate for the purpose of updating the charted sounding data.

Q. AIDS TO NAVIGATION

Q.1 The MT MITCHELL did not correspond with the U.S. Coast Guard regarding floating aids to navigation. Detached Positions were taken on all navigational aids within the survey limits.

Q.2 Floating Aids

Chart #11344 depicts eleven floating aids to navigation within the survey area, all of which outline the Calcasieu Pass channel. A comparison between buoy positions taken from the chart and their surveyed positions is tabulated on the following page. All of the buoys are listed in the light list and agree with their charted light characteristics. The buoy positions given in The Light List (Vol. IV, 1994) match their charted positions except for

buoys "G33" and "R34" whose positions listed in the Light List are identical. The position in the Light List accurately describes only buoy "R34". The position for "G33" should be updated in the Light List to the following charted position: 29° 40.55' N, 93° 19.85' W.

Buoy Name	Charted Position	Survey Position	Dist. (meters)	D. P. #
R "22"	29° 35.9' N 93° 17.7' W	29° 35' 58.658" N 93° 17' 45.654" W	173.9	7336
G "23"	29° 36.6' N 93° 18.6' W	29° 36' 39.535" N 93° 18' 36.412" W	109.4	7334
R "24"	29° 36.7' N 93° 18.5' W	29° 36' 46.737" N 93° 18' 28.585" W	150.8	7335
G "27"	29° 37.5' N 93° 19.4' W	29° 37' 27.411" N 93° 19' 22.137" W	94.2	7332
R "28"	29° 37.6' N 93° 19.2' W	29° 37' 34.575" N 93° 19' 09.511" W	80.1	7331
G "29"	29° 38.6' N 93° 19.6' W	29° 38' 39.327" N 93° 19' 33.808" W	118.2	7325
R "30"	29° 38.7' N 93° 19.4' W	29° 38' 40.848" N 93° 19' 22.976" W	44.9	7330
G "31"	29° 39.6' N 93° 19.7' W	29° 39' 35.522" N 93° 19' 43.458" W	41.9	7326
R "32"	29° 39.6' N 93° 19.5' W	29° 39' 37.236" N 93° 19' 32.892" W	86.6	7329
G "33"	29° 40.6' N 93° 19.9' W	29° 40' 35.666" N 93° 19' 54.444" W	123.7	7327
R "34"	29° 40.6' N 93° 19.7' W	29° 40' 37.719" N 93° 19' 42.090" W	52.9	7328

THESE AIDS TO NAVIGATION APPEAR ADEQUATE TO SERVE THEIR INTENDED PURPOSES.

Non-floating Aids

There are no non-floating aids to navigation within the survey limits.

Q.3 All aids to navigation located during the survey are shown in the light list.

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

Q.5 a) There are no submarine cable areas within the survey limits.

b) One north-south leading submarine pipeline is charted on the western side of this sheet.

c) There are no designated ferry routes within the survey area.

Q.6 There were no designated ferry terminals in the survey area.

R. STATISTICS

		VN 2226	VN 2224	MI-3	MI-1/MI-7	Total
R.1	a) Number of positions:	3328	3899	27	0	7254
	b) Lineal nm coverage: (Hydrography)	247	406	0	0	653
	Lineal nm coverage: (Side Scan Sonar)	323	388	0.5	0	711.5
R.2	a) Total square nautical miles:	31.8	39.0	0.1	0	70.9
	b) Total days of production:	31	26	02	0	32*
	c) Detached positions:	16	0	1	0	17
	d) Bottom samples:	63	21	0	0	84
	e) Velocity casts:	1	3	0	2	6
	f) Dives:	7	0	1	8	16

* sea days used in production

S. MISCELLANEOUS *SEE ALSO THE EVALUATION REPORT*

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

b) No unusual submarine features were encountered.

c) No anomalous tidal conditions were encountered.

d) No unusual currents were encountered.

e) No magnetic anomalies were encountered during this survey.

S.2 Bottom samples were collected in accordance with sections 1.6.3 and 4.7.1 of the Hydrographic Manual. Bottom samples were not submitted to the Smithsonian Institution.

T. RECOMMENDATIONS

T.1 No inadequacies have been noted other than the whitened out SSS traces discussed in section **E.4**. No additional field work is required.

T.2 Dredging operations were being conducted within the Calcasieu Pass Channel at the time of the survey. Dredging operations maintain a controlling depth of 12.2 - 12.8 meters (40 - 42 feet).

T.3 No further investigation of this area is recommended.

U. REFERRAL TO REPORTS

The following reports are not included with the survey records:

Horizontal Control Report

Coast Pilot Report

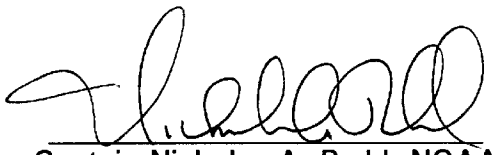
SUBMITTAL SHEET
Survey H-10561

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

APPENDIX VII
Letter of Approval
Registry No. H-10561

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



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

APPENDIX III
List of Horizontal Control Stations

Station 000 - United States Coast Guard, English Turn, Louisiana Differential Beacon

Lat: 29° 52' 43.878" N Transmission Frequency: 293 KHz
Long: 089° 56' 31.380" W Transmission Rate: 200 bps
Source: GPS User's Manual

Station 001 - USCG, Pilot Station, Cameron, Louisiana (NOAA-HF System)

Lat: 29° 46' 40.841" N Transmission Frequency: 277450 KHz
Long: 093° 20' 34.650" W Transmission Rate: 100 bps
Source: Horizontal Control Report

Station 002 - United States Coast Guard, Galveston, Texas Differential Beacon

Lat: 29° 19' 45.092" N Transmission Frequency: 296 KHz
Long: 094° 44' 10.484" W Transmission Rate: 100 bps
Source: GPS User's Manual

Station 003 - United States Coast Guard, Port Aransas, Texas Differential Beacon

Lat: 27° 50' 18.156" N Transmission Frequency: 304 KHz
Long: 097° 03' 32.646" W Transmission Rate: 100 bps
Source: GPS User's Manual

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: 26 AUG 94 / 238 Project/Sheet: SABINE B, H6 10

Dive Supervisor: MANN Dive Item #: B1

Vessel #: 2226 AWOIS #: N/A

DIVE #

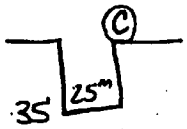
DIVERS: 1 SORACCO 2 SWALLOW

TIME IN: 1102 Pressure In: 2500

TIME OUT: 1125 Pressure Out: 1500

BOTTOM TIME: 23 MAX DEPTH: 32'

PROFILE:



DIVERS DESCENDED DOWN A BUOY LINE/ANCHOR DROPPED ON POSITION DETERMINED FROM SSS. DIVERS PERFORMED 30ft CIRCLE SEARCH AND DISCOVERED A "TANK" LAYING ON ITS SIDE WITH A MEASURED HEIGHT OF 6ft FROM THE BOTTOM. A LEAST-DEPTH BY LEADLINE WAS TAKEN (DP # 6582) @ 1625 GMT AND FOUND TO BE 7.7m. SEE ATTACHED SKETCH.

PNEUMOFATHOMETER CALIBRATED: Y N

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

DP FIX NUMBER(s): 6582 AVERAGE DEPTH READING: 7.7

FATHOMETER DEPTH: 7.4 TIME OF READINGS (GMT): 1625 GMT

DRAFT CORRECTOR: +0.5 PREDICTED TIDE CORR.: -0.2

VELOCITY CORR.: +0.2 CORRECTED LEAST-DEPTH: 7.9 FATHO / 7.8 LEADLI

PRED. TIDE CORR.: -0.2 HAZNAV REPORT FILED: Y N 23 AT

READING #1: _____

READING #2: _____

READING #3: _____

AVG: _____

SEE PAGE 18 OF THE D.R

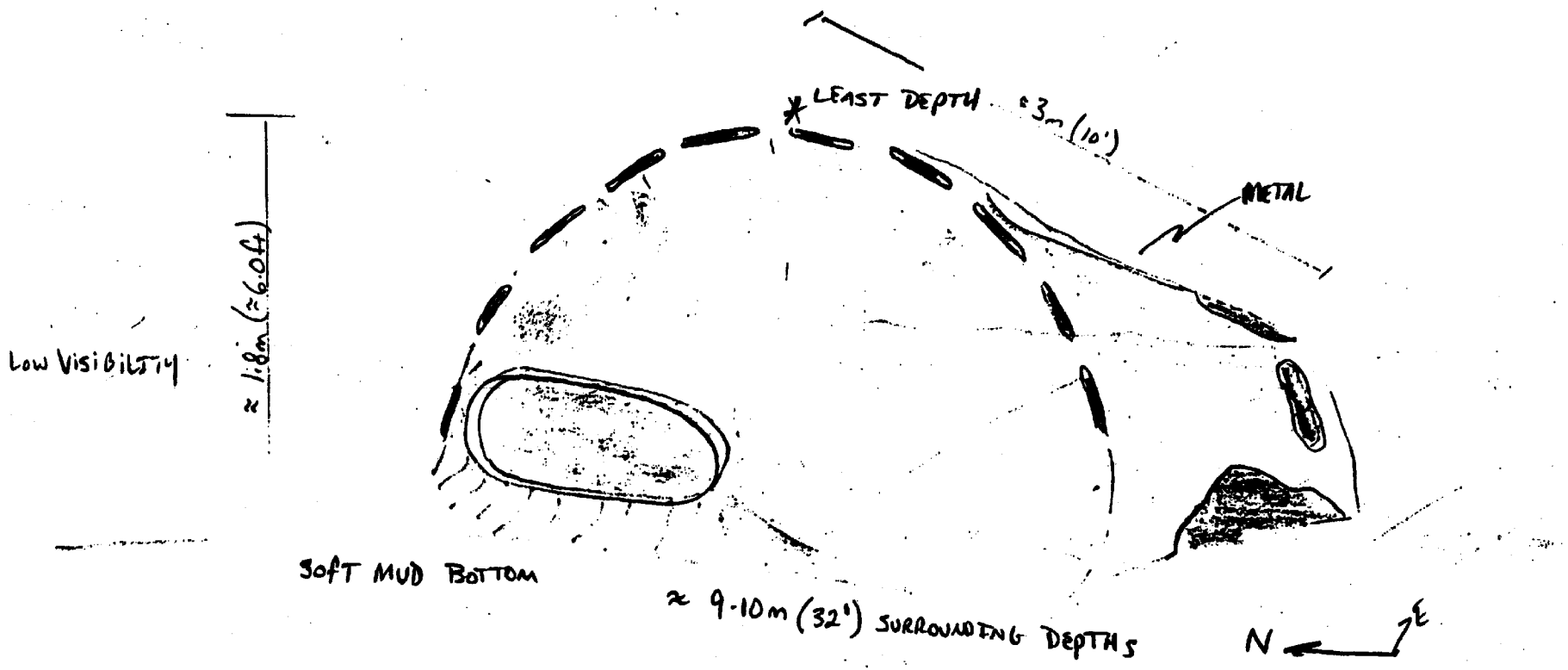
POSITION / SUPPORTING INFORMATION

LAT: 029°40' 26.072" N LONG: 093°19' 28.000" W

N 93216.5 E 97126.6

B1

* LEAST DEPTH: 7.5m (LEADLINE DEPTH CORRECTED TO PREDICTED TIDES @ 1625 GMT)
(24.6ft)



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: 26 AUGUST 94 / 238 Project/Sheet: SABINE B / H-10561

Dive Supervisor: MANN Dive Item #: B3 / AWOIS 8967

Vessel #: 2226 AWOIS #: N/A

DIVE #

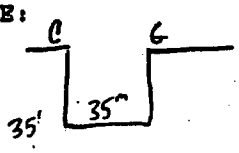
DIVERS: 1 SWALLOW 2 SCIACCA

TIME IN: 1207 Pressure In: 3000

TIME OUT: 1242 Pressure Out: 1200

BOTTOM TIME: 35m MAX DEPTH: 32'

PROFILE:



DIVERS DESCENDED DOWN BUOY/ANCHOR LINE DRIFTED ON THE CONTACT POSITION DETERMINED FROM SSS. A 30' CIRCLE SEARCH WAS CONDUCTED - NOTHING DISCOVERED. A 50' CIRCLE SEARCH REVEALED THE POSSIBLE REMAINS OF A FISHING VESSEL OR HOISTING RIGGING FROM A RIG/PLATFORM. THE HIGHEST POINT ROSE 16'7" OFF THE BOTTOM. A LEAST DEPTH BY LEADLINE WAS 4.3m (17

PNEUMOFATHOMETER CALIBRATED: Y N

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

DP FIX NUMBER(s): 6584 AVERAGE DEPTH READING: 4.3m

FATHOMETER DEPTH: 4.2 TIME OF READINGS (GMT): 1742

DRAFT CORRECTOR: + 0.5 PREDICTED TIDE CORR.: -0.5 / 3.8 ft

VELOCITY CORR.: + 0.2 CORRECTED LEAST-DEPTH: 4.7m / 4.1m LEADLINE

PRED. TIDE CORR.: - 0.2 HAZNAV REPORT FILED: Y N 12 ft

READING #1: ____

READING #2: ____

READING #3: ____

AVG: ____

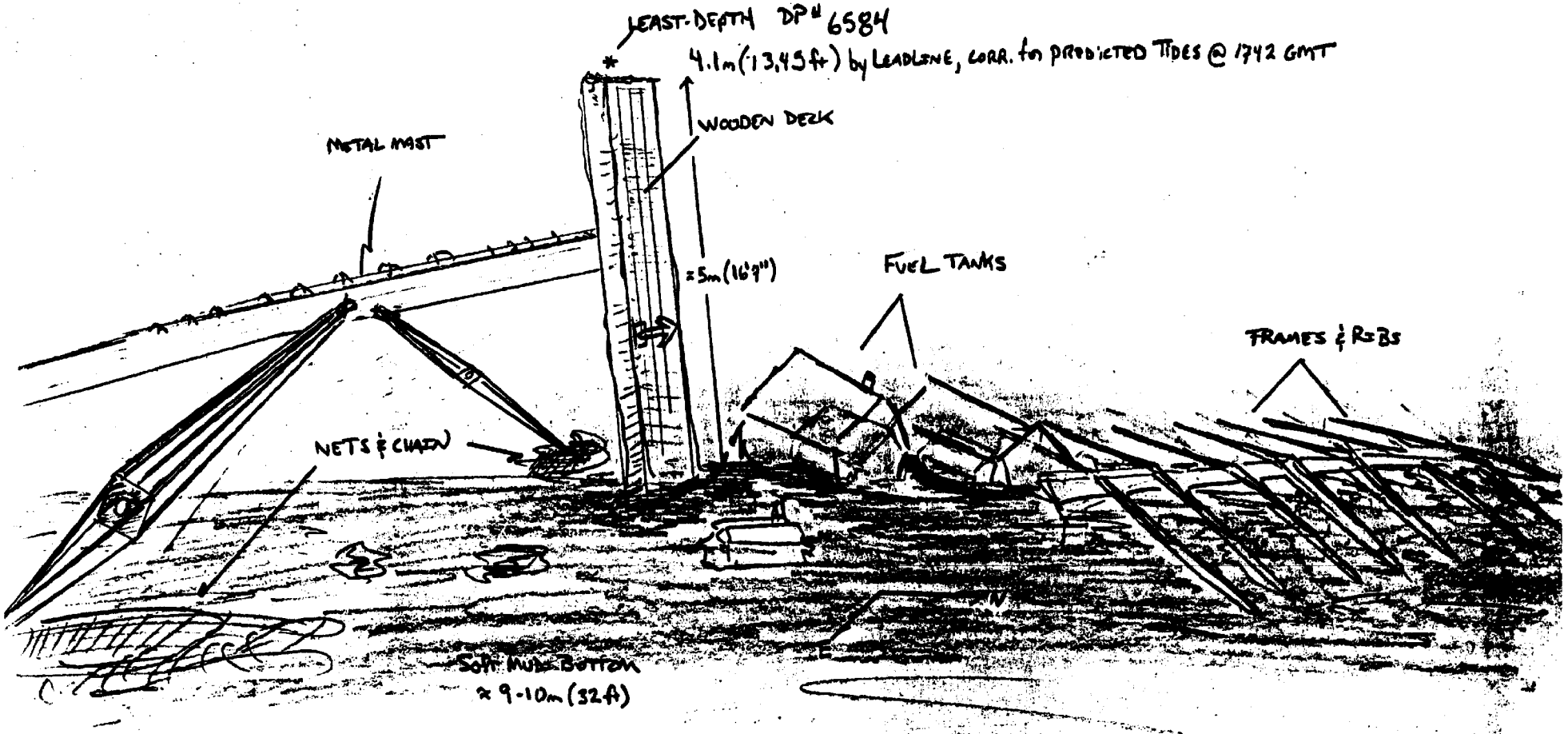
SEE PAGE 16 OF THE D.R.

POSITION / SUPPORTING INFORMATION

LAT: ~~29° 40' 36.072" N~~ 29° 39' 54.596" N LONG: 093° 18' 07.857" W

N 92257.9 E 99284.6

B3 / AWOIS 8987



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: 27 SEP 94 / 270 Project/Sheet: B / H-10561

Dive Supervisor: Swallow Dive Item #: B4

Vessel #: 26 / MT-7 AWOIS #: _____

DIVE # 1

DIVERS: 1 Man 2 Van Der Amsele

TIME IN: 1338 Pressure In: 2600

TIME OUT: 1355 Pressure Out: 1800

BOTTOM TIME: 17 MAX DEPTH: 35

PROFILE: 35 | 17 | C

Divers Descended down buoy line dropped over a SSS contact. A circle Search revealed a Sunken buoy w/ 1g chain lieing on the bottom. The buoy was 10' long, 5' wide & rose < 3' off the bottom. A leadline least depth was not taken because item is not 1m off the bottom. Hauser DP# 7898 was taken over the site. water depth was 10.5m

PNEUMOFATHOMETER CALIBRATED: Y N

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

DP FIX NUMBER(s): 7898 AVERAGE DEPTH READING: N/A

FATHOMETER DEPTH: 9.4 TIME OF READINGS (GMT): 19:00

DRAFT CORRECTOR: + .5

VELOCITY CORR.: + .2

PRED. TIDE CORR.: - -.1

10.0m

PREDICTED TIDE CORR.: - —

CORRECTED LEAST-DEPTH: 10.0m

HAZNAV REPORT FILED: Y (N)

READING #1: _____

READING #2: _____

READING #3: _____

AVG: _____

POSITION / SUPPORTING INFORMATION

LAT: 029:37:35.709N LONG: 093:19:46.185W

E 96052.9
N 87969.5

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: 27 SEP 94 / 270 Project/Sheet: H-10561 / B

Dive Supervisor: Swallow Dive Item #: B5

Vessel #: ME-6 / ME-7 AWOIS #: N/A

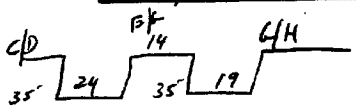
DIVE # 3

DIVERS: 1 Man 2 Van De Arvele

TIME IN: 1516 / 1554 Pressure In: 2600 / 2300

TIME OUT: 1540 / 1613 Pressure Out: 1500 / 800

BOTTOM TIME: 24 / 19 MAX DEPTH: 35 / 35

PROFILE: 

Divers descended down Buoy line dropped over SSS contact position. Circle search revealed a 5 square anchor block sitting on its edge on the bottom. The block extended 4' off the bottom & was made of concrete. A large chain was connected to the block. A LLLD was taken of 9.8m

PNEUMOFATHOMETER CALIBRATED: Y N

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

DP FIX NUMBER(s): 7900 AVERAGE DEPTH READING: 9.8

FATHOMETER DEPTH: 9.1 TIME OF READINGS (GMT): 21:10:00

DRAFT CORRECTOR: + .5
VELOCITY CORR.: + .2
PRED. TIDE CORR.: - -.1
} 9.7

PREDICTED TIDE CORR.: - -.1

CORRECTED LEAST-DEPTH: 9.7

HAZNAV REPORT FILED: Y N

READING #1: ____

READING #2: ____

READING #3: ____

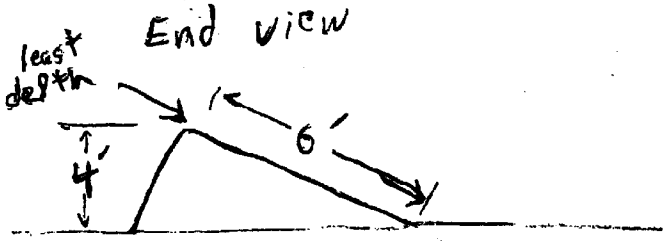
AVG: ____

SEE PAGE 14 OF THE D.R.

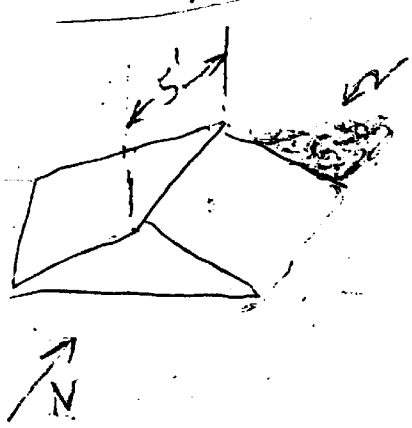
POSITION / SUPPORTING INFORMATION

LAT: 029:37:30.858N LONG: 093:18:47:038W

N 87824.9
E 98244.5



looking down



Concrete w/ defined edges
slight marine growth

B5

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: 28 SEP 94 '271 Project/Sheet: H-10561 / B

Dive Supervisor: Swallow / Van Den Ameele Dive Item #: B6

Vessel #: MF-6 / MI-7 AWOIS #: N/A

DIVE # 1

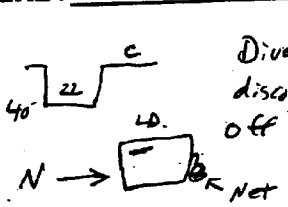
DIVERS: 1 Mann 2 Swallow

TIME IN: 0902 Pressure In: 2900 / 2600

TIME OUT: 0924 Pressure Out: 2000 / 1600

BOTTOM TIME: 22 MAX DEPTH: 40'

PROFILE:



Divers descended down buoy line dropped over SSS contact position & discovered a metal ribbed container 6.5' long, 5.5' wide, 4 1.7"5 rising off the bottom. LLLD: 10.1

PNEUMOFATHOMETER CALIBRATED: Y N

LEAST-DEPTH DETERMINATION ☐ Pneumogauge ☒ Leadline ☐ Depth gage /other

DP FIX NUMBER(s): 7901 AVERAGE DEPTH READING: 10.1

FATHOMETER DEPTH: 10.3 TIME OF READINGS (GMT): 14:31

DRAFT CORRECTOR: + .5 } = 10.7 PREDICTED TIDE CORR.: - -.3

VELOCITY CORR.: + .2 } CORRECTED LEAST-DEPTH: 9.8

PRED. TIDE CORR.: - -.3 HAZNAV REPORT FILED: Y N

READING #1: ____

READING #2: ____

READING #3: ____

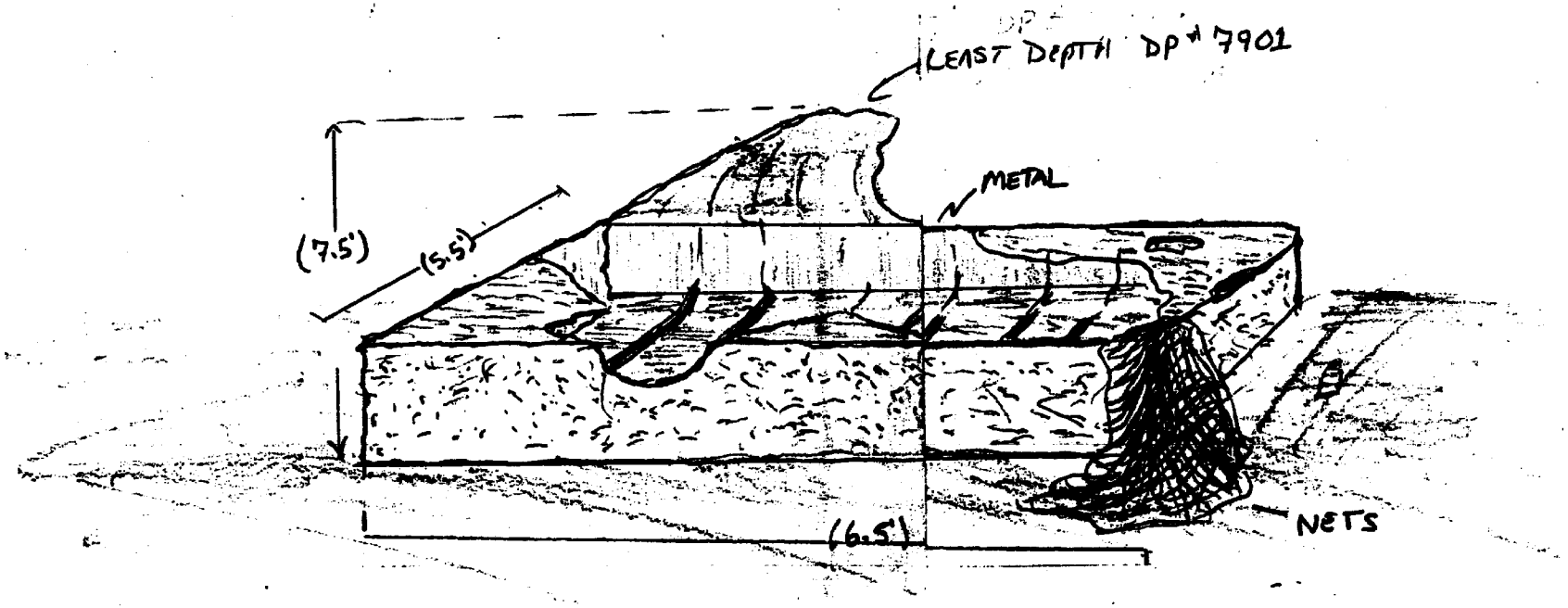
AVG: ____ SEE PAGE 20 OF THE DR

POSITION / SUPPORTING INFORMATION

LAT: 029:35:08.529 N LONG: 093:21:04.157 W

E 94567.7
N 84341.9

B6



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: 24 Oct 94 / 297

Project/Sheet: OPR-1471-ME/H-10561

Dive Supervisor: Soracco

Dive Item #: B-7

Vessel #: MI-3/ME-1

AWOIS #: N/A

DIVE #

DIVERS: 1 Van Den Ameele 2 Mann

TIME IN: 13:37

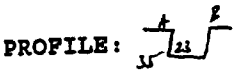
Pressure In: ___

TIME OUT: 14:00

Pressure Out: ___

BOTTOM TIME: 23

MAX DEPTH: 35

PROFILE: 

Divers descended down buoy dropped over SSS Contact site & found metal object extending ~2m from the bottom. No measurement could be taken due to zero visibility. Least Depth determined by fathometer development.

Surrounding depths are 10m-11m

PNEUMOFATHOMETER CALIBRATED: Y N

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

DP FIX NUMBER(S): 300

AVERAGE DEPTH READING: ___

FATHOMETER DEPTH: 8.1

TIME OF READINGS (GMT): ___

DRAFT CORRECTOR: +.6

VELOCITY CORR.: +.2

PRED. TIDE CORR.: -.1

8.8m

PREDICTED TIDE CORR.: - ___

CORRECTED LEAST-DEPTH: ___

HAZNAV REPORT FILED: (Y) N

READING #1: ___

READING #2: ___

READING #3: ___

AVG: ___

SEE PAGE 21 OF THE DR

POSITION / SUPPORTING INFORMATION

LAT: 029:39:19.754N LONG: 093:20:11.804W

APPENDIX I
Danger To Navigation Reports

1) Danger to Navigation Report for item B3/AWOIS 8967 (DTG 291800Z AUG 94)
2) Danger to Navigation Report for item B1 (DTG 291801Z AUG 94)
3) Danger to Navigation Report for item B5 (DTG 291802Z SEP 94)
4) Danger to Navigation Report for item B6 (DTG 291803Z SEP 94)
5) Danger to Navigation Report for item B7 (DTG 271300Z OCT 94)

B3/AWOIS 8967

R 291800Z AUG 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: H - 10561
SURVEY TITLE: CAMERON, LA TO SABINE, TX
STATE: LOUISIANA
GENERAL LOCALITY: GULF OF MEXICO
SUBLOCALITY: CALCASIEU PASS FAIRWAY ANCHORAGE
PROJECT NUMBER: OPR-K171-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 AND VERIFIED BY DIVERS FROM NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: A DANGEROUS WRECK LOCATED AT POSITION 29-39-54.596N2, 093-18-07.857W8. THE LEAST DEPTH OF THIS WRECK IS 4.1M (13.5FT), CORRECTED TO MLLW USING PREDICTED TIDES. DEBRIS FROM THIS WRECK COVERS AN AREA APPROXIMATELY 10M (32.8FT) X 20M (65.6FT). THE CHARTED DEPTH OF WATER IS 9.8M (32.0FT). THE POSITION OF THIS OBJECT WAS OBTAINED USING DGPS.

THIS ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	11344	11347
EDITION NUMBER	30TH	25TH
DATE	29 JAN 94	JULY 1992
CHARTED HORIZ. DATUM	NAD 83	NAD 83
GEOGRAPHIC POSITION		
LATITUDE	29-39-54.596N	
LONGITUDE	093-18-07.857W	

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

"B1"

R 291801Z AUG 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: H - 10561
SURVEY TITLE: CAMERON, LA TO SABINE, TX
STATE: LOUISIANA
GENERAL LOCALITY: GULF OF MEXICO
SUBLOCALITY: CALCASIEU PASS FAIRWAY
PROJECT NUMBER: OPR-K171-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 AND VERIFIED BY DIVERS FROM NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: A SUNKEN METAL TANK LOCATED AT POSITION 29-40-26.072N2, 093-19-28.000W2 WITH THE FOLLOWING DIMENSIONS: 1.8M(6.0FT) X 3.0M(10.0FT) X 3.6M(12.0FT). THE LEAST DEPTH OF THIS OBJECT IS 7.5M (24.6FT), CORRECTED TO MLLW USING PREDICTED TIDES. THE CHARTED DEPTH OF WATER IS 9.0M (30.0FT). THE POSITION OF THIS OBJECT WAS OBTAINED USING DGPS.

THIS ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	11344	11347
EDITION NUMBER	30TH	25TH
DATE	29 JAN 94	JULY 1992
CHARTED HORIZ. DATUM	NAD 83	NAD 83
GEOGRAPHIC POSITION		
LATITUDE	29-40-26.072N	
LONGITUDE	093-19-28.000W	

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

law. The 9 nautical mile natural resources boundary
Puerto Rico, and the 3 nautical mile line elsewhere
fisheries jurisdiction and the limit of states' jurisdictio
83-31; 67 Stat. 29, March 22, 1953). These maritim
represented on future charts. The lines shown on the m

SOUNDINGS IN FEET

11344

LORAN-C OVERPRINTED

HN10561.3

'B5'

R 291802Z SEP 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: H - 10561
SURVEY TITLE: CAMERON, LA TO SABINE, TX
STATE: LOUISIANA
GENERAL LOCALITY: GULF OF MEXICO
SUBLOCALITY: CALCASIEU PASS SAFETY FAIRWAY
PROJECT NUMBER: OPR-K171-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 AND VERIFIED BY DIVERS FROM NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: AN ABANDONED CONCRETE BUOY ANCHOR BLOCK LOCATED AT POSITION 29-37-30.858N5, 093-18-47.038W3 WITH THE FOLLOWING DIMENSIONS:
1.5M(5.0FT) X 1.5M(5.0FT) X 1.1M(4.0FT). THE LEAST DEPTH OF THIS OBJECT IS 9.7M (31.8FT), CORRECTED TO MLLW USING PREDICTED TIDES. THE CHARTED DEPTH OF WATER IS 10.6M (35.0FT). THE POSITION OF THIS OBJECT WAS OBTAINED USING DGPS.

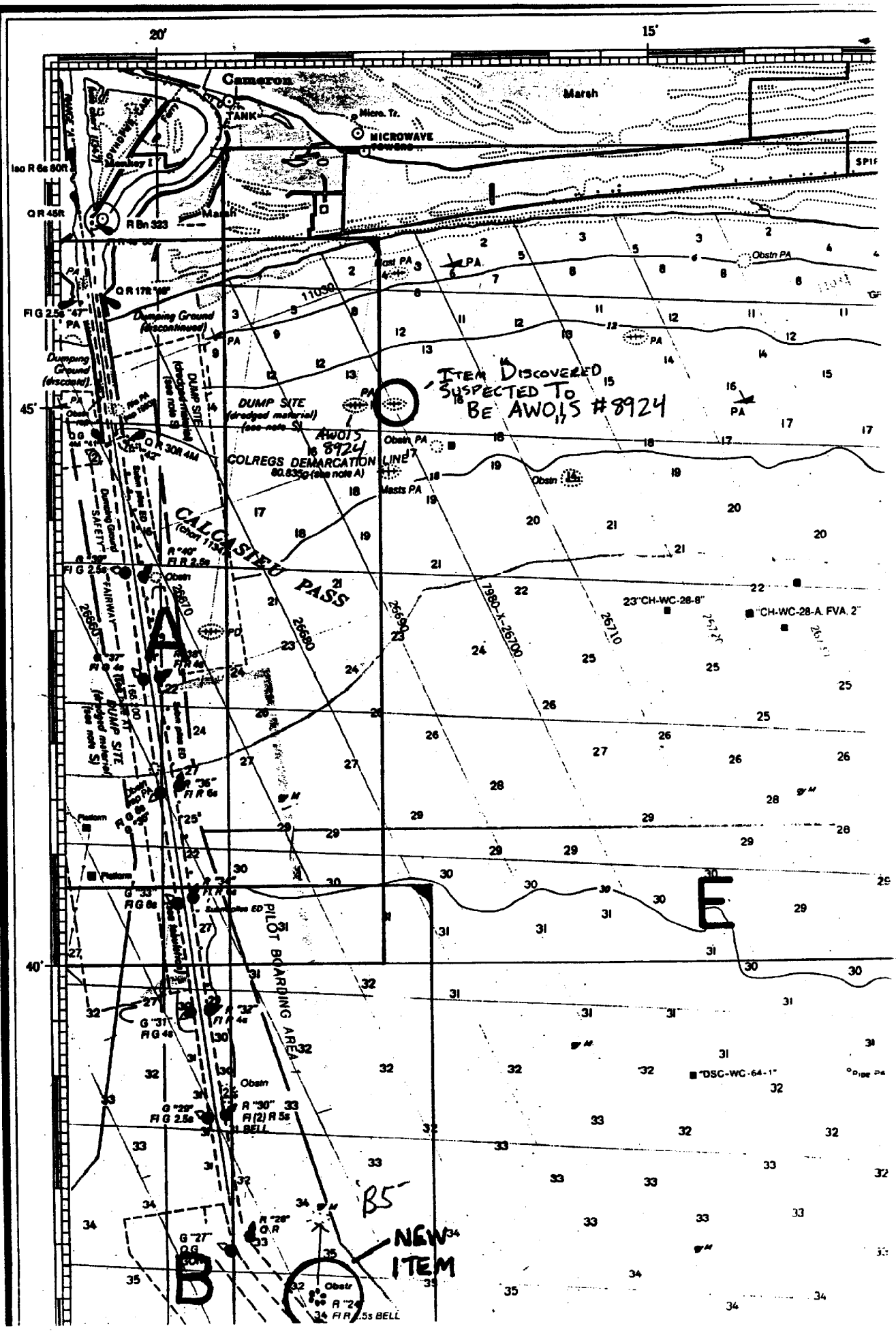
THIS ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	11344	11347
EDITION NUMBER	30TH	25TH
DATE	29 JAN 94	JULY 1992
CHARTED HORIZ. DATUM	NAD 83	NAD 83
GEOGRAPHIC POSITION		
LATITUDE	29-37-30.858N	
LONGITUDE	093-18-47.038W	

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

11344

LORAN-C OVERPRINTED



HN10561,4
B6

R 291803Z SEP 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: H - 10561
SURVEY TITLE: CAMERON, LA TO SABINE, TX
STATE: LOUISIANA
GENERAL LOCALITY: GULF OF MEXICO
SUBLOCALITY: CALCASIEU PASS SAFETY FAIRWAY
PROJECT NUMBER: OPR-K171-MI-94, NOAA SHIP MT MITCHELL

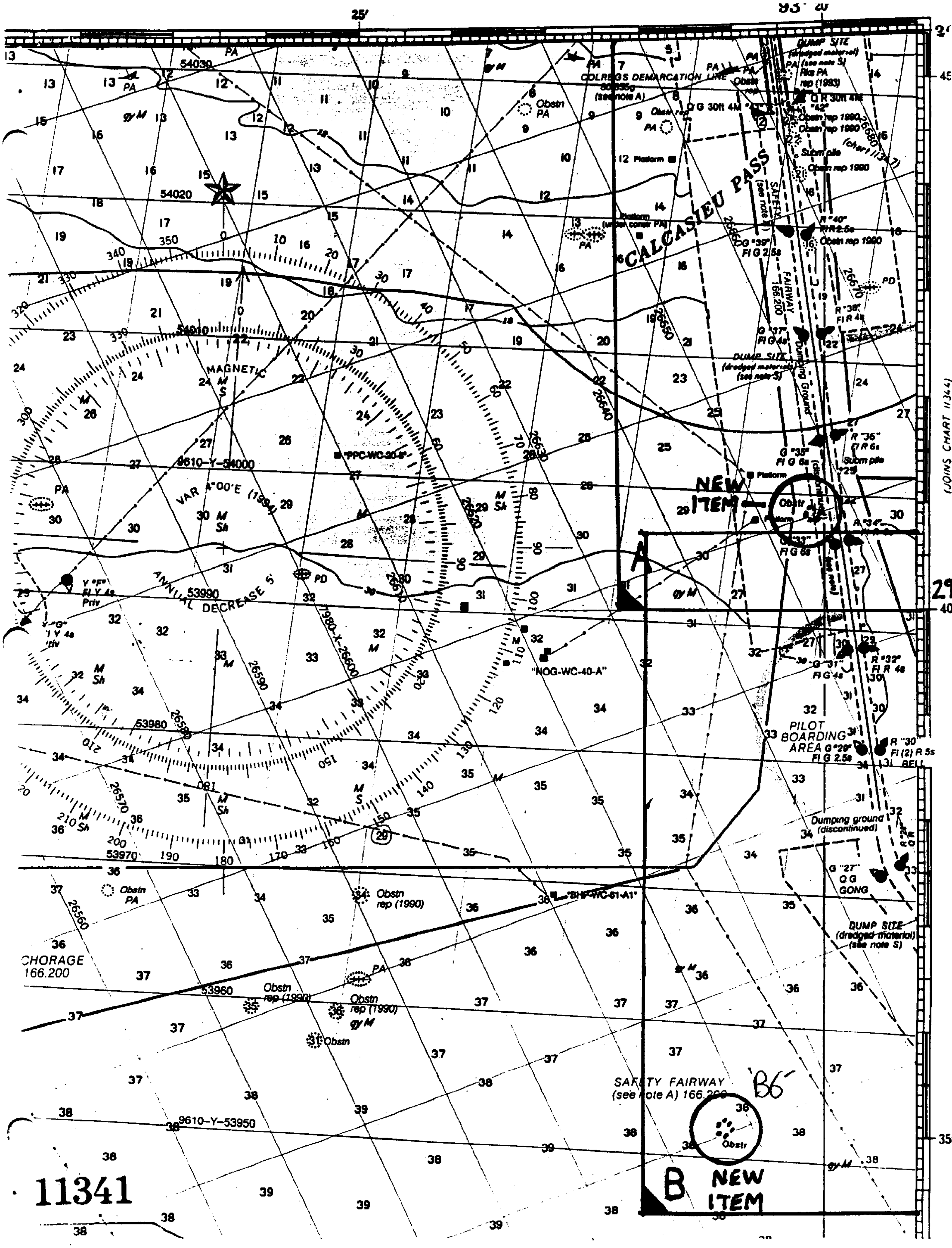
THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS AND VERIFIED BY DIVERS FROM NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: A SUNKEN METAL CONTAINER LOCATED AT POSITION 29-35-08.529N3, 093-21-04.157W2 WITH THE FOLLOWING DIMENSIONS: 2.0M(6.5FT) X 1.7M(5.5FT) X 2.3M(7.4FT). THE LEAST DEPTH OF THIS OBJECT IS 9.8M (32.1FT), CORRECTED TO MLLW USING PREDICTED TIDES. THE CHARTED DEPTH OF WATER IS 11.6M (38.0FT). THE POSITION OF THIS OBJECT WAS OBTAINED USING DGPS.

THIS ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	11341	11347
EDITION NUMBER	35TH	25TH
DATE	07 MAY 94	JULY 1992
CHARTED HORIZ. DATUM	NAD 83	NAD 83
GEOGRAPHIC POSITION		
LATITUDE	29-35-08.529N	
LONGITUDE	093-21-04.157W	

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


25′
93° 20′
29°
45′
40′
35′
COLREGS DEMARCATION LINE
(see note A)
DUMP SITE
(dredged material)
(see note S)
Rks PA
rep (1983)
Q R 30ft 4M
Q G 30ft 4M
Obstn rep 1990
Subm pile
(chart 11347)
CALCASIEU PASS
SAFETY FAIRWAY 166.200
(see note A)
FAIRWAY 166.200
Dumping Ground
12 Platform
Platform
(under constr PA)
R "40" Fl R 2.5s
G "39" Fl G 2.5s
R "38" Fl R 4s
G "37" Fl G 4s
R "36" Fl R 6s
G "35" Fl G 6s
R "34"
G "33" Fl G 6s
R "32" Fl R 4s
G "31" Fl G 4s
R "30" Fl (2) R 5s BELL
G "29" Fl G 2.5s
G "27" Q G GONG
PILOT BOARDING AREA
Dumping ground (discontinued)
DUMP SITE (dredged material) (see note S)
(JOINS CHART 11344)
NEW ITEM
A
B
B6
54030
54020
54010
53990
53980
53970
53960
9610-Y-54000
9610-Y-53950
7980-X-26600
MAGNETIC
VAR 4°00′E (1994)
ANNUAL DECREASE 5′
"PPC-WC-30-B"
"NOG-WC-40-A"
"BHP-WC-61-A1"
Y "F" Fl Y 4s Priv
Obstn rep (1990)
Obstn PA
CHORAGE 166.200
SAFETY FAIRWAY (see note A) 166.200
11341

'87

R 271300Z OCT 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: H - 10561
SURVEY TITLE: CAMERON, LA TO SABINE, TX
STATE: LOUISIANA
GENERAL LOCALITY: GULF OF MEXICO
SUBLOCALITY: CALCASIEU PASS SAFETY FAIRWAY PILOT BOARDING AREA
PROJECT NUMBER: OPR-K171-MI-94, NOAA SHIP MT MITCHELL

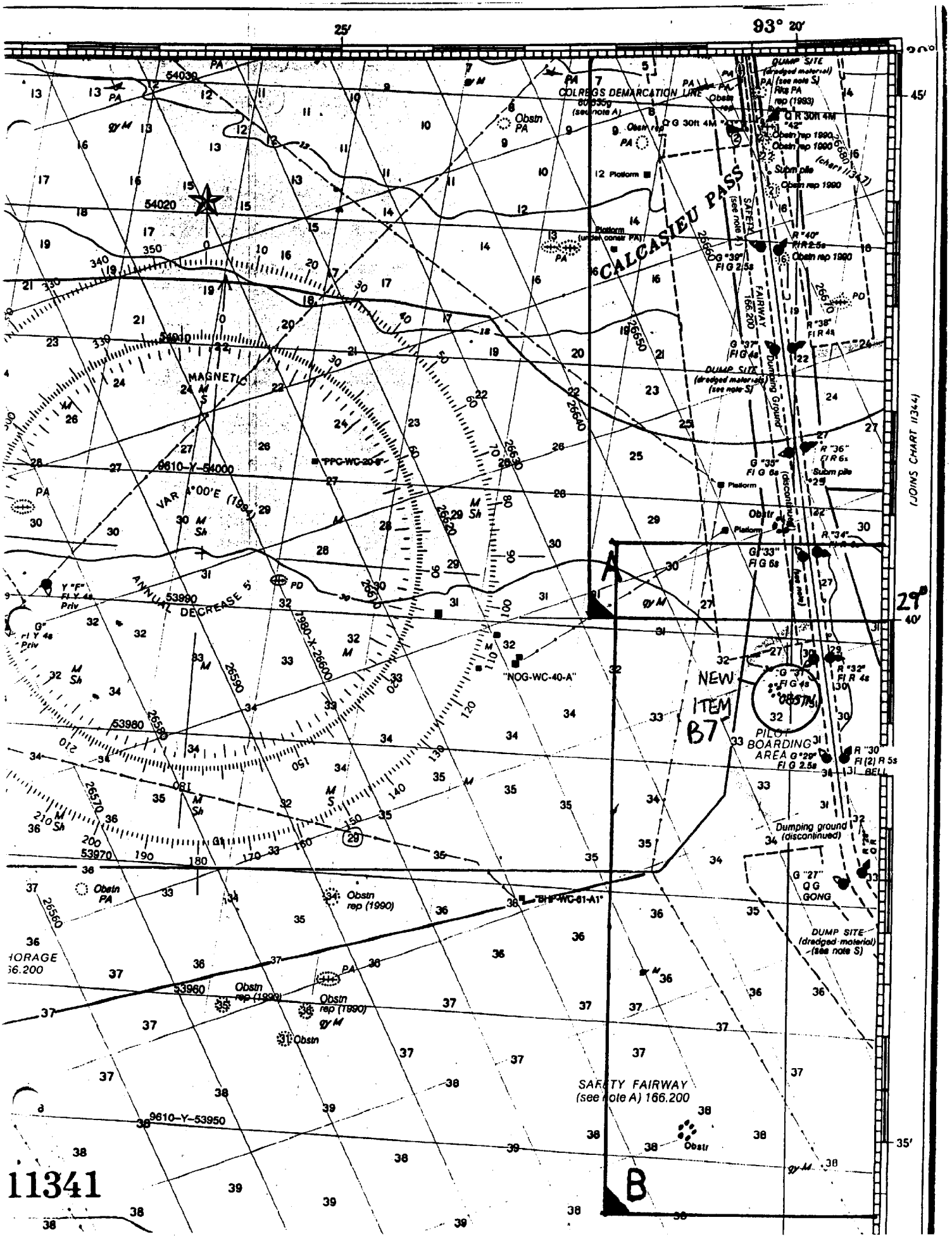
THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS BY NOAA SHIP MT MITCHELL.

OBJECT DISCOVERED: AN UNIDENTIFIED METAL OBSTRUCTION LOCATED AT POSITION 29-39-19.754N9, 093-20-11.804W8. THE LEAST DEPTH OF THIS OBJECT IS 8.8M (28.8FT), CORRECTED TO MLLW USING PREDICTED TIDES. THE CHARTED DEPTH OF WATER IS 9.8M (32.0FT). THE POSITION OF THIS OBJECT WAS OBTAINED USING DGPS. DIVERS VERIFIED THE EXISTENCE OF THE OBJECT BUT WERE NOT ABLE TO IDENTIFY IT DUE TO POOR VISIBILITY.

THIS ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	11341	11344	11347
EDITION NUMBER	35TH	30TH	25TH
DATE	07 MAY 94	29 JAN 94	JULY 1992
CHARTED HORIZ. DATUM	NAD 83	NAD 83	NAD 83
GEOGRAPHIC POSITION			
LATITUDE	29-39-19.754N		
LONGITUDE	093-20-11.804W		

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


93° 20'
25'
45'
40'
35'
CALCASIEU PASS
COLREGS DEMARCATION LINE
SAFETY FAIRWAY (see note A) 166.200
FAIRWAY 166.200
Dumping Ground
DUMP SITE (dredged material) (see note S)
Dumping ground (discontinued)
PILOT BOARDING AREA
NEW ITEM B7
MAGNETIC
VAR 4°00'E (1994)
ANNUAL DECREASE 5'
9610-Y-54000
9610-Y-53950
"PPC-WC-20-B"
"NOG-WC-40-A"
"BHP-WC-61-A1"
Obstn rep (1990)
Obstn rep 1990
Subm pile
Platform
Obstr
(JOINS CHART 11344)
A
B
11341

U.S. Department of Transportation
United States Coast Guard

Commander
Eighth Coast Guard District
Hale Boggs Federal Building

501 Magazine Street
New Orleans, LA 70130-3396
Staff Symbol:
Phone:
(oan)
(504)589-6277

16600
SEP 2 1994

LCDR John Humphry
Chief, Hydrographic Operations
National Oceanic and Atmospheric Administration, NOAA
N/CG 241, Station 6705, SSMC-3
1315 East-West Highway
Silver Spring, MD 20910

Dear LCDR Humphry:

Please reference the NOAA ship MT MITCHELL's message 291800Z AUG 94, copy enclosed, which reported a wreck east of Calcasieu Channal in approximate position 29-39-54.6N, 93-18-07.9W. I suspect this wreck is the 68-foot fishing vessel, SEA LARK, which sank in this area in March 1994. The SEA LARK was last reported breaking up and sinking in approximate position 29-39-54N, 93-17-12W, and the pilot house was later observed adrift in approximate position 29-16-48N, 94-01-00W.

Please advise me if the MT MITCHELL's survey included this entire area, and if it encompassed the reported location of the sunken SEA LARK. If the wreck discovered by MT MITCHELL is, in fact, the SEA LARK, then the corresponding wreck symbol, advertised in Local Notice to Mariners 14/94, can be deleted.

If I can provide additional information, please contact me at (504) 589-2124. I appreciate your assistance.

Sincerely,

P. R. JOHNSON
Chief, Marine Information Section
Aids to Navigation Branch
By direction of the District Commander

Encl: (1) NOAAS MT MITCHELL 291800Z AUG 94

Copy: Commander Coast Guard Group New Orleans, LA
USCGC PAPAW
Coast Guard Aids to Navigation Team Sabine, TX

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-K171

HYDROGRAPHIC SHEET: H-10561

LOCALITY: Cameron, Louisiana to Sabine, Texas

TIME PERIOD: August 5 - October 25, 1994

TIDE STATION USED: 877-0570 Sabine Pass, North, Tx.
Lat. 29° 43.8'N Lon. 93° 52.2'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 2.78 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.5 ft.

REMARKS: RECOMMENDED ZONING

Apply a -40 minute time correction and a x1.42 range ratio to heights using Sabine Pass, North, Tx. (877-0570).

Notes:
1. Times are tabulated in Greenwich Mean Time.
2. Data for Sabine Pass, North, Tx. (877-0570) are temporarily stored in file #677-0570.

William M. Hubbard
CHIEF, DATUMS SECTION

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-10561

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 1341, 1344, 1345	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	
CALCASIEU PASS (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
				Chief Geographer						22
										23
				DEC 7 1995						24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 61-29
(12-71)

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

LETTER TRANSMITTING DATA

REFERENCE NO.

N/CS33-130-96

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

☐ ORDINARY MAIL ☐ AIR MAIL

☐ REGISTERED MAIL ☒ EXPRESS

☐ GBL *(Give number)* _____

TO:

NOAA/National Ocean Service
Chief, Data Control Group, N/CS3x1
SSMC3, Station 6815
1315 East-West Highway
Silver Spring, MD 20910-3282

DATE FORWARDED

December 5, 1996

NUMBER OF PACKAGES

1 Box, 1 Tube

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.

H-10561

Louisiana, Gulf of Mexico, 5 nm South of Calcasieu Pass

1 Box Containing:

1 Original Descriptive Report for H-10561
1 Envelope with HISTORY OF CARTOGRAPHIC WORK (NOAA form 76-71) for H-10561 for chart 11347

1 Tube Containing:

1 Original Smooth Sheet for H-10561
1 Paper Composite plot (1 of 2) of Survey H-10561 for NOS chart 11347
1 Paper Composite plot (2 of 2) of Survey H-10561 for NOS chart 11347
1 Mylar H-DRAWING of H-10561 for NOS chart 11347

FROM: *(Signature)* R. H. Whitfield

Richard H. Whitfield

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Atlantic Hydrographic Branch N/CS331
439 W. York Street
Norfolk, VA 23510-1114

NOAA FORM 61-29 SUPERSEDES FORM C&GS 413 WHICH MAY BE USED.

☆U.S.GPO:1983-0-664-006/1192

12/02/96

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H-10561

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	7254
NUMBER OF SOUNDINGS	49750

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	477	09/21/95
VERIFICATION OF FIELD DATA	218.50	12/29/95
QUALITY CONTROL CHECKS	4	
EVALUATION AND ANALYSIS	24	
FINAL INSPECTION	12	01/03/96
COMPILATION	48	11/27/96
TOTAL TIME	784	

ATLANTIC HYDROGRAPHIC BRANCH APPROVAL 01/04/96

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H-10561 (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
QUICKSURF, version 5.1
MicroStation, version 5.0
NADCON, version 2.10

The smooth sheet was plotted using an ENCAD NovaJet III plotter.

H. CONTROL

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). 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 0.824 seconds (25.37 meters or 2.54 mm at the scale of the survey) north in latitude, and 0.560 seconds (15.06 meters or 1.51 mm at the scale of the survey) west in longitude.

L. JUNCTIONS

H-10560 (1994) to the north
H-10572 (1994) to the south

A standard junction could not be effected with survey H-10560 (1994). The survey has not reached the sounding stage of office processing. Any adjustments to the depth curves in the junctional area will have to be made during chart compilation.

A standard junction was effected between the present survey and H-10572 (1994).

There are no contemporary surveys to the east and west of the present survey. Present survey depths are in harmony with the charted hydrography to the east and west.

M. COMPARISON WITH PRIOR SURVEYS

An adequate comparison was made with prior survey H-8796 (1964) in section M., page 15, of the Descriptive Report. A comparison of other prior surveys was not done during office processing in accordance with section 4. of the memorandum titled *Changes to Hydrographic Survey Processing*, dated May 24, 1995.

N. ITEM INVESTIGATIONS

The hydrographer located an uncharted dangerous submerged obstruction with a depth of 7^{7} meters (25 ft) in Latitude 29°38'38.08"N, Longitude 93°19'34.26"W. The obstruction is referenced as item B8 in the Descriptive Report, page 22. Surrounding depths range from 9^{4} to 10^{4} meters (31 to 34 ft). It is recommended that the obstruction be charted as shown on the present survey.

O. COMPARISON WITH CHARTS

11341 (35th Edition, May 7/94)
11344 (30th Edition, Jan. 29/94)
11345 (27th Edition, Jan. 22/94)
11347SC (26th Edition, Oct. 02/93)

Hydrography

The charted hydrography originates with the previously discussed prior surveys and needs no further discussion. The following should be noted:

1. A charted dangerous submerged obstruction with a wire drag clearance depth of 26 feet, in Latitude 29°38'49"N, Longitude 93°19'20"W, originates with FE-326WD (1975) and is shown on chart 11344 (30th Ed., Jan 29/94). It is not shown on any other charts common to the present survey. Survey records show no indication of the obstruction in the vicinity. Present survey depths range from 31 to 32 feet. The obstruction was considered disproved by a 400% side scan sonar investigation conducted during operations on FE-346SS (1990). It is recommended that the obstruction be deleted from chart 11344. No change in charting status is recommended for the remaining charts.

2. A charted dangerous submerged obstruction with a reported depth of 33 feet, in Latitude 29°37'21.48"N, Longitude 93°17'48.39"W, originates with FE-346SS (1990). The obstruction is shown on charts 11347 (27th Ed., Dec 3/94) and 11345 (27th Ed., Jan 22/94). It is not shown on the other charts common to the present survey. Survey records show no

indication of an obstruction in the vicinity. The feature is considered disproved. Present survey depths range from 34 to 35 feet. It is recommended that the obstruction a be deleted from charts 11347 and 11345. No change in charting status is recommended for the remaining charts.

3. A charted dangerous submerged obstruction with a reported depth of 33 feet, in Latitude 29°36'12.17"N, Longitude 93°17'54.01"W, originates with FE-346SS (1990). The obstruction is currently shown on charts 11347 (27th Ed., Dec 3/94) and 11345 (27th Ed., Jan 22/94). It is not shown on the other charts common to the present survey. Survey records shown no indication of an obstruction in the vicinity. The obstruction is considered disproved. Present survey depths range from 36 to 37 feet. It is recommended that the obstruction be deleted from the charts.

4. A charted dangerous submerged obstruction with a reported depth of 34 feet, in Latitude 29°36'55.21"N, Longitude 93°17'35.26"W, originates with FE-346SS (1990). The obstruction is currently shown on charts 11347 (27th Ed., Dec 3/94) and 11345 (27th Ed., Jan 22/94). It is not shown on chart 11344 (30th Ed., Jan 29/94). The obstruction is located on the eastern edge of the present survey and is not considered disproved. The obstruction has been brought forward from the prior survey to supplement the present survey. It is recommended that the obstruction be charted as shown on the present survey. No change in charting status is recommended for the charts which currently show the feature.

5. It is recommended that two charted discontinued disposal areas in the vicinities of Latitude 29°40'00"N, Longitude 93°19'51"W and Latitude 29°37'00"N, Longitude 93°19'00"W be deleted from the chart. Soundings in the common area should be used to reflect the present survey.

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

O.3.d) Controlling Depths

A conflict exists with the charted controlling depths in the area of the channel from Latitude 29°39'45"N, to Latitude 29°40'48"N. The present survey shows depths from 39 to 42 feet with a controlling depth of 42 feet.

P. ADEQUACY OF SURVEY

This is an adequate hydrographic/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 Marine Chart Division, Silver Spring, Maryland.

A Q-drawing showing items discussed in the Descriptive Report has been submitted for charting of the 28th Edition of chart 11347. These items are discussed in the memorandum dated March 15, 1996 appended to this report.

MT MITCHELL Processing Team

Marilyn L. Schlüter
Cartographic Technician
Verification of Field Data

Richard H. Whitfield
Cartographer
Evaluation and Analysis

APPROVAL SHEET
H-10561

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.

Robert G. Roberson Date: JANUARY 4, 1996
Robert G. Roberson
Cartographer
Chief, Cartographic Section

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: January 4, 1996.
Nicholas E. Perugini, CDR, NOAA
Chief, Atlantic Hydrographic Branch

****

Final Approval:

Approved: Andrew A. Armstrong Date: Dec. 16, 1996
Andrew A. Armstrong, III
Captain, NOAA
Chief, Hydrographic Surveys Division

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Coast and Geodetic Survey
Norfolk, Virginia 23510-1114

March 15, 1996

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

FROM: Commander Nicholas E. Perugini, NOAA
Chief, Atlantic Hydrographic Branch

SUBJECT: Compilation for Chart 11347

The Atlantic Hydrographic Branch (AHB) has completed initial compilation for the following chart:

Chart 11347, 27th Edition, December 3, 1994
"Calcasieu River and Lake"
1:50,000

The sources for compilation are hydrographic surveys:

H-10560
H-10561
H-10572

Although these surveys have not yet reached smooth sheet stage, AHB cartographers have identified numerous additions, deletions, and revisions that should be applied to the new chart. In order to meet the immediate chart printing schedule, AHB has compiled a "Q-Drawing" that portrays compilation results. A "Drawing History" (Form 76-71) is included with the Q-Drawing.

The following MICROSTATION "DGN" files are being transmitted by BANYAN to accompany this compilation.

11347Q10.560
11347Q10.561
11347Q10.572

In order to ensure continuity, AHB plans on performing a complete compilation using the new chart as reference, once the surveys have been approved.

NOS Chart 11347 Update
Corrections to Chart 11347, 27th Ed., Dec 3/94
Submitted March 15,1996

Chart 11347

FROM SURVEY H-10572 (1994)

AWOIS item #8766 (Obstruction) Latitude 29°28'55.14"N, Longitude 93°17'51.69"W. Item is not charted. Do not chart.

Delete the following charted items:

1. Subm pipe, PD in Latitude 29°33'54.83"N, Longitude 93°17'24.56"W. AWOIS item #6989

FROM SURVEY H-10561 (1994)

Delete the following charted items:

2. Dangerous sunken Wreck in Latitude 29°39'54.00"N, Longitude 93°17'12.00"W. AWOIS item #8967.

3. 33 Obstn and danger curve (rep 1990) in Latitude 29°37'21.48"N, Longitude 93°17'48.39"W.

4. 33 Obstn and danger curve (rep 1990) in Latitude 29°36'12.17"N, Longitude 93°17'54.01"W.

Revise the following charted items:

5. Dangerous subm Obstn PA, (24.6 ft rep) in Latitude 29°40'26.072"N, Longitude 93°19'28.00"W to a 23 Obstn with a danger curve.

6. Dangerous subm Obstn PA (31 ft rep) in Latitude 29°37'30.86"N, Longitude 93°18'47.04"W to a 31 Obstn with a danger curve.

7. Dangerous sunken wreck PA (32 ft rep) in Latitude 29°35'08.53"N, Longitude 93°21'04.16"W to a 31 Obstn with a danger curve.

8. Dangerous sunken wreck (13⅓ ft rep) to a 12 Wk and danger curve in Latitude 29°39'54.596"N, Longitude 93°18'07.857"W.

Chart the following items:

9. 26 Obstn and a danger curve in Latitude 29°39'19.75"N, Longitude 93°20'11.80"W.

10. 25 Obstn and a danger curve in Latitude 29°38'38.08"N, Longitude 93°19'34.26"W.

FROM SURVEY H-10560 (1994)

Delete the following charted items:

11. 25 Obstn and a danger curve (rep 1990) in Latitude 29°44'35.42"N, Longitude 93°20'22.24"W. AWOIS #1327.

12. 22 Obstn and a danger curve (rep 1990) in Latitude 29°44'24.60"N, Longitude 93°20'19.50"W. AWOIS #1327.

13. 21 Obstn and a danger curve (rep 1990) in Latitude 29°44'05.31"N, Longitude 93°20'16.70"W. AWOIS #1327.

14. Notation (rep 1990) from the 16 Obstn in Latitude 29°43'25.72"N, Longitude 93°20'09.71"W. AWOIS #1327.

15. Subm pile and symbol in Latitude 29°44'16.11"N, Longitude 93°20'18.25"W. AWOIS #1327.

16. Subm pile and symbol in Latitude 29°41'20.3"N, Longitude 93°19'47.8"W. AWOIS #1327.

17. Dangerous sunken wreck PA in Latitude 29°45'00.80"N, Longitude 93°18'00.55"W. AWOIS item #8924.

18. Dangerous sunken wreck PD in Latitude 29°43'00.80"N, Longitude 93°19'30.55"W. AWOIS item #8931.

19. Dangerous sunken wreck (rep 1993) in Latitude 29°44'42.80"N, Longitude 93°20'18.55"W. AWOIS item #8932.

20. Obstn PA in Latitude 29°44'30.80"N, Longitude 93°21'42.55"W. AWOIS item #8935.

21. Obstn rep and arrow in Latitude 29°45'05.80"N, Longitude 93°20'37.55"W. AWOIS item #8968.

REVISE the following charted items:

22. Visible Wreck PA in Latitude 29°45'38.80"N, Longitude 93°19'03.54"W to a sunken wreck PA with danger curve. AWOIS item #8930.

23. Visible Wreck PA in Latitude 29°45'00.80"N, Longitude 93°21'00.55"W to a sunken wreck PA with danger curve. AWOIS item #8933.

24. Visible Wreck PA in Latitude 29°45'01.80"N, Longitude 93°21'04.55"W to a sunken wreck PA with danger curve. AWOIS item #8964.

25. Dangerous sunken wreck PA (9 ft rep) to 8 Wk and danger curve in Latitude 29°45'00.75"N, Longitude 93°17'40.99"W.

26. Dangerous submerged Obstn PA to 19 Obstn and a danger curve in Latitude 29°40'52.314"N, Longitude 93°20'07.463"W.

27. Dangerous submerged Obstn PA (10½ ft rep) to 8 Obstn and a danger curve in Latitude 29°43'06.414"N, Longitude 93°21'58.133"W.

CHART the following items:

28. 15 Obstn and a danger curve in Latitude 29°44'38.644"N, Longitude 93°20'34.196"W.

29. 11 Obstn and a danger curve in Latitude 29°44'44.64"N, Longitude 93°20'37.88"W.

30. 21 Obstn and a danger curve in Latitude 29°44'37.190"N, Longitude 93°20'32.295"W.

31. 18 Obstn and a danger curve in Latitude 29°44'11.10"N, Longitude 93°20'29.11"W.

NOAA FORM 76-1
(4-93)
USCOMM-DC 51687-P72

DRAWING HISTORY

U.S. DEPARTMENT OF COMMERCE
NOAA NATIONAL OCEAN SERVICE
COAST & GEODETIC SURVEY

PRINT DATE

NC RC NE NP RP | TO REPRODUCTION DATE | PROOF REC'D ____ ____ | PROOF VER ____ ____

APPLIED PART	APPLIED FULL	ITEM NO	SOURCE OF INFORMATION FILE NO.	SOURCE OF INFORMATION DATE	SOURCE OF INFORMATION AUTH.	TYPE OF INFORMATION	LOCALITY (Lat./Long. and Name)
✓		1	H-10572	8-94 1-94	AWOIS 6989	PIPE	29-33-55.14N, 93-17-51.69W
✓		2	H-10561	8/94 10/94	AWOIS 8967	WRECK	29-39-54.00N, 93-17-13.00W
						OBSTN	29-32-21.48N, 93-17-48.39W
						OBSTN	29-36-12.17N, 93-17-54.01W
						OBSTN	29-40-26.072N, 93-19-28.00W
						OBSTN	29-37-30.86N, 93-18-47.04W
						OBSTN	29-35-08.53N, 93-21-04.16W
					AWOIS 8967	WRECK	29-39-54.596N, 93-18-07.857W
						OBSTN	29-39-19.75N, 93-20-11.80W
✓		3	H-10560	8/94 11/94		OBSTN	29-38-28.08N, 93-19-34.26W
✓		3	H-10560	8/94 11/94	AWOIS 1327	OBSTN	29-44-35.42N, 93-20-22.26W
					AWOIS 1327	OBSTN	29-44-24.60N, 93-20-19.50W
					AWOIS 1327	OBSTN	29-44-05.31N, 93-20-16-09.70W
					AWOIS 1327	NOTE	29-43-25.72N, 93-20-09.71W
					AWOIS 1327	PILE	29-44-16.11N, 93-20-18.25W
					AWOIS 1327	PILE	29-44-20.3N, 93-19-47.8W
					AWOIS 8934	WRECK	29-45-00.80N, 93-18-00.55W
					AWOIS 8931	WRECK	29-43-00.80N, 93-18-30-00.55W
					AWOIS 8932	WRECK	29-44-42.80N, 93-20-18.55W
					AWOIS 8935	WRECK	29-44-30.80N, 93-21-42.55W
					AWOIS 8968	OBSTN	29-45-05.80N, 93-20-37.55W
					AWOIS 8930	WRECK	29-45-38.80N, 93-19-03.54W
					AWOIS 8933	WRECK	29-45-00.80N, 93-21-00.55W
					AWOIS 8964	WRECK	29-45-01.80N, 93-21-04.55W
						WRECK	29-45-00.75N, 93-17-40.99W
						OBSTN	29-40-52.314N, 93-20-07.413W
						OBSTN	29-43-06.414N, 93-21-58.133W
						OBSTN	29-44-38.644N, 93-20-34.196W
						OBSTN	29-44-444.64N, 93-20-37.88W

NOTICE TO MARINERS (FWD)	SOURCE DATA (FWD)	REMARKS:
(PROOF)	(PROOF)	

CHART 11347

INFORMATION APPLIED	START DATE	COMPILER (Signature)	REVIEWER (Signature)	COMP DATE
DELETE SUBM RPE PD 0	3/13/96		R. Koe	3/14/96
DELETE (++) PA	3/13/96		R. Koe	3/14/96
DELETE 33: OBSTN REP (1990)	3/13/96		R. Koe	3/14/96
DELETE 33: OBSTN REP (1990)	3/13/96		R. Koe	3/14/96
REVISE (OBSTN PA (24.6 FT REP)) TO 33: OBSTN	3/13/96		R. Koe	3/14/96
REVISE (OBSTN PA (31 FT REP) TO 31: OBSTN	3/13/96		R. Koe	3/14/96
REVISE (++) (PA (32 FT REP) TO 31: OBSTN	3/13/96		R. Koe	3/14/96
REVISE (++) (PA (13½ FT REP) TO 12: WK	3/13/96		R. Koe	3/14/96
ADD 26: OBSTN	3/13/96		R. Koe	3/14/96
ADD 25: OBSTN	3/13/96		R. Koe	3/14/96
DELETE 25: OBSTN'S REP 1990	3/13/96		R. Koe	3/14/96
DELETE 22: OBS	3/13/96		R. Koe	3/14/96
DELETE 21: OBSTN REP 1990	3/13/96		R. Koe	3/14/96
DELETE REP 1990	3/13/96		R. Koe	3/14/96
DELETE 0 SUBM PILE	3/13/96		R. Koe	3/14/96
DELETE 0 SUBM PILE	3/13/96		R. Koe	3/14/96
DELETE (++) PA	3/13/96		R. Koe	3/14/96
DELETE (++) PD	3/13/96		R. Koe	3/14/96
DELETE (++) (REP 1993)	3/13/96		R. Koe	3/14/96
DELETE (.) OBSTN PA	3/13/96		R. Koe	3/14/96
DELETE / OBSTN REP	3/13/96		R. Koe	3/14/96
REVISE ~~DELETE~~ ⊥ PA TO (++) PA	3/13/96		R. Koe	3/14/96
REVISE ⊥ PA TO (++) PA	3/13/96		R. Koe	3/14/96
REVISE ⊥ PA TO (++) PA	3/13/96		R. Koe	3/14/96
REVISE (++) (PA (9FT REP) TO 8: WK	3/13/96		R. Koe	3/14/96
REVISE (.) OBSTN PA TO 9: OBSTN	3/13/96		R. Koe	3-14-96
REVISE (.) (OBSTN PA (10-½ FT REP) TO 8: OBSTN	3/13/96		R. Koe	3-14-96
ADD 15: OBSTN	3/13/96		R. Koe	3-14-96
ADD 11: OBSTN	3/13/96		R. Koe	3-14-96

DRAWING HISTORY

APPLIED PART	APPLIED FULL	ITEM NO	SOURCE OF INFORMATION FILE NO	SOURCE OF INFORMATION DATE	SOURCE OF INFORMATION AUTH.	TYPE OF INFORMATION	LOCALITY (Lat./Long. and Name)
						Obstn	29-44-37.190 N, 93-20-32.295
						Obstn	29-44-11.10 N, 93-20-29.11 W

INFORMATION APPLIED	START DATE	COMPILER (Signature)	REVIEWER (Signature)	COMP DATE
ADD (21) Obstn	3/13/96	[illegible]	R. Koch	3-14-96
ADD (18) Obstn	3/13/96	[illegible]	R. Koch	3-14-96

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. H-10561

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
11347	11/1/96	[signature]	Full Part Before After Marine Center Approval Signed Via
			Drawing No.
11347	2/4/97	[signature]	Full ~~Part~~ Before After Marine Center Approval Signed Via
			Drawing No.
11341	2/5/97	[signature]	Full ~~Part~~ Before After Marine Center Approval Signed Via
			Drawing No.
11344	2/5/97	[signature]	Full ~~Part~~ Before After Marine Center Approval Signed Via
			Drawing No.
11345	2/6/97	[signature]	Full Part Before After Marine Center Approval Signed Via
			Drawing No.
11340	2/6/97	[signature]	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
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.