

**F00402**

NOAA FORM 76-35A

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

## DESCRIPTIVE REPORT

Type of Survey ..... **ITEM INVESTIGATION/  
SIDE SCAN SONAR**

Field No. .... **HE-10-5-94**

Registry No. .... **FE-402**

### LOCALITY

State ..... **TEXAS**

General Locality ..... **GULF OF MEXICO**

Sublocality ..... **SE APPROACH TO  
ARANSAS PASS**

**19 94**

CHIEF OF PARTY

..... **LCDR. G. E. WHITE, NOAA** .....

### LIBRARY & ARCHIVES

DATE ..... **MAY 14 1996** .....

DIAGRAM 1286-2

504007

Ⓔ Ref Bp 158111

**Charts**

CPS  
~~11307~~  
11300  
411NC

**HYDROGRAPHIC TITLE SHEET**

FE-402SS

**INSTRUCTIONS** - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

HE-10-5-94

State TEXAS

General locality GULF OF MEXICO

Locality SOUTHEAST APPROACH TO ARANSAS PASS

Scale 1:10,000 Date of survey 30 June 1994 - 20 July 1994

Instructions dated 17 September 1992 Project No. OPR-K320-HE-94

Vessel NOAA SHIP HECK (EDP 9140)

Chief of party George E. White, LCDR, NOAA

Surveyed by LCDR George E. White, LT Gerd Glang, LTJG Michael Williamson, ENS Larry Krepp  
ST Kevin Shaver

Soundings taken by echo sounder, hand level, pole

Graphic record scaled by LTJG Michael Williamson, ENS Larry Krepp, ST Kevin Shaver

Graphic record checked by ENS Larry Krepp

Protracted by N/A Automated plot by ZETA 824 Plotter (Field)

*ENCAD NOVASET III Plotter (A11B)*

Verification by Atlantic Hydrographic Section Branch N/CS331

Soundings in ~~FATHOMS~~ METERS ~~Feet~~ at MKW MLLW FEET

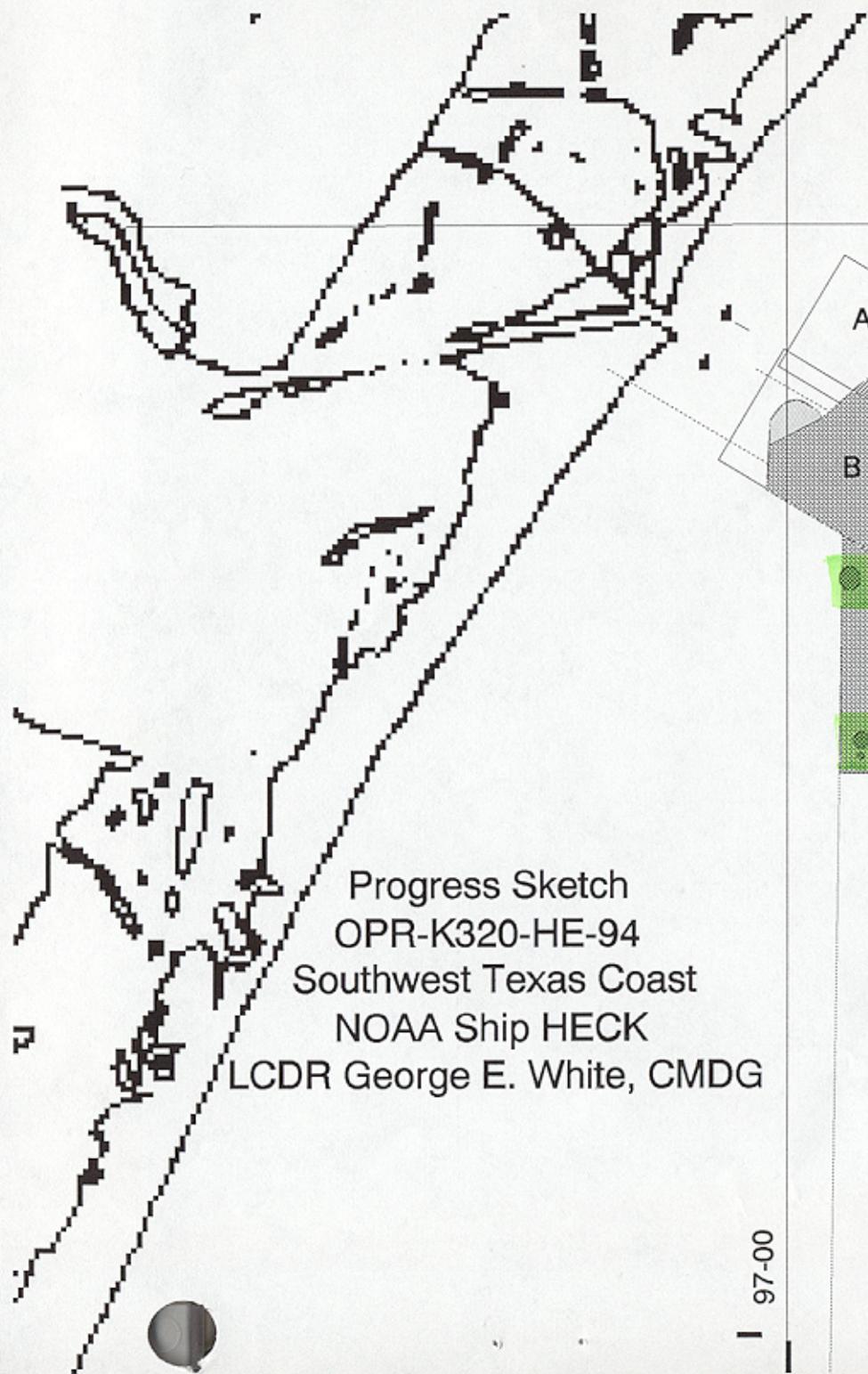
REMARKS: See paragraph A for discussion of project instructions.

All times UTC.

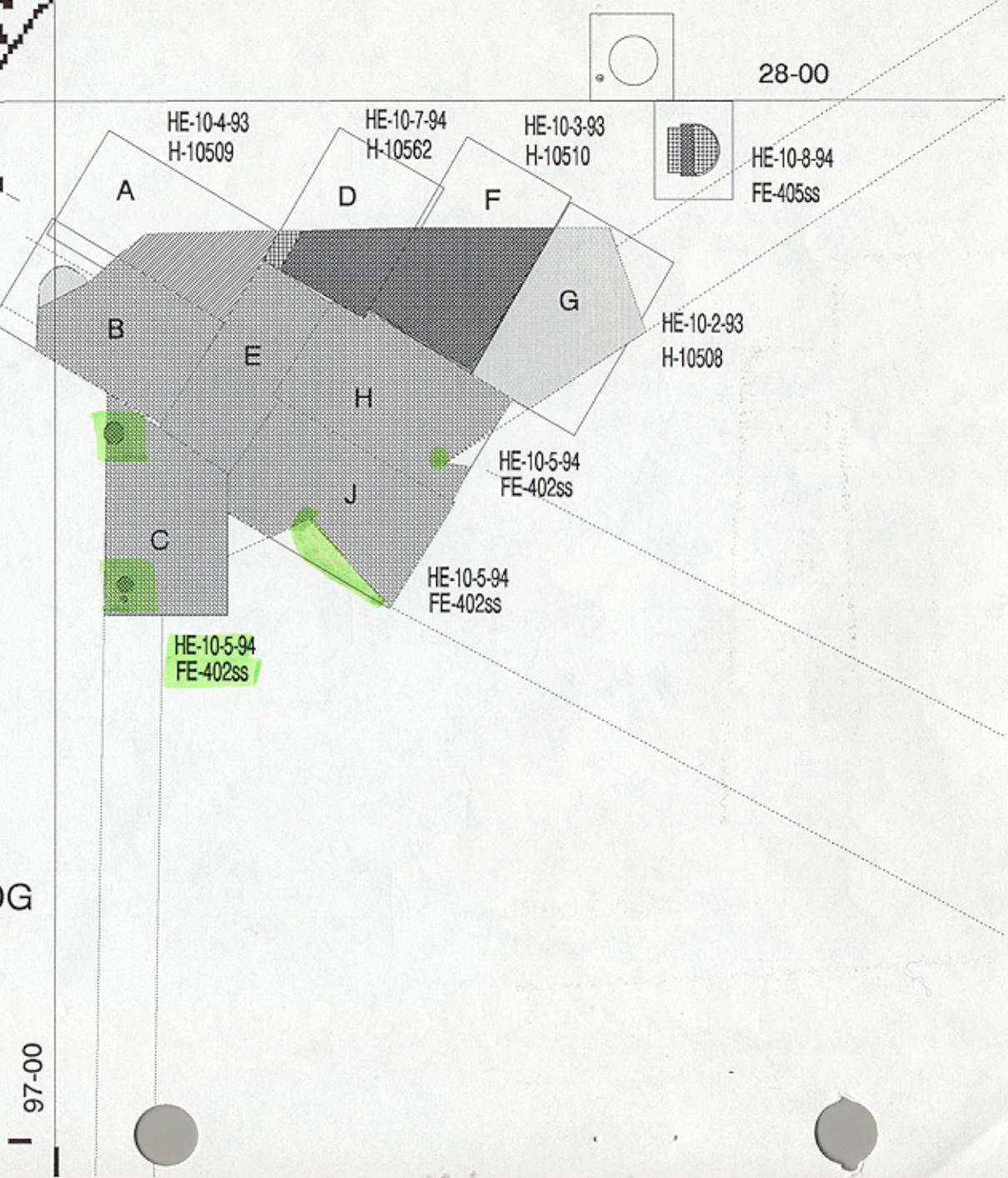
*Notes in the Original Descriptive Report were made in Red during office processing*

*AWAS/SURP ✓ 5/8/96 SJV*

*DBA* MAY 14 1996



Progress Sketch  
OPR-K320-HE-94  
Southwest Texas Coast  
NOAA Ship HECK  
LCDR George E. White, CMDG



## TABLE OF CONTENTS

A. PROJECT	1
B. AREA SURVEYED	2
C. SURVEY VESSELS	2
D. AUTOMATED DATA ACQUISITION AND PROCESSING	2
E. SONAR EQUIPMENT	3
F. SOUNDING EQUIPMENT	4
G. CORRECTIONS TO ECHOSOUNDINGS	5
H. CONTROL STATIONS	6
I. HYDROGRAPHIC POSITION CONTROL	7
J. SHORELINE	8
K. CROSSLINES	8
L. JUNCTIONS	9
M. COMPARISON WITH PRIOR SURVEYS	9
N. ITEM INVESTIGATION REPORTS	9
O. COMPARISON WITH THE CHART	20
P. ADEQUACY OF SURVEY	20
Q. AIDS TO NAVIGATION	21
R. STATISTICS	21
S. MISCELLANEOUS	21
T. RECOMMENDATIONS	22
U. REFERRAL TO REPORTS	22
SUBMISSION	23

**DESCRIPTIVE REPORT TO ACCOMPANY  
FIELD EXAMINATION FE-402ss  
FIELD NUMBER HE-10-5-94  
TEXAS  
GULF OF MEXICO  
SOUTHEAST APPROACH TO ARANSAS PASS  
Scale 1:10,000  
NOAA SHIP HECK S-591  
LCDR George E. White, NOAA, CMDG.**

**A. PROJECT**

1. This survey was conducted in accordance with Hydrographic Project Instructions OPR-K320-HE, Southwest Texas Coast, Texas. Data was collected during the 1994 field season. This field examination was conducted in response to requests by the Texas Parks and Wildlife Department, Artificial Reef Program for assistance in locating and determining least depths within two artificial reef sites scheduled for re-permitting. The HECK was also reinvestigating contacts discovered by the NOAA ship WHITING in 1991.
2. Original Project Instructions are dated September 17, 1992.
3. Change One to the Project Instructions is dated September 14, 1993. The project number has been changed from OPR-K220 to OPR-K320 according to the updated instructions. Change Two to the Project Instructions is dated March 22, 1994.
4. No letter designation has been assigned for this field examination.
5. The purpose of this project is to accomplish complete side scan sonar coverage (200%, <20 meters of water and 100%, >20 meters of water) of the safety fairway and the fairway anchorages at the approaches to Aransas Pass, Texas. The project area is traversed by vessels accessing the port of Corpus Christi. Tankers and cargo vessels are frequently anchored in the anchorage area to the north of the safety fairway. Aransas Pass also has a large shrimp boat fleet. Port Ingleside on the north side of Corpus Christi Bay serves as a home port to the U.S. Naval mine sweeping fleet.

## B. AREA SURVEYED

1. The survey area, designated as field sheets 50 and 51, lies in the Gulf of Mexico, approximately 5.0nm southeast of Aransas Pass. The survey area also includes two contacts located by the NOAA ship WHITING in 1991. These items are AWOIS 8762 (located on WHITING sheet "H") and AWOIS 184 (located on WHITING sheet "J").
2. The approximate survey area is a collection of AWOIS circles centered at the following locations.

AWOIS #	CENTER	RADIUS
184	27°42'01.11"N 096°50'00.93"W	3000m
188	27°46'26.10"N 096°58'15.95"W	200m
4153	27°41'31.11"N 096°58'30.94"W	500m
7058	27°46'21.10"N 096°58'17.95"W	100m
7059	27°46'27.10"N 096°58'16.95"W	100m
8758	27°40'55.19"N 096°57'32.78"W	100m
8759	27°46'13.36"N 096°57'44.86"W	100m
8761	27°41'07.00"N 096°56'11.00"W	100m
8762	27°45'37.00"N 096°46'39.00"W	100m

3. Survey operations began on June 30, 1994 (DOY 181), and were completed on August 15, 1994 (DOY 227).

## C. SURVEY VESSELS

1. All hydrographic and side scan data were collected by NOAA Ship HECK (EDP 9140). All offset and layback information is contained in the offset table located in section IV of the separates.\*
2. No unusual vessel configurations were used.

## D. AUTOMATED DATA ACQUISITION AND PROCESSING

SEE Evaluation Report

1. Survey data acquisition and processing were accomplished utilizing HDAPS hardware and the latest version of the NAVITRONIC NAVISOFT 300 software provided to the ship by N/CG24. A listing of actual programs and versions is appended in Appendix VI.\*

2. Program Velocity (version 2.10) was used to determine velocity corrections.
3. No nonstandard automated acquisition or processing methods were used.

## E. SONAR EQUIPMENT

1. HECK is equipped with an EG&G model 260 slant range corrected side scan sonar (SSS) recorder and model 272 single frequency towfish. Serial numbers and dates of usage are as follows:

Towfish	S/N 10823	DOY 181-227 (1994)
Recorder	S/N 0012105	DOY 181-227 (1994)

2. The beam width and down angle are not adjustable on this unit. The grazing angle dip switches are normally set to 01, unless otherwise noted on the sonagram.
3. All SSS data was collected using 100 Khz frequency.
4.
  - a. Line spacing of 260 meters on the 150 meter scale, 160 meters on the 100 meter scale, 110 meters on the 75 meter scale, and 80 meters on the 50 meter scale were used to maintain the required line overlap as determined by the equation in FPM 7.3.2.2.
  - b. Confidence checks were obtained, and annotated on the sonagrams, by towing the side scan unit either past known items or linear bottom features. Whenever possible, a minimum of two confidence checks were obtained on a daily basis as required.
  - c. Required proof of sonar coverage is demonstrated through sonar coverage plots produced as HDAPS plots. Quality of bottom coverage to the outer edges of the sonagrams was assured during check scanning to the best of the hydrographer's ability.
  - d. No anomalies were observed.
  - e. The towfish was deployed from the stern. All offset and layback information is provided in the offset table located in section IV of the separates. \* Data filed with original field records

5. Contacts were investigated using side scan sonar developments and a two or three pass "wagon wheel" pattern over the target. Diver investigations are normally conducted on items that are determined to be significant as a result of the side scan sonar developments. Echosounder developments utilizing reduced line spacing or multiple passes drifting over a target are normally used for targets if diving operations are considered dangerous.

6. The sonar contact list (Side Scan Sonar Manual 3.1.1.1.) is provided through the HECK's side scan survey contact abstract table and the automated HDAPS contact printout that is produced during the computation and logging of contacts. Depths on HDAPS contact printout are raw. However, depths on the side scan survey contact list are manually corrected for draft (+2.1 meters). Both are located in the separates.

Three contact tables were used during this survey. In order to prevent confusion all items were identified using their position number. Some contacts have more than one target number from successive hits during 200% or 400% coverage, developments, and detached positions. In this case the targets plotted on top of each other and the recommended charting positions were derived from their DP's.

Targets to develop were chosen based on contact height, strength of return, and shape. All contacts with heights greater than 0.6 meters were chosen for further development with side scan sonar or echosounder. Also chosen were contacts with strong returns or interesting shapes. Upon development, those contacts still meeting the criteria for significance (1.0 meter height in depths <20 meters and heights 10% in depths of water over 20 meters) are normally investigated by divers, with least depths determined by pneumatic depth gauge.

Annotations required by section 2.6 of the Side Scan Sonar manual (weather data and sea state) are on the sonargrams. Ship's speed and heading are located in the digital records and can be examined in the "Depth/Position Edit" sub-routine of the Post-Survey routine. Weather information is in the weather logs found in Appendix VI. \* Data filed with field records

## F. SOUNDING EQUIPMENT

1. The following Raytheon DSF-6000N echosounder was used during this survey:

S/N A116N

DOY 181-227 (1994)

2. A pneumogauge was used to determine all diver least depths during this field examination. All lead line comparison sheets are appended.
3. There were no equipment faults that affected the accuracy or quality of sounding data.
4. Both low and high frequency depths were digitized, but only high frequency depths were plotted.

## G. CORRECTIONS TO ECHOSOUNDINGS

1. a. The following table shows dates and locations of velocity casts conducted using the ODOM Digibar sound velocimeter (S/N 168):

<u>TABLE</u>	<u>DATE</u>	<u>LOCATION</u>
5	07/02/94 (DOY 183)	27°48'02"N 096°46'21"W
6	07/28/94 (DOY 209)	27°41'00"N 096°57'30"W
7	08/03/94 (DOY 215)	27°40'00"N 096°50'12"W
8	08/15/94 (DOY 227)	27°47'36"N 096°45'12"W

The velocity cast data were reduced and velocity corrections calculated using program VELOCITY version 2.10.

The Digibar was calibrated on December 14, 1992 and February 8, 1994 by ODOM and found to be functioning correctly. Field checks using the prescribed fresh water method were accomplished prior to each cast and recorded on the velocity cast form.

- b. There are no variations in the instrument initial on the DSF-6000N.
- c. There are no instrument correctors on the DSF-6000N.
- d. On DOY 154 (1994) a dual leadline comparison was conducted. A mean difference of 0.04 meter was obtained resulting in a corrector of 0.0 meter.
- e. The computed velocity correctors were applied on line to echosounder depths (both high and low frequency) by entering the correction data into the HDAPS sound velocity table.
- f. The static draft of 2.10 meters was applied on line to all echosoundings via the HDAPS offset table.

g. Settlement and squat values for the HECK were determined on March 03, 1993 in the vicinity of Craney Island fuel pier in Norfolk, Virginia using the level rod method. These correctors are on file at N/CG244 and are included in separates section IV. \*

Settlement and squat values were applied on line to hydrographic soundings via the HDAPS offset table located in section IV of the separates. \*

h. Heave is measured by a Datawell B.V. (S/N 19110-C) heave, roll, and pitch sensor (HIPPY) located midships near the transducer. The sensor gathers on line data which is applied to the soundings in near real time. Heave correctors have been applied to all data collected for this survey.

2. No unusual methods or instruments for determination of correction to soundings were used.

3. No zoning or special correctors were used.

4. Pneumogauge calibrations are provided in separates section IV.\* There were no correctors applied to the pneumogauge readings for this field examination.

5. There were no unusual factors affecting DSF records.

6. a. The tidal datum for this survey was mean lower low water (MLLW). The tide station at Bob Hall Pier, Corpus Christi, Texas (877-8570) was the reference station. The station was inspected and bracketing levels were run by HECK's crew. No tide stations were established by HECK in support of this survey.

b. All hydrographic depths have been corrected for predicted tides. Zone correctors were specified in the project instructions. Tidal correctors were applied on line via the HDAPS predicted tide table.

c. Zoning was in accordance with project instructions. No zoning was used. Approved tides and zoning were applied during office processing.

## H. CONTROL STATIONS *See Evaluation Report*

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

2. Horizontal control was accomplished using GPS in conjunction with the DGPS beacons at Port Aransas, TX and Galveston, TX.
3. Coast Guard DGPS beacons were positioned by N/CG241. All control stations were positioned to Third order, Class 1 standards.
4. Horizontal control stations were neither installed nor maintained by HECK.
5. No horizontal control report has been submitted to NOAA Atlantic Hydrographic Section, N/CG244.
6. No known anomalies or unconventional methods of horizontal control were used.

## I. HYDROGRAPHIC POSITION CONTROL

1. Position control was by Differential Global Positioning System (DGPS). Control station positions were entered into the HDAPS control station Table. The first, and most commonly used, was the Port Aransas beacon. The Galveston beacon was also used for performance checks and occasionally for primary positioning. The list of the DGPS beacons and their positions appear in ~~Appendix III~~, LIST OF HORIZONTAL CONTROL STATIONS, submitted with this survey. *\*Data appended to this report*
2. Accuracy requirements were met as specified by the Hydrographic Manual and Field Procedures Manual.
3. Equipment serial numbers appear as part of the header information on each day's data print out. The two GPS receivers on board are Ashtech OEM sensors (s/n 700417B1012 and 7004178B1195, both with version 1E11 D-P EPROMs). The differential receivers are Magnavox MX50R receivers. The serial number for DGPS receiver 1 is 077. The serial number for DGPS receiver 2 is 079.
4. The DGPS beacons used for this survey were the USCG beacons located at Port Aransas, TX (304 kHz) and Galveston, TX (296 kHz).
5. Performance checks using both DGPS positions (Port Aransas and Galveston) were conducted using the SHIPDIM program. These checks compare positions computed by both DGPS beacons and compare their subsequent position differences. The performance checks were sent to Atlantic Hydrographic Section N/CG244 as part of the data. *\*Data filed with Field records.*

6. When Differential GPS was used, the maximum allowable HDOP was set at 3.7 for the Port Aransas beacon and 3.0 for the Galveston beacon to avoid EPE's in excess of the allowable 15 meters for this scale survey. Data not meeting these requirements were examined and either accepted, smoothed or rejected.

7. a. No unusual methods of operating or calibrating electronic equipment were used.
- b. There were no problems receiving DGPS correctors from either the Port Aransas or Galveston stations during this project.
- c. No unusual atmospheric conditions were noted and did not effect our reception of the DGPS signals.
- d. The positioning accuracy using the DGPS beacons was not compromised at all during the survey.
- e. No systematic errors were discovered.
- f. and g. All survey offsets were applied on-line using the HDAPS Offset Table 1.

## **J. SHORELINE**

Not applicable as per project instructions.

## **K. CROSSLINES**

1. Crosslines were not run as part of this survey. However, the first and second 100% coverages were run perpendicular to each other. The second 100% coverage was used as crossline to compare against the first 100% soundings.
2. Comparison of soundings between first and second 100% coverages showed fair agreement with random differences of  $\pm 0.4$  meters. A maximum difference of 0.8 meters was observed. This extreme difference occurred on only one particular day and will most likely be explained by local tide anomalies during that particular time period.
3. No significant discrepancies other than the instance discussed above were encountered.

4. There were no sounding equipment changes made during this survey.

#### L. JUNCTIONS

Portions of this field examination fall within prior WHITING surveys, H-10401 "C" sheet, H-10400 "H" sheet, and H-10401 "J" sheet from 1991. A comparison of sounding junctions show good agreement with differences less than  $\pm 0.4$  meters. There is no shoaling or deepening trend evident.

#### M. COMPARISON WITH PRIOR SURVEYS *See Evaluation Report*

The Atlantic Hydrographic Section HECK processing team is completing survey comparisons as agreed upon at the start of the 1994 field season.

#### N. ITEM INVESTIGATION REPORTS *See Evaluation Report*

##### N1. SUMMARY OF ITEMS INVESTIGATED

AWOIS/ TARGET #	SECTION	STATUS	RECOMMENDATION
184	N2	Not Found	Delete Wreck
188	N3	Found	Retain <del>as Charted</del> Fish Haven Limits
4153	N4	<del>NOT</del> Found	Retain <del>As Charted</del> Fish Haven Limits
7058	N5	Found	Delete Obstruction
7059	N6	Found	Delete Obstruction
8758	N7	Found	Chart Wreck
8759	N8	Not Found	Delete Obstruction
8761	N9	Not Found	Delete Obstruction
8762	N10	Not Found	Delete Obstruction

## N2 AWOIS 184

### 1. Area of Investigation

#### Reported Position:

Latitude: 27°42'01.11"N  
Longitude: 096°50'00.93"W  
Datum: NAD 83  
Depth: N/A  
Feature: Wreck

### 2. Description of Item

This item is listed as the non-dangerous wreck of the fishing vessel "TARAMBANA", sunk in 1967 in 14 fathoms of water. The NOAA ship WHITING had completed the northern 70% of the assigned area in 1991, finding one contact (#2815.50).

### 3. Survey Requirements

The HECK was assigned the prior WHITING contact to investigate. If the WHITING contact #2815.50 was not proven to be the wreck of the "TARAMBANA", the remaining southern 30% of the search area was to be completed. Survey requirements specify determining the existence of this wreck through salvage documentation, 200% side scan sonar coverage over the remaining 30% area or diver investigation.

### 4. Method of Investigation

The HECK first investigated the WHITING contact #2815.50 using side scan sonar on the 75 meter range scale. After no contacts fitting the description of the "TARAMBANA" were discovered, 200% side scan sonar coverage was completed over the remaining assigned search area.

### 5. Results of Investigation

No contacts resembling the remains of the F/V "TARAMBANA" were located near WHITING contact #2815.50 or within the southern 30% of AWOIS 184. One contact (#215.57) located in contact table #6 with a calculated height of 0.7 meters and described as boxed-shaped was discovered very close to an active oil production platform (APACHE 752-A). HECK divers did not dive on this item due to its close proximity to the oil rig.

Recommendation: Delete wreck. *concur*

10

*Delete charted  
Obstn PA (85 ft rep)  
@ Lat. 27°42'36"N  
Long. 96°51'31"W  
EKM  
5-16-96*

SEE Evaluation Report

**1. Area of Investigation**

Reported Position:

Latitude: 27°46'26.10"N  
Longitude: 096°58'15.95"W  
Datum: NAD 83  
Depth: N/A  
Feature: Obstruction

**2. Description of Item**

This item is listed as a fish haven, locally known as "Boatmen's Reef" with an authorized minimum depth of 50 feet. AWOIS #'s 7058 and 7059, discussed in sections N5 and N6 below, comprise the reef site.

**3. Survey Requirements**

Survey requirements specify determining the existence of this fish haven through salvage documentation, 200% side scan sonar coverage over a 200 meter radius or diver investigation.

**4. Method of Investigation**

200% side scan sonar coverage was completed over the assigned search radius.

**5. Results of Investigation**

Four items were discovered within the limits of AWOIS 188. They are discussed in sections N4<sup>5</sup> and N5<sup>6</sup> below. None of the contacts discovered were in conflict with the charted authorized minimum depth for the reef site.

Recommendation: The current chart of the area depicts two 46' wire drag symbols within the boundaries of the fish haven. The hydrographer recommends deleting these from the chart (see discussions under N5 and N6 below), retaining the fish haven as charted, and adding the statement "Authorized Minimum Depth 50 ft.". *Concur*

*See Evaluation Report*

## N4 AWOIS 4153

### 1. Area of Investigation

#### Reported Position:

Latitude: 27°41'31.11"N  
Longitude: 096°58'31.94"W  
Datum: NAD 83<sup>30</sup>  
Depth: N/A  
Feature: Obstruction

### 2. Description of Item

This item is listed as a fish haven, locally known as "~~Lonestar~~ Lone Star Reef" with an authorized minimum depth of 59 feet.

### 3. Survey Requirements

Survey requirements specify determining the existence of this fish haven through salvage documentation, 200% side scan sonar coverage over a 500 meter radius or diver investigation.

### 4. Method of Investigation

200% side scan sonar coverage was completed over the assigned search radius.

### 5. Results of Investigation

No contacts were discovered within the area surveyed.

Recommendation: Delete "~~Obstruction-PA~~ Obstruction-PA" symbol on chart and retain fish haven as charted. *concur* *obstr*

N5 AWOIS 7058

SEE Evaluation Report

**1. Area of Investigation**

Reported Position:

Latitude: 27°46'21.10"N  
Longitude: 096°58'19.95"W  
Datum: NAD 83 17  
Depth: N/A  
Feature: Obstruction

**2. Description of Item**

This item is listed as a fish haven described as a large junk yard of various materials cleared by 46' wire drag in 1973. This item, along with AWOIS #7059 discussed in N6 below, comprise the "Boatmen's Reef" (AWOIS 188) discussed in N3 above.

**3. Survey Requirements**

Survey requirements specify determining the existence of this fish haven through salvage documentation, 200% side scan sonar coverage over a 100 meter radius or diver investigation.

**4. Method of Investigation**

200% side scan sonar coverage was completed over the assigned search radius.

**5. Results of Investigation**

SEE Evaluation Report

Three items were found within the limits of the search area. The first item (contact #16.35) was investigated by divers on July 9, 1994 (DOY 182) and positioned by D.P. #90.. The item was described as a 24" diameter pipe near the bottom. ~~No pneumatic gauge readings were taken.~~

D.P.: #90  
Date: July 09, 1994  
Time (UTC): ~~1930~~-191800

LAT: 27°46'19.29"N                      LON: 096°58'19.27"W  
E: 23474.6                                      N: 20998.5  
DATUM: 1983

The second two items were investigated by divers on July 28, 1994 (DOY 209). One item, (contact 10.55), positioned by D.P. 91, was reported to be the remains of a steel barge. The least depth was determined to be 62' by pneumogauge.

D.P.: #91

Date: July 28, 1994

Time (UTC): 1612

Average Measured Depth: 62.1Ft

Predicted Tide Corrector: -0.65Ft

Corrected Least Depth: 61.4Ft

LAT: 27°46'22.51"N

LON: 096°58'17.58"W

E: 23521.2

N: 21097.7

DATUM: 1983

The second item (contact 18.51), positioned by D.P. #92, was described as scattered metal plating, possibly the remains of car bodies that had been placed within the fish haven. No pneumogauge readings were taken since the metal only rose 1-2' from the ocean floor.

D.P.: #92

Date: July 28, 1994

Time (UTC): 1632

LAT: 27°46'23.32"N

LON: 096°58'17.55"W

E: 23522.1

N: 21122.4

DATUM: 1983

None of these items were found to be in conflict with the charted authorized minimum depth for this fish haven.

Recommendation: Delete the 46' wire drag clearance and retain the fish haven as charted. *SEE Evaluation Report*

## **N6 AWOIS 7059**

### **1. Area of Investigation**

Reported Position:

Latitude: 27°46'27.10"N  
Longitude: 096°58'16.95"W  
Datum: NAD 83  
Depth: N/A  
Feature: Obstruction

### **2. Description of Item**

This item is listed as a steel pipe extending 10 feet off the bottom and cleared to 46 feet located within the "Boatmen's Reef" fish haven discussed in N2 above.

### **3. Survey Requirements**

Survey requirements specify determining the existence of this fish haven through salvage documentation, 400% side scan sonar coverage over a 100 meter radius or diver investigation.

### **4. Method of Investigation**

200% side scan sonar coverage was completed over the assigned search radius.

### **5. Results of Investigation**

A submerged exploded well head was discovered within the assigned search area (contact 21.55). After the well head was located, a local salvage company was contacted by the Texas Parks and Wildlife Department Artificial Reef Division to cut the exposed well head to conform with the authorized minimum depth for the fish haven. After the salvage company completed cutting operations, HECK divers dove on the well head and took pneumogauge readings on the shoalest end of the well. A least depth of 52.5' was calculated by applying predicted tides to the pneumogauge reading. The well head was positioned by D.P. #93. No conflict with the charted authorized minimum depth of 50 feet was observed. *cmcur*

D.P.: #93 changed to Fix 100

Date: July 10, 1994

Time (UTC): 1506

Average Measured Depth: 54.1Ft

Predicted Tide Corrector: -1.6Ft

Corrected Least Depth: 52.5Ft

LAT: 27°46'27.279"N

LON: 096°58'16.005"W

E: 23564.9

N: 21244.2

DATUM: 1983

Recommendation: Delete the presently charted dangerous submerged obstruction and retain fish haven as charted. *concur*

**N7 AWOIS 8758** *SEE Evaluation Report*

### 1. Area of Investigation

Reported Position:

Latitude: 27°40'55.19"N

Longitude: 096°57'32.78"W

Datum: NAD 83

Depth: N/A

Feature: Wreck

### 2. Description of Item

This item is listed as a possible barge located with side scan sonar by the NOAA ship WHITING in 1991 extending 2.9 meters off the bottom in 23.8 meters of water.

### 3. Survey Requirements

Survey requirements specify determining the existence of this wreck through salvage documentation, 200% side scan sonar coverage over a 100 meter radius or diver investigation.

### 4. Method of Investigation

200% side scan sonar coverage was completed over the assigned search radius.

## 5. Results of Investigation *See Evaluation Report*

One contact (#71.40) was discovered within the search area. HECK divers investigated the item on July 28, 1994 (DOY 209) and found the remains of a steel barge. The wreck was positioned by D.P. #177. Pneumogauge readings were taken.

D.P.: #177

Date: July 28, 1994

Time (UTC): 1412

Average Measured Depth: 23.1M

Predicted Tide Corrector: ~~-0.3M~~

Corrected Least Depth: 22.8M

LAT: 27°40'57.82"N

LON: 096°57'32.524"W

E: 24717.6

N: 11098.3

DATUM: 1983

Recommendation: Chart a wreck, least depth 22.8 meters based on predicted tides at the D.P. location. *Do NOT CHUR*

### N8 AWOIS 8759

#### 1. Area of Investigation

Reported Position:

Latitude: 27°46'13.36"N

Longitude: 096°57'44.86"W

Datum: NAD 83

Depth: N/A

Feature: Obstruction

#### 2. Description of Item

This item is listed as a submerged obstruction located with side scan sonar by the NOAA ship WHITING in 1991 extending 1.3 meters off the bottom.

#### 3. Survey Requirements

Survey requirements specify determining the existence of obstruction through salvage documentation, 400% side scan sonar coverage over a 100 meter radius or diver investigation.

#### 4. Method of Investigation

400% side scan sonar coverage was completed over the assigned search radius.

#### 5. Results of Investigation

No contacts were discovered within the area surveyed.

Recommendation: Delete Obstruction. *Concur*

### N9 AWOIS 8761

#### 1. Area of Investigation

Reported Position:

Latitude: 27°41'07.00"N  
Longitude: 096°56'11.00"W  
Datum: NAD 83  
Depth: N/A  
Feature: Obstruction

#### 2. Description of Item

This item is listed as an obstruction consisting of two identical returns parallel to each other located with side scan sonar by the NOAA ship WHITING in 1991.

#### 3. Survey Requirements

Survey requirements specify determining the existence of this obstruction through salvage documentation, 400% side scan sonar coverage over a 100 meter radius or diver investigation.

#### 4. Method of Investigation

400% side scan sonar coverage was completed over the assigned search radius.

## 5. Results of Investigation

No contacts were discovered within the search area.

Recommendation: Delete Obstruction. *concur*

## N10 AWOIS 8762

### 1. Area of Investigation

Reported Position:

Latitude: 27°45'37.00"N  
Longitude: 096°46'39.00"W  
Datum: NAD 83  
Depth: N/A  
Feature: Obstruction

### 2. Description of Item

This item is listed as an uncharted obstruction with an estimated least depth of 20.3 meters located with side scan sonar by the NOAA ship WHITING in 1991.

### 3. Survey Requirements

Survey requirements specify determining the existence of this obstruction through salvage documentation, 400% side scan sonar coverage over a 100 meter radius or diver investigation.

### 4. Method of Investigation

400% side scan sonar coverage was completed over the assigned search radius.

### 5. Results of Investigation

No contacts were discovered within the search area.

Recommendation: Delete Obstruction. *concur*

**O. COMPARISON WITH THE CHART**

*SEE Evaluation Report*

1. The Atlantic Hydrographic Section is responsible for comparisons with current editions of the following NOS charts:

<u>CHART</u>	<u>EDITION</u>	<u>DATE</u>	<u>SCALE</u>
11300	32nd	APR 94	1:460,732
11307	33rd	DEC 94	1:80,000
<del>11313</del>	<del>20th</del>	<del>JUL 92</del>	<del>1:80,000</del>

2. No Danger to Navigation reports have been submitted during the course of this survey.

3. a. The charted soundings are consistent with the survey depths.

b. No shoaling or deepening has been observed. The depths from this survey should replace all prior depths in the area.

c. No extraordinary hydrographic features were noted.

d and e. AWOIS 8758 and 8761, and a portion of AWOIS 8762 lie within the safety fairway approaches to Aransas Pass. Survey depths within these areas show good correlation with charted depths. Survey depths were generally within 2' of the nearest charted depths. There were no maintained or controlled channels within the survey area. *concur*

4. There are no non-sounding features other than those mentioned in Section N in this survey.

5. No changes are recommended to scale coverage or format of published charts within the survey area.

**P. ADEQUACY OF SURVEY**

*See Evaluation Report*

1. This survey meets or exceeds 1:10,000 specifications, and is adequate to supersede all prior surveys for the purposes of charting the depths and hazards to navigation within the survey area.

2. No portion of this survey has been identified as substandard or incomplete.

**Q. AIDS TO NAVIGATION**

- 1. No correspondence was initiated with the Coast Guard regarding floating aids to navigation.
- 2. There are no floating aids to navigation within the survey area.
- 3. One platform, APACHE 752-A, was located within the survey limits of AWOIS 184 that the HECK completed. The rig was not positioned by detached position.
- 4. There are no bridges or tunnels within the survey area
- 5. No submarine cables, submarine pipelines, or ferry routes were noted within the survey area.
- 6. There are no uncharted ferry terminals within this survey area.

**R. STATISTICS**

<u>ITEM</u>	AMOUNT
a. Square NM Hydrography	3.45 NMi <sup>2</sup>
b. Days of Production	12 Days
c. Detached Positions	5
d. Bottom Samples	0
e. Tide Stations Established	None
f. Current Stations Established	None
g. Velocity Casts Performed	4 Casts
h. Magnetic Stations Established	None
i. XBT Drops	None

**S. MISCELLANEOUS** *See Evaluation Report*

- 1. a. The water in this area of the Gulf of Mexico is silty which results in a muddy bottom type.
- b. No unusual submarine features were noted.
- c. No unusual tide conditions other than those mentioned previously in section K.2. were observed.
- d. No unusual current conditions were observed.

- e. No magnetic anomalies were noted.
2. No bottom samples were taken during the course of this survey.

#### **T. RECOMMENDATIONS**

- 1. No additional field work is recommended.
- 2. No salvage or dredging operations should affect this survey.
- 3. No further investigation of unusual features or sea conditions is recommended.

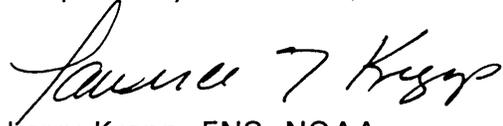
#### **U. REFERRAL TO REPORTS**

- 1. A User Evaluation Report will be submitted to N/CG241 and N/CG244 at the end of this project.
- 2. A Coast Pilot Report was submitted to N/CG244 and N/CG221 on October 27, 1994.
- 3. A LORAN-C Chart Verification Report will not be submitted for this survey.
- 4. No Horizontal Control Report or Electronic Control Report will be submitted for this survey.



**SUBMISSION**

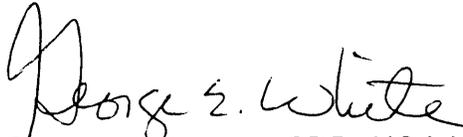
Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Larry Krepp". The signature is written in a cursive style with a large initial 'L' and a distinct 'K'.

Larry Krepp, ENS, NOAA  
Operations Officer  
NOAA Ship HECK

## LETTER OF APPROVAL

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

A handwritten signature in black ink that reads "George E. White". The signature is written in a cursive style with a large initial "G".

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



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: March 17, 1995

HYDROGRAPHIC SECTION: Atlantic

HYDROGRAPHIC PROJECT: OPR-K320

HYDROGRAPHIC SHEET: FE-402

LOCALITY: Gulf of Mexico, S.E. Approach to Aransas Pass, Tx.

TIME PERIOD: June 30 - August 15, 1994

TIDE STATION USED: 877-5870 Bob Hall Pier, Tx.  
Lat.  $27^{\circ}34.8'N$  Lon.  $97^{\circ}13.0'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 20.58 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.6 ft.

REMARKS: RECOMMENDED ZONING

Times are direct, and apply a X1.07 range ratio to heights using Bob Hall Pier, Tx. (877-5870).

- Notes: 1. Times are tabulated in Greenwich Mean Time.  
2. Data for Bob Hall Pier, Tx. (877-5870) was temporarily stored in file #677-5870.

*William M. Gibson*  
CHIEF, DATUMS SECTION



GEOGRAPHIC NAMES

Name on Survey	11307										
	A	B	C	D	E	F	G	H	K		
	ON CHART NO. 11307										
	ON PREVIOUS SURVEY										
	CON U.S. QUADRANGLE MAPS										
	FROM LOCAL INFORMATION										
	ON LOCAL MAPS										
	P.O. GUIDE OR MAP										
	GRAND McNALLY ATLAS										
	U.S. LIGHT LIST										
ARANSAS PASS (title)	X		X								1
MEXICO, GULF OF	X		X								2
TEXAS (title)	X		X								3
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Approved

*Charles C. Long*

Chief Geographer

MAY 9 1995

04/17/96

HYDROGRAPHIC SURVEY STATISTICS  
REGISTRY NUMBER: FE-402

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		728
NUMBER OF SOUNDINGS		3941
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	154	10/19/94
VERIFICATION OF FIELD DATA	61	04/04/96
QUALITY CONTROL CHECKS	63	
EVALUATION AND ANALYSIS	25	
FINAL INSPECTION	5	04/11/96
COMPILATION	21	04/16/96
TOTAL TIME	329	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		04/17/96

**ATLANTIC HYDROGRAPHIC BRANCH  
EVALUATION REPORT FOR FE-402 (1994)**

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

**D. AUTOMATED DATA ACQUISITION AND PROCESSING**

The following software was used to process data at the Atlantic Hydrographic Branch:

AUTOCAD, Release 12  
Hydrographic Processing System (HPS)  
Microstation, version 5.0  
NADCON, version 2.10

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

**H. CONTROL STATIONS**

7. Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83). Office processing of this survey is based on these values.

To place this survey on the NAD27 datum move the projection lines 1.111 seconds (34.192 meters or 3.42 mm at the scale of the survey) north in latitude, and 0.942 seconds (25.790 meters or 2.58 mm at the scale of the survey) west in longitude.

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

**M. COMPARISON WITH PRIOR SURVEYS**

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

**N. ITEM INVESTIGATION REPORTS****N3, N5 AWOIS ITEMS 188 and 7058**

The investigation of AWOIS Item 188 was conducted in conjunction with the investigation of Items 7058 and 7059.

Three items were discovered within the limits of items 188 and 7058. One item was found outside the limits of the fish haven. The results are as follows:

1. Upon office verification and review of the data a fathometer spike with a least depth of 17<sup>8</sup>m (58<sup>4</sup> feet) was found on JD 188 at fix #51.2 in Lat 27°46'25.527'N, Lon 96°58'15.359'W. No dive was done on this item. The verifier believes it to be a part of AWOIS Item 188. The least depth information is as follows:

Fathometer Fix:	51.2
Date:	7 July 1994 JD 188
Time:	170715
Raw Depth:	15.9M
Draft:	2.1M
Heave:	0.0M
Velocity:	-0.3M
Tide:	<u>-0.5M</u>
Corrected Least Depth:	17.8M

2. The investigation of Contact 16.35 was found to have a diver least depth of 16<sup>6</sup> meters (54<sup>4</sup> feet) on JD 182 at fix #90. The field incorrectly stated in the DR that no pneumogauge readings were taken on this feature. The field found a pipe at Lat 27°46'19.29''N, Lon 96°58'19.27''W. The least depth information is as follows:

Pneumogauge Fix:	90
Date:	9 July 1994 JD 182
Time:	191800
Raw Depth:	17.1M
Tide:	<u>-0.5M</u>
Corrected Least Depth:	16.6M

3. The investigation of Contact 10.55 was found by the field to have a least depth of 18<sup>7</sup> meters (61<sup>4</sup> feet) on JD 209 at fix #91 using a pneumogauge. Upon verification and review of

the data a least fathometer depth of 18<sup>1</sup>m (59<sup>4</sup> feet) was found on JD 188 at fix #55.3. The field found the remains of a steel barge at Lat 27°46'22.51''N, Lon 96°58'17.58''W. The least fathometer depth was at Lat 27°46'22.49''N, Lon 96°58'17.31''W. The two fixes are on top of each other, but the least depth is at fix #55.3. The least depth information is as follows:

Fathometer Fix: 55.3  
 Date: 7 July 1994 JD 188  
 Time: 172635  
 Raw Depth: 16.1M  
 Draft: 2.1M  
 Heave: 0.0M  
 Velocity: 0.3M  
 Tide: -0.4M  
 Corrected Least Depth: 18.1M

4. The investigation of Contact 18.51 did not have a least depth determination by the field. The field found what they considered insignificant scattered metal debris at Lat 27°46'23.32''N, Lon 96°58'17.55''W. No pneumogauge readings were taken on this obstruction. The least depth information is as follows from fatho fix 92:

Fathometer Fix:: 92  
 Date: 28 July 1994 JD 209  
 Time: 163225  
 Raw Depth: 15.9M  
 Draft: 2.1M  
 Heave: 0.0M  
 Velocity: 0.4M  
 Tide: -0.2M  
 Corrected Least Depth: 18.2M

Recommendation: It is recommended that the two 46 foot wire drag depths within the boundaries of the fish haven be deleted from the chart. It is also recommended that the fish haven be retained as charted, but that the note (min authorized depth 50 ft) be added to the chart. It is further recommended that a 16<sup>6</sup> meter (54 ft) obstruction with a danger curve be charted at Lat 27°46'19.29"N, Lon 96°58'19.27"W. This obstruction falls outside the limits of the charted fish haven.

## N7 AWOIS 8758

A wreck with a diver least depth of 22<sup>9</sup> meters (75 ft) was found in Latitude 27°40'57.82"N, Longitude 96°57'32.524"W at fix #177. The wreck is described as the remains of a steel barge. A fathometer depth of 20<sup>7</sup> meters (68 ft) was found at fix #76.2 in Latitude 27°40'57.862"N, Longitude 96°57'33.407"W, which is 24.23 meters northwest of the dive position. Office personnel believe that this depth is also on the above wreck, and that it provides the shoalest depth on the wreck. The least depth information is as follows from fatho fix 76.2:

Fathometer Fix::	76.2
Date:	7 July 1994 JD 186
Time:	195905
Raw Depth:	18.5M
Draft:	2.1M
Heave:	0.0M
Velocity:	0.3M
Tide:	<u>-0.2M</u>
Corrected Least Depth:	20.7M

Recommendation: It is recommended that a wreck with a least depth of 20<sup>7</sup> meters (68 ft) be charted as shown on the present survey.

O. COMPARISON WITH CHART 11307 (33<sup>RD</sup> Edition, DEC 24\94)

The hydrographer makes adequate chart comparisons in Sections N. and O. of the Descriptive Report.

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

P. ADEQUACY OF SURVEY

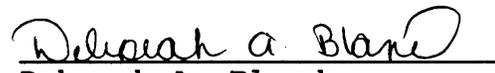
3. This is an adequate side scan sonar survey.

S. MISCELLANEOUS

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

HECK PROCESSING TEAM

  
\_\_\_\_\_  
Douglas V. Mason  
Cartographic Technician

  
\_\_\_\_\_  
Deborah A. Bland  
Cartographer

APPROVAL SHEET  
FE-402

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing. A final sounding printout of the survey has been made. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Deborah A. Bland  
Deborah A. Bland  
Cartographer  
Atlantic Hydrographic Branch

Date: 17 Apr. 1996

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

Date: 17 April 1996

\*\*\*\*\*

Final Approval:

Approved: Andrew A. Armstrong III

Date: 5-20-96

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

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**FE-402**  
**TEXAS**  
**GULF OF MEXICO**  
**SE APPROACH TO ARANSAS PASS**  
**30 JUN TO 15 AUG 1994**  
**1:10,000**  
**VERTICAL DATUM: SOUNDINGS IN FEET AT MLLW**  
**HORIZONTAL DATUM: NAD 83**  
**SHEET 1 OF 4**  
**AWOIS ITEM NUMBER 8762**

*NOTE:*  
 SHEETS 2 OF 4 AND 4 OF 4  
 ARE NOT IN THIS REPORT.  
 GO TO NEDC SERVER  
 MRSID/F\_field DIRECTORY

↓  
 F00402A.sid Sheet 4 of 4  
 F00402.1sid Sheet 2 of 4  
 F00402.2 sid Sheet 4 of 4  
 F00402.3 sid Sheet 2 of 4

*D. NEUMANN*  
 3/16/2005

27° 45' 00"



