

F00482

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. OPR-SK-909

Registry No. F00482

LOCALITY

State Texas

General Locality Laguna Madre

Locality Queen Isabella Causeway Bridge

2001

CHIEF OF PARTY
David B. Elliott

LIBRARY & ARCHIVES

DATE

October 26, 2001

HYDROGRAPHIC TITLE SHEET

OPR-S-K909

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.

F00482

State Texas

locality ~~Intra Coastal Waterway, Stovers Point~~ LAGUNA MADRE

Locality Port Isabel, Texas Queen Isabella Causeway Bridge

Scale 1:10,000 survey 9/24/01-9/25/01

dated 9-20-1 No. _____

Vessel Navigation Response Team 2 NOAA Launch 1210

Chief of party CDR. John Humphries

Surveyed by David B. Elliott, Mark J. McMann, ^{Robert} Robert W. Ramsey

pole _____

by DBE, MJM, RWR

by _____

by Smooth Sheet ^{DESIGN SET} plotted on Hewlette Packard 2500CP Plotter

Verification by ATLANTIC Hydrographic Branch Personnel

Soundings in meters (feet) at MLLW (MLLW)

REMARKS

Hand written notes in Descriptive Report were made during Office processing.

AUGIS/SURF

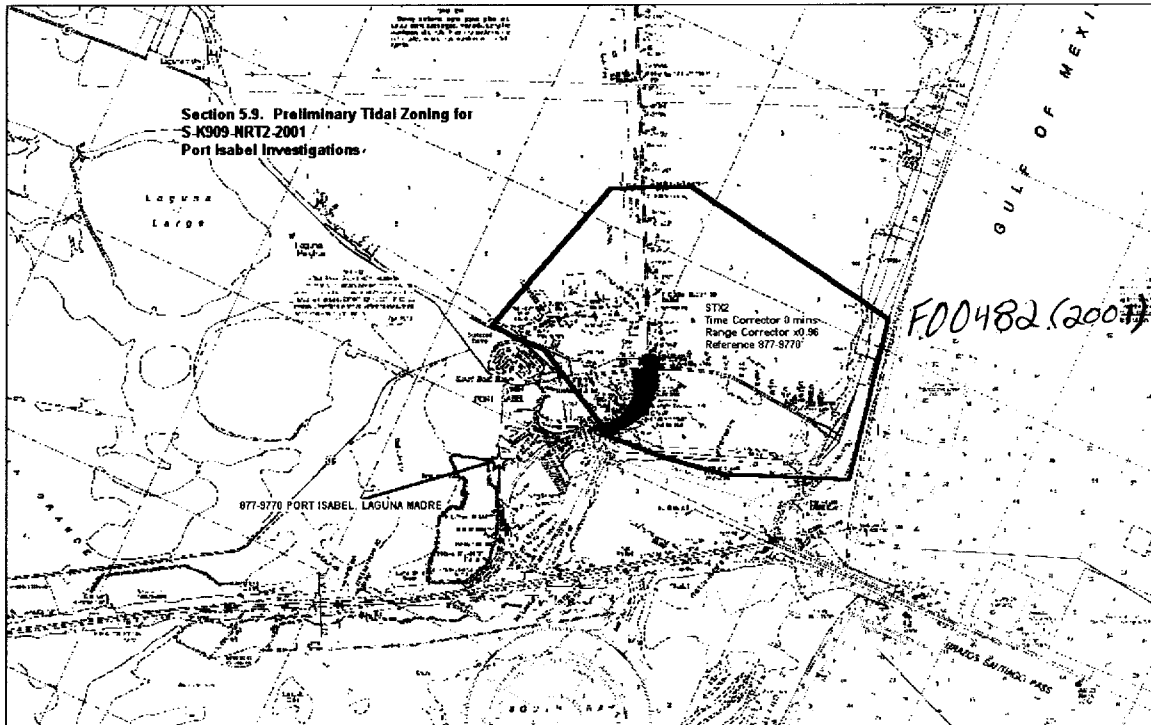
10/12/01 MCR

Abstract of Times of Hydrography

Run on 9/30/01

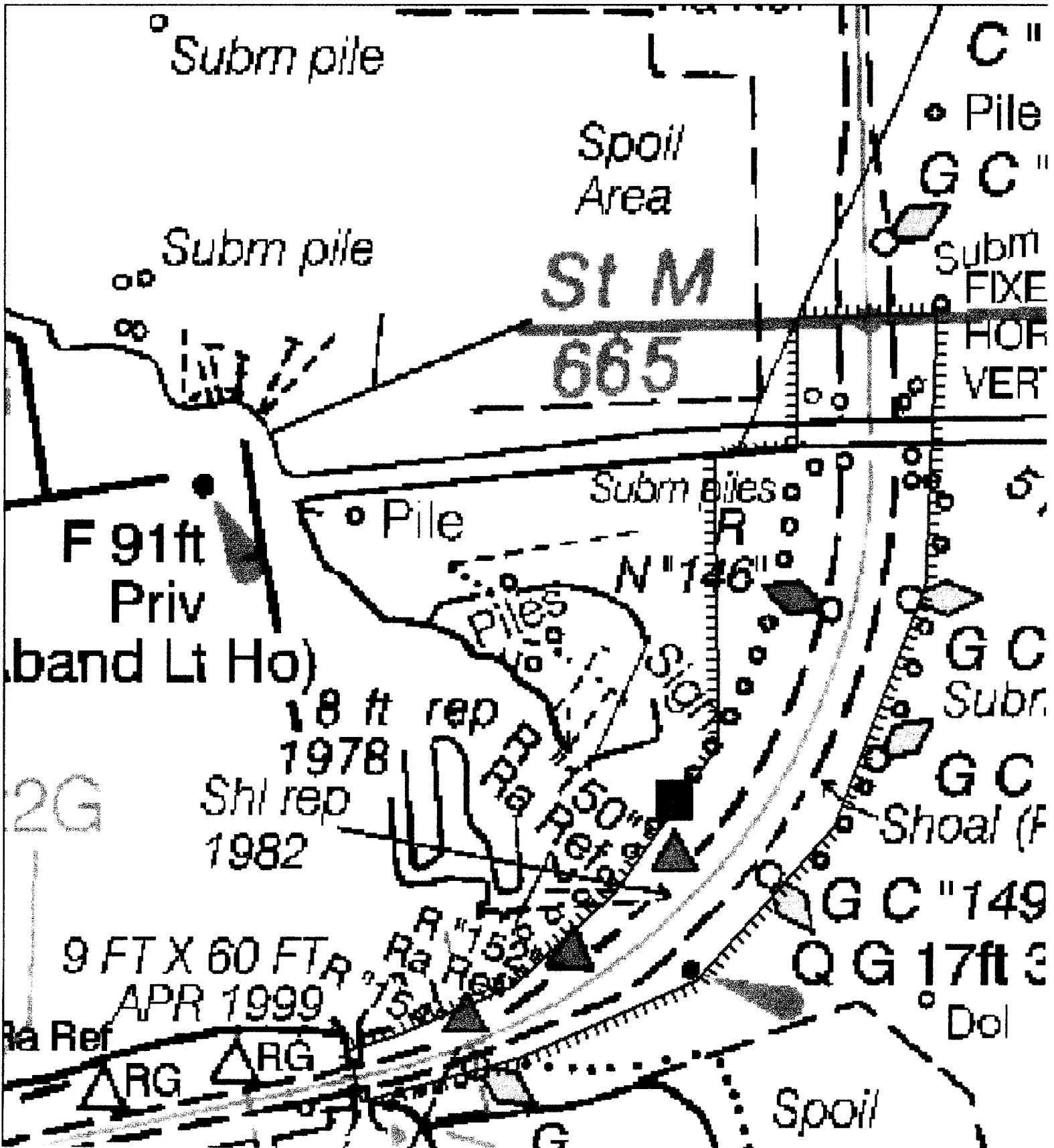
Project and Sheet: c:\hps\projects\StoverPT\sheet01

Day	Start T	End T	Year
268	13:05:30	- 17:02:12	2001



Hydro data covers the general area bounded by the following:

097°12'10.796"W	097°11'34.461"W
26°05'26.923"N	26°03'54.568"N



FIELD EXAMINATION REPORT
to Accompany
Hydrographic Survey
OPR-S-K909-NRB
1:10,000 - 2001
NAVIGATION SERVICES DIVISION
Navigation Response Team 2 – Launch 1210
Capt. John Wilder, Chief - NOAA

This examination was conducted according to Port Instructions OPR-S-K909-NRB, Port Isabel, Texas, dated Sept. 20, 2001.

The purpose of this project is to investigate the Intra Coastal Waterway at the site of an alleged grounding by a tug and barge prior to colliding with the South Padre Island Bridge. The survey conducted was at the U.S. Coast Guard's request for an emergency response for soundings and side scan sonar coverage south of the Padre Island Bridge/Causeway.

A. AREA SURVEYED

There was no sheet letter designated for this project.

The approximate survey area limits are:

26°03'54.5"N
097°11'34.4"W
26°05'26.9"N
097°12'10.7"W

This survey was conducted from: Sept.24, 2001 (DN:267) to Sept.25, 2001 (DN:268). This time frame includes Side scan sonar and single beam hydrographic soundings.

B. DATA ACQUISITION AND PROCESSING *See also Evaluation Report.*

B1. Equipment

An Innerspace model 448 depth sounder, S/Ns 188 was used to collect all echo soundings on this

survey. A standard lead line calibrated in meters, S/N 1210, was used during this survey for comparison with the echo sounder. No problems were encountered with any of the sounding equipment.

An Edge Tech model 260-TH image correcting side scan sonar recorder (S/N 020417) with a model 272-TD towfish (S/N 020892), was used throughout this survey. The side scan sonar equipment was used to investigate shoal areas and obstructions.

A Starlink DGPS Beacon Receiver (S/N 795) and antenna (S/N 4132) was used as the primary navigation station on launch 1210.

A Trimble Pathfinder ProXRS (S/N 0224010201) and antenna (S/N 0220170250) were used for establishment of calibration points.

The instrument used for determining corrections for the speed of sound through the water column was a Seabird-Seacat Velocity Profiler, model 19-03, S/N 198671-1477.

NOAA launch 1210, a 27-foot SeaArk with a draft of 0.5 meters, was used to collect all survey data. There were no unusual vessel configurations or problems encountered with the vessel.

B2. Quality Control

The integrity of the survey data for ~~H11082~~ ^{F00482} has been insured by following the Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables Manual, June 2000. Due to the nature of this survey as Chart Evaluation, percentages of crosslines were not calculated or specific to mainscheme hydrography.

The lead line for launch 1210 was calibrated using a steel tape on Sept. 23, 2001 (DN: 266). No corrections were necessary. A static draft of 0.5 meters was applied to the sounding plots by the HPS REAPPLY program. The draft was measured by subtracting the difference from a punch mark on the side of launch 1210, 0.6 meter above the transducer, to the water surface.

Settlement and squat measurements for launch 1210 were taken on Sept. 23, 2001 (DN: 266). These measurements were conducted in Dauphin Island, AL using the level method. Settlement and squat correctors were applied to the sounding plots using the HPS REAPPLY program.

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. DGPS performance checks were conducted in accordance with FPM 3.4.4 by comparing the DGPS position of the vessel to a high accuracy (1st order) calibration point.

A coverage of 200% was obtained in the main channel of the Intra Coastal Waterway, a center, green side and red side of the channel. Side scan sonar coverage was conducted to the 12-foot depth curve and single beam reduced line spacing was performed in other areas where warranted. The towfish was deployed off the starboard quarter of the vessel, which proved very stable. All

contacts and shadows were manually scaled and entered into a HPS contact table to determine the height off the bottom. The significant contacts were then compared by position, as well as common depth and relationship to channels to determine if further investigations were needed. All areas surveyed were track line/swath line plotted to insure complete coverage, these regions can be reviewed on the CD.

The system frequency used was 100 kHz. The recorder was set on one of either 25/50/75-meter range scales. There were no water depths greater than 9 meters. The confidence checks were performed daily at 100 kHz. The bridge fenders and visible pile Daybeacons served as confidence checks throughout the survey.

B3. Corrections to Echo Soundings

There are no deviations to be discussed in this section. Refer to Section "C" **Correction to Echo Soundings** of the **Data Acquisition and Processing Report**.

C. VERTICAL AND HORIZONTAL CONTROL *See Also Evaluation Report.*

The instrument used for determining corrections for the speed of sound through the water column was a Seabird-Seacat Velocity Profiler. The manufacturer calibrated this unit on December 28, 2000. Data quality assurance tests were performed after each cast. Program VELOCITY was used for computing the correctors. Corrections were applied to the sounding plot using the HPS REAPPLY program.

Field tide reduction of soundings is based on unverified actual tide heights from the Internet from the Gage at Port Isabel, TX (877-9770).

Values and correctors were applied at the perspective locations of Hydrography from the Port Instructions. ** Approved Tides and Zone were Applied in HP-Tools during Office processing.*

All elevations and soundings on survey OPR-SK-909 are based on MLLW unless otherwise specified.

The horizontal control datum for this project is the North American Datum (NAD) of 1983 in UTM. The control reference station used for this survey was the USCG DGPS Port Aransas, TX (Station ID #032), located at 27°50.30083'N, 097°03.53698'W.

D. RESULTS AND RECOMMENDATIONS

D1. Chart Comparison *See also EVALUATION Report.*

Due to the swift nature of the emergency response the hydrographer on site did not conduct detailed chart comparisons. Chart comparisons will be done at the Verification branch in Norfolk, VA at the Atlantic Hydrographic Branch.

There was no evidence of shoaling in the region identified by the U.S. Coast Guard in the channel where the alleged grounding was reported.

There were no significant contacts found during this examination that could have contributed to this accident.

There were no AWOIS items assigned to this survey.

There were no Danger to Navigation reports submitted for this survey.

D2. Additional Results *See also EVALUATION Report*

There were no Prior Survey comparisons conducted by the hydrographer for OPR-SK-909.

All Navigation Aids serve are on station and serve their intended purpose.

E. APPROVAL SHEET


Attached next page.

**APPROVAL SHEET
OPR-S-K909-NRB
Field Examination
Port Isabel, TX
NRT-2 Launch 1210
2001**

This Field Examination survey is complete and adequate for its intended purpose, which included a sidescan sonar survey of the Intra Coastal Waterway in Port Isabel, Texas. The survey includes a Field Examination Report (ie. Descriptive Report), digital data and all accompanying records.

The following reports are included with this submission:

Field Examination Report (DR)	September 2001
Data Acquisition and Processing Report	September 2001
Vertical and Horizontal Control Report	September 2001

Approved by:  David B. Elliott – Team Leader
NOAA-Navigation Response Team 2



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: September 28, 2001

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: S-K909-NRT2-2001

HYDROGRAPHIC SHEET: F00482

LOCALITY: Port Isabel Investigations, TX

TIME PERIOD: September 23 - 25, 2001

TIDE STATION USED: 877-9770 Port Isabel, Laguna Madre, TX

Lat. 26° 03.7'N Lon. 97° 12.9'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.402 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: STX2.

Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time.

Thomas V. New 9-28-01

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION



Printed on Recycled Paper



10/04/2001

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: F00482

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	772
NUMBER OF SOUNDINGS	772

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	2.0	09/28/2001
VERIFICATION OF FIELD DATA	19.0	10/03/2001
QUALITY CONTROL CHECKS	2.0	
EVALUATION AND ANALYSIS	4.0	
FINAL INSPECTION	2.0	10/03/2001
COMPILATION	5.0	10/04/2001
TOTAL TIME	34.0	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		10/04/2001

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00482 (2001)**

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.

B. AUTOMATED DATA ACQUISITION AND PROCESSING

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

Hydrographic Processing System
NADCON, version 2.10
MicroStation 95, version 5.05
I/RAS B, version 5.01

The smooth sheet was plotted using a Hewlett Packard DesignJet 2500CP plotter.

C. CONTROL STATIONS

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values. 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 1.282 seconds (39.456 meters or 3.95 mm at the scale of the survey) north in latitude, and 0.903 seconds (25.083 meters or 2.51 mm at the scale of the survey) west in longitude.

D1. COMPARISON WITH CHART 11302 (28th Edition, Aug 28/99)

Hydrography

The charted hydrography originates with the prior surveys and requires no further consideration. The hydrographer made adequate chart comparison in section D1. of the Descriptive Report. Attention is directed to the following:

1) A charted row of submerged piles, from Latitude 26°04'52.4"N, Longitude 97°11'53.0"W to Latitude 26°04'25.8"N, Longitude 97°11'59.2"W, is not considered verified or disproved by the present survey. It is recommended that this feature be retained as charted.

2) A charted row of submerged piles, from Latitude 26°04'55.2"N, Longitude 97°11'47.7"W to Latitude 26°04'35.8"N, Longitude 97°11'45.5"W, is not considered verified or disproved by the present survey. It is recommended that this feature be retained as charted.

3) A charted notation, shoal (PA), 7ft rep July 1990, in the vicinity of Latitude 26°04'39.4"N, Longitude 97°11'47.5"W, was neither verified nor disproved by the present survey. It is recommended that the notation be retained as charted.

4) A charted notation, shoal rep 1982, in the vicinity of Latitude 26°04'30.7"N, Longitude 97°11'52.4"W, was neither verified nor disproved by the present survey. It is recommended that the notation be retained as charted.

Except as noted above, the present survey is adequate to supersede the charted hydrography within the common area.

D2. COMPARISON WITH PRIOR SURVEYS

A comparison with 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.

Controlling Depths

No conflicts exist between the charted controlling depths of 12 feet and present survey soundings.

ADEQUACY OF SURVEY

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

MISCELLANEOUS

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. The following NOS chart was used for compilation of the present survey:

11302 (28th Edition, Aug 28/99)

F00482

Robert Snow

Robert Snow

Cartographic Technician
Verification of Field Data
Evaluation and Analysis

97° 12' 00"

97° 11' 30"

LAGUNA MADRE

C"143"

97° 11' 30" W

NAD 27

26° 05' 00" N

CHECKED
10/2/01

BY: RS

bridge fender
piles (8)

bridge fender
piles (8)

QUEEN ISABELLA
CAUSEWAY BRIDGE

C"145"

C"146"

C"147"

C"149"

PORT ISABEL

26° 04' 30"

"150"

Harlingen-Port Isabel Light "15"

"152"

"154"

C"153"

F00482

TEXAS

LAGUNA MADRE

QUEEN ISABELLA CAUSEWAY BRIDGE

SCALE: 1:10,000

SEP. 24-25, 2001

NORTH AMERICAN DATUM OF 1983

SOUNDINGS IN FEET AT MLLW

SHEET 1 OF 1

LONG ISLAND
pontoon bridge fenders (8)

INTRACOASTAL WATERWAY

26° 04' 00"

Brown shoreline originates with NOS chart 11302, 28th ED., Aug. 28/99
and is for orientation purposes only.

97° 12' 00"

97° 11' 30"

APPROVAL SHEET
F00482

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 digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

DN Date: 10/04/01
Norris A. Wike
Cartographer
Atlantic Hydrographic Branch

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

James S. Verlaque Date: 10/4/01
James S. Verlaque
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved: Samuel P. De Bow, Jr. Date: 10/26/01
Samuel P. De Bow, Jr.
Captain, NOAA
Chief, Hydrographic Surveys Division

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. F00482

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
11302	10/04/01	YM	Full Part Before After Marine Center Approval Signed Via FULL APPLICATION
		NORRIS WIKI	Drawing No. OF SOUNDINGS AND CURVES FROM SMOOTH SHEET
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
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