

# 10368

Diagram No. 1268-2

NOAA FORM 76-35A

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

## DESCRIPTIVE REPORT

Type of Survey .. Hydrographic .....

Field No. .... AHP2-10-4-91 .....

Registry No. .... H-10368 .....

### LOCALITY

State ..... Texas .....

General Locality .. Corpus Christi Bay .....

Sublocality ..... Long Cove to Grants Cove .....

19 91

CHIEF OF PARTY  
LCDR V.D. Ross

### LIBRARY & ARCHIVES

DATE ..... April 21, 1992 .....

# 10368

EC/G  
PRODUCTS

11308

11309

11307 N/c

**HYDROGRAPHIC TITLE SHEET**

H-10368

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.

AHP2-10-4-91

State Texas

General locality Corpus Christi Bay

Locality Long Cove to Grants Cove

Scale 1:10,000 Date of survey 11 Feb. to 12 Mar. 1991

Instructions dated September 14, 1990 Project No. OPR-K229

Vessel EDP # 0518

Chief of party LCDR V. Dale Ross

Surveyed by D. Elliott

Soundings taken by echo sounder, ~~hand lead, potex~~ Innerspace Fatho #175

Graphic record scaled by D. Elliott, J. Budlong, C. Miller

Graphic record checked by DE, JB

Evaluation by: R.N. Mihailov Automated plot by PHS Xynetics Plotter

Verification by R.N. Mihailov

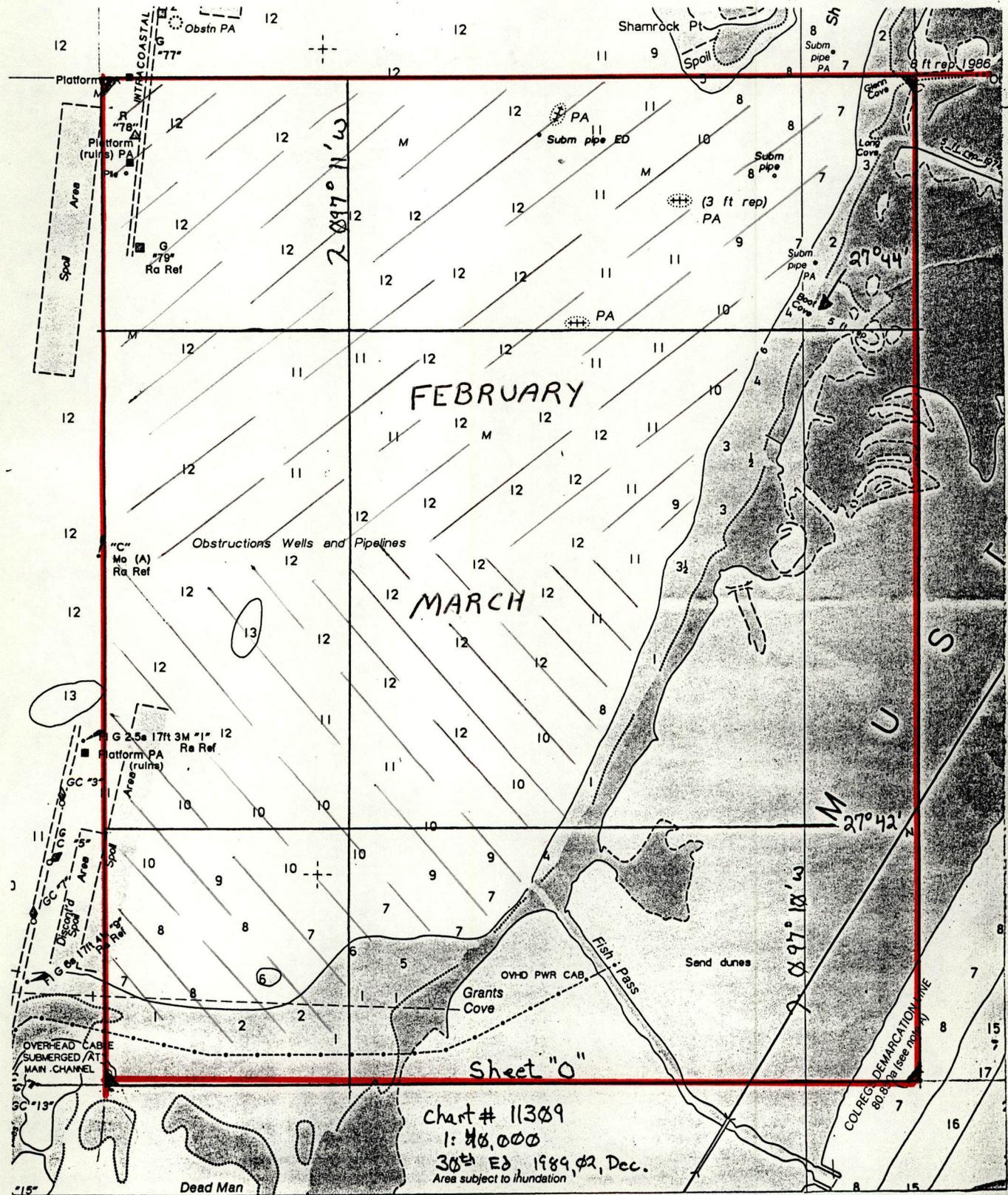
Soundings in meters ~~fathoms~~ ~~feet~~ at MHW MLLW and decimeters

REMARKS: Time in UTC. Revisions and marginal notes in black were generated during office processing. All separates are filed with the hydrographic data, as a result page numbering may be interrupted or non-sequential.

*AWOIS/SURF ✓ 4/24/92 SSJ*

*SC 1-28-97  
RWW*

OPR-K229  
AHP2-10-4-91  
H-10368



FEBRUARY

MARCH

2897° N' W

27° 44'

27° 42'

Sheet "O"

Chart # 11309  
1:40,000  
30th ED, 1989, 02, Dec.  
Area subject to inundation

15°

Dead Man

COLREG DEMARCATION LINE  
80.8 m (265 ft) (see note 1)

DESCRIPTIVE REPORT TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-10368  
(Field No. AHP2-10-4-91)  
Scale:1:10,000  
1991

Atlantic Hydrographic Party Two  
Chief of Party: Lt. Cdr. V. Dale Ross, NOAA

A. PROJECT ✓

This survey was conducted in accordance with Hydrographic Project Instructions OPR-K229-AHP2, Corpus Christi, Texas dated September 14, 1990. And change number one dated February 12, 1991.

The purpose of project OPR-K229-AHP2 is to provide modern hydrographic data to revise the existing nautical charts. In addition, the data will be used to help compile a new chart for the new naval base at Ingleside, Texas.

This survey is designated as sheet "O" in the project instructions.

B. AREA SURVEYED ✓ See Eval Report, Section 1

The area surveyed for H-10368 covers the Southeast corner of Corpus Christi Bay. The survey limits are as follows:

North - Latitude 27°45'00"N (Shamrock Island)  
South - Latitude 27°41'15"N (~~Laguna Madre~~) Grants cove  
East - Longitude 097°09'40"W (Mustang Island)  
West - Longitude 097°13'00"W (Corpus Christi Bay)

Per change number one of the project instructions, main scheme lines were run to the 0.7-meter depth curve. *Basically lines were run to the 1 meter curve.*

This survey was conducted from February 11, 1991 (DN 042) to March 12, 1991 (DN 071).

C. SOUNDING VESSEL ✓

Vessel 0518 (EDP No. 0518), a 21-foot MonArk, was used to collect all data on this survey. No problems were encountered with this vessel.

Sounding lines were run at 100-meter spacing, per Section 4.3 of the hydrographic manual.

D. AUTOMATED DATA ACQUISITION AND PROCESSING ✓

Hewlett-Packard HDAPS Programs:

Program	Version	Date
Survey	4.61	11/01/90
Constat	2.05	11/01/90
Postsur	4.17	11/01/90
Printout	2.23	11/01/90
Baseline	1.02	11/01/90
Backup	1.03	11/01/90
Quick	1.04	11/01/90
Conplot	1.02	11/01/90
Diagnostics	2.50	11/01/90
Compute	2.03	11/01/90
Point	1.20	11/01/90
Install	1.31	11/01/90
Plotall	1.77	11/01/90
Filesys	1.72	11/01/90
ABST	3.05	11/01/90
Loadnew	1.22	11/01/90
Convert	2.36	11/01/90
Inverse	1.21	11/01/90
Listawois	1.10	11/01/90
Reject	1.00	11/01/90
Carto	1.00	11/01/90
Vers	*.**	11/01/90
Backold	1.00	11/01/90
Newcont	1.00	11/01/90
Sifter	*.**	11/01/90
Tplot	*.**	11/01/90
Cellmaker	*.**	11/01/90
Readprojs	*.**	11/01/90
Reapply	*.**	11/01/90
Confile2	1.00	11/01/90
Global	*.**	11/01/90
Makefix	*.**	11/01/90
Bigabst	*.**	11/01/90
Coordut	*.**	11/01/90

PC-DAS program, NOAAEXE directory, Version 3.6 was used for on line data acquisition on the survey vessel.

In addition to the HDAPS, the following non-HDAPS computer programs were used:

VELOCITY (IBM PC)	1.11	3/9/90
MTEN3 with enhancements geodetic computations (IBM PC)		6/88

E. SONAR EQUIPMENT ✓

Not applicable.

F. SOUNDING EQUIPMENT ✓

The following Innerspace 448 echo sounder was used for this survey:

EDP#	S/N	Days
-----	-----	-----
0518	175	042,043,044,056,058,059,060, 063,065,066,071.

Soundings were recorded in meters, with an assumed speed of sound through water of 1500 m/sec. Depths encountered in the survey area range from 0.5\*meter to 4.4 meters.\*Depths generally range from 1 meter to 4.4 meters.

The digitized soundings from the echosounder were closely monitored for comparison with the analogue trace to ensure agreement between the two. Any necessary adjustments in this comparison were noted on the fathogram. The only manipulation of this instrument was in the adjustment of the gain, while operating in a gated setting.

G. CORRECTIONS TO ECHO SOUNDINGS ✓

Corrections for the speed of sound through the water column were computed from data obtained with an Odom Hydrographic Systems Inc., Digibar, Model DB1100 speed of sound probe, serial number 154. Program "Velocity" was used for determining the speed of sound correctors.

Velocity casts were taken in the survey area and speed of sound correctors were applied to all soundings taken during hydrography, during semi-smooth and final plotting with the HDAPS. The corrector value for all casts taken was 0.0. Speed of sound tables and cast data are included in the Separates Following Survey Data.\*\*

Lead line comparisons were taken daily to determine instrument error and to verify static draft. The instrument errors computed varied from -0.04 to +0.06 meters. This instrument correction was not applied to final field sheet soundings and is included in the Separates Following Survey Data,\*\* along with a lead line comparison log, for reference. The lead line was calibrated on November 20, 1990 with a metal tape and found to be in concordance.

A static draft of 0.34 meters was applied on-line via the offset table. This was measured from a punch mark on the side of launch 0518, two feet above the transducer, to the water surface, then subtracted from the difference. The data were applied to all soundings acquired with the echosounder. The offset

tables are included with the Separates\*Following Survey Data.

Settlement and squat measurements\*for vessel 0518 were performed on November 8, 1990 (DN 312) at Jewell Fulton Channel in Ingleside, Texas using the NOS prescribed level rod method (Zeiss level s/n 08764). Settlement and squat correctors were determined and applied to all survey data. <sup>in feet and subsequently converted to meter values and applied using the</sup> ~~Correctors were determined~~ <sub>offset table data.</sub>  
The final field sheet was plotted using predicted tides determined from the Galveston Channel and correctors designated in the project instructions; +6.0 hr HW, +3.0 hr LW, x 0.30 height ratio.

Approved water levels were requested from the Sea and Lake Levels Branch, N/OMA12, in a letter dated March 12, 1991. A copy is included in the Descriptive Report Appendices.

H. CONTROL STATIONS See Eval Report, Section 2 ✓

The horizontal control datum for this project is the North American Datum of 1983. A signal list as well as a copy of the HDAPS Control Station Table\*is included in the Descriptive Report Appendices.

The Coastal Surveys Unit from Norfolk, Virginia used third order, class I traverse and intersection methods to establish horizontal control for this project. The NAD 1983 was used. The horizontal control report was written and submitted by the Coastal Surveys Unit personnel for OPR-K229-AHP2.

I. HYDROGRAPHIC POSITION CONTROL ✓

Survey Methods

Hydrographic position control was accomplished using Motorola Mini-Ranger Falcon 484 system which provided accuracy to meet 1:5,000 scale survey requirements. Range/range positioning with three and four lines of position were used during this project.

The following Falcon Mini-Ranger equipment was used:

<u>VESNO</u>	<u>EQUIPMENT</u>	<u>S/N</u>	
0518	RPU	D0017	
	R/T	F3411	CD *F
	R/S	F3237	CD #4
	R/S	F3298	CD #5
	R/S	C2091	CD #6
	R/S	D2128	CD #15

(Baseline for this Set-up was conducted on DN 39, 1991)

When using three or four lines of position (LOP), a critical system check is continuously being obtained by observing the error circle radii (ecr) and residual (res) values on the Complex screen in the survey vessel. Fixes which had erratic lines of position indicated by high residuals on the "raw" listing were "smoothed" during processing. Positions were "smoothed" by dead reckoning between two accurate positions. If more than four consecutive positions had high residuals with an erratic track plot, the data were rejected and later rerun. A point position recomputation was also used when fix data was erratic and the smoothing process was not adequate to save the data. Positions were recomputed by rejecting an (LOP), or reaccepting an (LOP) that was "turned-off" manually or automatically while "on-line". If acceptable 'ecr' and 'res' values were indicated, the data were then smoothed and saved on the HDAPS.

#### Critical System Checks ✓

Fixed-point system checks were performed on 8 February 1991. All fixed-point check values were less than 5 meters which is within the required limits in the field procedures manual. Results of these fixed-point checks are included in the Separates Following Survey Data. \*

#### Mini-Ranger Falcon Calibrations ✓

Baseline calibrations were performed on 1 October 1990 (DN 274) to the standards of Section 3.1.2.1 of the field procedures manual. The baseline correctors were incorporated into the Complex "C-O" table and applied directly to all "on-line" data. All records of these calibrations are included in the Separates Following Survey Data. \*

A closing baseline calibration was not performed since the survey was conducted in less than a six month period. *An additional baseline calibration was performed on DN 39, 1991 which includes R/T Unit F 3411, Code F.*

#### J. SHORELINE *See Eval Report, section 2*

Shoreline detail shown on the final field sheet was transferred by hand from TP-01199, NAD 1927. This survey was run using the NAD 1983. Comparisons of hydrography to shoreline was accomplished using an approximate datum shift provided by N/CG2441.

The shoreline manuscript was compiled at 1:20,000 scale, and enlarged to 1:10,000 scale for use with this survey.

The shoreline was verified by its junction with hydrographic data and by visual inspection when possible. The shoreline agreed well with the shoreline manuscript. -concur

K. CROSSLINES ✓

A total of 22.2 linear nautical miles of cross lines were run on H-10368 which serve as comparison for main scheme soundings and equals 13% of the main scheme hydrography. These soundings agree to within 0.3 meter of the main scheme soundings.

L. JUNCTIONS See Eval Report, section 5 ✓

The hydrography run on this sheet junctions with H-10324 (1989) to the north and H-10365 (1991) to the west.

Junction soundings between the present survey and H-5694\* agree well and are discussed in detail in section "M" in this text. \*H-5694 is listed as a prior survey in the project instructions.

Junction soundings between the present survey and H-10324, (1989) agree well, within 0.6 meters. Junction soundings between the present survey and H-10365 (1991) are likewise in good agreement, within 0.5 meters.

M. COMPARISON WITH PRIOR SURVEYS ✓ See Eval Report, Section 6.

The present survey was compared to the following prior surveys:

<u>Survey NO.</u>	<u>Scale</u>	<u>Year</u>
H-5694	1:20,000	1934-35

H-5694 was found to represent little value with respect to shoreline details and is superseded by TP-01199 in this area of comparison. This prior survey was found to be in good agreement with respect to isobath definitions, and most soundings within the surveyed area.

The bottom samples taken during H-10368 were found to be in general agreement with H-5694. The hydrographer recommends that H-5694 be superseded by H-10368 in the common survey area, in all respects. Concur

N. COMPARISON WITH THE CHART ✓ See Eval Report, Section 7

Comparisons were made with the following largest scale charts covering the present survey area:

<u>Chart No.</u>	<u>Edition</u>	<u>Edition Date</u>
11309	30th	December 2, 1989
11308 SC	15th	July 9, 1988
11308 SC	16th	August 25, 1990

Sounding agreement between charted soundings and H-10368 was good. Depths agree from between 0.5 and 0.7 meters, with the charted soundings being the shallower of the two.

The isobaths compared favorably between survey H-10368 and the charts, with consideration given to the shift from feet to meters. The survey was acquired and plotted in meters. Comparisons were made during and after data acquisition.

All AWOIS items (total of 4) were addressed on this survey. These items appear on the overlay sheet and are filed in ~~order of collection in the Separates Following Survey Data~~ <sup>this report</sup>. Some of these items are described in this section for further clarification. The hydrographer strongly recommends that the verifier have a plot of the charted features, AWOIS items, (ie. Field Sheet) and the surveyed detached positions on the Overlay for comparison. This will serve as a visual aid and will prove to be significant when interpreting the items mentioned in this section.

AWOIS #4810-4811 were addressed on sheet "R", H-10365 (1991). ✓

AWOIS #4814, and 4823-4828 were addressed on sheet "N", ✓  
H-10324 (1989).

AWOIS #4812-4813 are described in the AWOIS listing as most likely being the same feature. Two dives were made in this area with no evidence of any piles nor platform being found. ~~concur~~ ✓  
Reference item investigation forms attached to this report.

AWOIS #4822 was originally submitted as a visible wreck on NM31/67 and four years later on CL83/71 reported by a power squadron as no longer visible and revised to submerged. Due to the time frames involved the hydrographer feels this feature was most likely salvaged. However, due to the 200-meter search radius the hydrographer performed an extensive search in this region. On DN 065 four buoys (position numbers 1185-1188) were deployed and four

100-meter diver circle searches conducted to disprove this item. The center of this feature was likewise marked and investigated with nothing found being the result of these diving operations. The hydrographer recommends this feature be removed from the chart. *concur*  
*Reference item investigation form attached to this report.*

AWOIS #4829 was a sounding originating from CL119/77--USPS as a five-foot depth in Boot Cove. On DN 058 two straight lines of hydrography (position numbers 503-508) were acquired inside of this cove and the depth in meters was converted on location to determine the controlling depth. The hydrographer recommends the controlling depth to remain as charted. *Do not concur, 3'-6' foot depths found during survey operations. chart 3 foot 1991*

O. ADEQUACY OF SURVEY ✓

This survey is a complete basic hydrographic survey and is adequate to supersede all prior surveys within the common area. *concur*

P. AIDS TO NAVIGATION ✓

No floating aids to navigation are within the sheet limits. *concur*

Two non-floating aids to navigation were located within the survey area. ✓

<u>Non-Floating Aid</u>	<u>Survey Position</u>	<u>Light List Position</u>
Corpus Christi Bay Red Daybeacon #78	27°44'44.9" N 97°12'56.4" W	No published position LLN 36080 <i>pos # 343</i>
Corpus Christi Bay Green Daybeacon #79	27°44'21. <sup>59</sup> 6" N 97°12'55. <sup>96</sup> 0" W	No published position LLN 36085 <i>pos # 342</i>

The non-floating aids to navigation are in good agreement with existing charts and U.S. Coast Guard Light List Volume IV, 1990. *Do not concur. Daybeacon "79" plots 80 meters north of charted feature.*

Several pipelines exist in the survey area. No recommendation is made to chart these pipelines. Per a telephone conversation with Mr. James Daily, in the Mapping and Charting Branch (N/CG2222), the current NOAA policy regarding charting of the pipelines in this survey area is to let the magenta warning of "obstructions, wells, and pipelines" suffice. *Concur*

Q. STATISTICS ✓

<u>Description</u>	<u>Quantities</u>
Total Positions	1291
Detached Positions	20
Duplicate Positions	8
Total Nautical Miles of Hydro	162.4
Sq. Nautical Miles of Hydrography	6.0
Bottom Samples	25
Velocity cast	4
Days of Production	11

R. MISCELLANEOUS ✓

Bottom samples were taken and submitted to the Smithsonian Institution as directed in Section 6.7 of the project instructions. Twenty-five bottom samples were transmitted on February 19, 1991. Bottom sample positions are plotted on the overlay and are listed on the Oceanographic Log Sheet-M, NOAA Form 75-44, which may be found in the Separates Following Survey Data. \*

No anomalous currents were observed in the survey area.

Prevailing winds and high and low pressure weather systems in the Corpus Christi area have a dramatic effect on the water levels within these bays. These winds and weather systems create extreme high or low tides negating the typical daily predicted tide curves.

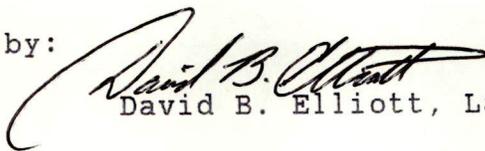
S. RECOMMENDATIONS ✓

The hydrographer recommends that AWOIS items which are seaward of the high water line take precedence over any feature reported by the U.S. Power Squadron or Coast Guard Auxillary due to the inaccuracy incurred during the scaling of those features. Many hours of lost production are attributable to shoreline features being plotted inaccurately by these groups. Although these units are deemed a valuable source of information, they rarely have any form of positioning system on their vessel. The results of these scaled positions often take the form of items being revised to ruins or as a submerged feature with little documentation for the change. Considering the time and effort required of the field survey units to provide sufficiently detailed positioning and documentation to remove charted features, requiring more detailed information from the aforementioned groups before applying their information to the charts would expedite the field work of future surveys.

T. REFERRAL TO REPORTS

<u>Title</u>	<u>Transmittal Information</u>
Descriptive Report To Accompany Survey H-10324	Pacific Hydrographic Section Seattle, Washington, N/CG244
Descriptive Report To Accompany Survey H-10365	Pacific Hydrographic Section Seattle, Washington, N/CG244
Horizontal Control Report for OPR-K229-AHP2	Field Photogrammetry Section Norfolk, Virginia, N/CG233
Chart Sales Agent Report	Chart Distribution Branch Rockville, Maryland, N/CG33
User Evaluation Report	Atlantic Hydrographic Section Norfolk, Virginia, N/CG244
Chart Inspection Report	Atlantic Hydrographic Section Norfolk, Virginia, N/CG244
Coast Pilot Report	Coast Pilot Section Mapping and Charting Branch N/CG223 Rockville, MD

Submitted by:



David B. Elliott, Launch Hydrographer in Charge

DN 065

AWOIS # 4812

DATE: 6 March 1991

CHART # 11308/11309

LAUNCH # 0518

ITEM DESCRIPTION: Visible Pile

SOURCE: BP99795-96--2/76, COE

\*\*\*\*\*

GEODETIC POSITION (NAD 83)	LATITUDE N	LONGITUDE W	POSITION #
CHARTED:	27/44/37.11	97/12/57.96	
OBSERVATIONS:	27/44/37.11	97/12/57.91	1183

POSITION DETERMINED BY: HDAPS, MLOP

METHOD OF INVESTIGATION: Diver circle search.

FINDINGS: Nothing found. - *concur - remove Pile from chart*

\*\*\*\*\*

DIVE INVESTIGATION : YES ~~NO~~  
 DIVERS: *Parker/Ramsey/Elliott*  
 SEARCH RADIUS: 100 meter  
 WATER VISIBILITY: 2.0 meter  
 MAX DEPTH: 3.8 meter      BOTTOM TIME: 36 min.      LEAST DEPTH: 0

FINDINGS: Negative contact.

CHARTING RECOMMENDATIONS: The hydrographer recommends removal from chart.

*deleted*

DN 065

AWOIS # 4813

DATE: 6 March 1991

CHART # 11308/11309

LAUNCH # 0518

ITEM DESCRIPTION: Platform PA

Note: Listed on AWOIS listing as probably the same feature as AWOIS #4812

SOURCE: CL1416/80--USPS

CL1439/84--USPS

\*\*\*\*\*

GEODETIC POSITION (NAD 83)	LATITUDE N	LONGITUDE W	POSITION #
CHARTED:	27/44/40.11	97/12/56.96	
OBSERVATIONS:	27/44/40.13	97/12/56.91	1182

POSITION DETERMINED BY: HDAPS, MLOP

METHOD OF INVESTIGATION: 100 meter radius diver circle search.

FINDINGS: Nothing found. - *concur - remove Platform (ruins) PA from chart.*

\*\*\*\*\*

DIVE INVESTIGATION :

YES

~~NO~~

DIVERS: Elliott/Ramsey/Parker

SEARCH RADIUS: 100 meter

WATER VISIBILITY: 2.0 meter

MAX DEPTH: 3.8 meter

BOTTOM TIME: 28 min.

LEAST DEPTH: 0

FINDINGS: Negative Contact

CHARTING RECOMMENDATIONS: The hydrographer recommends removal from chart.

*deleted.*

AWOIS # 4822

DATE: DN 065  
6 March 1991

CHART # 11308/11309

LAUNCH # 0518

ITEM DESCRIPTION: Wreck PA

SOURCE: NM31/67--Visible WK PA  
CL83/71-- USPS (No longer visible) Revised to submerged.

\*\*\*\*\*

GEODETIC POSITION(NAD 83)	LATITUDE N	LONGITUDE W	POSITION #
CHARTED:	27/44/01.11	97/11/00.96	
OBSERVATIONS:	27/44/03.92	97/10/58.2 <sup>17</sup>	1184
	27/44/03.84	97/11/03.0 <sup>88</sup>	1185
	27/43/58.2 <sup>19</sup>	97/11/03.94	1187
	27/43/58.2 <sup>18</sup>	97/11/58.33	1188
	27/44/01.05	97/11/01.2 <sup>00</sup>	1189 (center) of AWOIS 4822.

POSITION DETERMINED BY: HDAPS, MLOP

METHOD OF INVESTIGATION: Four 100 meter diver circle searches.

FINDINGS: Nothing found.

\*\*\*\*\*

DIVE INVESTIGATION : YES ~~NO~~

DIVERS: Parker/Ramsey/Elliott

SEARCH RADIUS: 100 meter

WATER VISIBILITY: 1.5 meter

MAX DEPTH: 3.5 meter BOTTOM TIME: Approx 40 min LEAST DEPTH: 0 each

FINDINGS: Negative contact.

CHARTING RECOMMENDATIONS: The hydrographer recommends removal from the chart.

Concur, remove charted wreck PA

*deleted  
WK.*

AWOIS # 4829

DN 058  
DATE: 27 February 1991

CHART # 11308/11309

LAUNCH # 0518

ITEM DESCRIPTION: Sounding

SOURCE: CL119/75--USPS; 5Ft Rep.(11309)  
4ft Rep. 1984(11308)

\*\*\*\*\*

GEODETIC POSITION (NAD 83)	LATITUDE N	LONGITUDE W	POSITION #
CHARTED:	27/44/01.11	97/09/45.95	
OBSERVATIONS:	27/44/01.1	97/09/45.9	503-508

POSITION DETERMINED BY: HDAPS, MLOP

METHOD OF INVESTIGATION: Two straight lines of hydrography run inside of Boot Cove. Depth converted on sight to feet.

FINDINGS: A depth of 4.92 feet or 1.5 meter.

\*\*\*\*\*

DIVE INVESTIGATION :

~~YES~~ NO

DIVERS:

SEARCH RADIUS:

WATER VISIBILITY:

MAX DEPTH:

BOTTOM TIME:

LEAST DEPTH:

FINDINGS:

CHARTING RECOMMENDATIONS: The hydrographer recommends retain 5 foot report. Do not concur. Chart depths as required directly from smooth sheet.

*add snrgs in case  
8-5-92  
RBD 3ft  
see sheet*

001	F	027:59:23.706	096:58:52.815	0	250	0.0	0.0	11/09/89
002	F	027:58:29.535	097:04:10.149	0	250	0.0	0.0	11/09/89
003	F	027:58:04.172	097:05:17.395	0	250	0.0	0.0	11/09/89
004	F	027:57:04.646	097:06:32.476	0	250	0.0	0.0	11/09/89
005	F	027:57:07.493	097:04:21.062	0	250	0.0	0.0	11/09/89
006	F	027:55:59.444	097:02:35.781	0	250	0.0	0.0	11/09/89
007	F	027:55:28.634	097:07:27.771	0	250	0.0	0.0	11/09/89
008	F	027:54:28.873	097:07:57.049	0	250	0.0	0.0	11/09/89
009	F	027:54:07.962	097:08:37.958	0	250	0.0	0.0	11/09/89
010	F	027:53:27.057	097:06:40.209	0	250	0.0	0.0	11/09/89
011	F	027:54:00.350	097:02:58.382	0	250	0.0	0.0	11/09/89
012	F	027:53:35.460	097:02:36.464	0	250	0.0	0.0	11/09/89
013	F	027:52:53.534	097:02:59.352	0	250	0.0	0.0	11/09/89
014	F	027:51:50.992	097:03:22.978	19	250	0.0	0.0	11/09/89
015	F	027:51:57.536	097:08:03.817	0	250	0.0	0.0	11/09/89
016	F	027:52:13.989	097:09:38.108	0	250	0.0	0.0	11/09/89
017	F	027:50:14.295	097:07:24.517	0	250	0.0	0.0	11/09/89
018	F	027:49:51.528	097:06:18.582	0	250	0.0	0.0	11/09/89
019	F	027:50:53.636	097:03:56.573	0	250	0.0	0.0	11/09/89
020	F	027:50:45.343	097:03:41.174	0	250	0.0	0.0	11/09/89
021	F	027:50:46.290	097:03:17.424	0	250	0.0	0.0	11/09/89
022	F	027:50:41.222	097:03:16.971	0	250	0.0	0.0	11/09/89
023	F	027:50:46.351	097:02:49.217	0	250	0.0	0.0	11/09/89
024	F	027:50:18.364	097:03:05.660	0	250	0.0	0.0	11/09/89
025	F	027:50:05.552	097:02:42.749	0	250	0.0	0.0	11/09/89
026	F	027:50:05.288	097:03:12.941	0	250	0.0	0.0	11/09/89
028	F	027:50:18.234	097:03:32.884	0	250	0.0	0.0	11/09/89
029	F	027:49:47.749	097:03:49.421	0	250	0.0	0.0	11/09/89
030	F	027:47:33.070	097:05:14.862	0	250	0.0	0.0	11/09/89
031	F	027:45:06.747	097:07:29.192	0	250	0.0	0.0	11/09/89
032	F	027:43:11.688	097:08:24.994	0	250	0.0	0.0	11/09/89
033	F	027:41:34.291	097:09:46.274	0	250	0.0	0.0	11/09/89
034	F	027:41:41.796	097:11:01.545	0	250	0.0	0.0	11/09/89
035	F	027:39:15.663	097:10:57.432	0	250	0.0	0.0	11/09/89
036	F	027:41:37.285	097:15:02.810	0	250	0.0	0.0	11/09/89
037	F	027:41:38.941	097:16:06.724	0	250	0.0	0.0	11/09/89
038	F	027:42:40.782	097:18:48.182	0	250	0.0	0.0	11/09/89
039	F	027:43:43.325	097:21:08.634	0	250	0.0	0.0	11/09/89
040	F	027:44:42.927	097:22:21.160	0	250	0.0	0.0	11/09/89
041	F	027:48:00.368	097:23:27.629	0	250	0.0	0.0	11/09/89
042	F	027:48:18.952	097:23:31.350	0	250	0.0	0.0	11/09/89
043	F	027:48:37.012	097:23:33.859	0	250	0.0	0.0	11/09/89
044	F	027:48:28.020	097:22:03.321	0	250	0.0	0.0	11/09/89
045	F	027:48:26.106	097:21:52.434	0	250	0.0	0.0	11/09/89
046	F	027:48:18.064	097:16:05.640	0	250	0.0	0.0	11/09/89
047	F	027:48:30.168	097:15:00.922	0	250	0.0	0.0	11/09/89
048	F	027:48:38.784	097:13:40.998	0	250	0.0	0.0	11/09/89
049	F	027:48:20.498	097:13:00.008	0	250	0.0	0.0	6 11/09/89
050	F	027:48:44.552	097:13:11.552	0	250	0.0	0.0	11/09/89
051	F	027:48:39.235	097:11:41.427	21	250	0.0	0.0	11/09/89
052	F	027:49:19.865	097:12:56.768	0	250	0.0	0.0	11/09/89
053	F	027:51:33.800	097:14:28.383	10	250	0.0	0.0	1 11/09/89
054	F	027:52:31.870	097:15:00.964	0	250	0.0	0.0	11/09/89
055	F	027:53:30.187	097:15:29.076	0	250	0.0	0.0	11/09/89
056	F	027:52:55.315	097:16:57.522	0	250	0.0	0.0	11/09/89
057	F	027:44:18.951	097:08:19.954	0	250	0.0	0.0	11/13/89
058	F	027:45:14.605	097:10:27.938	0	250	0.0	0.0	11/13/89
059	F	027:51:02.658	097:21:17.960	0	250	0.0	0.0	11/13/89
060	F	027:53:23.367	097:20:09.429	0	250	0.0	0.0	11/13/89
061	F	027:59:24.830	097:04:00.780	0	250	0.0	0.0	11/14/89
062	F	027:59:13.578	097:04:23.910	0	250	0.0	0.0	11/14/89
063	F	027:52:23.387	097:09:34.837	10	250	0.0	0.0	02/12/90
064	F	027:44:01.556	097:16:32.909	0	250	0.0	0.0	02/04/91
065	F	027:51:32.263	097:14:45.984	0	250	0.0	0.0	02/05/91

<u>Station #</u>	<u>Station Name</u>	<u>Station #</u>	<u>Station Name</u>
1	ALLYN	53	DONNEL 1933
2	TALLEY	54	LA QUINTA CHAN
3	LIGHT 13		INNER RNG F LT
4	TRACK 1934	55	LA QUINTA CHAN
5	TRAYLOR		INNER RNG R LT
6	SKIFF 2	56	QUINTANA
7	SAM	57	WILCUT
8	CONN	58	SHAM
9	ARANSAS PASS WATER TANK	59	INDIAN
10	DRAW	60	PORTLAND 2 1973
11	LIGHT 83	61	TURTLE
12	LYDIA	62	COVE
13	BULB	63	WAREHOUSE
14	ARANSAS PASS LIGHTHOUSE	64	<u>CORPUS CHR BAY</u>
15	BASE		<u>SPOIL BANK LT A</u>
16	SALT 1934	65	NIMROD
17	NEED		
18	TANG		
19	HARBOR ID R RNG LT		
20	HARBOR ID F RNG LT		
21	JUNCTION		
22	CORPUS CHR CHAN AE RNG FT LT		
23	CORPUS CHR CHAN AE RNG R LT		
24	TIDAL 7		
25	25 USE		
26	GUN USE 1948		
27	GUN ECC (DO NOT USE!!!)		
28	PORT ARANSAS CG LT TOWER		
29	PORT ARANSAS TANK		
30	KNOLL 1934		
31	PORT ARANSAS MUSTANG TANK		
32	PIPER 1933		
33	WALBOLT 1968		
34	FLAT 2		
35	CRANE 1933		
36	DEMIT 1912		
37	CORPUS CHRISTI NAS WATER TANK		
38	CALLO 2 1963		
39	SWATNER		
40	DODDRIDGE		
41	SPOIL LIMIT 1 USE AZ MK		
42	SPOIL LIMIT 1 USE		
43	CORPUS CHR CHAN CUT BW RNG F		
44	CORPUS CHR HARBOR CUT F RNG LT		
45	CORPUS CHR HARBOR CUT R RNG LT		
46	CORPUS CHR CHAN CUT AW RNG R		
47	CORPUS CHR CHAN CUT AW RNG F		
48	CORPUS CHR CHAN BE RNG F LT		
49	LA QUINTA CHAN OUTER RNG R LT		
50	LA QUINTA CHAN OUTER RNG F LT		
51	CORPUS CHR CHAN BE RNG R LT		
52	PORT SAT		

APPROVAL SHEET

BASIC HYDROGRAPHIC SURVEY

OPR-K229

AHP2-10-4-91

H-10368

1991

This basic hydrographic survey was conducted in accordance with the project instructions for OPR-K229, the hydrographic manual, the hydrographic survey guidelines, and the field procedures manual. The survey data and reports were completed under frequent supervision. All boat sheets and final field sheets were reviewed in their entirety and all supporting records were also checked.

This survey is a complete basic hydrographic survey for the area described in Section B of this report.



V. Dale Ross  
Lieutenant Commander, NOAA  
Chief, Atlantic Hydrographic Party Two

ORIGINAL

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: Jun 11, 1991

MARINE CENTER: Pacific

OPR: K229

HYDROGRAPHIC SHEET: H-10368

LOCALITY: Long Cove to Laguna Madre, Corpus Christi Bay,  
TX

TIME PERIOD: February 11 - March 12, 1991

TIDE STATIONS USED: 877-5283 Port Ingleside, TX  
27°49.2'N 97°12.0'W

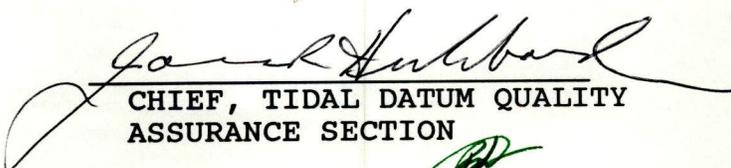
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 2.40 feet

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.6 feet

REMARKS: RECOMMENDED ZONING

Apply a + 30 min time correction.

Note: Times are tabulated in Local Standard Time.

  
CHIEF, TIDAL DATUM QUALITY  
ASSURANCE SECTION

GEOGRAPHIC NAMES

H-10368

Name on Survey	A CHART NO. 11308 & 11309 B ON PREVIOUS SURVEY NO. 5694 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											
	BOOT COVE	X										
CORPUS CHRISTI BAY	X											2
FISH PASS	X											3
GRANTS COVE (title)	X											4
<del>LAGUNA MADRE (title)</del>	X											5
LONG COVE (title)	X											6
MUSTANG ISLAND	X	X										7
TEXAS (title)	X											8
												9
												10
												11
												12
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												23
												24
												25

Approved:

*Charles E. Harrington*  
Chief Geographer - N/CG 2+5

APR 10 1991

NOAA FORM 77-27(H) (9-83)		U.S. DEPARTMENT OF COMMERCE		REGISTRY NUMBER H-10368	
<b>HYDROGRAPHIC SURVEY STATISTICS</b>					
RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.					
RECORD DESCRIPTION		AMOUNT		RECORD DESCRIPTION	
SMOOTH SHEET		1		SMOOTH OVERLAYS: POS., ARC, EXCESS	
DESCRIPTIVE REPORT		1		FIELD SHEETS AND OTHER OVERLAYS	
DESCRIP-TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDION FILES	1				
ENVELOPES					
VOLUMES	1				
CAHIERS					
BOXES					
SHORELINE DATA					
SHORELINE MAPS (List):					
PHOTOBATHYMETRIC MAPS (List):					
NOTES TO THE HYDROGRAPHER (List):					
SPECIAL REPORTS (List):					
NAUTICAL CHARTS (List):					
<b>OFFICE PROCESSING ACTIVITIES</b>					
<i>The following statistics will be submitted with the cartographer's report on the survey</i>					
PROCESSING ACTIVITY			AMOUNTS		
			VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET					1250
POSITIONS REVISED					
SOUNDINGS REVISED					
CONTROL STATIONS REVISED					
			TIME-HOURS		
			VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION					
VERIFICATION OF CONTROL					
VERIFICATION OF POSITIONS			23		23
VERIFICATION OF SOUNDINGS			52		52
VERIFICATION OF JUNCTIONS					
APPLICATION OF PHOTOBATHYMETRY					
SHORELINE APPLICATION/VERIFICATION					
COMPILATION OF SMOOTH SHEET			62		62
COMPARISON WITH PRIOR SURVEYS AND CHARTS				5	5
EVALUATION OF SIDE SCAN SONAR RECORDS					
EVALUATION OF WIRE DRAGS AND SWEEPS					
EVALUATION REPORT				39	39
GEOGRAPHIC NAMES					
OTHER* <b>Digitizing</b>					
*USE OTHER SIDE OF FORM FOR REMARKS			TOTALS	137	44
					181
Pre-processing Examination by <b>M. Brown</b>			Beginning Date 3/21/91		Ending Date 4/11/91
Verification of Field Data by <b>R.N. Mihailov</b>			Time (Hours) 137		Ending Date 11/21/91
Verification Check by <b>J.S. Green/B.A. Olmstead</b>			Time (Hours) 46		Ending Date 1/23/92
Evaluation and Analysis by <b>R.N. Mihailov</b>			Time (Hours) 44		Ending Date 3/12/92
Inspection by <b>D. Hill</b>			Time (Hours) 5		Ending Date 4-2-92

# EVALUATION REPORT H-10368

## 1. INTRODUCTION

Survey H-10368 is a basic hydrographic survey accomplished by the Atlantic Hydrographic Party 2 under the following Project Instructions.

OPR-K229-AHP2, dated September 14, 1990  
CHANGE NO. 1, dated February 12, 1991

This survey occurred in Texas and covers the southeastern portion of Corpus Christi Bay. The survey area extends from latitude 27/41/15N to latitude 27/45/00N and longitude 97/09/40W to longitude 97/13/03W. The bottom consists of mud and sand. Depths generally range from 1 meter to 4.6 meters.

Predicted tides for Galveston Channel, Texas, were used for the reduction of soundings during field processing. Approved hourly heights zoned from the Port Ingleside gage (877-5283) were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. The sound velocity and electronic control correctors are adequate. The TRA correctors were revised during office processing according to vessel RPM. An accompanying computer printout contains the parameters and the correctors.

A digital file has been generated for this survey as required by the specifications contained in Hydrographic Survey Guideline No. 52, Standard Digital Data Exchange Format, April 15, 1986. Certain descriptive information, however, may not be in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for a complete depiction of the survey data.

## 2. CONTROL AND SHORELINE

Sections H and I in the hydrographer's report, contain adequate discussions of horizontal control and hydrographic positioning. More detailed information on horizontal control is found in the following:

Geodetic Control Report for CM-8716 and  
Geodetic Control Survey Job-HC-9901.

Positions of horizontal control stations used during hydrography are 1989 and 1990 field and published values based on NAD 83. These values were used during office processing. The smooth sheet and accompanying overlays are annotated with NAD 27 adjustment ticks based on values determined by the NGS program NADCON. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude: 1.117 seconds (34.4 meters)  
Longitude: 0.960 seconds (26.3 meters)

The year of establishment of control stations shown on the smooth sheet originates with the horizontal control data for this project and published NGS data.

The quality of several positions exceeds limits in terms of error circle radius and residual. A review of the data, however, indicates that none of these fixes are used to position dangers to navigation. The soundings associated with these fixes are consistent with surrounding data and are considered acceptable.

The following shoreline map applies to this survey.

<u>Map Number</u>	<u>Photo date</u>	<u>Class</u>
TP-01199	March 1984	III

Shoreline drawn on the smooth sheet originates from a 1:10,000 scale photographic enlargement of the shoreline map compiled on NAD 27. A grid adjustment to NAD 83 was performed during office processing using datum values as provided by the NGS program NADCON.

The following features plotted on shoreline map TP-01199 were not investigated by the hydrographer. These features have been brought forward to this survey and shown as listed.

<u>Feature</u>	<u>Latitude(N)</u>	<u>Longitude(W)</u>
subm obstr (wellhead)	27/43/44	97/11/24
subm obstr (wellhead)	27/43/45	97/11/10
subm obstr (wellhead)	27/43/48	97/11/07
subm obstr (wellhead)	27/43/48	97/10/25
subm obstr (wellhead)	27/43/52	97/11/17

### 3. HYDROGRAPHY

Except for the delineation of the zero curve and the wellheads mentioned in section 2 and section 6, hydrography is adequate to:

- a. delineate the bottom configuration, determine least depths, and draw the standard depth curves;
- b. reveal there are no significant discrepancies or anomalies requiring further investigation; and
- c. show the survey was properly controlled and soundings are correctly plotted.

### 4. CONDITION OF SURVEY

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3; the Hydrographic Survey Guidelines; and the Field Procedures Manual, April 1990.

### 5. JUNCTIONS

Survey H-10368 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10324	1989	10,000	North
H-10365	1991	10,000	West

The junction with survey H-10324 has not been formally completed since the survey was previously processed and forwarded for charting. The junction was made using a copy. Survey

H-10324 is plotted in feet and survey H-10368 is plotted in meters. There is good agreement between soundings.

The junction with survey H-10365 can not be completed because this survey is in preliminary office processing. The junction comparison will be addressed in the descriptive report for survey H-10365.

A comparison with the charted soundings in the southern portion of survey H-10368 indicates good agreement.

## 6. COMPARISON WITH PRIOR SURVEYS

H-5694 (1934-35) 1:20,000

Survey H-5694 covers the entire area of the present survey except for a small portion to the south. Some cultural development alongshore has occurred since the prior survey was accomplished. A comparison with prior survey H-5694 reveals that present depths are generally deeper by 0.5 meter throughout the common area. In addition, the mean high water line has generally shifted landward 100-150 meters in the past fifty-six years. Sounding differences are likely attributed to the type of equipment and survey methods employed during 1934-35. Shoreline changes can be largely attributed to frequent storms and constant strong winds that move across the low barren sand beaches.

Survey H-10368 is adequate to supersede survey H-5694 within the common area.

T-9188 (1948-51) 1:20,000

Shoreline map T-9188 covers the entire area of the present survey. Changes to the shoreline are the result of both natural and cultural activities. In general, the shoreline has shifted inshore approximately 100 meters. The probable cause of this change is described in the previous paragraph.

The following features plotted on prior shoreline map T-9188 were not investigated or resolved by the hydrographer. These features have been brought forward to this survey and shown as listed.

<u>Feature</u>	<u>Latitude(N)</u>	<u>Longitude(W)</u>
submerged obstr (wellhead)	27/43/56	97/10/47
submerged obstr (wellhead)	27/43/56	97/10/26
submerged obstr (wellhead)	27/43/59	97/10/38
submerged obstr (wellhead)	27/44/05	97/10/56
submerged obstr (wellhead)	27/44/05	97/10/14
submerged obstr (wellhead)	27/44/06	97/10/38
submerged obstr (wellhead)	27/44/14	97/10/25
submerged obstr (wellhead)	27/44/15	97/10/46

With the transfer of the features noted above, survey H-10368 is adequate to supersede prior shoreline map T-9188 as a source for charted hydrography for the area of common coverage.

There are no AWOIS items originating from the prior survey H-5694 and prior shoreline map T-9188 that apply to the present survey.

## 7. COMPARISON WITH CHART

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
11308	15th	July 9, 1988	1:40,000	NAD 27
11308	16th	August 25, 1990	1:40,000	NAD 83
11309	30th	December 2, 1989	1:40,000	NAD 83

The 15th and 16th editions of chart 11308 are identical except for being on different horizontal datums.

### a. Hydrography

Charted hydrography originates with the prior survey and prior shoreline map discussed in section 6 of this report and miscellaneous sources.

A T-shaped pier on chart 11308, 16th Ed, at latitude 27/43/49(N), longitude 97/10/05(W) was not addressed by the hydrographer. The pier should be retained as charted unless the chart compiler has additional information to disprove its existence.

With the exception of the T-shaped pier, survey H-10368 is adequate to supersede charted hydrography within the common area.

### b. AWOIS

There are four AWOIS items originating from miscellaneous sources within the area of this survey. These items have been adequately discussed by the hydrographer in section N and in the item investigation forms attached to the descriptive report.

### c. Controlling Depths

A portion of the ICW (Intracoastal Waterway) which is Federally maintained is located within the area limits of this survey. The depths found during this survey are consistent with or deeper than the charted controlling depth of 12 feet.

### d. Aids to Navigation

There are no floating aids to navigation or features of landmark value within the limits of this survey.

There are two fixed aids to navigation within the limits of the survey which delineate the channel for which they were intended. However, Corpus Christi Bay Daybeacon 79 is located approximately 80 meters to the north of its charted position.

### e. Geographic Names

Names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer.

f. Dangers to Navigation

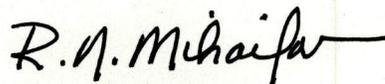
No reports of dangers to navigation were generated during the survey or office processing.

**8. COMPLIANCE WITH INSTRUCTIONS**

Survey H-10368 adequately complies with the Project Instructions.

**9. ADDITIONAL FIELD WORK**

This is an adequate hydrographic survey. Additional field work is recommended on a time available basis to address the items described in section 6 of this report.



Robert N Mihailov  
Cartographer

APPROVAL SHEET  
H-10368

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproof of charted data. The digital data have been completed and all revisions and processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts have been made and are included with the survey records. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

*Dennis J. Hill* Date: 4-2-92  
Dennis J. Hill  
Chief, Hydrographic Processing Unit  
Pacific Hydrographic 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.

*Douglas G. Hennick* Date: 4/6/92  
Commander Douglas G. Hennick, NOAA  
Chief, Pacific Hydrographic Section

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Final Approval

Approved:

*Thomas W. Yeager* Date: 12-7-94  
for J. Austin Yeager  
Rear Admiral, NOAA  
Director, Coast and Geodetic Survey



