10323

Diagram No. 1286

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. AHP-10-15-89

Registery No. H-10323

LOCALITY

State Texas

General Locality Corpus Christi Bay

Sublocality East Flats

1989-90

CHIEF OF PARTY
LCDR V.D. Ross

LIBRARY & ARCHIVES

DATE October 15, 1990

☆U.S. GOV. PRINTING OFFICE: 1985—566-054

CHTS
11314 A
11308 A
11309
11312
11307
11313 N/C

10323

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

H-10323

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.

AHP-10-15-89

State Texas

General locality Corpus Christi Bay

Locality East Flats

Scale 1:10,000 Date of survey 11/21/89 - 01/26/90

Instructions dated September 14, 1989 Project No. OPR-K229

Vessel NOAA Launch 0520

Chief of party LCDR V. Dale Ross, NOAA

Surveyed by Glenn D. Hendrix

Soundings taken by echo sounder, ~~hand lead, pole~~ Raytheon DE 719-C/ with Odom Digitrace

Graphic record scaled by GDH, RWR, GL

Graphic record checked by GDH

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

Verification by R.N. Mihailov

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

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 ✓ 11/15/90 SJV

U.S. GOVERNMENT PRINTING OFFICE: 1986 - 652-007/41215

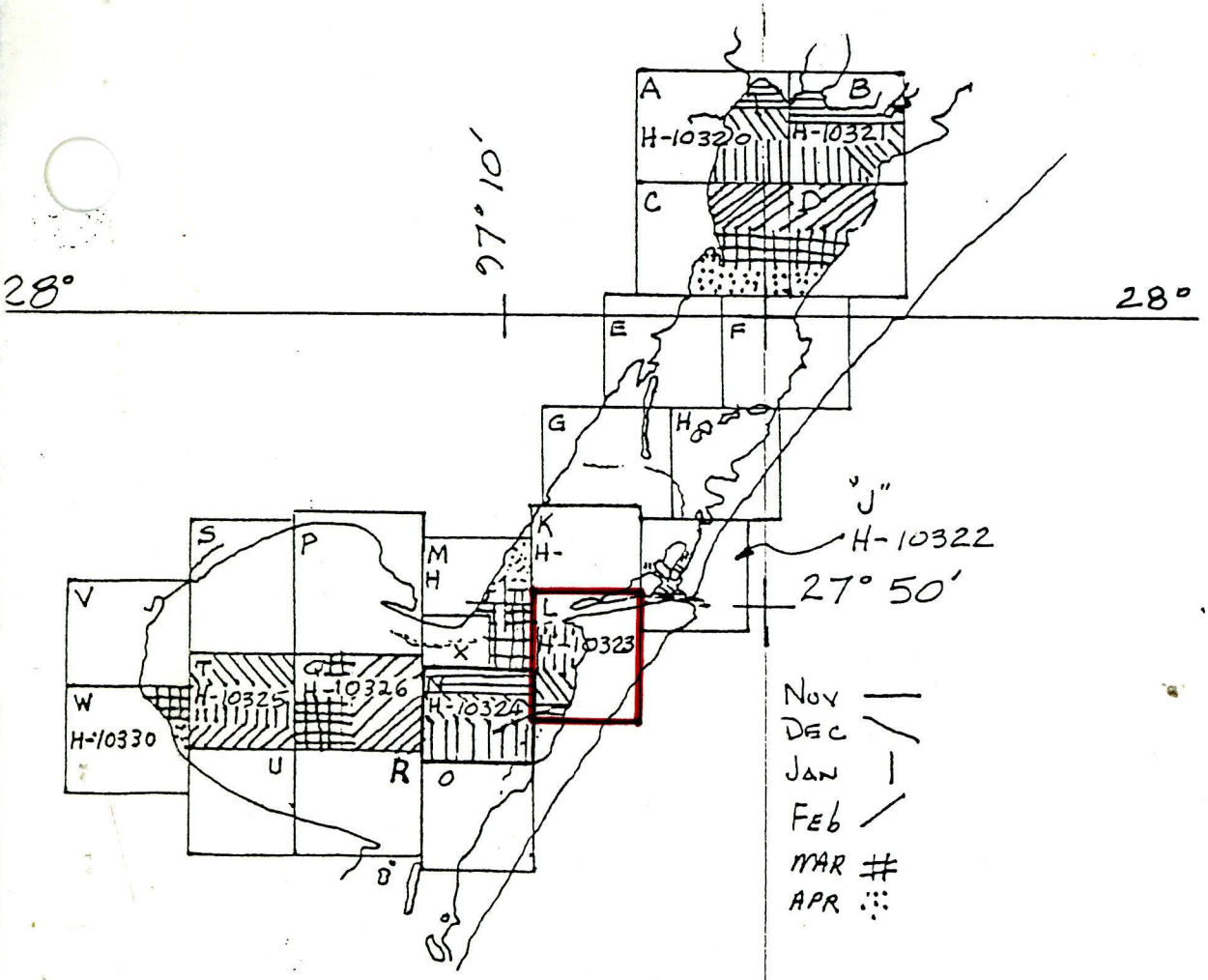
Progress Sketch

OPR-K229-AHP2-89
Corpus Christi
Texas

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

LEGEND

	OCT	NOV	DEC	JAN	FEB	MAR	APR
SQ NMi SDG	0	13	13	21	21	27	8
LNMi SDG	0	309	712	674	495	528	176
LNMi TO/FRM	0	258	422	527	326	342	183
LNMi MISC	0	129	259	350	293	248	183
DP/BS	0	88	177	455	107	190	290
TIDE STA	6	0	0	0	0	0	0
CONTROL	18	0	0	0	5	4	0



DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-10323
(Field No. AHP-10-15-89)
Scale:1:10,000
1989
Atlantic Hydrographic Party Two
Dale Ross, Chief of Party

A. PROJECT

This survey was conducted in accordance with Hydrographic Project Instructions OPR-K229-AHP, Corpus Christi and Aransas Bay, Texas, dated August 3, 1989 and Change No. 1 dated October 19, 1989.

The purpose of project OPR-K229-AHP2 is to provide contemporary hydrography for the maintenance of existing charts and the construction of a new chart of the naval base at Ingleside, Texas.

This survey is designated as sheet "L" in the project sheet layout.

B. AREA SURVEYED

The area surveyed for H-10323 is the northeast portion of Corpus Christi Bay bounded on the north by Corpus Christi Channel, on the east and south by Mustang Island and on the west by longitude 097°08'30" W. This survey also includes the channel leading to and berthing areas of Mustang Beach. (Island Mooring Marina)

Per Section 1.8 of the project instructions, main scheme lines were run to the 2-foot depth curve.

This survey was conducted from November 21, 1989 (DN 325) to January 26, 1990 (DN 026).

C. SOUNDING VESSEL

Vessel 0520 (EDP No. 0520), a 21-foot MonArk, was the only sounding vessel used during this survey. Sounding lines were run at 100-meter spacing, per Section 4.3 of the hydrographic manual. Field support was provided by a 17-foot MonArk.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

1. SOUNDING EQUIPMENT

The following Raytheon DE-719-C fathometers with an Odom Hydrographic Systems,Inc. Digitrace, were used for this survey:

EDP #	S/N	Days
0520	588142B	325,331,333,334,338,340
	6211	346,347,348,349,352,008,009

Soundings were recorded in feet using the Raytheon DE-719-C fathometers with an assumed speed of sound through water of 4800 ft/sec. Depths encountered in the survey area range from 1 foot to ~~12~~ 10 feet.

The digitized soundings matched the fathometer's trace to plus or minus 0.2 foot through constant observation and manipulation of the tide and draft adjustment knob.

Vessel 0520 exchanged fathometers on December 8, 1989 (day 342). This switch was necessary due to failure of the echogram take-up mechanism.

2. CORRECTIONS TO ECHO SOUNDINGS

Corrections for the speed of sound through the water column were computed from data obtained with a Digibar speed of sound probe, serial number (s/n) 154. Also used was an Applied Microsystems Laboratory (AML), Model SVP-16 speed of sound profiler seral number 03003. Program "Velocity" was used for determining the speed of sound correctors.

All speed of sound correctors were applied during semi-smooth and final plotting by the HDAPS.

Table Applied	Cast	Day	Depth (M)	Location	Days
~~2~~ 1	2	325	3.0	27°47'12" N 097°11'45" W	325
~~3~~ 2	3	331	3.5	27°47'00" N 097°11'30" W	331-338
~~4~~ 3	4	339	3.4	27°43'12" N 097°08'06" W	340-352

Table Applied	Cast	Day	Depth (M)	Location	Days
5	5	353	3.0	27°47'30" N 097°08'30" W	008 No soundings
~~6~~ 4	6	009	3.0	27°48'30" N 097°08'30" W	009
7	7	016	3.0	27°46'42" N 097°11'48" W	026 No soundings

A data quality assurance test (DQA) was performed prior to each speed of sound cast to assure proper working condition of the probe. Speed of sound tables are included in the Separates Following Text. Filed with survey records

Lead line comparisons were performed daily, excluding days of harsh weather, to determine instrument error and to verify static draft. The instrument errors computed varied from +0.4 to -0.2 foot. These instrument corrections were not applied to final field sheet soundings and are included in the Separates Following Text, along with lead line comparison logs, for reference. Instrument error o with sound velocity corrections applied. filed with survey records

A static draft correction was determined by measurements performed at Redfish Bay Terminal on November 16, 1989 (DN 320). The data were applied to all soundings acquired with the Raytheon DE-719-C echo sounders. The 1.2 feet static draft correction was applied to all sounding data. The offset tables are included with the Separates Following Text. Filed with survey records

Settlement and squat measurements for vessel 0520 were performed on November 16, 1989 (DN 320), at Redfish Bay Terminal, using the NOS prescribed level rod method (Zeiss level s/n 59972). Settlement and squat correctors were determined and applied to all survey data. Settlement and squat correctors have been applied to the smooth sheet

Predicted tides, MLLW datum, were applied to all soundings using the reference station and correctors designated in the project instructions. The tides in the project area are strongly influenced by weather. Unverified water level correctors were determined from the gauges maintained by AHP-2 and compared to the predicted correctors to identify periods when actual and predicted tides were not in agreement. These differences were monitored and used to determine if sounding disagreements were due to tidal errors. Actual tides were applied to the data during office processing.

Weather conditions during this survey produced anomalously low tides. These conditions prevented the required two foot curve from being reached at the inshore termina of all survey lines. ✓

Approved water levels were requested from the Sea and Lake Levels Branch in a letter dated January 29, 1990. A copy of the letter is included in the Separates Following Text. Filed with the survey records

E. HYDROGRAPHIC SHEETS

The survey scale is 1:10,000. All sheets were produced by AHP-2 employees with the HDAPS on the Bruning ZETA 824 plotter. A list of sheets submitted for H-10323 follows:

Sheet	Scale	Quantity
Boat Sheet	1:10,000	1
Edited Trackline	1:10,000	1
Sounding Plot	1:10,000	1
Final Field Sheet	1:10,000	1
Overlay	1:10,000	1

Main scheme hydrography, channel lines, crosslines, and horizontal control stations used during the survey are plotted on the final field sheet. Developments, detached positions, and bottom samples are plotted on the overlay. All soundings on the final field sheet are corrected for draft, water levels, settlement and squat, and speed of sound through water.

All survey sheets with the descriptive report and a sounding volume labled "0520 Photographs and Descriptions", with positions, description, photographs of well platforms and shoreline features; were submitted to the Pacific Hydrographic Section in Seattle, Washington.

F. CONTROL STATIONS

The horizontal control datum for this project is the North American Datum of 1983.

All control stations used on this survey were either existing stations or stations set by the Coastal Surveys Unit using third order, class I traverse and intersection methods. The horizontal control report was written within the Coastal Surveys Unit and was forwarded to the Atlantic Hydrographic Section in Norfolk, Virginia.

Geographic positions for all control stations used on this survey are highlighted and included with the station list in the Separates Following Text.

G. HYDROGRAPHIC POSITION CONTROL

Survey Methods

Hydrographic position control was accomplished using the Mini-Ranger Falcon 484 system which provided accuracy to meet 1:10,000 scale survey requirements. Range/range positioning using four stations simultaneously was used during this project. A survey network was set up to allow four reference stations to be accessed simultaneously by the HDAPS. The following Falcon Mini-Ranger equipment was used:

VESNO	Equipment	S/N
0520	RPU	E0146
	CDU	E009
	R/T	C2000
	R/S	E2922
	R/S	E2913
	R/S	C2058
	R/S	E2963
	R/S	F3298
	R/S	G3572

Positions 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. In areas where only two lines of position were received, the "raw" listing would indicate the angle of intersection between these lines enclosed by brackets. If more than four consecutive positions were outside of the 30 to 150 degree intersection margin, the data were rejected and later rerun. If less than five positions were outside the 30 to 150 degree margin, the positions were smoothed. Occasionally, the residual values were greater than 5 meters, yet the trackline plot showed that the position of the survey vessel was accurate. In those instances, the data were considered adequate and were plotted with the other data on the final field sheet.

Critical System Checks

Critical system checks, as explained in the Field Procedures Manual, were performed by visually observing the error circle radius (ecr) and residual (res) values on the Comflex screen in the survey vessel. The "DUMP ALPHA" and DUMP GRAPHICS" functions are not available with the Comflex so no "hard copy" of these checks are possible.

Fixed point system checks were performed after Mini-Ranger reference stations were established on shore stations or when relocating Mini-Ranger reference stations to different locations. All fixed point checks values were less than 5 meters which is within the required limits specified in the field procedures manual. Results of these fixed point checks are included in the Separates Following Text. Filed with survey records

Mini-Ranger Falcon Calibrations

Baseline calibrations were performed to the standards of Section 3.1.2.1 of the field procedures manual. The baseline values were incorporated into the Comflex "C-O" table and applied directly to all "on-line" data. All records of these calibrations are included in the Separates Following Text. Filed with survey records

A closing baseline calibration was not performed since the survey was conducted in less than a six month period.

H. SHORELINE See Eval report Section 2

Shoreline drawn on the final field sheet originates with a 1:10,000 scale photographic enlargement of topographic maps 01198 (TP-01198) and 01199 (TP-1199). These shoreline manuscripts were compiled on NAD 1927 while this survey was run using the NAD 1983 datum. Comparisons of hydrography to shoreline was accomplished using approximate datum shift values provided by N/CG2441.

Shoreline was verified by its junction with hydrographic data and by visual inspection when possible. The extremely gentle slope of the majority of the near shore areas prevented the launch from approaching near enough to verify the shoreline with a hydrographic position. However visual inspections of the shoreline were made and compared to the manuscript for changes. Changes in shoreline are shown in red ink on the ~~final field~~ smooth sheet ~~sheet~~. Verified shoreline is shown in black ink on the ~~final~~ smooth sheet ~~field~~ sheet. Shoreline not verified is shown in blue ink. (field sheet only)

Several items were shown on the shoreline manuscript as obstructions that did not appear on either the chart or AWOIS listing. These items were scaled off the T-map and developed with the following results:

There were five lighted gas well platforms located within the survey area. The well platforms are shown on the T-Map as obstructions. Detached positions and photographs were taken on day 340. The Hydrographer recommends that the lighted well platform symbol be charted at the following positions.

POSITION NUMBER	POSITION
518	27°49'15.~~0~~04" N 097°08'~~12.0~~11.95" W
519	27°48'43.7" N 097°08'27.~~2~~19" W
520	27°48'04.~~6~~57" N 097°08'07.~~3~~34" W
521	27°47'50.~~1~~2" N 097°07'57.~~7~~60" W
522	27°47'~~40.0~~39.98" N 097°07'50.6~~1~~3" W

The obstruction located on the T-Map at latitude 27°48'00" N and longitude 097°07'25" W does not exist. A development was run at 25-meter line spacing in north-south and east-west directions on day 347 (positions 609-631). Nothing was found. These positions were edited not for smooth plotting. The hydrographer recommends that this odstruction not be charted. - Concur

The obstruction located on the T-Map at latitude 27°46'19.5" N and longitude 097°08'07.5" W does not exist. A thorough search was made in the area on day 349. The tide on that day was below normal and the area of the obstruction was uncovered and nothing was visable. A detached position was taken to show that the launch was in the area. The reason the detached position is shown above the mean low water line is that the automated range/range program has a function allowing manual entry of a distance and bearing from the survey launch and the computer on the launch will compute a position using that imformation. The hydrographer recommends that this obstruction not be charted. - Concur

The obstruction located on the T-Map at latitude 27°46'14.3" N and longitude 097°08'08.9" W does not exist. A thorough search was made in the area on day 349. The tide on that day was below normal and the area of the obstruction was in shallow water. Visual and fathometer searches were made and nothing was found. A detached position was taken to show that the launch was in the area. The hydrographer recommends that this obstruction not be charted. - Concur

I. CROSSLINES

A total of 4.8 linear nautical miles of crosslines were run on H-10323 which equals 8.3% of the main scheme hydrography. These soundings agree to within one foot of the main scheme soundings.

J. JUNCTIONS

This sheet junctions with H-10324 (1989) to the west. The soundings between this survey and H-10324 agree to within 1 foot and the depth curves between the two surveys junctioned smoothly.
See Eval report section 5

K. COMPARISON WITH PRIOR SURVEYS

The present survey was compared to the following prior survey.

H-5694	1934-35	1:20,000

Comparison between the current survey's soundings and soundings from survey H-5694 agree to within one foot. ✓

The present survey also was compared to the following prior topographic maps. See section 6 of the Eval Report

T-9184	1948-51	1:20,000
T-9185	1947-48	1:20,000

There was nothing located within the survey area to compare with these topographic maps. ✓

L. COMPARISON WITH THE CHART

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

Chart No.	Edition	Edition Date
11308	15th	July 9, 1988
11309	29th	November 15, 1986

In general the soundings from this survey compared to within 1 foot of the charted soundings from charts 11308 and 11309 except in the northwest section of this survey and just west of Point Of Mustang. The current survey's soundings in this area are 2 to 4 feet deeper than the charted soundings and should replace the currently charted soundings ✓

AWOIS Item 4993 is the channel going to Island Mooring Marina which has a charted 6 foot controlling depth reported. The present survey depths are deeper except at the entrance to the channel where the present survey soundings show shoaling to 4 feet around latitude 27°49'54" N, longitude 097°06'21" W. The hydrographer recommends that the soundings from the present survey be charted. - Concur delete "6 foot rep 1982" note

AWOIS Item 4835 is a channel with a controlling depth of 8 feet reported at latitude 27°47'00" N, longitude 097°07'25" W. The present survey soundings show least depths of 6 feet. The hydrographer recommends that the present survey soundings be charted. - Concur - delete note "8 foot reported 1984"

AWOIS Item 4836 is a reported 6 foot sounding at latitude 27°47'00" N, longitude 097°06'38" W. The present survey soundings show depths from 9 to 11 feet. The hydrographer recommends that the present survey soundings be charted. F Concur delete 'note "6 foot rep 1980"

AWOIS Item 4878 is a charted visible pile located at latitude 27°48'58" N, longitude 097°08'25" W. A thorough visual search of greater than 50 meters in depths from 3 to 7 feet, with good visibilty of the bottom, was made around the charted position. The charted pile was not found. The hydrographer recommends that the pile be removed from the charted. - Concur

AWOIS Item 4879 is a channel with a controlling depth of 4 feet located at latitude 27°48'18" N, longitude 097°08'21" W. The main scheme hydrography in this area was split to 50 meters to fully define this channel. The present survey soundings are deeper than the charted soundings.* This channel no longer exist. The hydrographer recommends that only the present survey soundings be charted in the area and the channel limits and note be removed from the chart. - Concur

* Do not concur 3ft at 27°49'09"N 97°08'22"W (NAD 83)

AWOIS Item 4880 is a charted submerged pile located at latitude 27°49'29" N, longitude 097°08'17" W. Visual and fathometer searches were preformed on day 349 in the area and nothing was found. A 50 meter radius circle search was conducted on day 026 by divers. Nothing was found. The hydrographer recommends that the submerged pile be removed from the chart. - Concur

AWOIS Item 4892 is "shoaling reported" at latitude 27°49'58" N, longitude 097°06'23" W. The present survey soundings show shoaling at latitude 27°49'54" N, longitude 097°06'21" W. This AWOIS item will be fully developed on sheet "K south". The hydrographer recommends that the present survey soundings be charted. Retain "shl Rpt" note, pending investigation on H-10328

sheet K H-10328 NC

AWOIS Item 4890 is a pile located latitude at 27°50'01" N, longitude 097°06'27" W. The pile was located on day 352 and a detached position (position 858), was taken on this item. The pile is 1 foot in diameter and bares 5 feet. The hydrographer recommends that the visible pile symbol be charted at latitude 27°50'01.2" N, longitude 097°06'23.5" W. - Concur

17

AWOIS Item 4891 is a pile located at latitude 27°50'02" N, longitude 097°06'23" W. The pile was located on day 352 and a detached position (position 857), was taken on this item. The pile is 1 foot in diameter and bares 8 feet. The hydrographer recommends that the visible pile symbol be charted at latitude 27°50'01.5" N, longitude 097°06'21.9" W. - Concur

under daybox 6"/1"

There was some shoaling located around latitude 27°47'54" N, longitude 097°07'57" W. A development of 50-meter line spacing was run to fully define this shoaling. Depths found in the development area ranged from 7 to 9 feet. The hydrographer recommends that the present survey soundings be charted. -Concur

A 4 8-foot peak was found in 6 to 8 feet of water around latitude 27°46'57" N, longitude 097°07'38" W. Visual and fathometer searches were performed and nothing was found. A development of 25-meter line spacing was run in north-south and east-west directions. *The 5-foot peak was not found. The hydrographer recommends that the current survey soundings be charted. *A 4 foot depth found, chart according to this survey.

M. ADEQUACY OF SURVEY

This survey is a complete basic hydrographic survey and is adequate to supersede all prior surveys within the common area.
See section 2 of the Eval report

N. AIDS TO NAVIGATION

No floating aids to navigation are located in the survey area. ✓

There were 35 non-floating aids to navigation located in the survey area and are privately maintained. Three of the non-floating aids are lights. There were no 1989 nor 1990 volume 4 light lists available to check for positions on these lights. The surveyed positions of these lights are listed below. See Eval report Section 7.d.

Non-Floating Aid	Survey Position	#	Light List Position
lighted channel marker	27°49'00.93" N 097°06'08.41 W	835	
lighted channel marker	27°49'56.13N 097°06'~~21.4~~ 20.80 W	~~854~~	
lighted channel marker	27°49'56.81 N 097°06'22.14W	855	

There were no charted submarine cables, pipelines nor overhead cables in the survey area. ✓

O. STATISTICS

Description	VESNO 0520
Total Positions	925
Detached Positions	54
Duplicate Positions	1
Total Nautical Miles of Hydro	82.2
Sq. Nautical Miles of Hydrography	3
Bottom Samples	10
AML and Digibar casts	6
Tide Stations Leveled	-
Days of Production	14

P. MISCELLANEOUS

Bottom samples were taken and submitted to the Smithsonian Institution as directed in Section 6.7 of the project instructions. Ten bottom samples were transmitted on December 11, 1989. 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 Text.

Center lines were run in all of the canals located at Island Mooring Marina. All positions are "see field sheet" and are plotted in blue ink on the final field sheet. The hydrography was done on day 352, positions 535 - 573. The automated on-line program was used to try to get a more evenly spaced sounding interval. All automated data has been rejected. The hydrographer recommends that all data be plotted by hand.

See Section 2 of Eval report

No anomalous currents were observed in the survey area.

Q. RECOMMENDATIONS

Recommendations may be found in sections H, K, L, and N of this report.

R. AUTOMATED DATA PROCESSING

The HDAPS utilizing software provided by N/CG24, was used to acquire and process data for this survey.

The following non-HDAPS computer programs were used:

		Version	Date
VELOCITY	Velocity Computations (IBM PC)	1.0 extended	9/89
MTEN3	with enhancements Geodetic Computations (IBM PC)		6/88

S. REFERRAL TO REPORTS

Title	Transmittal Information
Descriptive Report To Accompany Survey H-10323	Pacific Hydrographic Section N/CG245 Seattle, WA
Horizontal Control Report for OPR-K229-AHP-2	Field Photogrammetry Section N/CG233 Norfolk, VA
Charts Sales Agent Report	Chart Distribution Branch N/CG33 Rockville, MD
User Evaluation Report	Atlantic Hydrographic Section N/CG244 Norfolk, VA
Chart Inspection Report	Atlantic Hydrographic Section N/CG244 Norfolk, VA
Coast Pilot Report	Coast Pilot Section Mapping and Charting Branch N/CG223 Rockville, MD

Submitted by:

Glenn D. Hendrix

Glenn D. Hendrix, Launch Hydrographer in Charge

Station #	Station Name
1	ALLYN
2	TALLEY
3	LIGHT 13
4	TRACK 1934
5	TRAYLOR
6	SKIFF 2
7	SAM
8	CONN
9	ARANSAS PASS WATER TANK
10	DRAW
11	LIGHT 83
12	LYDIA
13	BULB
14	ARANSAS PASS LIGHTHOUSE
15	BASE
16	SALT 1934
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

Station #	Station Name
53	DONNEL 1933
54	LA QUINTA CHAN INNER RNG F LT
55	LA QUINTA CHAN INNER RNG R LT
56	QUINTANA
57	WILCUT
58	SHAM
59	INDIAN
60	PORTLAND 2 1973
61	TURTLE
62	COVE
63	WAREHOUSE

063 — WAREHOUSE

CONTROL STATIONS

No	Type	Latitude	Longitude	H	Cart	Freq	Vel	Code	MM/DD/YY
01	F	027:59:23.706	096:58:52.815	0	250	0.0	0.0		11/09/89
02	F	027:58:29.535	097:04:10.149	0	250	0.0	0.0		11/09/89
03	F	027:58:04.172	097:05:17.395	0	250	0.0	0.0		11/09/89
04	F	027:57:04.646	097:06:32.476	0	250	0.0	0.0		11/09/89
05	F	027:57:07.493	097:04:21.062	0	250	0.0	0.0		11/09/89
06	F	027:55:59.444	097:02:35.781	0	250	0.0	0.0		11/09/89
07	F	027:55:28.634	097:07:27.771	0	250	0.0	0.0		11/09/89
08	F	027:54:28.873	097:07:57.049	0	250	0.0	0.0		11/09/89
09	F	027:54:07.962	097:08:37.958	0	250	0.0	0.0		11/09/89
10	F	027:53:27.057	097:06:40.209	0	250	0.0	0.0		11/09/89
11	F	027:54:00.350	097:02:58.382	0	250	0.0	0.0		11/09/89
12	F	027:53:35.460	097:02:36.464	0	250	0.0	0.0		11/09/89
13	F	027:52:53.534	097:02:59.352	0	250	0.0	0.0		11/09/89
14	F	027:51:50.992	097:03:22.978	0	250	0.0	0.0		11/09/89
15	F	027:51:57.536	097:08:03.817	0	250	0.0	0.0		11/09/89
16	F	027:52:13.989	097:09:38.108	0	250	0.0	0.0		11/09/89
17	F	027:50:14.295	097:07:24.517	0	250	0.0	0.0		11/09/89
18	F	027:49:51.528	097:06:18.582	0	250	0.0	0.0		11/09/89
19	F	027:50:53.636	097:03:56.573	0	250	0.0	0.0		11/09/89
20	F	027:50:45.343	097:03:41.174	0	250	0.0	0.0		11/09/89
21	F	027:50:46.290	097:03:17.424	0	250	0.0	0.0		11/09/89
22	F	027:50:41.222	097:03:16.971	0	250	0.0	0.0		11/09/89
23	F	027:50:46.351	097:02:49.217	0	250	0.0	0.0		11/09/89
24	F	027:50:18.364	097:03:05.660	0	250	0.0	0.0		11/09/89
25	F	027:50:05.552	097:02:42.749	0	250	0.0	0.0		11/09/89
26	F	027:50:05.288	097:03:12.941	0	250	0.0	0.0		11/09/89
28	F	027:50:18.234	097:03:32.884	0	250	0.0	0.0		11/09/89
29	F	027:49:47.749	097:03:49.421	0	250	0.0	0.0		11/09/89
30	F	027:47:33.070	097:05:14.862	0	250	0.0	0.0		11/09/89
31	F	027:45:06.747	097:07:29.192	0	250	0.0	0.0		11/09/89
32	F	027:43:11.688	097:08:24.994	0	250	0.0	0.0		11/09/89
33	F	027:41:34.291	097:09:46.274	0	250	0.0	0.0		11/09/89
34	F	027:41:41.796	097:11:01.545	0	250	0.0	0.0		11/09/89
35	F	027:39:15.663	097:10:57.432	0	250	0.0	0.0		11/09/89
36	F	027:41:37.285	097:15:02.810	0	250	0.0	0.0		11/09/89
37	F	027:41:38.941	097:16:06.724	0	250	0.0	0.0		11/09/89
38	F	027:42:40.782	097:18:48.182	0	250	0.0	0.0		11/09/89
39	F	027:43:43.325	097:21:08.634	0	250	0.0	0.0		11/09/89
40	F	027:44:42.927	097:22:21.160	0	250	0.0	0.0		11/09/89
41	F	027:48:00.368	097:23:27.629	0	250	0.0	0.0		11/09/89
42	F	027:48:18.952	097:23:31.350	0	250	0.0	0.0		11/09/89
43	F	027:48:37.012	097:23:33.859	0	250	0.0	0.0		11/09/89
44	F	027:48:28.020	097:22:03.321	0	250	0.0	0.0		11/09/89
45	F	027:48:26.106	097:21:52.434	0	250	0.0	0.0		11/09/89
46	F	027:48:18.064	097:16:05.640	0	250	0.0	0.0		11/09/89
47	F	027:48:30.168	097:15:00.922	0	250	0.0	0.0		11/09/89
48	F	027:48:38.784	097:13:40.998	0	250	0.0	0.0		11/09/89
49	F	027:48:20.498	097:13:00.008	0	250	0.0	0.0		11/09/89
50	F	027:48:44.552	097:13:11.552	0	250	0.0	0.0		11/09/89
51	F	027:48:39.235	097:11:41.427	0	250	0.0	0.0		11/09/89
52	F	027:49:19.865	097:12:56.768	0	250	0.0	0.0		11/09/89
53	F	027:51:33.800	097:14:28.383	0	250	0.0	0.0		11/09/89
54	F	027:52:31.870	097:15:00.964	0	250	0.0	0.0		11/09/89
55	F	027:53:30.187	097:15:29.076	0	250	0.0	0.0		11/09/89
56	F	027:52:55.315	097:16:57.522	0	250	0.0	0.0		11/09/89
57	F	027:44:18.951	097:08:19.954	0	250	0.0	0.0		11/13/89
58	F	027:45:14.605	097:10:27.938	0	250	0.0	0.0		11/13/89
59	F	027:51:02.658	097:21:17.960	0	250	0.0	0.0		11/13/89
60	F	027:53:23.367	097:20:09.429	0	250	0.0	0.0		11/13/89
61	F	027:59:24.830	097:04:00.780	0	250	0.0	0.0		11/14/89
62	F	027:59:13.578	097:04:23.910	0	250	0.0	0.0		11/14/89

APPROVAL SHEET

BASIC HYDROGRAPHIC SURVEY
OPR-K229-AHP2
AHP-10-15-89
H-10323
1989-1990

This basic hydrographic survey was conducted in accordance with the project instructions for OPR-K229-HFP2, 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
LCDR NOAA
Chief, Atlantic Hydrographic Party Two

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: April 14, 1990

MARINE CENTER: Pacific

OPR: K229

HYDROGRAPHIC SHEET: H-10323

LOCALITY: Corpus Christi Bay, East Flats, TX

TIME PERIOD: Nov 21, 1989 - January 26, 1990

TIDE STATION(S) USED: 877-5283 Port Ingleside
877-5238 Port Aransas

PLANE OF REFERENCE (MEAN LOWER LOW WATER):

877-5283	Port Ingleside	2.46 ft
877-5238	Port Aransas	4.64 ft

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:

877-5283	Port Ingleside	0.6 ft
877-5238	Port Aransas	1.2 ft

REMARKS: RECOMMENDED ZONING **PRELIMINARY**

1. In Corpus Christi Channel west of 97°04.6'W and east of 97°06.0'W, apply a x0.82 range ratio to all heights and a +0 hr 30 min time correction on 877 5238.

2. In Corpus Christi Channel west of 97°06.0'W and east of 97°07.4'W, apply a x0.61 range ratio to all heights and a +1 hr 0 min time correction on 877 5238.

3. West of 97°7.4'W and north of 27°49.5'N, apply a x0.49 range ratio to all heights and a +1 hr 30 min time correction on 877 5238.

4. South of 27°49.5'N, apply a -1 hr 0 min time correction on 877 5283.

James L. Hubbard

CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: July 9, 1990

MARINE CENTER: Pacific

OPR: K229

HYDROGRAPHIC SHEETS: H-10320, 10321, 10322, 10323, and 10324

REMARKS: The above tide notes of April 12 and 14, 1990 are final.

for Richard K. Wong
CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10323

Name on Survey	A ON CHART NO. 11308 OF 11309	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
CORPUS CHRISTI BAY EAST FLATS										
CORPUS CHRISTI BAY	X									1
COYOTE ISLAND	X									2
EAST FLATS	X									3
FLATO CUT	X									4
LITTLE FLATS	X									5
MUSTANG BEACH (locale)	X									6
MUSTANG, POINT OF	X									7
PELONE ISLAND	X									8
TEXAS (title)	X									9
*MUSTANG ISLAND	X									10
										11
										12
*Added per telecon C. Harrington 9/26/90 CH										13
										14
										15
										16
				Approved:						17
										18
				Charles E. Harrington						19
				Chief Geographer - NCG2x5						20
				APR 23 1990						21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 77-27(H) (9-83)

U.S. DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER: H-10323

RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET		SMOOTH OVERLAYS: POS., ARC, EXCESS	7
DESCRIPTIVE REPORT		FIELD SHEETS AND OTHER OVERLAYS	2

DESCRIPTION	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):

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	*EVALUATION*	*TOTALS*
POSITIONS ON SHEET			
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			

	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	43		43
VERIFICATION OF SOUNDINGS	109		109
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	40		40
COMPARISON WITH PRIOR SURVEYS AND CHARTS		6	6
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		57	57
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	192	63	255

Pre-processing Examination by M. Brown	*Beginning Date* 3/9/90	*Ending Date*
Verification of Field Data by R.N. Mihailov	*Time (Hours)* 180	*Ending Date* 7/31/90
Verification Check by J.S. Green	*Time (Hours)* 14	*Ending Date* 6/15/90
Evaluation and Analysis by R.N. Mihailov	*Time (Hours)* 63	*Ending Date* 8/29/90
Inspection by D. Hill	*Time (Hours)* 4	*Ending Date* 9/25/90

EVALUATION REPORT

H-10323

1. INTRODUCTION

Survey H-10323 is a basic hydrographic survey accomplished by the NOAA Atlantic Hydrographic Party 2 under the following Project Instructions.

OPR K229-AHP2, dated September 14, 1989
CHANGE NO. 1, dated December 21, 1989
CHANGE NO. 2, dated January 10, 1990

This survey occurred in Texas and covers the northeast portion of Corpus Christi Bay. The area is bounded on the north by Corpus Christi Channel and on the east and south by Mustang Island. The survey extends from latitude 27°46'15"N to latitude 27°50'00"N and longitude 97°05'12"W to longitude 97°08'30"W. The surveyed area also includes Mustang Beach Channel leading to the Island Mooring Marina. Shoreline consists of sand, dredged spoil islands and small harbors and marinas on Mustang Island. Depths range from 2 feet to 18 feet.

Predicted tides for Galveston Channel, Texas, were used for the reduction of soundings during field processing. Approved hourly heights zoned from Port Ingelside, Texas, gage number 877-5283, and Port Aransas, Texas, gage number 877-5238, 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. TRA and sound velocity correctors are adequate. An accompanying computer printout contains the parameters and the correctors. The electronic correctors have been determined according to the established procedures and are adequate.

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. The file, however, is incomplete. Certain feature descriptive information, all line type data and miscellaneous isolated features are not in the digital record due to the present lack of digitizing resources. The user should refer to the smooth sheet for complete depiction of survey data.

2. CONTROL AND SHORELINE

Sections F and G of the hydrographer's report contain adequate discussions of hydrographic control and hydrographic positioning. Additional detailed information on horizontal control is located 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 field and published values based on NAD 83. These values were used during office processing for the computation of positions. The smooth sheet and accompanying overlays are annotated with NAD 27 adjustment ticks based on values determined by N/CG121. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude: 1.094 seconds (33.7 meters)
Longitude: 0.964 seconds (26.4 meters)

The year of establishment of control stations shown on the smooth sheet originates with the field records and published NGS data.

The quality of several positions exceeds limits in terms of error circle radius and residual. A review of the data indicates that there is no significant plotting difference between these fixes and adjacent positions. The review also indicates that the located features or soundings are consistent with surroundings. None of the fixes are used to position dangers to navigation. These fixes are considered acceptable.

The following shoreline maps apply to this survey.

	Photo Date	Class
TP-01198	Dec. 1982	III
TP-01199	Dec. 1982 Nov. 1983 Mar. 1984	III

Shoreline drawn on the smooth sheet originates from 1:10,000 scale photographic enlargements of the topographic maps. These shoreline manuscripts are compiled on NAD 1927, while the smooth sheet was drawn using the NAD 1983 datum. Compilation of the shoreline was accomplished using data shift values provided by N/CG121.

Considerable dredging and change has occurred in the housing development and marina near Mustang Beach, centered at latitude 27°48'30"N, longitude 97°05'30'W, since the 1982

photography for TP-01198. These changes are depicted on the smooth sheet in dashed red from the following sources; the field sheet without supporting positional information, a 1989 photograph of the area and a Marina Slip Plan for the Island Moorings Yacht Club. The photograph and the Marina Slip Plan are included with the survey records. Although depicted as approximate, these high water line revisions are adequate to supersede the common photogrammetrically delineated shoreline from TP-01198.

Position numbers 535 to 573 in the same developed area of Mustang Beach, latitude 27°48'30"N, longitude 97°05'30"W, were acquired by the "see field sheet" method. The hydrographer positioned this data relative to shoreline map features and manually plotted this data on the field sheet. During office processing this data was inserted into a specially prepared sounding file and reduced to MLLW using actual tides. This data was then manually plotted on the smooth sheet. A copy of the printout has been inserted into the accordian file containing the survey records.

3. HYDROGRAPHY

Except for the delineation of the zero curve, 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, except:

The final field sheet shows the area of the Island Moorings Yacht Club Marina, latitude 27°48'27"N, longitude 97°05'16"W, as behind verified shoreline map high water line, when in fact the marina was constructed subsequent to the date of the photography from which the shoreline map was compiled. Changes to the shoreline map high water line should have been recognized and data provided so that the area could be adequately charted.

5. JUNCTIONS

Survey H-10323 junctions with the following surveys.

Survey	Year	Scale	Area
H-10324	1990	1:10,000	West
H-10328	1990	1:10,000	North
H-10332	1990	1:10,000	Northwest

The junctions with these surveys are complete and the soundings are in good agreement. Some soundings have been transferred from survey H-10324 to survey H-10323 to better portray the bottom in the common area.

6. COMPARISON WITH PRIOR SURVEYS

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

Survey H-5694 covers the entire survey area. Taking into consideration the differences in the scales of the surveys and the methods of surveying, comparison with this prior survey is satisfactory. Generally, the present survey soundings agree within one to four feet. The greatest difference occurs in the vicinity of Point of Mustang, latitude 27°49'15"N, longitude 97°08'24"W. Dredging and cultural development alongshore have occurred since the prior survey was accomplished (1934-35). Mustang Beach Channel did not exist at the time of this survey. Shoaling on the present survey occurs at approximate latitude 27°49'10"N, longitude 97°08'10"W, with differences in depths ranging from 1 foot to 5 feet.

Survey H-10323 is adequate to supersede survey H-5694 within the common area.

T-9184 (1948-51) 1:20,000
T-9185 (1947-48) 1:20,000

Shoreline maps T-9184 and T-9185 cover the entire area of the present survey. The shoreline has changed either through man-made or natural forces. Point of Mustang has widened in a southwestern direction. Pelone Island at approximate latitude 27°48'45"N, longitude 97°06'00"W, has enlarged in size.

Survey H-10323 supersedes these prior shoreline maps as a source for charted hydrography.

There are no AWOIS items originating from the prior surveys applicable to the present survey.

7. COMPARISON WITH CHART

Chart 11308, 15th edition, dated July 9, 1988;
scale 1;40,000
Chart 11309, 29th edition, dated November 15, 1986;
scale 1:40,000
Chart 11309, 30th edition, dated December 2, 1989;
scale 1:40,000

The 29th edition and 30th edition of chart 11309 are identical except for being on different datums, some minor revisions to the shoreline and added notations for new aids to navigation.

a. Hydrography

All charted hydrography originates with prior survey H-5694 and miscellaneous sources and requires no further discussion.

Except for the note "Shl rpt" at latitude 27°49'53"N, longitude 97°06'43"W (AWOIS item 4892), which is to be retained as charted pending investigation on survey H-10328, survey H-10323 is adequate to supersede charted hydrography within the common area.

b. AWOIS

All AWOIS positions listed in the hydrographer's report have been converted to NAD 83.

All AWOIS items assigned and addressed in this survey originate with miscellaneous sources.

Refer to section L of the hydrographer's report for the disposition of AWOIS items.

c. Controlling Depths

The following minimum depths were found in the area of charted controlling depths shown on this survey. Refer to section L of the hydrographer's report for the discussion of these AWOIS items.

Survey Depth	Charted Depth	AWOIS	Latitude(N)	Longitude(W)
4 feet	6 feet	4993	27°49'54"	97°06'21"
6 feet	8 feet	4835	27°47'00"	97°07'25"
9 feet	6 feet	4836	27°47'00"	97°06"38"

The charted channel at latitude 27°49'18"N, longitude 97°08'21"W no longer exists and should be removed from the chart.

d. Aids to Navigation

Nine charted channel markers for Mustang Beach Channel were replaced by thirty five privately maintained daybeacons, three of which are lighted. These aids are located by hydrographic methods and are shown on the smooth sheet. No floating aids to navigation are located in the survey area.

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-10323 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is a good hydrographic survey. Updated photography to more accurately portray the development and marina in the vicinity of Mustang Beach is recommended.

Robert N. Mihailov
Cartographic Tech.

APPROVAL SHEET
H-10323

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 disproval 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.

Date: 9-25-90

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.

Date: 10/1/90

Commander Pamela Chelgren-Koterba, NOAA
Chief, Pacific Hydrographic Section

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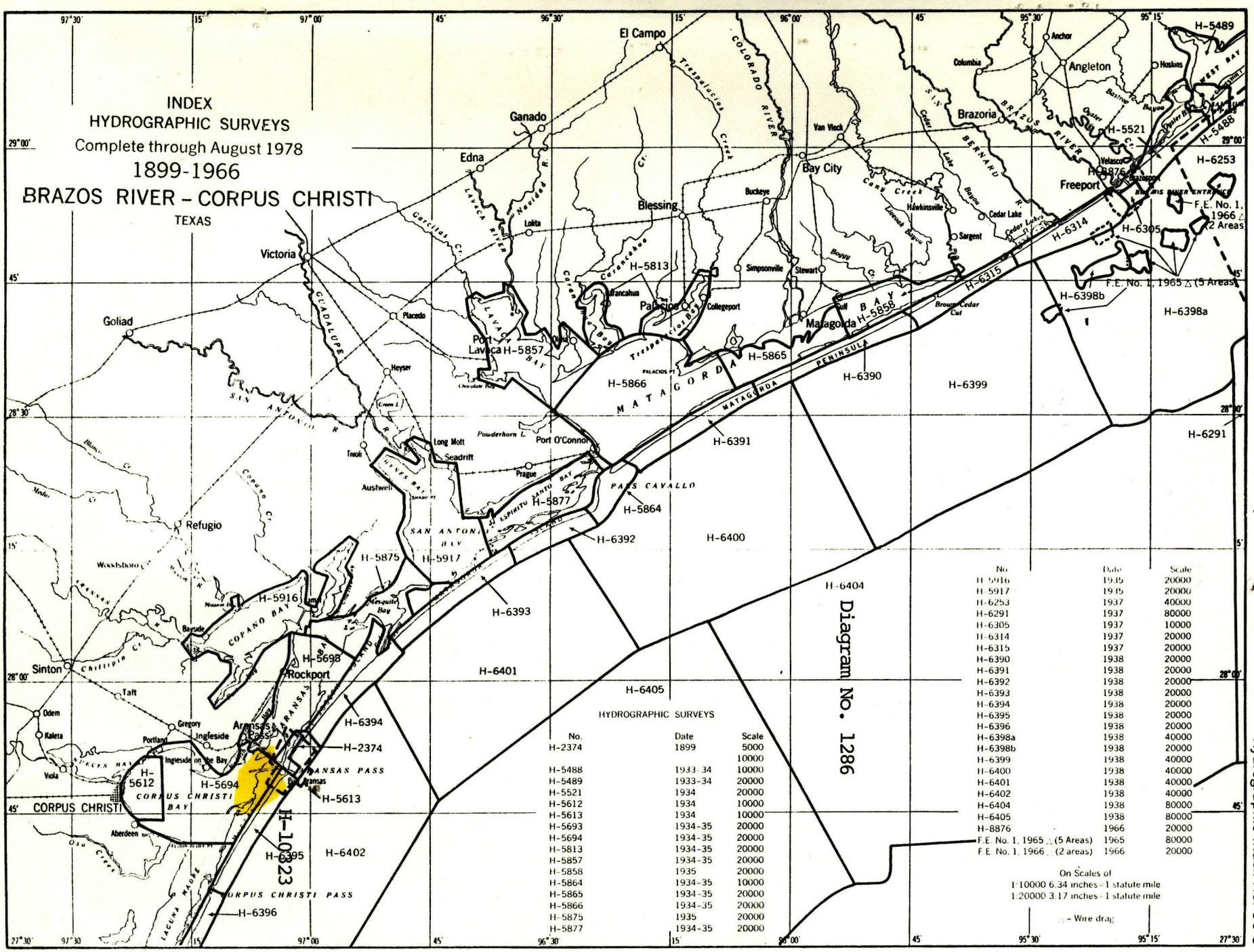
Final Approval

Approved: Date: 11/2/90

Wesley V. Hull
Rear Admiral, NOAA
Director, Charting and Geodetic Services



HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-2374	1899	5000
		10000
H-5488	1933-34	10000
H-5489	1933-34	20000
H-5521	1934	20000
H-5612	1934	10000
H-5613	1934	10000
H-5693	1934-35	20000
H-5694	1934-35	20000
H-5813	1934-35	20000
H-5857	1934-35	20000
H-5858	1935	20000
H-5864	1934-35	10000
H-5865	1934-35	20000
H-5866	1934-35	20000
H-5875	1935	20000
H-5877	1934-35	20000

No.	Date	Scale
H-5916	1935	20000
H-5917	1935	20000
H-6253	1937	40000
H-6291	1937	80000
H-6305	1937	10000
H-6314	1937	20000
H-6315	1937	20000
H-6390	1938	20000
H-6391	1938	20000
H-6392	1938	20000
H-6393	1938	20000
H-6394	1938	20000
H-6395	1938	20000
H-6396	1938	20000
H-6398a	1938	40000
H-6398b	1938	20000
H-6399	1938	40000
H-6400	1938	40000
H-6401	1938	40000
H-6402	1938	40000
H-6404	1938	80000
H-6405	1938	80000
H-8876	1966	20000
F.E. No. 1, 1965 △ (5 Areas)	1965	80000
F.E. No. 1, 1966 △ (2 areas)	1966	20000

On Scales of
1:10000 6.34 inches = 1 statute mile
1:20000 3.17 inches = 1 statute mile

△ – Wire drag

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville, Maryland

Hydrographic Index No. 90 C

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10823

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
11309	3-28-91	John Pierce	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 50
11308	3-9-92	Dan Glock	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 17 THRU 11309
11300	6-10-92	K.R. Foster	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 45 Exam-n/c -NO coverage.
11312	10-30-96	Travis Neuman	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 2
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.