

8748

Diag. Cht. No. 1282-2.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ECFP-10-7-62 Office No. H-8748

LOCALITY

State Texas

General locality Galveston Bay

Locality Galveston Bay Entrance

1962-65

CHIEF OF PARTY
S. L. Hollis, P. A. Stark, H. E. McCall
and R. E. Alderman

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DATE 2-9-66

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8748

H-8748

HYDROGRAPHIC TITLE SHEET

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

FIELD NO.

ECFP-10-7-62

State TEXAS

General locality ~~ENTRANCE TO GALVESTON BAY~~ Galveston Bay

Locality ~~GALVESTON BAY, TEXAS~~ Galveston Bay Entrance

Scale 1:10,000 Date of survey Sept. 5, 1962 to April 7, 1965

25 April 1962

Instructions dated 4 June 1964 Project No. OPR-428

Vessel Launch CS-1177, CS-183, Skiff 758, and Skiff No. 2

Chief of party S.L.Hollis, LCDR., W.V.Hull, Lt., P.A.Stark, LCDR., H.E.McCall, Lt. R.E.Alderman
LCDR.

Surveyed by R.A.Lewis, W.H.Piner, J.B.Jones, Lt.(jg), G.F.Trefethen

Soundings taken by echo sounder, hand lead, pole _____

Graphic record scaled by PARTY PERSONNEL

Graphic record checked by PARTY PERSONNEL

Protracted by G.L.Fernandes

Soundings penciled by G.L.Fernandes

Soundings in fathoms feet at MLW M/L/W/

REMARKS: _____

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SURVEY H-8748
(field no. HFP 10-7-62)

SCALE: 1:10,000

HFP 242

PROJECT: OPR-428

OFFICERS-IN-CHARGE:

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SURVEYED BY:

R.A.LEWIS
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J.B.JONES, LT. (jg)
G.F.TREFETHEN

A. PROJECT

Work on project OPR-428 Galveston Bay, Texas was done in accordance with basic Instructions 211-pt, S-2-ECFP, dated 25 April 1962, and Supplemental Instructions C-211, S-2-HFP-219, dated 4 June 1964.

B. SURVEY LIMITS AND DATES

This survey is in the vicinity of the entrance to Galveston Bay, Texas. Survey limits are from lat. $29^{\circ}19.0'$ to lat. $29^{\circ}22.3'$, long. $94^{\circ}40.0'$ to long. $94^{\circ}47.0'$.

This survey makes junction with contemporary survey H-8752 (1962-65) (ECFP 20-1-62) and H-8749 (ECFP 05-1-63) on the south, survey H-8751 (ECFP 20-2-62)¹⁹⁶²⁻⁶⁵ on the north and east, survey H-8747 (1963-65) (ECFP 10-2-63) on the west.

Hydrography began on Sept. 5, 1962 and ended on April 7, 1965. Work was interrupted from May 3, 1963 to November 18, 1964 because of a special project at Lake Mead, Nevada.

C.SOUNDING VESSELS

Launches CS-1177, CS-183 and Skiff 758 were used in this survey. A 16 ft. aluminum Skiff, designated Skiff No.2, was used one day.

<u>Vessel</u>	<u>Identifying Color</u>
Launch CS-1177	Blue
Launch CS-183	Violet
Skiff 758	Red
Skiff No.2	Green

D.SOUNDING EQUIPMENT

Fathometers type EDO 255c No.16 and type DE-723 Nos. 543 and 263 were used on Launch CS-1177. Launch CS-183 used type DE-723 Nos. 263 and 265. Skiff 758 used type 808j No. 57-34 and type DE-723 Nos. 544 and 263. Skiff No.2 used type 808j No.1135.

Corrections to be applied to echo sounding were determined from daily bar checks and simultaneous comparisons are tabulated in Appendix "B" of this report.

A sounding pole was used to obtain soundings in less than 5 ft. on Launches CS-1177 and CS-183. A sounding pole was used to obtain soundings in less than 3 ft. on Skiff 758 and Skiff No.2.

A armed lead was used to obtain bottom samples.

No unusual difficulties were encountered with the sounding equipment.

E.SMOOTH SHEET

The smooth sheet was projected and ruled by the Washington office. Smooth sheet plotting will be accomplished by Hydrographic Field Party 242.

F.CONTROL

Horizontal control was obtained by standard visual three-point sextant fix methods. Appendix "A" of this report contains a complete list of control used and the quality and source of control.

Some fixed aids to navigation within the limits of the sheet, formerly Triangulation stations, were destroyed by Hurricane Carla in 1961 and later rebuilt. The aids were eventually retriangulated, but are located Photogrammetrically as control for this survey (see Appendix A), as triangulation data was unavailable the time of hydrography.

G.SHORELINE

Boat sheet

Shoreline detail was taken from blue line prints of Manuscripts T-12235, T-12236 and T-12231.

The shoreline in the area of Big Reef has changed from that shown on Manuscript T-12236. The hydrographer showed these changes on the survey by walking the shoreline and taking fixes. (q day Skiff 758).

Note: The smooth plotter should plot this day before he inks shoreline on the smooth sheet.

H.CROSSLINES (See Review Para 3A) ✓

Crosslines were run at approximately 10% of the regular system of lines. They were not in agreement in the following locations:

<u>Position</u>	<u>Remarks</u>
29°19.25' 94°42.60'	Crosslines in this area are 1 to 3 ft. off. The trouble seems to be with "ha" day CS-1177. Soundings were inked on the boat sheet using predicted tides which were 1 ft. higher than smooth tides on that day. <i>not resolved. crossline omitted.</i>
29°19.8' 94°41.9'	The crossline in this area is 2 to 3 ft. deeper than the regular lines. <i>MOST recent soundings retained</i>
29°20.0' 94°42.25'	The crossline in this area is 2 ft. deeper than the regular lines. <i>"</i>

It is planned to resolve these discrepancies at the time the survey is smooth plotted. Due to the deterioration of the boat sheet, especially the position numbers of the work done in 1962, and because the boat sheets soundings are not smooth soundings, it appears more feasible to see the smooth plot in the above area.

I. JUNCTIONS (See Review Para.5) ✓

Depths at the junction with the surveys listed in section "B" are in agreement and depth curves can be adequately drawn at all junctions.

J.COMPARISON WITH PRIOR SURVEYS

A comparison was made with prior survey H-5424 - 1933-34- scale 1:10,000, with the following results.

In general the area outside the jetties shows few note worthy changes from the prior survey. Changes to be noted in this area are as follows:

<u>Feature and Depth</u>	<u>Position</u>	<u>Remarks</u>
* Shoal area	29°21.8' 94°43.4'	The inshore area immediately north of the north jetty, covered by this survey, shows a shoaling trend in depths less than 6 ft. The 3 ft. curve has extended approximately 300 meters further offshore while the 6 ft. curve remains relatively unchanged.
* 25 to 35 ft. depths	29°19.3' 94°41.0'	Soundings obtained during this survey in the vicinity immediately south of the south jetty light are 3 to 7 ft. deeper than those shown on the prior survey.
* 6 ft. curve	29°19.5' 94°44.0'	South of the south jetty the 6 ft. curve has extended 300 to 500 meters further off shore. This is attributed to the fact that the high water line now extends further 200 to 400 meters offshore at this location.

The area between the jetties show considerable changes as follows:

6 ft. shoal prior survey	29°20.55' 94°42.5'	The isolated 6 ft. shoal, least depth $4\frac{1}{2}$ ft., shown on the prior survey no longer exists. Depths of 22 ft. now cover this area.
* 12 ft. curve	29°20.3' 94°42.9'	The 12 ft. curve in this vicinity has extended 1500 meters east ward.

* This is a boat sheet comparison.

J.COMPARISON WITH PRIOR SURVEYS

30 ft. shoal prior survey	29°20.9' 94°44.5'	Prior survey shows an isolated 30 ft. shoal, least depth 27 ft., in this vicinity present survey shows a least depth of 2 $\frac{2}{3}$ ft. ✓
shoreline change	29°20.3' 94°44.4'	The shoreline north of this location, on the large sand-bar, has receded approximately 300 meters. The depth curves surrounding this bar has also shifted in accordance with the shoreline recession. ✓
6 ft. channel prior survey	29°20.1' 94°44.9'	The 6 ft. channel, shown on prior survey, leading into
6 ft. channel prior survey	29°20.1' 94°44.9'	The 6 ft. channel shown on prior survey, leading into the Yacht Club and continuing eastward to the small piers is now non existent. Present survey shows depths of 1 to 2 ft. ✓
channel prior survey	29°21.3' 94°45.75'	The ferry channel, shown on the prior survey, at this location no longer exists. The bell bouy marking the entrance to this channel and the beacons marking the channel banks have been removed. ✓
2nd turn beacon	29°20.34' 94°46.4'	This beacon is non existent ✓
house and pier (new fish house, 1933)	29°21.17' 94°42.6'	The house and pier, shown on the prior survey at this location, no longer exists. ✓
26 ft. sounding prior survey	29°20.6' 94°40.6'	The sounding in this area is 8 to 10 ft. deeper than those of the prior survey. ✓

J.COMPARISON WITH PRIOR SURVEYS

The following is a discussion of the unnumbered pre-survey items. The numbered features will be discussed under section K. Comparison with Chart- of this report.

Stranded Wreck	29°21.84' 94°44.64'	The stranded wreck shown on the prior survey and chart 886 is still existent and should be retained on the chart. All that remained of this wreck are parts of the engine, covering an area- 20 meters by 20 meters. Wreck bares 3 ft. MHW. ✓
Pipe bares 2ft.MHW	29°21.56' 94°45.37'	A thorough search was made for this pipe utilizing a 300 ft. "chain sweep" towed behind Launch CS-1177, (Vol. 4 "r" day). There was no indication of the pipe- it is recommended this feature be deleted from the chart. Disproved pos. 15r-16r ✓
Low-waterline and shoal depths	29°21.7' 94°46.0'	The high water line, immediately west of Fort Travis, has receded approximately 200 meters. The low water line has also receded 200 to 300 meters in this vicinity with a number of small isolated sand bars, bares at low water, lying 250 meters off and parallel to the high-water-line. ✓
Pier ruins	29°20.1' 94°44.8'	The small finger piers shown on the prior survey at this location are still in existence, however, many of them are now in ruins. The Yacht Club entrance direction beacons shown 50 meters inside the high-water-line on the prior survey, are no longer existent. See boat sheet for exact location and description of pier ruins, piles, new piers and additional features to be charted in this vicinity. ✓
Stake bares 2ft. MHW	29°21.97' 94°44.3'	Visual inspection made at time of low water March 2, 1965 showed no stake in this area. Recommended item be deleted. Not on chart. ✓
Sand bars bare MHW	29°22.0' 94°44.5'	Sand bars in this vicinity were outlined by walking shoreline at time of low water. Sand bars bare 1 ft. MLW. ✓

J. COMPARISON WITH PRIOR SURVEYS

Pipe bares lft. MHW	29°21.91' 94°45.23'	In Skiff 758, visual inspection made on March 9, 1965 while running lines in area. Pipe was not found. Not adequately disproved should be retained as a subm pipe as charted. ✓
Pier ruins	29°21.7' 94°45.5'	In Skiff 758, visual inspection was made on March 9, 1965 while running lines in area. Pier ruins were not found. See Review Para 6 item B.1
Files PSIG	29°21.2' 94°42.65'	Investigation made by wire drag on April 5, 1965 n day CS-183. It is not recommended that the item be deleted. See Review Para 6 B outermost pile disproved. Pile closer to Jetty was not disproved. <i>concur</i>
Wrecks	29°21.8' 94°46.8'	The two wrecks in question were not searched for, however all the piers in the immediate vicinity are now in ruins and numerous wrecks (3 to 5) were observed during hydrographic operations between the pier remains. Although this survey failed to obtain exact locations on the questioned wrecks, it is safe to assume they still exist along with a number of additional wrecks. See review Par. 6 B item g <i>concur</i>
* Files	29°20.07' 94°44.63'	Numerous piles were located in this area. ✓
Files	29°20.10' 94°44.95'	A visual inspection was made and no evidence of their existence was found. ✓
** Files	29°20.08' 94°44.65'	A visual inspection was made and no evidence of their existence was found. Files and pier ruins were located during this survey 75 meters south of this position.
Wreck Pre-Survey review item	29°20.79' 94°41.17'	This wreck is 300 feet long, bares 7 ft. MHW, and lies parallel to the jetty. 43d Launch 1177 ✓
Wreck	29°21.31' 94°42.78'	Submerged wreck located 17n day CS-183 <i>drag wire slipped off no. HL least depth obtained. Probably rises only small amount above bottom.</i> ✓

** There is no evidence of piles on the prior survey at this location. The location of these piles ** are very close to the piles * mention above.

K.COMPARISON WITH CHART (Boat Sheet Comparison) see Review Para.7

This survey was compared with chart 886; 5th edition; August 3, 1964. Scale 1:40,000.

<u>Charted Feature Depth</u>	<u>Position</u>	<u>Remarks</u>
30 ft. curve	29°20.0' 94°41.5'	The 30 ft. curve has receded 400 meters northwest. ✓
18 ft. curve	29°20.15' 94°42.68'	The 18 ft. curve has receded 600 meters west northwest. ✓
12 ft. shoal	29°20.45' 94°41.8'	The chart shows an isolated 12 ft. shoal at this position. Present survey shows 15 ft. soundings in this area. There is a 11 ft. sounding WSW of this position. ✓
10 ft. shoal	29°20.3' 94°42.14'	This chart shows a 11 ft. sounding at this position. Present survey shows soundings of 10 ft. in this area. ✓
10 ft. shoal	29°20.33' 94°42.8'	The chart shows a 10 ft. sounding at this position. Present survey shows a sounding of 9 ft. 100 meters south of this position. ✓
6 ft. shoal	29°20.38' 94°42.6'	The least depth obtained by this survey is an 8 ft. sounding 100 meters south southeast of the charted 6 ft. depth. There is a 5 ft. sounding 550 meters west southwest of this position. ✓
22 ft. sounding	29°19.18' 94°41.86'	Present surveys shows depths of 22 ft. at this location. ✓
29 ft. sounding	29°20.08' 94°41.59'	Present survey shows depths of 32 ft. at this location. ✓
26 ft. sounding	29°20.25' 94°41.3'	Present survey shows depths of 31 and 32 ft. at this location. ✓

K.COMPARISON WITH CHART See Review Para. 7.

10 ft. sounding	29°20.36' 94°42.32'	The present survey shows depths of 14 ft..There are 9 and 10 ft. soundings 150 meters south of this location.
8 ft. sounding	29°21.71' 94°42.45'	The present survey shows depths of 11 ft. at this location.
25 ft. sounding	29°21.67' 94°42.70'	The present survey shows depths of 30 and 31 ft. at this location.
27 ft. sounding	29°20.73' 94°43.70'	The present survey shows depths of 30 and 31 ft. in this area. The chart shows no brake in the 30 ft. curve. This survey shows the 30 ft. curve broken in this area.
32 ft. sounding	29°20.51' 94°44.85'	The present survey shows depths of 36 to 40 ft. at this location.
15 ft. sounding	29°21.05' 94°40.05'	The present survey shows depths of 18 ft. at this location.
26 ft. sounding	29°20.65' 94°46.9'	The present survey shows depths of 32 and 33 ft. at this location.
33 ft. sounding	29°20.51' 94°46.21'	The present survey shows depths of 37 and 38 ft. at this location.
Low water line	29°20.1' 94°44.7'	The chart shows the low-water line in the vicinity of Big Reef to be continous. This survey shows depths of 2 and 3 ft. between Big Reef and the Jetty. This small cut does not go all the way through. It begins on the west side and goes to longitude 94°43.78'.
Iron pipe	29°20.31' 94°43.31'	The iron pipe is 1 ft. in diameter and has a least depth of 2 ft. Found on Feb. 25,1965, "ta" day, Vol.12, CS 1177. It is recommended that this obstruction be charted

K.COMPARISON WITH CHART(cont)

The following is a discussion of the numbered Pre-Survey Review Item:

<u>Item no.</u> <u>Charted feature</u>	<u>Position</u>	<u>Remarks</u>
No. 18 wrecks and wreckage	29°21.5' 94°42.8' 53	Numerous wrecks and wreckage <i>Concur</i> were found in this area. Recommended that the symbols be retained. Sp 46956 indicates six wrecks (Tug Willie, Tug W.A Wansley, Tug Joey, Tug Messenger, USED Barge No 42 and Houston Pilot Boat)
No. 19 wreck	29°21.92' 94°41.93'	Investigation was made on April 1, 1965 "1" day CS-183, wire drag, Recommended that the item be deleted. Not charted
No. 20 wreck	29°20.71' 94°40.62' 5	Located in 1964 by the USC&GS ✓ Hilgard and Wainwright. See Descriptive Report OPR-450, 1964. There is no indication in FE No. 1, 1965 that this wreck was investigated. Therefore this wreck should be retained on the chart. (See A&D skt in FE No. 1, 1965)
No. 21 wreck	29°20.50' 94°40.78' 3	Located in 1964 by the USC&GS ✓ Hilgard and Wainwright. See Descriptive Report OPR-450, 1964. <i>It carried forward from FE No. 1, 1965, W.D.</i>
No. 22 wreck	29°19.67' 94°41.38'	A search was made for this wreck ✓ on "k" day: Launch CS-1177, by running a close spaced lines over the charted position and by "drift sounding". This investi- gation revealed no trace of the wreck. It is believed that the wreck has broken up and become part of the jetty. It was deemed im- possible to drag for the wreck due to the danger of fouling the "chain sweep" on the jetty. Also see Descriptive Report, OPR-450, 1960 by USC&GS Wainwright and Hilgard. Should be retained on the chart. (Information inadequate).

K.COMPARISON WITH CHART(cont)

No. 23
wreck

29°19.83'
94°42.88'

✓
This wreck was searched for by running a close system of sounding lines over its charted position. Vol 2, "h"day, Launch CS-1177. This wreck has apparently broken up and it is recommended the wreck symbol be deleted from subsequent charts. This wreck should be retained on the chart. The system of lines ran, plot to the east of this wreck.

No. 30
marker
(lighted)

29°19.45'
94°44.7'

✓
Due to the shoreline change in this vicinity, the charted position of this marker now lies within the limits of the high waterline. A visual search of the beach at this location indicated the marker is no longer in existence and should be deleted.

See also items in Smooth Plotters addendum 1/28/66

L.ADEQUACY OF SURVEY

This survey is considered complete and adequate to supersede prior surveys for charting purposes.

M.AIDS TO NAVIGATION

✓
There are 11 fixed aids to navigation and 14 floating aids maintained by the U.S.Coast Guard.

There are 12 fixed aids, dredging range day beacons, maintained by the Corps of Engineers and 1 fixed aid maintained by the Texas State Highway Department.

A comparison with the Light List and Chart 886 indicates these aids adequately serve the purpose for which they were established.

The Bolivar Point to Galveston Ferry route is not shown on chart 886. A sketch of this route is appended to the end of this report. It is to be noted the route shown on the sketch is from observations made by this unit, not information obtained from the Texas State Highway Department.

N. STATISTICS

<u>Vessel</u>	<u>Number of Positions</u>	<u>NM of Sounding</u>
Launch CS-1177	3210	392.5
Launch CS-183	561	70.7
Skiff 758	997	87.9
Skiff No.2	<u>53</u>	<u>5.2</u>
	4821	556.3

Total area surveyed-16.2 square nautical miles.

There were three tide stations used on this survey. See Appendix C, Tidal Note, for additional information on these stations.

O. MISCELLANEOUS

On Launches CS-1177, CS-183 and Skiff 758 a modified sweep was utilized to search for submerged objects. This sweep consisted of two trawl boards, identical to those used by shrimp trawlers, with a 300 ft. length of small chain between them. The trawl boards were bridled and towed in such a manner as to drag along the bottom. The chain between the boards dragged along the bottom approximately 250 ft. behind the vessel. Upon snagging an object the tow lines to the trawl boards, which were generally 60° apart, would come together slowly allowing sufficient time for the coxswain to stop the launch. The sweep was then pulled aboard until the snagged object was close aboard the stern. A leadline or sounding pole could then be eased down the tightly drawn chain to obtain a depth on the object. In some cases the chain and tow lines had to be shortened to get in tight areas.

The bottom between the Jetties on this survey is constantly changing, due to the strong currents, the silting from Galveston Bay, and Corp of Engineers dredging of the ship channel.

Most of the stretch of ship channel between the Jetties is to be relocated, as shown in brown pencil on the Boat Sheet. The new section of channel is planned to be dredged to $\frac{1}{2}$ width starting in May 1965 with completion scheduled in October 1965. This will then be opened to traffic, and the other $\frac{1}{2}$ width starting, using the old channel as a spoils area. The full width is scheduled for completion in March 1966. The C&GS will be notified on progress made on the dredging through normal communication means.

Respectfully submitted,
Bernie T. Davis
Bernie T. Davis
Surveying Technician

APPENDIX A

List of Signals

Triangulation Stations

ANN Galveston Bay Entrance channel Range Front Light-1963
AXE Galveston Bay Lower Range Front Light-1963
CUP U.S. Quarantine Station, Cupola, 1933-1947
ENT Bolivar Peninsula Light 26,-1963
GAL Galveston, Municipal water tank-1960
JOY Texas City Channel, Cut A. outer range front light-1963
KEN Bolivar Roads Inner Range Rear Light-1963
LIG South Jetty Light- 1933-1947
MAST Galveston Coast Guard , Radio Mast-1960
NIX Houston Ship Channel Outer Range Rear Light-1963
OUT Galveston Bay Entrance Channell Range Rear Light-1963
POD P (use) 1900-1949
RAN Bolivar Roads Outer Range Front Light-1963
TEX Texas City Channel Cut A Outer Range Rear Light-1963
USE Bolivar Point, Light House (use) 1900-1931

Photo-Hydro Stations

Manuscript T-12235

BAP MAN
BLU OLD ✓
BOW PIN ✓
GIL SOX
HAR
JAN

Photo-Hydro Signals (cont)

Manuscript T-12236

EEL TOW ✓

NOR WER

PAT ✓

Manuscript T-12240

TON

Hydrographic signals

<u>Signal</u>	<u>Manuscript</u>	<u>Vessel Position</u>
BOB ✓	T-12236	Launch CS-1177- 69fa
FER		Skiff 758-50g
LIT		Skiff 758- 3c
MOE ✓	T-12236	Launch CS-1177
PIE		Skiff 758- 2c

APPENDIX B

Abstract of Corrections of Fathometer.

Launch CS-1177		
Recorder No. EDO-255C #16	Fath. depth (ft)	Corr.(ft)
Day Letters- a,b,c,d,e,f,g,h, j,k,l,m,n		
	3.0 to 7.0	-0.4
	7.1 to 15.0	-0.2
	15.1 to 20.0	0.0
	20.1 to 24.0	+0.2
	24.1 to 27.0	+0.4
	27.1 to 30.0	+0.6
	30.1 to 34.0	+0.8
	34.1 to 38.0	+1.0
	38.1 to deeper	+1.2
Launch CS-1177		
Recorder No. DE-723 #543		
Day Letters- p,q		
	4.0 to 8.0	-0.2
	8.1 to 22.0	0.0
	22.1 to 30.0	+0.2
	30.1 to deeper	+0.4
Launch CS-1177		
Recorder No. DE-723 #263		
Day Letters- s,t,u,v,w,x,y,z ca,ba		
	5.6 to 9.0	-0.4
	9.1 to 17.8	-0.2
	17.9 to 31.7	0.0
	31.8 to 37.0	+0.2
	37.1 to 40.6	+0.4
	40.7 to 44.2	+0.6
	44.3 to 48.0	+0.8
	48.1 to 51.3	+1.0
Launch CS-1177		
Recorder No. DE-723 # 549		
Day Letters- ca, da,ea,fa,ga, ha,ja,ka,la,ma,na, qa,ra,ta,ua,va,wa, xa,ya,za,ab		
	5.0 to 7.2	0.0
	7.3 to 12.0	+0.2
	12.1 to 16.2	+0.4
	16.3 to 21.0	+0.6
	21.1 to 25.2	+0.8
	25.3 to 29.6	+1.0
	29.7 to 33.3	+1.2
	33.4 to 37.2	+1.4

APPENDIX B (cont)

37.3 to 40.8	+1.6
40.9 to 44.0	+1.8
44.1 to 46.8	+2.0
46.9 to 49.0	+2.2
49.1 to 51.2	+2.4
51.3 to 53.4	+2.6

B SCALE

42.0 to 44.5	+0.2
44.6 to 47.0	+0.4
47.1 to 49.2	+0.6
49.3 to 51.8	+0.8
51.9 to 53.0	+1.0

Launch CS-183
Recorder No. DE-723 #263
Day Letters- b,c,d,e

- to 7.0	0.0
7.1 to 12.5	+0.2
12.6 to 18.0	+0.4
18.1 to 22.8	+0.6
22.9 to 27.0	+0.8
27.1 to 30.8	+1.0
30.9 to 34.2	+1.2
34.3 to 37.8	+1.4
37.9 to deeper	+1.6

Launch CS-183
Recorder No. DE-723 #265
Day Letters- f,g

5.0 to 7.0	+0.4
7.1 to 12.8	+0.6
12.9 to 21.5	+0.8
21.6 to deeper	+1.0

Launch CS-183
Recorder No. DE-723 #265
Day Letters- h,j,k,l,m,n,p

5.0 to 8.2	-0.6
8.3 to 12.8	-0.4
12.9 to 17.8	-0.2
17.9 to 23.0	0.0
23.1 to 29.0	+0.2
29.1 to 35.2	+0.4
35.3 to 42.0	+0.6
42.1 to 48.0	+0.8

APPENDIX B (cont)

Skiff 758
 Recorder No. 808j 57-34
 Day Letter- a,b,d,e,f,g 0.0 all depths

Skiff 758
 Recorder No. DE-723 #544
 Day Letter- h

3.0 to 4.0	0.0
4.1 to 8.0	+0.2
8.1 to 18.0	+0.4
18.1 to 21.0	+0.6
21.1 to 24.0	+0.8
24.1 to 27.0	+1.0
27.1 to deeper	+1.2

Skiff 758
 Recorder No. DE-723 #263
 Day Letter- p,q,r

3.0 to 4.0	-0.4
4.1 to 6.0	-0.2
6.1 to 23.0	0.0
23.1 to 30.0	+0.2

Skiff No.2
 Recorder No. 808J 1135
 Day Letter- a 0.0 all depths

APPENDIX C

TIDE NOTE

GAGE LOCATION: Bolivar Pt., Texas
Lat. 29°21.76'
Long. 94°46.76'

Pleasure Pier, Galveston, Texas
Lat. 29°17.10'
Long. 94°47.33'

Pier 21, Galveston, Texas
Lat. 29°18.
Long. 94°47.

GAGE TYPE: Bolivar Pt.
Portable Automatic- 1962-63
Pressure Recording- 1964-65

Pleasure Pier
Standard Automatic

Pier 21
Standard Automatic

PLANE of REFERENCE: Bolivar Pt. (1962-63)
MLW Corresponds to 2.2 ft. on staff.

Bolivar P. (1964-65)
MLW Corresponds to 5.0 ft. on staff.

CORRECTION: No time or height corrections were
applied.

TIME: 90th

APPENDIX C (cont)

Pleasure Pier tides were used North of the North Jetty and South of the South Jetty and South of Lat. $29^{\circ}19.65'$ and East of Long. $94^{\circ}40.65'$.

Bolivar Pt. and Pier 21 tides were used between the Jetties.

Bolivar Pt. and Pier 21 tides are interchangeable.

The Corps of Engineers maintain two tide gages within the limits of this survey at Lat. $29^{\circ}21.9'$, Long. $94^{\circ}46.96'$ and Lat. $29^{\circ}19.65'$ and Long. $94^{\circ}41.55'$.

APPENDIX D

APPROVAL SHEET

Field work on this sheet was performed under the supervision of LCDR. Steve L. Hollis Jr., LCDR. P.A. Stark, and Lt. W.V. Hull, in 1963, and Lt. Harold E. McCall, in 1964.

Corrections to soundings and the record volumes were also under supervision of the above.

I supervised the completion of this survey, the final field records and will overlook the smooth sheet preparation.

This survey is complete and accurate to the extent of my knowledge.

Approved and forwarded,



R.E. Alderman, LCDR. USC&GS

ADDENDUM TO DESCRIPTIVE REPORT
BY
SMOOTH PLOTTER

January 28, 1966

G. SHORELINE

An apparent change in the shoreline is noted in the area of latitude $29^{\circ}21.70'$, longitude $94^{\circ}46.35'$. This shoreline is a sandy beach and appears to have receded 6 to 10 meters in this vicinity. A detached position, 1 "b" day (green), was taken at the point where the pier in this area meets the shoreline, on June 10, 1965. This pier is a T-shaped pier, constructed in 1962, and is shown on the latest charts. Hydrographic signal PIE was located at the end of this pier. This section of the shoreline was left in pencil.

The shoreline of the island in the area of Big Reef was also left in pencil as extensive changes in the shoreline were noted in this area. See Review Para. 2.

H. CROSSLINES

Three discrepancies in crosslines were noted in Section H of the Descriptive Report.

The explanation given in the Descriptive Report for the first discrepancy listed is correct. The soundings on "ha" day are 1 to 2 feet deeper on the smooth sheet than the soundings on the boat sheet.

The crossline in the discrepancy listed in the vicinity of latitude $29^{\circ}19.8'$, longitude $94^{\circ}41.9'$, was run on "b" day (blue), Launch 1177, on September 6, 1962. The regular system of lines were run mostly on "ra" day (blue), Launch 1177, on February 19, 1965. Due to the lapse of $2\frac{1}{2}$ years between the time of these lines, the old work (crossline) was rejected and the new work (regular system) was accepted as correct. The regular system of lines compare favorably with adjoining lines.

The crossline in the discrepancy listed in the vicinity of latitude $29^{\circ}20.0'$, longitude $94^{\circ}42.25'$, was run on "c" day

(blue), Launch 1177, on September 10, 1962. The regular system of lines were run on "da" day (blue), Launch 1177, on January 18, 1965. The old work was rejected and the new work accepted for the same reason given in the preceding paragraph. ✓

K. COMPARISON WITH CHART

A comparison was made with C.&G.S. Chart 518, 2nd edition, dated November 29, 1965. The scale of this chart is 1:25,000. ✓

A steel pipe, baring 2 feet at MLW, was located on position 1 "k" day (red), Skiff 758. The geographic position of this pipe is latitude $29^{\circ}22.02'$, longitude $94^{\circ}46.79'$. This pipe is not plotted on the chart, but falls well within a spoil area that is defined on the chart. ✓

The chart shows buoy 18 has been moved to a point approximately 80 meters to the north-west, and buoys 16 and 20 have been removed. The movement of these buoys were noted in the "Notice to Mariners" number 120, dated October 25, 1965. This same "Notice" and "Notice to Mariners" number 117, dated October 11, 1965, contains information concerning the movement of other floating aids to navigation on this chart and smooth sheet. ✓

The 9 foot sounding plotted on the chart and on the boat sheet at latitude $29^{\circ}20.30'$, longitude $94^{\circ}42.30'$, plots as a 10 foot sounding on the smooth sheet. This sounding is the second out from position 4 "da" day (blue), Launch 1177. Predicted tides were used for the soundings on the boat sheet. There is a difference of approximately 0.6 foot between the predicted tides and the smooth tides for the day this hydrographic line was run (January 18, 1965). ✓

The 2 foot sounding plotted on the chart and on the boat sheet at latitude $29^{\circ}21.3'$, longitude $94^{\circ}46.38'$, is not shown on the smooth sheet. This 2 foot sounding was obtained on position 82 "1" day (blue), Launch 1177, on October 12, 1962. This area was re-run and covered on "p" day (red) Skiff 758, on March 9, 1965. The new work shows the depths of this area to be 5 to 6 feet. The old work was rejected and the new work accepted as being the correct depth. ✓

An isolated 3 foot sounding shown on the chart at latitude $29^{\circ}20.35'$, longitude $94^{\circ}46.70'$, was not found during the survey of this sheet. The smooth sheet shows depths of 6 feet in this area. However, this shoal sounding was not dragged for nor is there any indication it was searched for, *concur*

therefore it is recommended that this 3 foot sounding be retained on the chart.

Position 17 "n" day (violet), Launch 183, is a detached position locating a submerged object at latitude $29^{\circ}21.32'$, longitude $94^{\circ}42.78'$. A submerged wreck is shown on the chart and on the boat sheet at this position. The hydrographic survey crew were unable to get an accurate least depth due to the drag chain continuously slipping off the submerged object in repeated attempts to obtain the least depth. The least depth obtained is 8 feet, which is the depth of the surrounding area. It is recommended the submerged wreck symbol be retained on the chart. The fact that the chain continually slipped off indicates the wreck does not protrude an appreciable distance from the bottom. Therefore it is not considered to be a serious danger to navigation. *concur*

The 6 foot sounding on the chart at latitude $29^{\circ}19.92'$, longitude $94^{\circ}43.79'$, is not shown on the smooth sheet. In this same general locale, that area just north of the south jetty to the island east of Big Reef, bares at MLW between longitudes $94^{\circ}43.5'$ and $94^{\circ}43.8'$. The 6 foot sounding was obtained on "j" day (blue), Launch 1177, on September 28, 1962. This was a true sounding at that time. However, this area was greatly filled between 1962 and 1965. New lines were run on "r" day (red) Skiff 758, on March 15, 1965. Also, the low water line was walked and fixes obtained on "q" day (red), Skiff 758, on March 10, 1965. The old work was rejected and the new work accepted. The chart shows 1 to 4 feet of water in this area. It is recommended the chart be changed to show the 0 curves as shown on the smooth sheet. ✓

There are several wrecks plotted on the chart at the ends of the two jetties and in the area that is the eastern limits of this sheet. These wrecks were either investigated by the C.&G.S. ships Hilgard and Wainwright or by this party in the survey of sheet H-8751 (HFP-20-2-62). Thus these wrecks were not plotted on this smooth sheet. F.E. No. 1, 1965 W.D. ✓

The 22 foot sounding on the chart at latitude $29^{\circ}20.95'$, longitude $94^{\circ}44.64'$, is within a shoal area outlined on the chart by a 24 foot depth curve. This area was developed by the survey crew and a least depth of 23 feet was found and plotted on the smooth sheet. This difference of 1 foot in the sounding is attributed to the difference between the predicted tides (used for soundings on the boat sheet) and the smooth tides (applied to the soundings on the smooth sheet). ✓

A least depth of 16 feet was found on a regular hydro-graphic line (position 20-21 "v" day (blue), Launch 1177) and plotted on the smooth sheet. The geographic position of this sounding is latitude 29°20.88' and longitude 94°46.15'. An isolated 17 foot sounding is shown on the chart at this position. It is recommended the 17 foot sounding be replaced by the 16 foot sounding on the chart.

O. MISCELLANEOUS

The red lighted buoy located on position 13 "ta" day (blue), Launch 1177, was not plotted on the smooth sheet. The geographic position of this buoy was latitude 29°20.29', longitude 94°40.92'. This buoy was only of a temporary nature and was later removed by the U. S. Coast Guard.

Hydrography commenced on this sheet in September, 1962 and was discontinued in March, 1963. The Field Party then moved out of the project area to another project. The party returned to this area and resumed survey operations on this sheet in November, 1964. Slightly over 20% of the work was completed before the move, leaving nearly 80% of the work that was completed in 1964 and 1965. In some areas where hydrography was run earlier, there were such major changes that these entire areas were re-run. In all cases where the old work crossed or overlapped the new work and discrepancies were noted, the new work was accepted and the old work rejected.

There are 62 bottom samples on this smooth sheet.

George L. Fernandes
George L. Fernandes
Cartographer, C.&G.S.

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. 8748

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS		1	
DESCRIPTIVE REPORT		1	OVERLAYS			
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	2, PHOTOGRAPHS					
VOLUMES	25					
BOXES						
T-SHEET PRINTS (List)						
SPECIAL REPORTS (List)						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				4821
POSITIONS CHECKED		482		
POSITIONS REVISED		0		
DEPTH SOUNDINGS REVISED		10		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		1	35	
JUNCTIONS		4	10	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		2		
SPECIAL ADJUSTMENTS		0		
ALL OTHER WORK		420		
TOTALS		428	214	
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY	BEGINNING DATE		ENDING DATE	
REVIEW BY	BEGINNING DATE		ENDING DATE	

Morris M. Taylor
Fannie B. Fowler

9/1/66 12/8/66
9-07-73 10-26-73

Wop, Carstens m/2/73 23

TIDE NOTE FOR HYDROGRAPHIC SHEET

6/28/66

Nautical Chart Division: R. H. Carstens

Plane of reference approved in
25 volumes of sounding records for

HYDROGRAPHIC SHEET 8748

Locality: Galveston Bay, Texas

Chief of Party: S. L. Hollis, W. V. Hull, P. A. Stark, H. E. McCall,
R. E. Alderman - 1962-65

Plane of reference is mean low water

Tide Station Used (Form C&GS-681):

Bolivar Point
Pleasure Pier
Pier 21
Freeport

Height of Mean High Water above Plane of Reference is as follows:

1.4 ft. Bolivar Point
2.1 " Pleasure Pier
1.4 " Pier 21
1.8 " Freeport

Remarks Note: Tide reducers for the positions listed below
have been revised in red and verified.

<u>Vol.</u>	<u>Pos.</u>
2	1h to 30h


Chief, Tides and Currents Branch

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8748

FIELD NO. ECFP-10-7-62

Texas, Galveston Bay, Galveston Bay Entrance

SURVEYED: September 5, 1962 through April 7, 1965

SCALE: 1:10,000

PROJECT NO.: OPR-428

SOUNDINGS: Raytheon DE-723 Depth
Recorders; 808 Depth
Recorders; EDO Depth
Recorder and Sounding
Pole

CONTROL: Sextant fixes on
shore signals

Chief of Party.....	S. L. Hollis
.....	P. A. Stark
.....	H. E. McCall
.....	R. E. Alderman
Surveyed by.....	R. A. Lewis
.....	W. H. Piner
.....	J. B. Jones
.....	G. F. Trefethen
Protracted by.....	G. L. Fernandes
Soundings plotted by.....	G. L. Fernandes
Verified and inked by.....	D. M. Taylor
Reviewed by.....	F. B. Powers
.....	Date: October 26, 1973
Inspected by.....	R. H. Carstens

1. Description of the Area

This survey covers the entrance to Galveston Bay. Two jetties about 4 miles long and 1.3 miles apart extend eastward, one from Bolivar Peninsula and the other from Pelican Island.

Parts of the federally maintained Houston Ship Channel and Galveston Channel are within the survey limits. The bottom generally slopes with scattered deeps and shoals.

The predominant bottom characteristics are sand, shells and mud.

2. Control and Shoreline

The origin of control is adequately covered in Part F of the Descriptive Report.

The shoreline originates with reviewed photogrammetric manuscript T-12231 of 1962-64 and with Advanced photogrammetric manuscripts T-12236 of 1962-65 and T-12235 of 1965. Two piers in red, one in lat. $29^{\circ}20.05'$, long. $94^{\circ}44.82'$, the other in lat. $29^{\circ}20.14'$, long. $94^{\circ}46.64'$, were located by the Hydrographer.

The shoreline sections shown in red in lat. $29^{\circ}22.2'$, long. $94^{\circ}45.02'$ and lat. $29^{\circ}21.7'$, long. $94^{\circ}46.75'$ reveal conditions contemporary with the soundings but are superseded by more recent topographic information. The soundings in lat. $29^{\circ}20.7'$, long. $94^{\circ}47.4'$ were retained to show the condition at the time the soundings were taken but are superseded by subsequent soundings on H-8747 (1963-65).

3. Hydrography

A. Depths at crossings are generally in good agreement.

B. The usual depth curves were adequately delineated except the low water line which was not delineated in some areas because of the small range in tide .

C. The development of the bottom configuration and the investigation of least depths are considered adequate.

4. Condition of the Survey

The sounding records, smooth plotting, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual.

5. Junctions

Adequate junctions were effected with H-8747 (1963-65) on the west, with H-8751 (1962-65) on the north and east, and with H-8752 (1962-65) and H-8749 (1963-65) on the south.

6. Comparison with Prior Surveys

A.	H-247	(1850)	1:20,000	H-918b	(1851-67)	1:20,000
	H-264	(1851)	1:20,000	H-919	(1867)	1:10,000
	H-265	(1851-52)	1:20,000	H-1530	(1883)	1:10,000
	H-471	(1855)	1:20,000	H-1556a	(1883)	1:80,000
	H-906a	(1867)	1:10,000	H-1597a	(1884)	1:80,000
	H-906b	(1867)	1:20,000	H-1597b	(1884)	1:20,000

These early surveys have been compared with and were superseded by the surveys discussed in the following paragraph. Further consideration is not necessary in the present review.

B.	H-5394	(1933-34)	1:20,000
	H-5424	(1933-34)	1:10,000
	H-5462	(1933-34)	1:10,000

A comparison between the present and prior surveys reveals variable differences of 1 to 3 feet in depths, except in areas affected by dredging and disposition of spoil, where the changes are greater. The only shoreline that has remained stable since 1933 is in areas supported by bulkheads.

The following items were not disproved by the present survey and have been carried forward to the present survey:

<u>Items</u>	<u>Location</u>
(1) Submerged piling	vicinity of lat. $29^{\circ}21.75'$, long. $94^{\circ}45.5'$
(2) Submerged pipe	lat. $29^{\circ}21.9'$, long. $94^{\circ}45.23'$
(3) Two submerged piles	vicinity of lat. $29^{\circ}20.13'$, long. $94^{\circ}45.1'$
(4) Three submerged piles	lat. $29^{\circ}20.1'$, long. $94^{\circ}44.95'$
(5) Four submerged piles	lat. $29^{\circ}20.08'$, long. $94^{\circ}44.63'$
(6) Submerged pile	lat. $29^{\circ}21.19'$, long. $94^{\circ}42.65'$
(7) Two submerged wrecks	lat. $29^{\circ}21.82'$, long. $94^{\circ}46.82'$ lat. $29^{\circ}21.93'$, long. $94^{\circ}46.83'$

With the additions noted, this survey is adequate to supersede the prior surveys within the common area.

C. F. E. No. 1, 1965; 1:80,000

This wire drag survey covers only a small portion of the present survey. There are no conflicts between the present depths and

the effective wire-drag depths. The following soundings have been carried forward to supplement the present survey:

- (1) A 11-ft. sounding in lat. $29^{\circ}20.5'$, long. $94^{\circ}40.72'$.
- (2) A 18-ft. sounding in lat. $29^{\circ}20.43'$, long. $94^{\circ}40.73'$.
- (3) A 26-ft. sounding in lat. $29^{\circ}20.47'$, long. $94^{\circ}40.88'$.

7. Comparison with Chart 518 (latest print date Sept. 30, 1972; 10th Edition.)

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration and with prior and subsequent Corps of Engineers surveys, supplemented by the partial application of depths from the present survey boat sheet and smooth sheet before verification and review.

Attention is directed to the following:

- (1) Items indicated on BP-87224 charted subsequent to the date of the present survey supersede the survey information and should be retained on the chart.
- (2) The numerous spoil areas charted within the limits of the present survey originates with Corps of Engineers surveys BP-67559 (1964), BP-65502 (1964), and BP-67245 (1964). These spoil areas should be retained on the chart.
- (3) The numerous shoreline revisions charted within the limits of the present survey from air-photo revisions on BP-98576 (1967) and BP-69508 (1965) supersede the survey information and should be retained on the chart.
- (4) The following items charted prior to the date of the present survey from sources indicated have been disproved by the hydrographer and should be deleted from the chart:
 - (a) A submerged pipe in lat. $29^{\circ}21.55'$, long. $94^{\circ}45.37'$ from H-5424.

(b) A sunken wreck in lat. $29^{\circ}21.98'$, long. $94^{\circ}42.69'$ from Corps of Engineers survey BP-43660 (1948).

(5) The following items were charted from the boat sheet of the present survey and should be revised in accordance with the final data:

Boat Sheet	Location	Smooth Sheet
(a) Sunken wreck	lat. $29^{\circ}21.5'$, long. $94^{\circ}42.4'$	Visible wreck
(b) Submerged iron stake	lat. $29^{\circ}21.6'$ long. $94^{\circ}46.17'$	Iron stake UNCOVERED bare 1-ft. M.L.W. MAR 7/94
(c) Pile and pipe	in the vicinity of lat. $29^{\circ}20.09'$ long. $94^{\circ}44.99'$	Position should be revised
(d) Drilling Rig	lat. $29^{\circ}19.99'$, long. $94^{\circ}44.22'$	Relabel pile
(e) Pipe symbol	lat. $29^{\circ}19.98'$, long. $94^{\circ}44.21'$	Label Drilling Rig
(f) Sunken wreck	lat. $29^{\circ}21.95'$, long. $94^{\circ}42.90'$	Add 1-ft. sdg, danger curve and Wreck
(g) Sunken wreck	lat. $29^{\circ}21.93'$, long. $94^{\circ}42.94'$	Add 2-ft. sdg, danger curve and Wreck
(h) Piling	lat. $29^{\circ}21.88'$, long. $94^{\circ}46.97'$	Delete piling symbol and description

(6) The 3-ft. sounding charted in lat. $29^{\circ}20.35'$, long. $94^{\circ}46.73'$ from Corps of Engineers survey BP-42191 (1947) was not verified or disproved by the hydrographer and should be retained on the chart.

(7) Three platforms located on the present survey in lat. $29^{\circ}20.37'$, long. $94^{\circ}42.27'$; lat. $29^{\circ}20.32'$, long. $94^{\circ}42.93'$; lat. $29^{\circ}20.45'$, long. $94^{\circ}43.58'$ were deleted from the chart from subsequent Corps of Engineers information chart letter 87 of 1972.

(8) The cleared depths 11, 18, and 26 charted in the vicinity of lat. 29° 20.45', long. 94° 40.8' have been incorrectly charted from F. E. No. 1 (1965) wire drag and should be revised to cleared depths of 10 and 16 and a sounding of 26 feet respectively.

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

B. Controlling Depths

The charted controlling depths for the following areas are based on subsequent Corps of Engineers information:

<u>Name of Channel</u>	<u>Source</u>
Galveston Channel	CL-1405/1972
Anchorage Ground	CL-1565/1969
Highway Ferry Channel	CL-1472/1969

C. Aids to Navigation

Several aids to navigation have been established or relocated subsequent to the date of the present survey.

The aids presently charted adequately mark the feature intended.

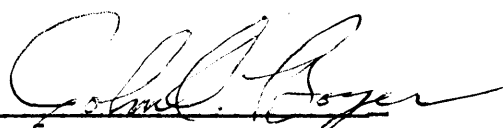
8. Compliance with Instructions

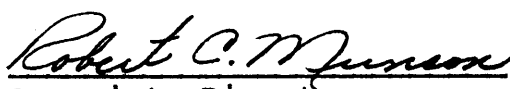
This survey adequately complies with the Project Instructions.

9. Additional Field Work

This survey is a good basic survey and no additional field work is recommended.

Examined and Approved:


 Chief
 Marine Chart Division


 Associate Director
 Office of Marine Surveys
 and Maps

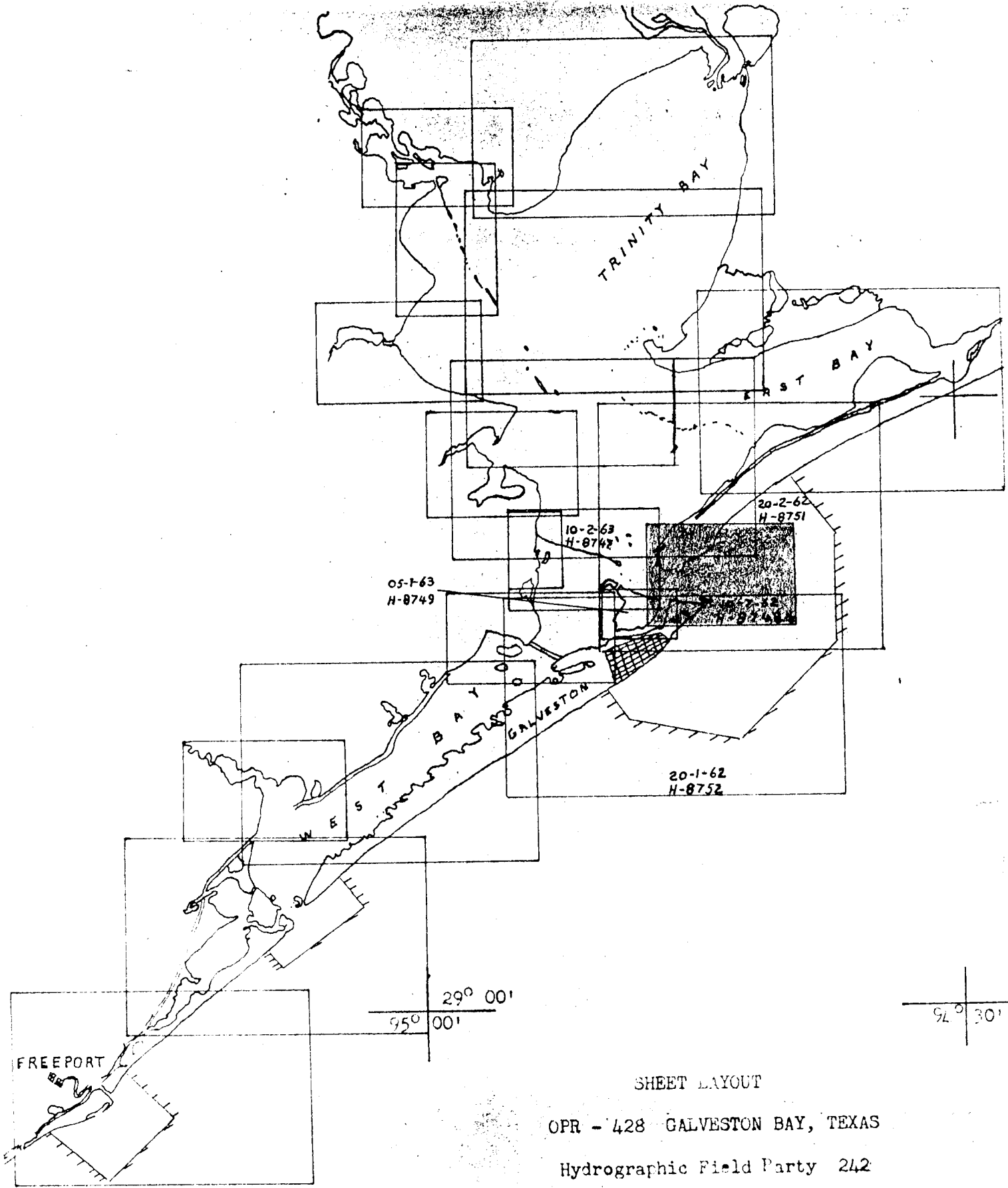
H-8748 (1962-65)

Information for Future Pre-Survey Reviews

Bottoms changes have resulted from channel dredging, spoil disposal and natural changes.

Position Index.....	lat. 291	long. 0945
Bottom change index.....	5	
Use index.....	9	
Resurvey cycle.....	10 yrs.	

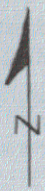
Position index.....	lat. 292	long. 0945
Bottom change index.....	5	
Use index.....	9	
Resurvey cycle.....	10 yrs.	



SHEET LAYOUT
 OPR - 428 GALVESTON BAY, TEXAS
 Hydrographic Field Party 242

OVERLAY TO C + GS CHART 886

SCALE 1:40,000



BOLIVAR PENINSULA

29° 22.0'

HIGHWAY FERRY CHANNEL

FERRY ROUTE

FORT PT.

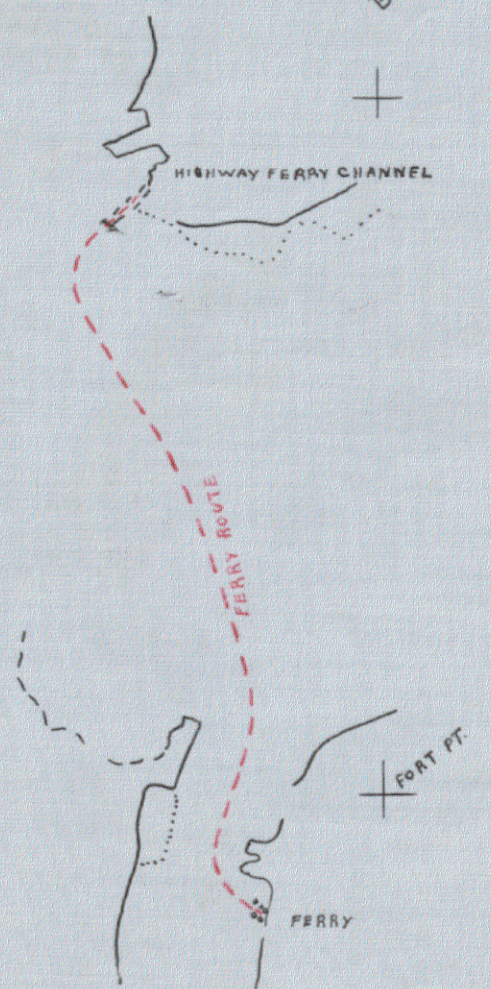
PELICAN ISLAND

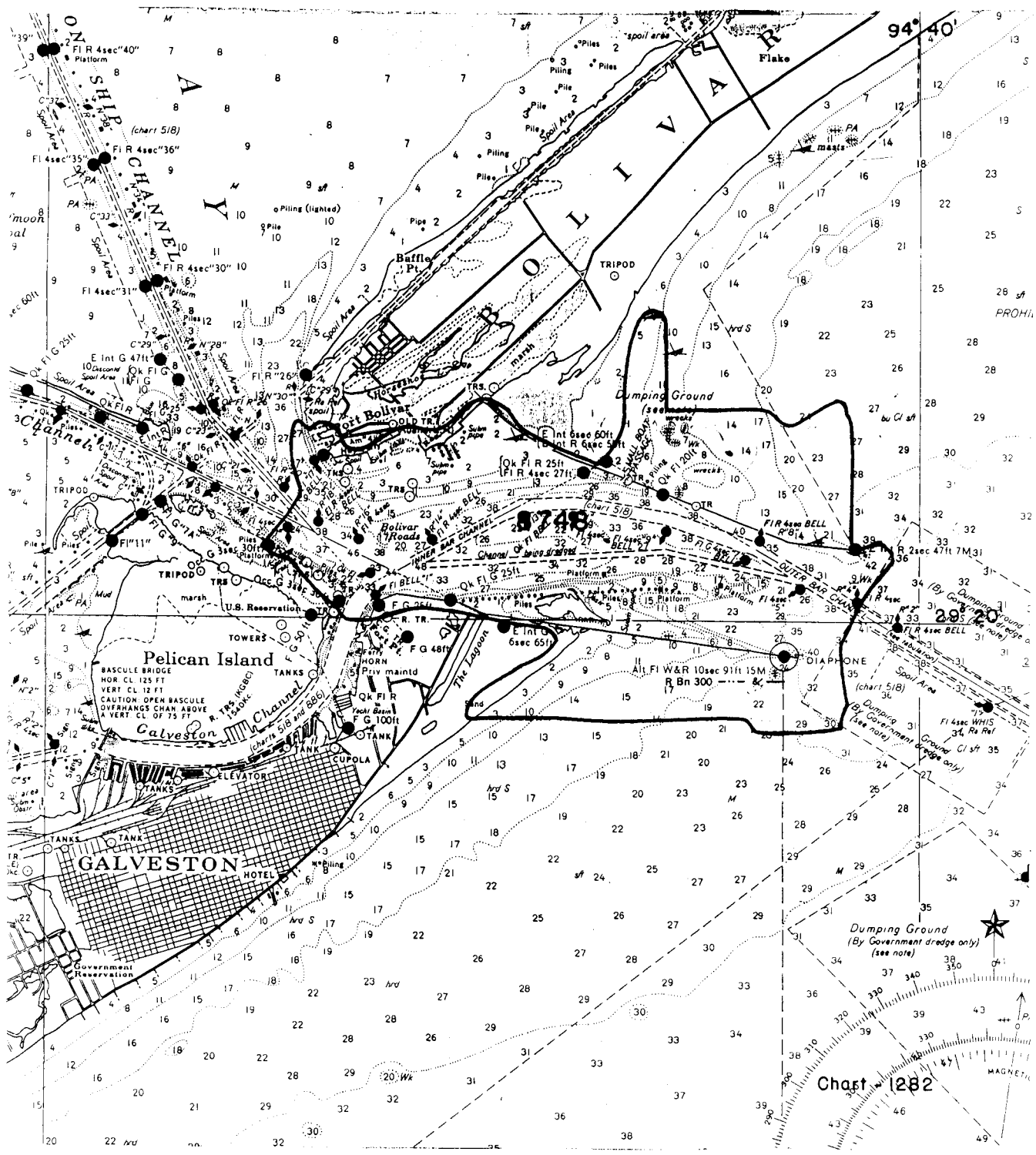
FERRY

94° 48.0'

29° 18.0'

94° 44.0'





RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8748

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
11323 1282	2/17/66	Helmer	Part Before Verification Review Inspection Signed Via Drawing No. Added 4 pipes, 1 pile, 1 Dol, 1 , 1 , Was previously appd thru Boat sheets
11346 1116	4-11-66	W.A. Hall	Part Before After Verification Review Inspection Signed Via Drawing No. No correction - Generally inside jetties at Galveston - No hydro at this scale.
11324 518	4/9/66	W. Quinlan	Full Part Before After Verification Review Inspection Signed Via Drawing No. Examined for critical corrections applied thru BP-067619
C 886	11/21/66	Helmer	Part Before After Verification Review Inspection Signed Via Drawing No. Examined thru 518. Mostly falls in 3-E area of deleted hydro
11300 1117	11/28/66	T. Anne Ware	Part Before ^{before} Verification Review Inspection Signed Via Drawing No. No correction thru 1282 and 1116. Generally inside jetties at Galveston - No hydro charted on this scale.
15235	12/14/76	J.E. Fisher	Part Before After Verification Review Inspection Signed Via
518			Drawing No. brought over top into agreement only
7282			
11323	10/5/90	William Boyer	Full Part Before After Verification Review Inspection Signed Via Drawing No. #69 APPLIED IN FULL Must be reapplied thru larger scale chart - 11324
11340	3/15/91	Dan Black	Full Part Before After Verification Review Inspection Signed Via Drawing No. 72 NO CORR. THRU 11300 Must be reapplied thru larger scale chart - 11324
11324	5/15/91	John Barber VRE	Full Part Before After Verification Review Inspection Signed Via Drawing No. 26 Adequate Application
11323	12-20-91	R. A. Lellis	Full Part Before After Verification Review Inspection Signed Via Drawing No. 70 Adeq. Applied thru 11324
11324	12-20-91	R. A. Lellis	Reapplied Drq. # 27