

8752

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-20-1-62 Office No. H-8752

LOCALITY

State Texas

General locality Galveston

Locality S. W. Approach to Galveston Bay

Entrance

19 62-65

CHIEF OF PARTY

S. L. Hollis W. V. Hull P. A. Stark
H. E. McCall R. E. Alderman

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DATE Sept. 15, 1965

USCOMM-DC 37022-P66

8752

H-8752

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 20-1-62

State Texas

General locality ~~Vicinity of Galveston Bay Entrance~~ Galveston

Locality SW Approach to Galveston Bay Entrance
Texas Outer Coast

Scale 1:20,000 Date of survey 6 Sept. 1962-20 May 1963
25 April 1962, 4 June 1964 25 Oct. 1964-3 March 1965
20 & 21 July 1965

Instructions dated 2 Feb. 1965, 5 April 1965 Project No. OPR-428

Vessel Launch CS 1177, CS 183, Ship Wainwright, and Ship Hilgard

Chief of party LCDR. S.L.HOLLIS, LT. W.V.HULL, LCDR. P.A.STARK, LT.H.E.McCALL, LCDR.R.E.
ALDERMAN

Surveyed by ROBERT A.LEWIS, LT.(jg) R.W.EILONEN, LT.(jg) J.B.JONES

Soundings taken by echo sounder, hand lead, pole _____

Graphic record scaled by PARTY PERSONNEL

Graphic record checked by PARTY PERSONNEL

Protracted by LT.(jg) John B. Jones Automated plot by _____

Soundings penciled by LT.(jg) John B. Jones

Soundings in ~~fathoms~~ feet at MLW ~~MidW~~

REMARKS: _____

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SURVEY H-8752
(field No. (ECFP20-1-62))

SCALE: 1:20,000

PROJECT : OPR-428

OFFICERS-IN-CHARGE:

LCDR. S. L. HOLLIS

LT. W. V. HULL

LCDR. P. A. STARK

LT. H. E. McCALL

LCDR. R. E. ALDERMAN

SURVEYED BY:

ROBERT A. LEWIS

LT. (jg), R. W. ELONEN

LT. (jg), J. B. JONES

✓ A. PROJECT

Work on project OPR-428 was done in accordance with Basic Instructions 211/pt, S-2-ECFP, dated 25 April 1962; Supplemental Instructions C-211, S-2-HFP-219, dated 4 June 1964; Amended Instructions 211, S-2-HFP-242, dated 2 February 1965; and Supplemental Instructions, dated 5 April 1965.

B. AREA SURVEYED

✓ The area covered by this survey is in the general vicinity of Galveston, Texas and covers that portion of the Gulf of Mexico offshore from Galveston, Texas. The limits of the survey extend from Latitude $29^{\circ}12.7'N$ to Latitude $29^{\circ}19.0'N$; and from Longitude $94^{\circ}37.0'W$ to Longitude $94^{\circ}50.0'W$.

Field work on this sheet commenced on 6 Sept. 1962 and was completed on 21 July 1965. Field work was interrupted from 20 May 1963 to 25 Oct. 1964, and from 3 March 1965 to 20 July 1965. The first interruption was due to a special project at Lake Mead, Nevada, and the second to a delay by the Ships Wainwright and Hilgard in extending the limits of the survey.

Junction was made on the North with C&GS contemporary surveys H-8751 (ECFP 20-2-62) and H-8748 (ECFP 10-7-62). Also, junction and overlap was made on the North with Corps of Engineer Sheets (1), (2), (7), and (8). All Engineer Sheets are scale 1:10,000 and dated "July-October 1962". See review.

✓ C. SOUNDING VESSELS

Vessels used for soundings were Launch CS 183, Launch CS 1177, Ship Wainwright, and Ship Hilgard. The following colors and day letters were used:

Launch CS 183	Violet	a thru v
Launch CS 1177	Blue	a thru y
Ship Wainwright	Red	A thru B
Ship Hilgard	Blue	A thru B

D. SOUNDING EQUIPMENT

✓ Model 255c, EDO Graphic Recorder, Serial No. 16, 20 KC; Raytheon Fathometer, Model DE-723 Serial No. 543, 20 KC, and Serial No. 263, 20 KC, 200 KC, were used to obtain soundings on Launch CS 1177.

On Launch CS 183, a Raytheon Fathometer, DE-723 Serial No. 549, 20 KC; a DE-723 Serial No. 263, 20 KC; a DE-723 Serial No. 265, 200 KC, were used to obtain soundings.

The Wainwright and Hilgard used Raytheon DE-723 fathometers, serial numbers 257 and 244 respectively.

Corrections to be applied to echo soundings were determined from daily bar checks and simultaneous comparisons. An abstract of these comparisons is tabulated in Appendix "B" of this report.

An armed lead was used to obtain bottom samples.

No unusual difficulties were encountered with the sounding equipment. Numerous strays were encountered with EDO Graphic Recorder.

✓ E. SMOOTH SHEET

The Smooth Sheet^{projection} was made in the Washington Office by a projection ruling machine. Smooth plotting was accomplished by Hydrographic Field Party 242.

F. CONTROL

Horizontal control was obtained by standard three-point sextant fix methods. In some cases where it was impossible to see the signals, the "See Boat Sheet" method was used.

Considerable difficulty was experienced in smooth plotting the Southeast portion of the sheet. These positions were plotted using a double extension protractor. The protractor was tested on a test plate made by this party that was capable of testing only up to the first extension.

Most of the positions in the Southeast portion of the sheet plotted on the outer limits of the double extension, with some positions falling off the end of the arm. One signal (RED) used in this area was shot at an average distance of ten to twelve miles. Also, the angles were slim, and in some cases an error of three minutes could make a 150 meter difference in the plotted position. For this reason great care was taken in plotting each position, which turned out to be very time consuming.

It is recommended that electronic control be used when this area is surveyed again.

The photo-hydro signals were furnished by Photo Party No. 756 from Advanced Manuscripts No. T-10788 and No. T-10789. See Review.

Signal NOR (North Jetty Light) was a triangulation station, but was destroyed by hurricane Carla in September 1961. The light was rebuilt in 1962, and located as a topo signal by Photo Party No. 756 in 1964 for this party. Therefore, all hydro was run on a topo location of signal NOR. This signal will be located by triangulation at a later date.

G. SHORELINE

See Review.

The shoreline was transferred from blue line print of Advanced Manuscripts that are listed in section F of this report.

The shoreline was not verified by the hydrographer because the small range of tide, and numerous rock and timber groins made it impossible to run hydro close to the beach. However, on "v" day CS 183, the shoreline was walked and all the rock and timber groins D.P.ed.

It was found that several groins had moved, been removed, or new ones constructed and they are listed as follows:

(1). At Latitude $29^{\circ}17.60'N$, Longitude $94^{\circ}16.90'W$, it was determined by visual inspection that this groin has been removed.

*4. Prob. $94^{\circ}46.90'W$ RFD 10-15-65
Deleted on smooth sheet. RAS*

G. SHORELINE (cont)

✓ (2). At Latitude $29^{\circ}17.38'N$, Longitude $94^{\circ}47.12'W$, the end of this pier was inspected visually, and was found to have been destroyed. \checkmark
Piling shown on Present survey.

✓ (3). At Latitude $29^{\circ}16.73'N$, Longitude $94^{\circ}48.07'W$, rock groin has been extended. Control was by three-point sextant fix methods with a check angle.

✓ (4). At Latitude $29^{\circ}16.05'N$, Longitude $94^{\circ}49.32'W$, it was determined by visual inspection that this groin does not exist. However, at this location a row of pilings extend down to the water line to prevent cars from driving up and down the beach. Deleted from present survey. RD3

✓ The low-water line was not defined by soundings for the same reasons that the shoreline was not verified.

H. CROSSLINES

Crosslines were run in excess of 10% with good agreement on all crosslines except for one. This crossline was rerun and good agreement obtained

I. JUNCTION

✓ On the North, junction was made with contemporary surveys H-8751 (ECFP 20-2-62) and H-8748 (ECFP 10-7-62). The soundings on both sheets were in agreement with H-8752 (ECFP 20-1-62). See Review.

Also, junction and overlap was made on the North with Corps of Engineers Sheets (1), (2), (7), and (8). The Corps of Engineers soundings were in good agreement with this survey in all cases except one where a 3 to 4 foot difference was found. The discrepancy is located at Latitude $29^{\circ}19.00'N$ and Longitude $94^{\circ}38.50'W$. This discrepancy can be explained because it is located on the edge of the Galveston Harbor Outer Bar Channel, and is subject to change due to the dredging operations carried on here by the Corps of Engineers. See Review.

J. COMPARISON WITH PRIOR SURVEYS See Review.

A comparison was made with Prior Surveys No. H-5522, scale 1:20,000; and H-6252, scale 1:40,000. See Review.

A difference in soundings with H-6252 of 1-5 ft. was found in the general area from Latitude $29^{\circ}18.00'$, Longitude $94^{\circ}38.00'$ to Latitude $29^{\circ}14.00'$, Longitude $94^{\circ}43.00'$, and from Latitude $29^{\circ}14.00'$, Longitude $94^{\circ}43.00'$ to Latitude $29^{\circ}14.00'$, Longitude $94^{\circ}48.00'$. See Review.

The shoaling is very extensive and lies along the limits previously described. A comparison with a 1962 Corps of Engineers Survey, and handleads taken with bottom samples along the outer limits agree with soundings on this survey. See Review.

J. COMPARISON WITH PRIOR SURVEY (cont)

The limits of the survey were extended by the Ships Wainwright and Hilgard, and shoaling of one to two feet was found along the outer limits.

Also on H-5522, discrepancies were found that indicated shoal areas on the old survey are no longer present. The changing bottom is very evident when the old survey (1:20,000) is laid over the new survey. Survey H-5522 is not available at this time for a better comparison.

Items that were investigated are listed as follows:

<u>Feature</u>	<u>Position</u>	<u>Remarks</u>
✓ Pre-Survey Item Oil Derrick	29°18.21' 94°44.10'	A visual search was made for this Derrick, supplemented by the regular system sounding lines with negative results. Recommended that it be deleted. <i>Concur. 1295.</i>
✓ Pre-Survey Marker (lighted)	29°19.28' 94°44.70'	Investigated on H-8748 (ECFP 10-7-62) and not found. Recommended that it be deleted. <i>Concur 1298.</i>
✓ Pilings (three)	29°17. ³⁷ 26 ' 94°47.11'	These pilings are the remains of the ruins of the end of a pier. They were located by three-point sextant fix methods, and "See Boat Sheet". The least one bares 4 ft. MLW. <i>See survey for reduced elevations.</i>

K. COMPARISON WITH CHART *See Review (Chart Comparison).*

For shoreline features this survey was compared with C&GS Chart 886; 5th edition; August 3, 1964; scale 1:40,000. Off shore details and soundings were compared with C&GS Chart 1282; 21 edition; Sept. 2, 1963; revised May 18, 1964; scale 1:80,000.

Dangers and changes found or investigated are listed as follows:

<u>Charted Feature</u>	<u>Position</u>	<u>Remarks</u>
✓ Groin	29°17.60' 94°36.90'	See Section G (1)
✓ Pier	29°17.38' 94°47.12'	See Section G (2)
✓ Groin	29°16.73' 94°48.07'	See Section G (3)
✓ Groin	29°16.05' 94°49.32'	See Section G (4)

K. COMPARISON WITH CHART(cont)

✓ Rock	29°17.97' 94°46.46'	This area was observed visually when it bared at extremely low tide, and nothing found, but a flat rock which extended 0.1' above the bottom. It is recommended that it be deleted. <i>"rky" added to survey.</i>
✓ Rock	29°17.53' 94°46.90'	This rock was observed visually at a low tide in approximately its charted position, but was not located. It is recommended that it be retained on the chart in its present location. <i>Concur. RDS</i>
Pile	29°17.21' 94°47.31'	This area was observed visually at a minus one foot tide and nothing found. It is recommended that it be retained on the chart in its present location as a submerged pile. This feature does not exist on Chart 886, 5th Ed. A-3-3, 1964. Recommended it not be added to chart. RDS.
Row of Pilings	29°17.19' 94°47.41'	These pilings were observed visually at a minus one foot tide, and found to be awash. They were located by the "See Boat Sheet" method. <i>Shown as subm piling on smooth sheet.</i>
✓ Pilings (three)	³⁷ 29°17.46' 94°47.11'	See Section J(3)
✓ Oil Derrick	29°18.21' 94°44.10'	See Section J(1)
✓ Soundings	29°18.00' 94°38.00'	See Section J (paragraph #1)
	to 29°14.00' 94°43.00'	
	to 29°14.00' 94°48.00'	
✓ Soundings	See H-5522	See Section J (paragraph #2)

L. ADEQUACY OF SURVEY

✓ This survey is considered adequate to supersede prior surveys.

✓ M. AIDS TO NAVIGATION See Review.

The U.S. Coast Guard maintains one floating aid to navigation within the limits of this survey. A comparison with the Light List and chart indicate this aid adequately serves the purpose for which it was established. This aid was located twice (Vol. 13, CS 183, 115 t), (Vol. 1, CS 1177, 26c) and neither location checks the charted position. It was reported out of position by the Coast Guard when located on 115 t day.

✓ N. STATISTICS

<u>Vessel</u>	<u>Number of Pos.</u>	<u>Statute Miles of Soundings</u>
Launch CS-1177	1,423	439.6
Launch CS-183	1,303	348.4
Ship Wainwright	265	87.4
Ship Hilgard	<u>294</u>	<u>100.7</u>
Total-	3,285	976.1

Total area surveyed, 64 square Nautical miles.

Thirty eight Bottom Samples were taken on this sheet,

✓ O. MISCELLANEOUS

As many as 25 to 30 ships were anchored within the limits of this survey during the months of January to March 1965. Ships are not normally anchored in this area, but were at this time because of a dock strike.

Some areas were found where the crosslines did not check and they are listed as follows:

Launch 183 14g day
Launch 1177 1p day
Launch 1177 34c to 40c day

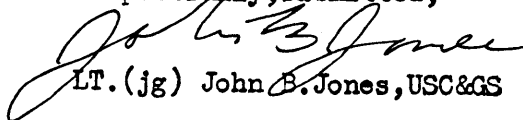
These discrepancy were due to a difference in soundings between 1962 and 1965 work, and the differences resolved by using the more recent work. See Condition of Survey in Review.

On "j" day, Launch 1177, numerous unexplained peaks were found that were thought to be caused by paracircuits in the fathometer.

Several other unexplained peaks were found and they are listed as follows:

Launch 1177 36n
" 22c
" 22d-23d
" 80f
" 15h

Respectfully, submitted,


LT. (jg) John B. Jones, USC&GS

APPENDIX A
LIST OF SIGNALS

Hydrographic Survey H-8752 (ECFP 20-1-62)

✓ AIR T-10788
 ✓ BEND T-10788
 ✓ BUC Buccaneer, 1933-~~64~~
 ✓ COT Galveston, Southern Cotton Co., Water Tank, 1933-~~64~~
 ✓ CUP Galveston, Sealy Hospital Cupola, (USE) 1900-~~64~~
 ✓ END T-10788
 ✓ FOX T-10788
 ✓ GAB T-10788
 ✓ GAL Galveston, Municipal Water Tank, 1960-~~64~~
 ✓ HOT T-10788
 ✓ LAG T-10788
 ✓ LIC T-10788
 ✓ LIG South Jetty Light, 1933-~~64~~
 ✓ MAN T-10788
 ✓ MAST Galveston, Coast Guard Radio Mast, 1960-~~64~~
 ✓ MET T-10788
 ✓ MOO Galveston, Moody's Press Water Tank, 1933-~~64~~
 ✓ NIC T-10788
 ✓ NOR T-10789
 ✓ OFF T-10788
 ✓ OUT Galveston Bay Entrance Channel Range, Rear Light, ~~1963-64~~ 1960
 ✓ POT T-10788
 ✓ PUB T-10788
 ✓ RED T-10788
 ✓ SEA T-10788
 ✓ SOX T-10788 ~~T-12225~~
 ✓ TAN Stand Pipe (USE), 1900
 ✓ TER T-10788
 ✓ TEX Texas City Channel Cut "A", ~~1963-64~~, Outer Range Rear Light, ~~1963-64~~ 1961
 ✓ TON ~~T-10788~~ Galveston Wharf Co. Pier 16 Water Tank, 1933
 ✓ TOW T-10789 ~~T-12226~~
 ✓ USE Bolivar Point Lighthouse, 1900, ~~1933-64~~ (USE)
 ✓ VES Galveston, Cotton Concentration Co. Water Tank, 1933-~~64~~
 ✓ WAY T-10788

ANN * T-10789 Galveston Bay Entrance Channel Range, Front Light, 1960

* Added to smooth sheet 8/15/66

APPENDIX B
CORRECTIONS TO ECHO SOUNDINGS

Hydrographic Survey H-8752 (ECFP 20-1-62)

LAUNCH 1177

<u>Date</u>	<u>Day Letter</u>	<u>Echo Recorder No.</u>	<u>Depth (ft)</u>	<u>Corr (ft)</u>
9-6-62	a	EDO 255c No. 16	3.0 to 7.0	-0.4
9-11-62	b	" " " "	7.1 to 15.0	-0.2
9-12-62	c	" " " "	15.1 to 20.0	0.0
9-19-62	d	" " " "	20.1 to 24.0	+0.2
9-24-62	e	" " " "	24.1 to 27.0	+0.4
9-25-62	f	" " " "	27.1 to 30.0	+0.6
9-26-62	g	" " " "	30.1 to 34.0	+0.8
9-28-62	h	" " " "	34.1 to 38.0	+1.0
10-3-62	j	" " " "	38.1 to deeper	+1.2
10-10-62	k	" " " "		
10-11-62	l	" " " "		
10-16-62	m	" " " "		
<hr/>				
1-9-63	n	DE-723 No. 543	3.0 to 18.0	-0.4
			18.1 to 34.4	-0.2
			34.5 to 39.0	-0.4
			39.1 to deeper	-0.6
<hr/>				
2-21-63	p	DE-723 No. 543	3.0 to 18.0	-0.4
3-6-63	q	" "	18.1 to deeper	-0.2
3-7-63	r	" "		
<hr/>				
12-1-64	s	DE-723 No. 263	0.0 to 10.7	-0.4
1-5-65	t	" "	10.8 to 19.5	-0.2
1-6-65	u	" "	19.6 to 28.8	0.0
			28.9 to 36.0	+0.2
			36.1 to 40.3	+0.4
			40.4 to 43.7	+0.6
			43.8 to deeper	+0.8

APPENDIX B (cont)

1-7-65	v	DE-723 No. 263	0.0 to 5.6	-0.2
1-11-65	w	" "	5.7 to 10.4	0.0
1-12-65	x	" "	10.5 to 21.7	+0.2
1-13-65	y	" "	21.8 to 28.8	+0.4
			28.9 to 33.9	+0.6
			34.0 to 40.0	+0.8
			40.1 to deeper	+1.0

LAUNCH 183

3-14-63	a	DE-723 No. 549	3.0 to 5.0	-1.0
		6	5.1 to 7.0	-0.8
			7.1 to 10.0	-0.6
			10.1 to 12.0	-0.4
			12.1 to 18.0	-0.2
			18.1 to 23.0	0.0
			23.1 to 26.0	+0.2
			26.1 to 29.0	+0.4
			29.1 to 32.0	+0.6
			32.1 to 35.0	+0.8
			35.1 to 38.0	+1.0
			38.1 to 40.0	+1.2
			40.1 to 42.0	+1.4
			42.1 to deeper	+1.6

3-28-63	b	DE-723 No. 549	3.0 to 6.0	-0.8
			6.1 to 11.0	-0.6
			11.1 to 21.0	-0.4
			21.1 to 27.0	-0.2
			27.1 to 36.0	0.0
			36.1 to deeper	+0.2

11-18-64	c	DE-723 No. 263	0.0 to 6.5	0.0
11-20-64	d		6.6 to 11.3	+0.2
11-23-64	e		11.4 to 17.2	+0.4
			17.3 to 20.7	+0.6
			20.8 to 25.4	+0.8
			25.5 to 33.2	+1.0
			33.3 to 38.4	+1.2
			38.5 to deeper	+1.4

APPENDIX B (cont.)

1-14-65	f	DE-723 No. 265	3.9 to 9.8	-0.4
1-15-65	g		9.9 to 21.5	-0.2
1-18-65	h		21.6 to 30.6	0.0
1-19-65	j		30.7 to 37.1	+0.2
1-20-65	k		37.2 to deeper	+0.4
1-26-65	l			
1-28-65	m			
1-29-65	n			
2-15-65	p			
2-18-65	q			

2-19-65 r **Leadline**

2-25-65	s	DE-723 No. 265	3.9 to 9.8	-0.4
2-26-65	t		9.9 to 21.5	-0.2
3-2-65	u		21.6 to 30.6	0.0
			30.7 to 37.1	+0.2
			37.2 to deeper	+0.4

3-3-65 v **Shoreline**

<u>SHIP WAINWRIGHT</u>				
7-20-65	A	DE-723 No. 257	30.0 to 33.2	+0.5
7-21-65	B		33.3 to deeper	+1.0

SHIP HILGARD

7-20-65	A	DE-723 No. 244	0.0 to 2.8	0.0
7-21-65	B		2.9 to 11.1	+0.5
			11.2 to 20.7	+1.0
			20.8 to 31.3	+1.5
			31.4 to 42.6	+2.0
			42.7 to Deeper	+2.5

APPENDIX C
TIDAL NOTE

Hydrographic Survey H-8752 (ECFP 20-1-62)

Tide control for the survey was furnished by the following tide gages:

GAGE LOCATION: Pleasure Pier, Galveston, Texas
Lat. $29^{\circ}17.1'$
Long. $94^{\circ}47.3'$

GAGE TYPE: Standard Gage 1962-1963
Bubler Gage Nov. 2, Dec. 1964
Punch Type Recorder Gage 3, Dec. 1964

STAFF: Vitrified scale MLW 1962, 2 Dec. 1964
Corresponds to 2.6' on the staff
Tape Gage Staff, scale MLW 3, Dec. 1964
Corresponds to 21.8'

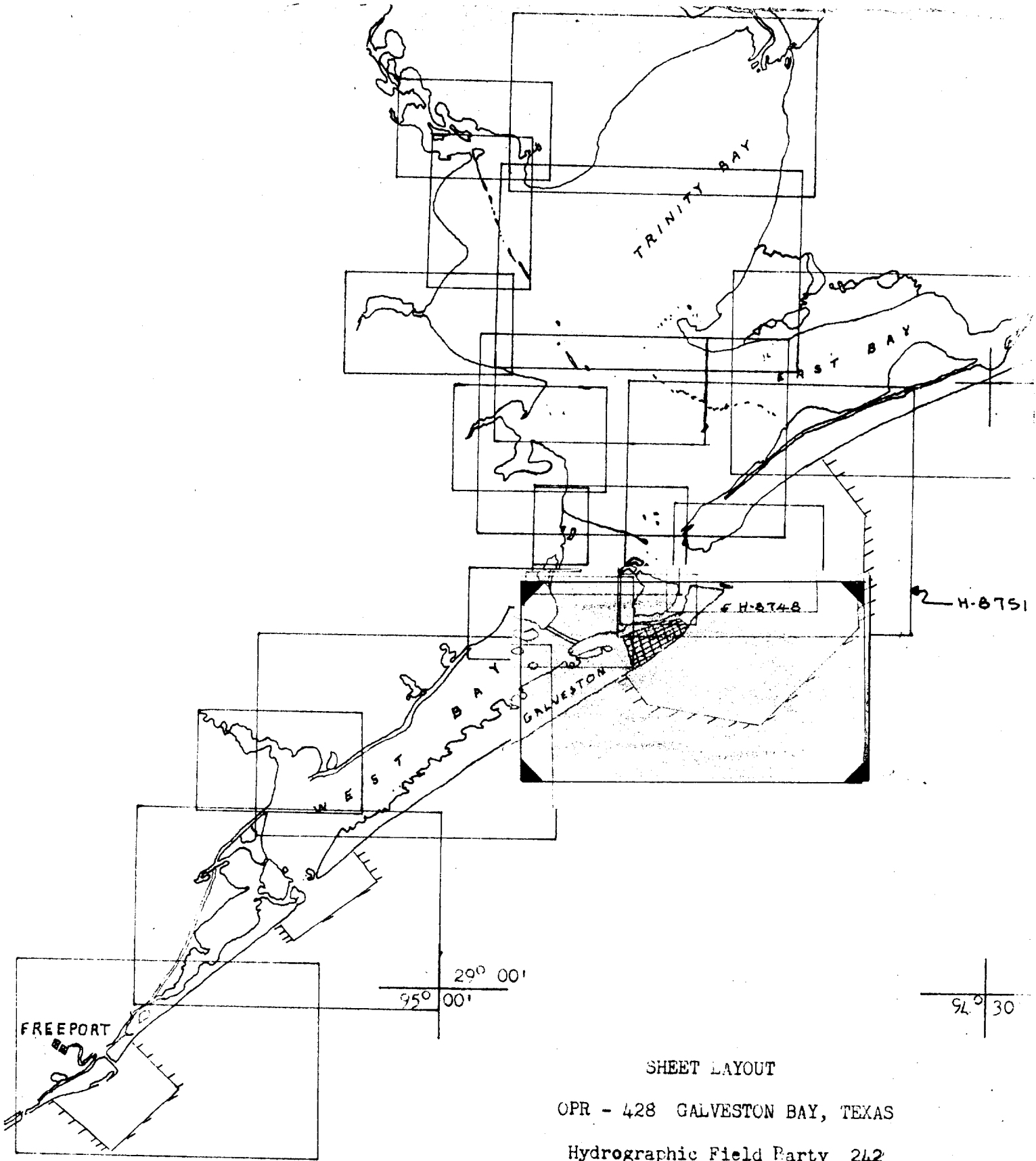
CORRECTIONS: No time or height corrections were applied.

TIME MERIDIAN: 90th

Electrical service to the Pleasure Pier standard gage was interrupted in late January, 1965 due to construction. The last day of available tides was January 29. Commencing on February 5 and through the remainder of the survey, tide reducers were obtained from records of the Freeport standard gage, copys of which were furnished to this party by Bureau Headquarters. A time correction of a -22 minutes and height correction of +0.3 ft. were applied to MHW. See letter dated 12 April 1965 (Ref 2321-71-TI) from Tides Division for more information.

The Corps of Engineers maintains one Tide Gage, South Jetty Light Tower, Lat. $29^{\circ}19.6'N$, Long. $94^{\circ}48.5'W$, within the limits of ~~this~~ survey. H-8748 (1962-65).

Data from this gage may be obtained from the U.S. Corps of Engineers, Galveston, Texas. It should be noted that a datum difference of 0.86 ft. exist between the Corps of Engineers and the Coast and Geodetic Survey datum. The 0.86 ft. should be added to the Corps of Engineers soundings to obtain datum agreement.



SHEET LAYOUT

OPR - 428 GALVESTON BAY, TEXAS

Hydrographic Field Party 242

H-8752 (ECFP 20-1-62)

APPENDIX D

Approval Sheet to Accompany
Hydrographic Sheet H-8751 (ECFP 20-1-62)

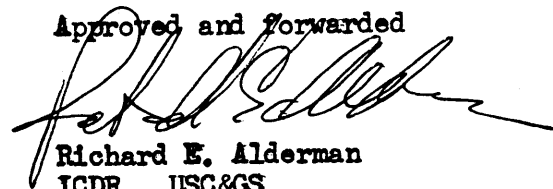
Approximately 50% of the field and office work was accomplished under the supervision of LCDR. STEVE L. HOLLIS, JR. and LCDR. P. A. STARK in 1962-63.

The remaining work was accomplished under my supervision in 1965. Records and processing during this time were directly supervised.

The descriptive report was written and the 1965 hydrography performed by Lt. (jg), John B. Jones.

The report and records for this survey are complete and adequate to the best of my knowledge.

Approved and forwarded



Richard E. Alderman
LCDR., USC&GS
Officer-in-charge

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 1, 1966

Nautical Chart Division: R. H. Carstens

Plane of reference approved in
15 volumes of sounding records for

HYDROGRAPHIC SHEET 8752

Locality: Galveston Bay Entrance, Texas

Chief of Party: P. A. Stark (1963 & 1964)
R. E. Alderman (1965)

Plane of reference is mean low water

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

Pleasure Pier, Galveston, Texas
Freeport, Texas

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

2.1 feet

Remarks Tide reducers for the following positions have
been revised in red and verified.

<u>Vol.</u>	<u>Position</u>
4	n9 - n62
5	q29 - q100
5	r1 - r36
8	a1 - a23
12	q79 - q100 → q125
13	v1 - v39


Chief, Tides and Currents Branch

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. 8752

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 (Boat sheet)		1	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES	14 photographs					
CAHIERS						
VOLUMES	15					
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				3,285
POSITIONS CHECKED		328	9	328
POSITIONS REVISED		0	-	0
DEPTH SOUNDINGS REVISED		75	177	75
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0	2	0
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0	1	0
TIME (MANHOURS)				
TOPOGRAPHIC DETAILS		1	24	1
JUNCTIONS		2	16	2
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		5	42	5
SPECIAL ADJUSTMENTS		1	24	1
ALL OTHER WORK		366	263	366
TOTALS		375	369	375
PRE-VERIFICATION BY		BEGINNING DATE		ENDING DATE
VERIFICATION BY		BEGINNING DATE		ENDING DATE
REVIEW BY		BEGINNING DATE		ENDING DATE

Alouis M. Taylor

R. D. Sarsen

Inspected by Carstens 12 hrs

6/6/66

20 July 73

8/29/66

2 November 73

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8752

FIELD NO. ECFP-20-1-62

Texas, Galveston, SW Approach to Galveston Bay Entrance

SURVEYED: September 6, 1962, to July 21, 1965.

SCALE: 1:20,000

PROJECT NO.: OPR-428

SOUNDINGS: EDO 255c, DE-723
Depth Recorders,
and handlead

CONTROL: Sextant fixes on
shore signals

Chief of Party.....	S. L. Hollis
.....	W. V. Hull
.....	P. A. Stark
.....	H. E. McCall
.....	R. E. Alderman
Surveyed by.....	R. A. Lewis
.....	R. W. Elonen
.....	J. B. Jones
.....	W. G. Stokes
.....	H. W. Floyd
.....	W. P. Yeager
.....	W. H. O'Hanlon
.....	P. W. Larson
.....	D. R. Tibbit
Protracted by.....	J. B. Jones
Soundings Plotted by.....	J. B. Jones
Verified and inked by.....	D. M. Taylor
Reviewed by.....	R. D. Sanocki
.....	Date: November 2, 1973
Inspected by.....	R. H. Carstens

1. Description of the Area

This survey covers an area along the outer coast off Galveston, Texas. The shoreline and bottom configuration are subject to frequent changes caused by hurricanes, channel dredging and relocations, changing locations of spoil areas, and dumping grounds. The slope of the bottom is generally gentle and

relatively even. The bottom is characterized by sand, mud, and to a lesser extent, by broken shells.

2. Control and Shoreline

The control for this survey is adequately discussed in the Descriptive Report.

The shoreline originates with the final compilation of advanced photogrammetric manuscripts T-10788 and T-10789 (both of 1957-1960). It should be noted that this shoreline reflects the conditions prior to Hurricane "Carla" which occurred in September of 1961. Subsequent photogrammetric surveys of this area now available at the scale of 1:10,000 show little change in the shoreline.

3. Hydrography

A. Depths **at** sounding line crossings are in adequate agreement.

B. The usual depth curves were adequately delineated. A portion of the 36-ft. **depth** curve has been added to the survey extending from the junction with H-8751 to the northeast where it was shown to delineate the Galveston ship channel.

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

4. Condition of the Survey

The field plotting, sounding records, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual with the exception that numerous curves and crossings were improved by minor changes in scanning the fathograms.

5. Junctions

An adequate junction was made with H-8751 (1962-65) to the northeast. The junction with H-8748 (1962-65) to the north will be discussed in the review of that survey. No contemporary surveys exist on the east and south with which junctions can be made; however, the present survey is in harmony with the charted hydrography in those areas.

6. Comparison with Prior Surveys

A.	H-247	(1850)	1:20,000
	H-265	(1851-52)	1:20,000
	H-471	(1855)	1:20,000
	H-906a	(1867)	1:10,000
	H-906b	(1867)	1:20,000
	H-1556a	(1883)	1:80,000
	<u>H-1597a</u>	<u>(1884)</u>	<u>1:80,000</u>

All of these early surveys have been superseded within the common areas by the surveys discussed in paragraph 6B below, and therefore, are not considered in this review.

B.	H-5424	(1933-34)	1:10,000
	H-5522	(1933-34)	1:20,000
	<u>H-6252</u>	<u>(1937)</u>	<u>1:40,000</u>

H-5424 covers the northern portion of H-8752 from the high water line seaward to depths of approximately 30 feet. A comparison reveals present depths to be generally one to two feet deeper than the prior depths except in the vicinity of lat. 29°19', long. 94°40.7', where present depths were seven feet deeper. These large differences are probably due to scouring by littoral and tidal currents at the seaward end of South Jetty.

H-5522 covers that part of H-8752 which extends from the high water line to the 30-foot curve in the southwest portion of the survey. Differences between the survey depths range from 5 feet deeper to 5 feet shoaler with differences generally 2 feet. The present survey is somewhat shoaler overall and that can be attributed to differences in surveying methods employed between the present and prior survey.

H-6252 covers that portion of H-8752 which extends seaward from approximately 28-foot depths. The present survey is generally 1 to 2 feet shoaler than the prior survey except in the vicinity of lat. 29°17.2', long. 94°39.7', where depths to six feet shoaler were found on the present survey. This shoaling is probably due to the dumping grounds for government dredges in the vicinity. Other differences can be attributed to survey methods of the present and prior surveys and to changes in the bottom.

The present survey is considered adequate to supersede the above prior surveys within the common areas.

C. Wire Drag Surveys

F.E. No. 1, 1965 W.D.

F.E. No. 1, 1966 W.D.

One sounding on a wreck and one sounding on a shoal were carried forward from the above Field Examinations to supplement the present survey. F.E. No. 1, 1966 W.D., it should be noted, supersedes the steel rod and steel beams located by the present survey in the vicinity of lat. 29°18.1', long. 94°38.4'.

7. Comparison with Chart 518, 10th Ed., September 30, 1972
Chart 1282, 35th Ed., April 7, 1973.

A. Hydrography

The charted hydrography in the area covered by the present survey originates with the previously discussed prior surveys, supplemented by applications from Boat Sheets of the present survey (BP-64309 and BP-67472) and critical corrections from the Boat Sheet (BP-67619) of H-8748 (1962-65). Also supplementing the charted hydrography were applications from surveys conducted by the U.S. Army Corps of Engineers, which were conducted both prior and subsequent to the present survey, and other sources. These applications are outlined on BP-87266 No. 1 and No. 2 which are the present survey chart comparison of Charts 518 and 1282 stated above.

Attention is directed to the following:

(1) A sunken wreck in latitude 29°18.12', longitude 94°38.44', on the present survey is shown as a wreck with a steel rod and steel beams exposed at MHW. *Erased from*
This wreck location has been superseded by Chart *cht NM 27669*
Letter 427 (1966) and Notice to Mariners 19 (1966) *WW*
per F.E. No. 1, 1966.

(2) A 36 ft. clearance depth charted in latitude 29°16.0', longitude 94°39.0', from F.E. No. 1, 1966 W.D. ✓
should be retained as a clearance depth of 36 feet.

(3) A 45 foot sounding brought forward to the present survey from F.E. No.1, 1965 W.D. in latitude $29^{\circ}13.43'$, longitude $94^{\circ}42.36'$, should be charted. ✓

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

B. Controlling Depth

The controlling depths in the Galveston Bay Entrance Channel are charted from U.S. Army Corps of Engineer's surveys subsequent to the date of the present survey. It should also be noted that several depths from the aforementioned Corps of Engineer surveys have been charted outside and adjacent to the channel and should supersede the present survey along with the controlling depths for the channel.

C. Aids to Navigation

The single present survey floating aid to navigation was subsequently moved to more adequately mark the entrance channel.


8. Compliance with Instructions

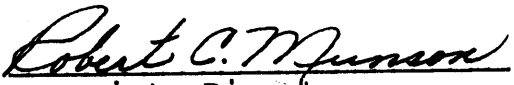
The present survey adequately complies with the project instructions.

9. Additional Field Work

This 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

Items for Future Pre-Survey Reviews

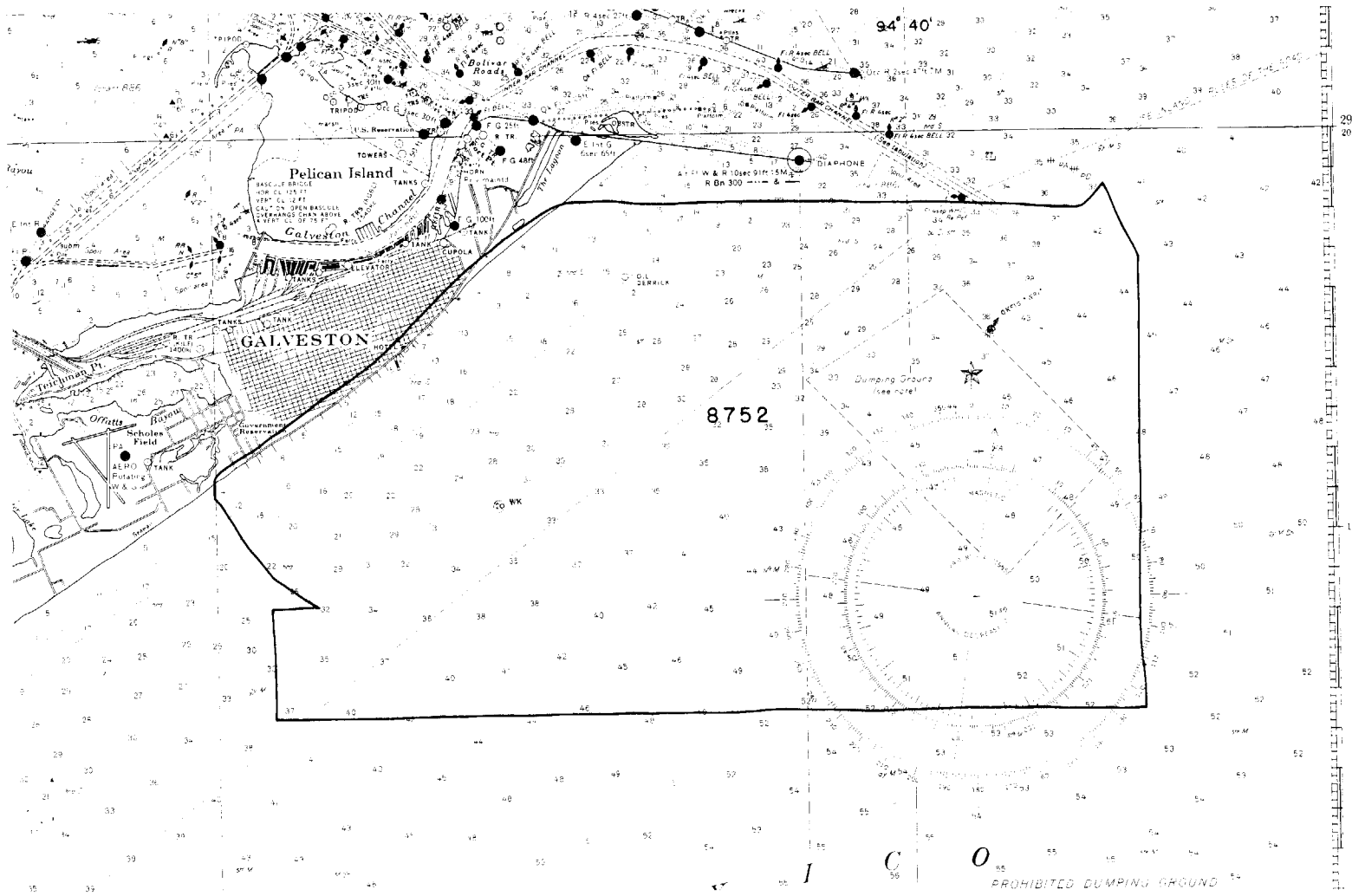
The deposition of sediments, dumping of spoil, and dredging of the Galveston Bay Entrance Channel make this a changeable area. Hurricanes and other severe storms striking this coast can effect the shoreline and nearshore depths.

It is recommended the following charted wrecks and obstructions be considered for investigation of existence, location, and least depth:

- | | | |
|-----|--------------------------|----------------------------------|
| (1) | Sunken wreck | lat. 29°19', long. 94°42.0'. |
| (2) | Sunken wreck (Masts) | lat. 29°17.32', long. 94°47.22'. |
| (3) | Sunken wreck (Masts, PA) | lat. 29°16.42', long. 94°44.4'. |
| (4) | Obstruction (26 ft rep) | lat. 29°15.52', long. 94°41.72'. |
| (5) | Sunken wreck (PA) | lat. 29°13.97', long. 94°46.0'. |
| (6) | 36 ft. clearance depth | lat. 29°16', long. 94°39'. |

Resurvey Cycle Information

Position Lat.	Index Long.	Bottom Change Index	Use Index	Resurvey Cycle
291	0944	5	9	10 yrs.
291	0945	5	9	10 yrs.



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8752

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
518	9/23/65	Helmer	Full Part Before After Verification Review Inspection Signed Via Drawing No. Exam for critical changes. No additions Was applied as Bp 67472 & 64309
1282	9/23/65	Helmer	Full Part Before After Verification Review Inspection Signed Via Drawing No. Exam for critical changes. No additions Was applied as Bp 67472 & 64309
1116	9/28/65	J. P. Weir	Full Part Before After Verification Review Inspection Signed Via Drawing No. Exam. No critical correction
886	5/18/66	Helmer	Full Part Before After Verification Review Inspection Signed Via Drawing No. Exam for critical changes. No additions Was applied thru 578 (see above)
152-SC	6/20/66	Hansa	Full Part Before After Verification Review Inspection Signed Via Drawing No. Exam thru chrt 1282, no corr
1117	11/29/66	T. Anne Ware	Full Part Before After ^{after} Verification ^{before} Review Inspection Signed Via Drawing No. Exam - no corr thru 1116 and 1282. Hold further appln until appld to larger scales in area.
518	12/18/74	W. Wambles	Full Part Before After Verification Review Inspection Signed Via Drawing No. 13 Superseded in part by Bp 77872 part #2
1282	12/23/74	W. Wambles	Full Part Before After Verification Review Inspection Signed Via Drawing No. 54 Applied in part thru chrt 518 DWG # 13
152-SC	1/3/75	W. Wambles	Full Part Before After Verification Review Inspection Signed Via Drawing No. 12 Applied thru chart 1282 DWG # 54
1117 (11300)	1/22/75	D. Wyllie	Full Part Before After Verification Review Inspection Signed Via Drawing No. 31 Applied thru chrt 1282 DWG 54
1116 (11340)	1/22/75	D. Wyllie	FULL AFTER VERIFICATION REVIEW INSPECTION SIGNED VIA DRAWING # 49-X - Applied thru common overlap area of 1117

3.2.21

557 3501 12041
50764