8749

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-5-1-63 *Office No.* H-8749

LOCALITY

State Texas

General locality Galveston Bay

Locality Galveston Channel

19 63-65

CHIEF OF PARTY

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

LIBRARY & ARCHIVES

DATE 11-3-65

USCOMM-DC 37022-P66

8749

FORM C&GS-537
(6-15-59)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

REGISTER NO.

H-8749

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 05-1-63

State TEXAS

General locality GALVESTON BAY

Locality GALVESTON CHANNEL

Scale 1:5,000 Date of survey 10 Jan.,1963 to 20 May,1963 25 Oct.,1964 to 9 Feb.,1965

Instructions dated 25 April 1962, 4 June 1964 ~~2 Feb. 1965~~ Project No. OPR - 428

Vessel Launch CS 1177, Launch CS 183, Skiff 758

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

Surveyed by ROBERT A.LEWIS, GUY F.TREFETHEN, W.H.PINER, LT.(jg),JOHN B.JONES

Soundings taken by echo sounder, hand lead, pole

Graphic record scaled by PARTY PERSONNEL

Graphic record checked by PARTY PERSONNEL

Protracted by BERNIE T. DAVIS

Soundings penciled by BERNIE T. DAVIS

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

REMARKS:

USCOMM-DC 8272-P62

ECFP 05-1-63

H-8749

A.PROJECT ✓

Work on project OPR-428 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.AREA SURVEYED ✓

The area covered by this survey is in the general vicinity of Galveston Bay, Texas and covers that portion of Galveston Channel between the U.S. Quarantine Station and U.S. Coast Guard Station on the North, to the Bascule Bridge on the West.

The boat sheet projection extends from Lat. 29°18'15"N to Lat. 29°20'30"N, and from Long. 94°45'45"W to Long. 94°50'00"W.

Field work on this sheet commenced on 10 January 1963 and was completed on 9 Feburary 1965. Work was interrupted from 20 May 1963 to 25 October 1964 because of a special project at Lake Mead, Nevada.

This survey makes junction with C&GS contemporary survey H-8750 (ECFP 10-3-63) on the West, and survey H-8748 (ECFP 10-7-62) on the North. Also, junction was made with Corps of Engineers sheet #15 on the north, and Corps of Engineers sheet #14 on the south and west. Both Engineers sheets are scale 1:10,000, and dated July-October 1962.

C.SOUNDING VESSELS ✓

Vessels used for sounding were Launch CS-1177, Launch CS-183, and Skiff 758. The following colors and day letters were used:

Launch CS-183	violet	a thru e
Launch CS-1177	blue	a thru r
Skiff 758	red	a thru c

D.SOUNDING EQUIPMENT ✓

A Raytheon Fathometer, model DE-723 Serial No. 543, 20 KC, was used to obtain soundings on Launch CS-1177 for "a" thru "n" days. A Raytheon DE-723 Serial No. 263, 20 KC, was used on "q" day. Sounding pole and leadline were used on "p" and "r" days.

A Raytheon Fathometer, model DE-723 Serial No. 263, 20 KC, was used to obtain soundings on Launch CS-183 for "a" and "b" days. On "c" thru "e" days a Raytheon DE-723 Serial No. 265, 200 KC, was used to obtain soundings.

Skiff 758 used a Raytheon DE-723 Serial No. 544, 20 KC, with transducers mounted in the bilge for all days.

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.

A sounding pole was used to obtain soundings in depths less than 6 feet on Launches CS-1177 and CS-183. On Skiff 758 a sounding pole was used in depths of less than 3 feet.

An armedlead was used to obtain bottom samples.

No unusual difficulties were encountered with the sounding equipment.

E.SMOOTH SHEET ✓

The smooth sheet projection was made in the Washington Office with a projection ruling machine. Smooth plotting will be accomplished by Hydrographic Field Party 242.

F.CONTROL ✓

Horizontal control was obtained by standard visual three-point sextant fix methods. In pier slips, where it was impossible to see thewe signals, the corners of the piers were used to supplement the existing control. These corners were carefully pricked through from the manuscript and are shown on the boat sheet in red (green on S.S.) capital letters as points A,B,C,D,E and F. In some cases, the " see boat sheet " method, and a plot of time and course were used inside pier slips or other places where it was impossible to see the signals.

The photo-hydro signals used were located from incomplete manuscripts:

T-12241	9-13-62
T-12242	9-13-62
T-12243	9-14-62

Appendix A of this report contains a complete list of control used and the quality and source of control.

G.SHORELINE ✓

Shoreline was transferred from Blueline prints of Incomplete Manuscripts as listed in Section F of this report.

The shoreline was verified by the hydrographer using hydrographic methods.

G.SHORELINE (cont)

Several changes were found in the shoreline and they are listed as follows:

(1). 29°18.72'
94°48.88'

A shoreline change was found due to the addition of a shell fill. The fill was located by an estimated distance from a D.P. and the " see boat sheet " method.

(2). 29°18.85'
94°47.70'

The pier belonging to Todd Shipyard has been cut off and the area dredged. The end of the pier was located by three-point sextant fix methods. Also, the dredged area was developed by close spaced sounding lines where ships were not tied to the piers. For more details see overlay of this area.

(3). 29°19.02'
94°46.63'

On the northeast side of the Yacht Basin, the pilings are being pulled out, and a concrete bulkhead is under construction. The bulkhead was not located because construction had just started at the completion of this survey.

(4). 29°19.10'
94°46.60'

A new Yacht Basin has been constructed in this location, and the area dredged. The shoreline has been changed considerably by the construction of a concrete retaining wall with an earth fill behind it. Three-point sextant fix methods were used to locate the

G.SHORELINE (cont)

Yacht Basin, and to control the Hydrographic survey of the dredged area. For more details see overlay of the area.

(5). 29°19.78'

94°46.47'

A new pier has been constructed in this location. The pier was located by a estimated distance from a hydrographic position, and " see boat sheet " method.

The low water line was not defined by soundings because of the small range of tide, foul areas, and many piers and docks.

H.CROSSLINES

Crosslines were run in excess of 10% for the most part, however, it was not considered feasible to run crosslines in the pier slips due to lack of horizontal control.

I.JUNCTIONS

This survey was bounded on the west by the Pelican Island Bridge and contemporary survey H-8750 (1963-66) (ECFP 10-3-63). Hydrography on both surveys ended at the bridge. A transfer of soundings from the 5,000 scale sheet to the 10,000 scale sheet enable depth curves to be drawn satisfactorily through the bridge. The soundings were not extensive enough on H-8750 to make a comparison.

On the north, junction was made with contemporary survey H-8748 (1962-65) (ECFP 10-7-62). The soundings on both sheets were in agreement for Hydrography completed in 1964-1965, but were in disagreement when 1963 soundings were compared with 1964-1965 soundings. This discrepancy between different years is due to the constant dredging of the channel by the Corps of Engineers.

J. COMPARISON WITH PRIOR SURVEYS

A comparison was made with prior surveys No. 5424 - 1933-34 scale 1:10,000 and No. 5462 - 1933-34 scale 1:10,000, with the following results:

1. Pre-Survey "Piling" — concur
Vol 7 page 34 pos 73c - 88c
Violet day letter
29°18.53'
94°49.38'

This pile was searched for with a chain sweep with negative results. It is recommended that it be deleted.

2. Pre-Survey "Pilings" (three) — concur
29°19.93'
94°46.38'

This area was searched with a chain sweep, but only two of the three pilings were found. Both pilings extended 0.8 ft. above bottom. Recommend deletion of old pilings, and charting of new ones.

3. Pre-Survey item (H-5424) Pile — concur
29°19.69'
94°46.50'
No longer charted

This pile was searched for with a chain sweep with negative results. It is recommended that this feature be deleted from the chart.

4. Pre-Survey item 3 Piles (group) — concur
29°19.64'
94°46.40'

These pilings are now a part of the fender piles for the Galveston to Bolivar Point Ferry. This feature should be retained on the chart in its new position.

J. COMPARISON WITH PRIOR SURVEYS (cont)

concur

5. Pre-Survey item
Pile

29°19.64'

94°46.48'

A submerged pile was located 40 meters south southwest of this position - extending 0.4 ft. above the bottom in 8 ft. of water. This feature should be retained on the chart in its new position as a submerged pile. (position 22n blue day letter)

6. Pre-Survey item (H-5424) concur
stake awash MLW

29°19.41'

94°46.46'

This stake was searched for with a chain sweep and not found. However, a stake was found 140 meters north by East of this position. The stake is in 1.5 ft. of water and bares 1.5 ft. at MLW. Also, an obstruction-(pipeline pontoon)- was located 50 meters south of this position. It is recommended that both the stake and pipeline pontoon be charted in their new position.

7. Pre-Survey item #29 concur
Obstruction

29°19.13'

94°46.60'

A visual inspection was made for this obstruction with negative results. A new Yacht Basin has been constructed in this location, and the area dredged. It is believed this feature is nonexistent and should be deleted from the chart.

J.COMPARISON WITH PRIOR SURVEYS(cont)

8. Pre-Survey item (H-5424) concur
Dolphin
Sdg line 59-60c
Blue day letter
29°19.05'
94°46.87'

This dolphin is shown on the prior survey at the location now occupied by a fleet of tub boats. The dolphin was searched for with a chain sweep, and a submerged object located 20 meters southeast extending 4 ft. above the bottom in 33 ft. of water. It was impossible to get a least depth on this object with a lead line, but a least depth was obtained with the fathometer by drift soundings. It is recommended that the least depth be charted.

9. Pre-Survey item (H-5424) concur
Pipe
29°19.30'
94°46.64'

This pipe was searched for with a chain sweep with negative results. However, a submerged pipe was found 125 meters east 10-11 m southeast of this position. The pipe is in 10 ft. of water and extends 4 ft. above the bottom. It is recommended that the new position be charted. Was charted from L-1728 (1965) & Bp 67471

10. Pre-Survey item These pilings were not adequately disproved and should be retained as charted see ~~Review Form item~~ present survey
Row of pilings
29°18.78'
94°49.22'

Possible remains of old pilings were found near this location. It is recommended that this feature be charted in its new location.

11. Pre-Survey item W.D. Pos. 65-66c Violet day letter concur
Steel Beam
29°19.91'
94°46.42'

J.COMPARISON WITH PRIOR SURVEYS(cont)

11.(cont)

This beam was searched for with a chain sweep with nagative results. It is recommended that it be deleted.

12. Piers

29°19.20'

94°46.53'

New yacht basin in this area

The two piers shown on the prior survey and current chart are no longer in existence and should be deleted from the chart.

13. Pier

29°19.95'

94°46.35'

This pier no longer exists and should be deleted. Some pile stubs as shown on S.S.

14. Hitchcock Reef Beacon

29°19.62'

94°46.77'

This beacon is no longer in existence, and should be deleted.

15. East Bank Beacon

29°19.22'

94°46.71'

This beacon no longer exists and should be deleted.

It is impossible to compare the soundings of this survey with prior surveys because the prior survey soundings were not extensive enough. The pier area has changed considerably through the years, and the channel and pier slips are dredged constantly by the Corps of Engineers.

K. COMPARISON WITH CHART

The survey was compaired with C&GS small craft chart 152-SC, Galveston Bay to Freeport Texas; 1st edition, corrected thru NM 50-December 12,1964, page D; scale 1:40,000. The controlling depth from the chart, 25 ft. Jan.- May 1964, is exceeded in all cases.

Dangers found or investigated by wire drag are listed as follows:

CHARTED FEATURE	POSITION	REMARKS
Submerged Piles (two)	29°19.95' 94°46.36'	See section J (2)
	29°19.93' 94°46.37'	
Steel Beam	29°19.91' 94°46.42'	See section J (11)
Submerged Pile	29°19.69' 94°46.50'	See section J (3)
Submerged Pile	29°19.62' 94°46.49'	See section J (5)
Submerged Pipe	29°19.27' 94°46.57'	See section J (9)
Submerged Object	29°19.04' 94°46.88'	See section J (8)
Submerged Pile	29°18.53' 94°49.38'	See section J (1)
Stake	29°19.48' 94°46.42'	See section J (6) (See remarks section J(6))

K.COMPARISON WITH CHART(cont)

Other specific changes and additions to be noted are as follows:

Pier	29°18.45' 94°49.30'	The pier shown on the chart at this location is now in ruins with only pilings and broken concrete remaining.
Ferry Route	29°18.65' 94°47.80'	Operation of this ferry between Galveston and Pelican Island has been discontinued. It is recommended the ferry route be deleted from the chart.
Group of Pilings	29°18.68' 94°47.37'	There are four pilings in this group instead of three. They were pricked through from the manuscript.
Group of Pilings	29°18.81' 94°47.17'	These two pilings are not shown on the chart. They were pricked through from the manuscript.
Pier Slip	29°18.75' 94°47.23'	This slip no longer exists. See latest shoreline manuscript.
Submerged Pile	29°18.83' 94°47.12'	This is a submerged pile, covered 1.2 ft. MLW, lying 3 meters off face of wharf. This pile is extremely dangerous to small craft and was immediately reported to the Galveston Coast Guard for possible removal. (Vol. 4, CS-1177-7n)
Group of Pilings	29°18.96' 94°46.81'	These four pilings are not shown on the chart. They were pricked through from the manuscript.
MLW Curve	29°19.05' 94°46.73'	This area does not bare at MLW.
New Yacht Basin	29°19.10' 94°46.60'	See section G (4)
Obstruction	29°19.38' 94°46.44'	This is a section of pipeline pontoon covered 2 ft. MLW marked by a temporary stake (Vol 2, CS-1177, 65g). *Was deleted from the chart from subsequent information L-1697/1964 & Bp 66787*
Yacht Basin	29°19.02' 94°46.63'	See section G (3)

K.COMPARISON WITH CHART(cont)

Obstruction	29°19.35' 94°46.47'	This is a section of pipeline pontoon, awash MLW, marked by a temporary stake. According to residents that live in this immediate vicinity, these two obstructions have caused numerous small boat accidents even though they are marked by stakes (Vol.2, CS-1177, 63-64g)
This item was deleted from the chart from subsequent information L-1697/1964 Bp66987		
Ferry Fender Piles	29°19.63' 94°46.45'	The southern fender pilings for the Galveston to Bolivar Point ferry are not shown on the chart. The pilings were pricked through from the manuscript.
Pier	29°19.78' 94°46.47'	See section G (5)
Pier	29°19.95' 94°46.35'	See section J (13)
MLW Curve	29°20.01' 94°46.69'	The MLW curve and shoreline have changed ~~considerably~~ SLIGHTLY in this area. Also, there are numerous iron pipes in the area that bares at MLW.
Obstruction	29°19.94' 94°46.69'	This is a section of a submerged pipeline covered 2.2ft. at MLW. (Vol.1,CS-1177, 6c).
Obstruction	29°19.94' 94°46.68'	This is a section of a submerged pipeline covered 1.6 ft. at MLW. (Vol.1, CS-1177,&c).
Iron Pipe	29°19.91' 94°46.72'	Pipe bares 4.0 ft. MLW in 1.0 ft. of water. (Vol.5,Skiff 758, 109a).
Iron Pipe	29°19.86' 94°46.75'	Pipe bares 2.0 ft. at MLW in 1.0 ft. of water. (Vol.5,Skiff 758, 96a)

K.COMPARISON WITH CHART(cont)

there are pier ruins. Stubs may remain.

Marine Railways	29°18.85' 94°47.53'	The railways charted at this position are no longer in existence and should be deleted from the chart.
Pier	29°18.85' 94°47.70'	See section G (2(
Row of Pilings	29°18.69' 94°48.58'	There are 11 pilings in the row instead of 8 as shown on the chart. The pilings were pricked through from the manuscript.
Shoreline	29°18.72' 94°48.88'	See section G (1)
Dolphins (6)	⊕ 29°18.72' ⅄ 94°48.87'	None of these dolphines are shown on the chart. (Vol.5, Skiff 758, 14,15,16,17,18,19b).
	⊕ 29°18.72' ⅄ 94°48.94'	
	⊕ 29°18.72' ⅄ 94°48.89'	
	⊕ 29°18.72' ⅄ 94°48.96'	
	⊕ 29°18.72' ⅄ 94°48.91'	
	⊕ 29°18.72' ⅄ 94°48.98'	
Sign	29°18.73' 94°49.25'	There is no sign in the water area. Should be deleted from the chart. This sign was not adequately disproved by the hydrographer and is carried forward as a snag and should be charted accordingly.
Depth Curve	29°18.80' 94°49.25'	Six ft. depth curve should be drawn in this area.

L.ADEQUACY OF SURVEY

This survey is considered adequate to supersede prior surveys. There are two small Holidays to be noted, one at Todd Shipyard and Drydock slips, lat. 29°18.8' ; long. 94°47.75', the other at lat. 29°19.02' ; long. 94°46.87'. These locations were inaccessible during the entire period of the survey due to ships and tugs being moored here.

M.AIDS TO NAVIGATION

The U.S. Coast Guard maintains 3 fixed and 3 floating aids to navigation within the limits of this survey. In addition to the above the Corps of Engineers maintaines 3 dredging range beacons, and the Texas State Highway Dept. one fixed aid, a fog horn.

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

The Bolivar Point to Galveston ferry route is not shown on the chart. 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 Highway Dept.

N.STATISTICS

Vessel	Number of Pos.	Statute Miles of Soundings
Launch CS-1177	909	78.9
Launch CS-183	170	8.5
Skiff 758	363	20.7
TOTAL	1442	108.1

Total area surveyed,---- 1.6 SNM

N.STATISTICS(cont)

A standard tide gage, located at Pier 21 Galveston and a portable automatic gage, located at Bolivar Point, furnished tide control for the survey. See Appendix C. TIDAL NOTES, for additional information on these stations.

A current station was observed at lat. 29°18.63' ; long. 94°49.4'.

Fourteen bottom samples were taken on this sheet.

O.MISCELLANEOUS

A modified chain sweep was utilized to search for submerged objects. This sweep consisted of two trawl boards, identical to those used by shrimp trawlers, with a three hundred foot length of small chain (rod size 3/16") 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 feet behind the vessel. Upon snagging an object the two 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 taughtly drawn chain to obtain a depth on the object.

Respectfully submitted,

John B. Jones, Lt. jg, USC&GS

APPENDIX D

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. H.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

APPENDIX A

List of Signals

Hydrographic Survey H-8749 (ECFP 05-1-63)

A	T-12242
ACE	T-12242
ACT	T-12242
AMP	T-12242
ARF	Galveston, Wharf Co. Pier 40 Water Tank, 1933
ART	T-12243
B	T-12242
C	T-12242
CAB	T-12241
CAT	T-12242
COP	T-12242
CUP	U.S.Quarantine Station Cupola, 1933
D	T-12242
E	T-12242
EGG	T-12241
EIM	T-12242
END	T-12242
F	T-12242
GEM	T-12241
GET	T-12242
HER	Southern Pacific Elevator, 1911
HUM	T-12243
ICE	Galveston, Ice and Cold Storage Co. Stack, 1933
JAN	T-12241
JAY	T-12242
KEN	Bolivar Roads Inner Range Rear Light, 1961
LAS	T-12242
MAN	T-12241
MAR	T-12242
NIG	T-12243
OFF	T-12243 - Hydro
OIL	T-12243
OLD	T-12243
PAL	T-12243
RAD	Galveston, Coast Guard Radio Mast, 1960
RAT	Hydro - Vol. #1, page 4
RIP	T-12243
ROT	T-12243

TON	Galveston, Wharf Co. Pier 34 Water Tank, 1933
TUB	T-12243
USE	T-12243
WAT	T-12243
YAK	T-12242
ZAG	T-12242
ZOO	T-12242

APPENDIX B

Corrections to Echo Soundings

Hydrographic Survey H-8749 (ECFP 05-1-63)

LAUNCH CS 1177

Date	Day Letters	Echo Recorder No.	Depth (ft)	Corr (ft)
1-10-63	a	DE-723 No. 543	3.0 -18.0	-0.4
1-11-63	b	DE-723 No. 543	18.1-34.4	-0.2
1-15-63	c	DE-723 No. 543	34.5-39.0	-0.4
1-16-63	d	DE-723 No. 543	39.1-Deeper	-0.6
1-17-63	e	DE-723 No. 543		
1-18-63	f	DE-723 No. 543		
1-21-63	g	DE-723 No. 543		
1-22-63	h	DE-723 No.543		
2-15-63	j	DE-723 No. 543	3.0 -18.0	-0.4
2-19-63	k	DE-723 No. 543	18.1-Deeper	-0.2
2-20-63	l	DE-723 No. 543		
2-21-63	m	DE-723 No. 543		
3-1-63	n	DE-723 No. 543		
3-4-63	p	Sounding pole and leadline		

APPENDIX B(cont)

Date	Day Letter	Echo Recorder No.	Depth (ft)	Corr (ft)
11-30-64	q	DE-723 No. 263	3.0- 7.2	-0.6
			7.3-11.3	-0.4
			11.4-20.2	-0.2
			20.3-32.2	0.0
			32.3-37.0	+0.2
			37.1-40.5	+0.4
			40.6-Deeper	+0.6
12-28-64	r	Sounding pole and leadline		
		LAUNCH CS 183		
11-17-64	a	DE-723 No. 263	0.0- 8.7	0.0
11-20-64	b	DE-723 No. 263	8.8-14.2	+0.2
			14.3-17.2	+0.4
			17.3-21.2	+0.6
			21.3-27.6	+0.8
			27.7-37.3	+1.0
			37.4-Deeper	+1.2
2-3-65	c	DE-723 No. 265	0.0-13.8	-0.4
2-4-65	d	DE-723 No. 265	13.9-24.0	-0.2
2-9-65	e	DE-723 No. 265	24.1-32.8	0.0
			32.9-Deeper	+0.2
		SKIFF 758		
3-28-63	a	DE-723 No. 544	3.0- 4.0	0.0
			4.1- 8.0	+0.2
			8.1-18.0	+0.4
			18.1-21.0	+0.6
			21.1-24.0	+0.8
			24.1-27.0	+1.0
			27.0-Deeper	+1.2
3-29-63	b	DE-723 No. 544	3.0- 4.0	0.0
5-1-63	c	DE-723 No. 544	4.1- 5.0	+0.2
			5.1-12.0	+0.4
			12.1-18.0	+0.6
			18.1-22.0	+0.8
			22.1-26.0	+1.0
			26.1-Deeper	+1.2

APPENDIX C

TIDAL NOTES

Hydrographic Survey H-8749 (ECFP 05-1-63)

Tide control for the survey was furnished by two tide gages, one at Pier 21, Galveston, and the other at Bolivar Point, Galveston Bay. The data for both gages is interchangeable.

GAGE LOCATION:	Pier 21, Galveston, Texas
	Lat. 29°-18.57
	Long. 94°-47.59
GAGE TYPE:	Standard Automatic
STAFF:	Vitrified Scale MLW
	Corresponds to 2.7 ft. on the staff.
CORRECTIONS:	No time or height corrections were applied
TIME MERIDIAN	90th
GAGE LOCATION:	Bolivar Point, Galveston Bay, Texas
	Lat. 29°-21.75
	Long. 94°-46.53
GAGE TYPE:	Portable Automatic 10-1-62 to 5-18-63.
	Pressure Recording 11-23-64 to 3-1-65.
STAFF:	Vitrified scale MLW corresponds: to
	2.2 ft. on staff 10-1-62 to 5-8-63, to
	5.0 ft. on staff 11-23-64 to 3-1-65

CORRECTION: No time or height corrections were applied

TIME: 90th

The Corps of Engineers maintained three Tide Gages within the limits of this survey, although not used by the USC&GS, the gages are located as follows:

(1).Point Bolivar pile structure	Lat. 29°21.93 N
	Long. 94°47.08 W
(2).Pelican Bridge	Lat. 29°18.72 N
	Long. 94°49.20 W
(3).Fort Point Dock	Lat. 29°20.00 N
	Long. 94°46.31 W

Data from these gages may be obtained from the U.S. Corps of Engineers, Galveston, Texas. It should be noted that a datum difference of 0.86 ft. exists between the Corps of Engineers datum and the USC&GS datum. The 0.86 ft. should be added to the Corps of Engineers soundings to obtain datum agreement.

ADDENDUM to DESCRIPTIVE REPORT
by
Smooth Plotter

Stray near position 1"1" day, Launch 1177, at Lat. 29°18.57' Long. 94°47.46' was not investigated or plotted. It is possible that this stray was caused by mud kicked up by the launch while manuvering into position.

Two lines on the boat sheet, 14g-20g, Launch 1177, were misplotted and showed 6 foot soundings in 12 foot of water. When these lines were plotted on the smooth sheet they moved 50 meters N.N.W, to Lat. 29°18.77' Long. 94°49.27', and fell inside the 6 foot curve.

An overlay made of the area of a new marina, Lat. 29°19.10' Long. 94°46.65', shows many finger piers in the new section. These piers were not put on the smooth sheet. In the old part of this same marina were lead-line soundings were taken at the ends of the finger piers, these soundings were not plotted on the smooth sheet. In this area the 1965 work supercedes the old work and was plotted first. The old work used makes fair junction with the new work.

The area of Lat. 29°18.77' Long. 94°47.65' the 1965 work supercedes the 1963 work because of dredging operations which took place between the dates.

The new work in the areas of Lat. 29°18.75' Long. 94°47.60' and Lat. 29°19.12' Long. 94°46.82' are 2 to 4 feet shoaler than the old work. Both the old and new work were plotted in these areas. This is a maintained channel of the C.of E. and is dredged when needed. The depths in these areas are 33 to 38 feet. Therefore these discrepancies are not considered serious.

In the area of Lat. 29°20.18' Long. 94°46.52', the new work is 1 and 2 foot deeper than the old work. The depths in this area are from 35 to 38 feet. Therefore these discrepancies are not considered serious.

Respectfully submitted,

Bernie T Davis
Bernie T.Davis
Surveying Technician

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8749

Name on Survey	A On Chart No.	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	
Galveston ✓										1
Galveston Bay ✓										2
Galveston Channel ✓										3
Pelican Island ✓										4
Texas (title)	✓									5
Fort Point										6
				Names approved						7
				3-11-66						8
				R. J. Wright						9
										10
										11
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										27

FORM C&GS-712
(3-9-64)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

December 13, 1966

~~Nautical Chart Division~~ R. H. Carstens

Plane of reference approved in
7 volumes of sounding records for

HYDROGRAPHIC SHEET 8749

Locality: Galveston, Channel, Texas

Chief of Party: W. V. Hull; P. A. Stark
H. E. McCall; R. E. Alderman } 1963-65

Plane of reference is mean low water

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

Port Bolivar
Galveston (Pier 21)

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

1.4 feet

Remarks

J. M. Symons
Chief, Tides and Currents Branch

USCOMM-DC 6680-P64

FORM C&GS-946
(REV. 3-1-64)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
NAUTICAL CHART DIVISION

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. 8749

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	1					
VOLUMES	7					
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				1,442
POSITIONS CHECKED		144		
POSITIONS REVISED		0		
DEPTH SOUNDINGS REVISED		20		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		1	30	
JUNCTIONS		2	5	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		3	20	
SPECIAL ADJUSTMENTS		0		
ALL OTHER WORK		323	54	
TOTALS		329	109	

PRE-VERIFICATION BY	BEGINNING DATE	ENDING DATE
VERIFICATION BY Doris M. Taylor	BEGINNING DATE 12/15/66	ENDING DATE 1/31/67
REVIEW BY Fannie B. Powers	BEGINNING DATE 10-29-73	ENDING DATE 12-12-73

Asst. Cartographer 24 3/5/74

USCOMM-DC 6641-P64

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8749 FIELD NO. ECFP05-1-63

Texas, Galveston Bay, Galveston Channel

SURVEYED: January 10, 1963 - May 20, 1963
October 25, 1964 - February 9, 1965

SCALE: 1:5,000 PROJECT NO.: OPR-428

SOUNDINGS: DE-723 Depth Recorders CONTROL: Sextant fixes on
Sounding Pole, Leadline shore signals

Chief of Party	.....	W. V. Hull
	.....	P. A. Stark
	.....	H. E. McCall
	.....	R. E. Alderman
Surveyed by	.....	R. A. Lewis
	.....	G. F. Trefethen
	.....	W. H. Piner
	.....	J. B. Jones
Protracted by	.....	B. T. Davis
Soundings plotted by	.....	B. T. Davis
Verified and inked by	.....	D. M. Taylor
Reviewed by	.....	F. B. Powers- Date 12/13/73
Inspected by	.....	R. H. Carstens

1. Descriptive of the Area

This survey covers Galveston Channel from the U. S. Coast Guard Station on the north, to the bascule bridge on the west.

The federally maintained Galveston Channel has depths of 32-37 feet. The inshore area along the south side of the channel has depths of 8 to 32 feet, where numerous shipping terminal facilities are located. The north side is much shallower and foul with less shipping facilities.

The predominate bottom characteristic is mud.

2. Control and Shoreline

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

The shoreline originates with incomplete photogrammetric manuscripts T-12241, T-12242, and T-12243 of 1962 scale 1:5,000. Revisions appearing

in red are by the hydrographer.

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves are adequately delineated.

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

4. Condition of the Survey

The field work, sounding records, smooth plotting and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual except that soundings from several years have been plotted together in portions of the main channel which is subject to frequent dredgings. As a result discrepancies of 2-3 feet occur in these areas. However inasmuch as more recent controlling depths are provided by the Corps of Engineers, no attempt was made to eliminate these discrepancies.

5. Junctions

Adequate junctions were effected with H-8750 (1963-66) on the west and with H-8748 (1962-65) on the north.

6. Comparison with Prior Surveys

A. H-247 (1850), 1:20,000
H-264 (1861), 1:20,000
H-906b (1867), 1:20,000
H-918a (1867), 1:20,000
H-918b (1851-1867), 1:20,000
H-919 (1867), 1:10,000
H-1530 (1883), 1:10,000

A comparison between the prior and present depths reveals changes in the shoreline and bottom. Most of Pelican Island on the present survey falls in areas of 2-5 feet on the prior surveys. The present survey depths are generally 7 to 33 feet deeper than prior depths. These changes are attributed to the construction of bulkheads, shipping facilities, piers, dredging and deposition of spoil.

The present survey is adequate to supersede the prior surveys within the common area.

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

As these prior surveys show only a few soundings inshore and conditions are continually being changed by harbor improvements a detailed comparison would serve no cartographic value.

This present survey is adequate to supersede the prior surveys within the common area.

C. T-10788 (1957-60), 1:20,000

This topographic survey supersedes the shoreline on the prior surveys, therefore a comparison was made. The following items were not verified or disproved and have been carried forward to supplement the present survey:

(1) A submerged dolphin in lat. 29°18.70, long. 94°48.57'.

(2) A submerged dolphin in lat. 29°18.73, long. 94°48.99'.

(3) A snag in lat. 29°18.77, long. 94°49.27'.

With the additions noted, the present survey is adequate to supersede the prior topographic information within the common area.

7. Comparison with Chart 518 10th Ed. print date Sept. 30, 1972

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration and with subsequent Corps of Engineers surveys, supplemented by the partial application of depths from the boat sheet of the present survey. Only minor differences are noted between the present survey and charted depths.

Attention is directed to the following:

1. Items indicated on Bp87480, by the reviewer, charted subsequent to the date of the present survey, supersede the survey information and should be retained on the chart.

2. A submerged pipe charted in lat. 29°19.3', long. 94°46.65' from H-5424 was disproved by the hydrographer and should be deleted from the chart.

3. The following items were charted from erroneous positions on the present survey boat sheet and should be deleted from the chart:

   (a) A submerged pipe in lat. 29°19.31', long. 94°46.58'.

   (b) A pile in lat. 29°19.93', long. 94°46.37'.

4. A pile charted in lat. 29°18.87', long. 94°46.75' from T-12243 should be deleted from the chart and the shoreline revised inaccordance with the present smooth sheet.

5. Two obstructions located on the present survey, one in lat. 29°19.38', long. 94°46.44', the other in lat. 29°19.35', long. 94°46.47' were deleted from the chart from subsequent Corps of Engineers information Bp66987 (advanced copy of Chart 518 with miscellaneous corrections) and Chart letter number 1697 of 1964.

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 listed below are based on subsequent Corps of Engineers information and supersede the present survey information.

Location	Source
(1) Galveston Channel	L-1405/1972
(2) 13 ft. rep. in lat. 29°19.3', long. 94°47.1'	L-1351/1967
(3) 29 ft. 1971 in lat. 29°18.7', long. 94°48.2'	Bp82500-08
(4) 14 ft. Rep. 1971 in lat. 29°18.75', long. 94°48.53'	L-846/1972
(5) 25 ft and 30 ft. in the vicinity of Lat. 29°18.76', long. 94°49.1'	L-1347/1970

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 features intended.

8. Compliance with Instructions

This survey adequately complies with the Project Instructions.

9. Additional Field Work

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

Examined and Approved:

Chief
Marine Chart Division

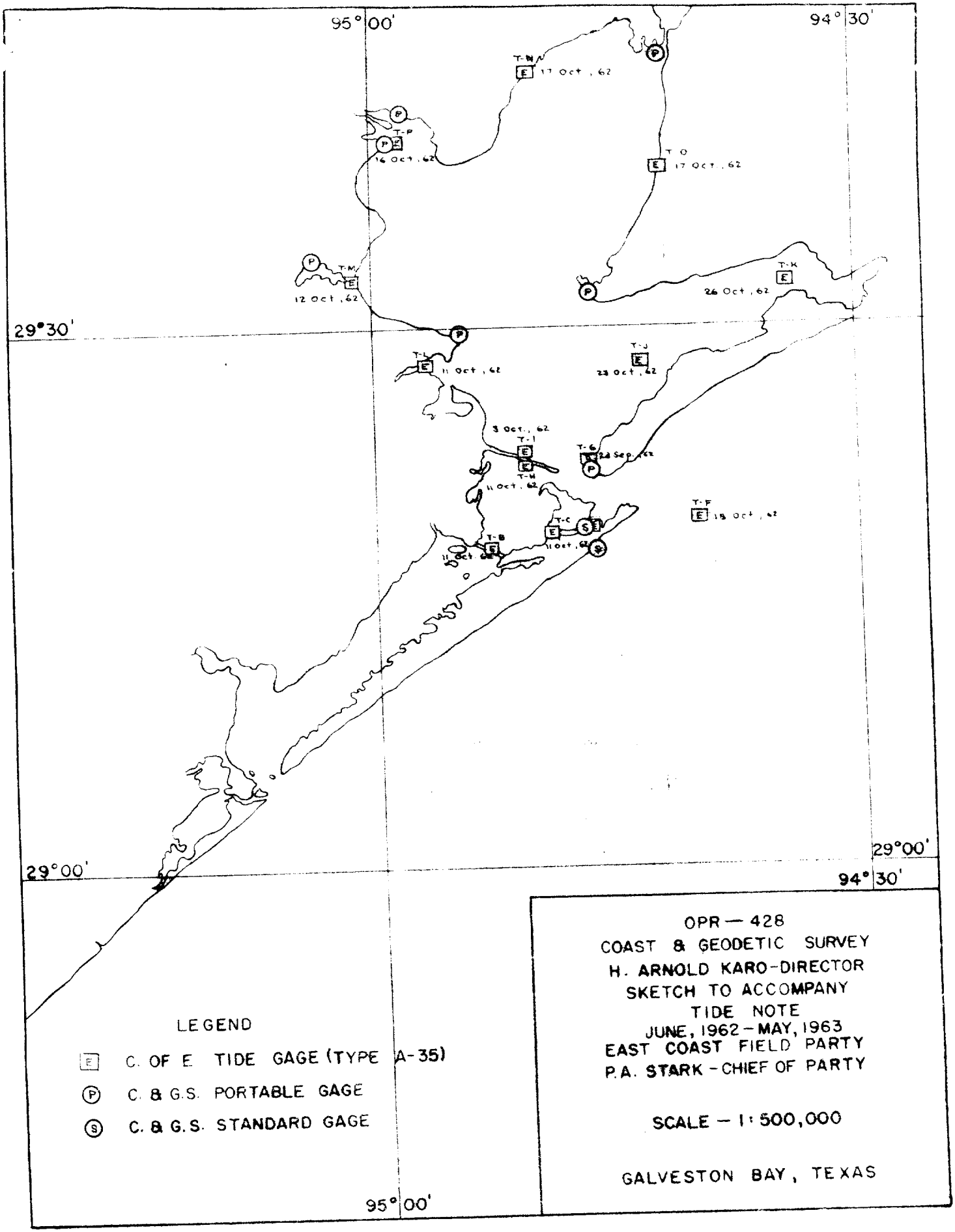
for Associate Director
Office of Marine Surveys
and Maps

H-8749 (1963-65)

Information for Future Pre-Survey Reviews

This survey covers most of Galveston Channel. Soundings are sparse on the prior surveys and continual harbor improvements are in progress; therefore a detailed comparison was not made. The present survey is adequately developed.

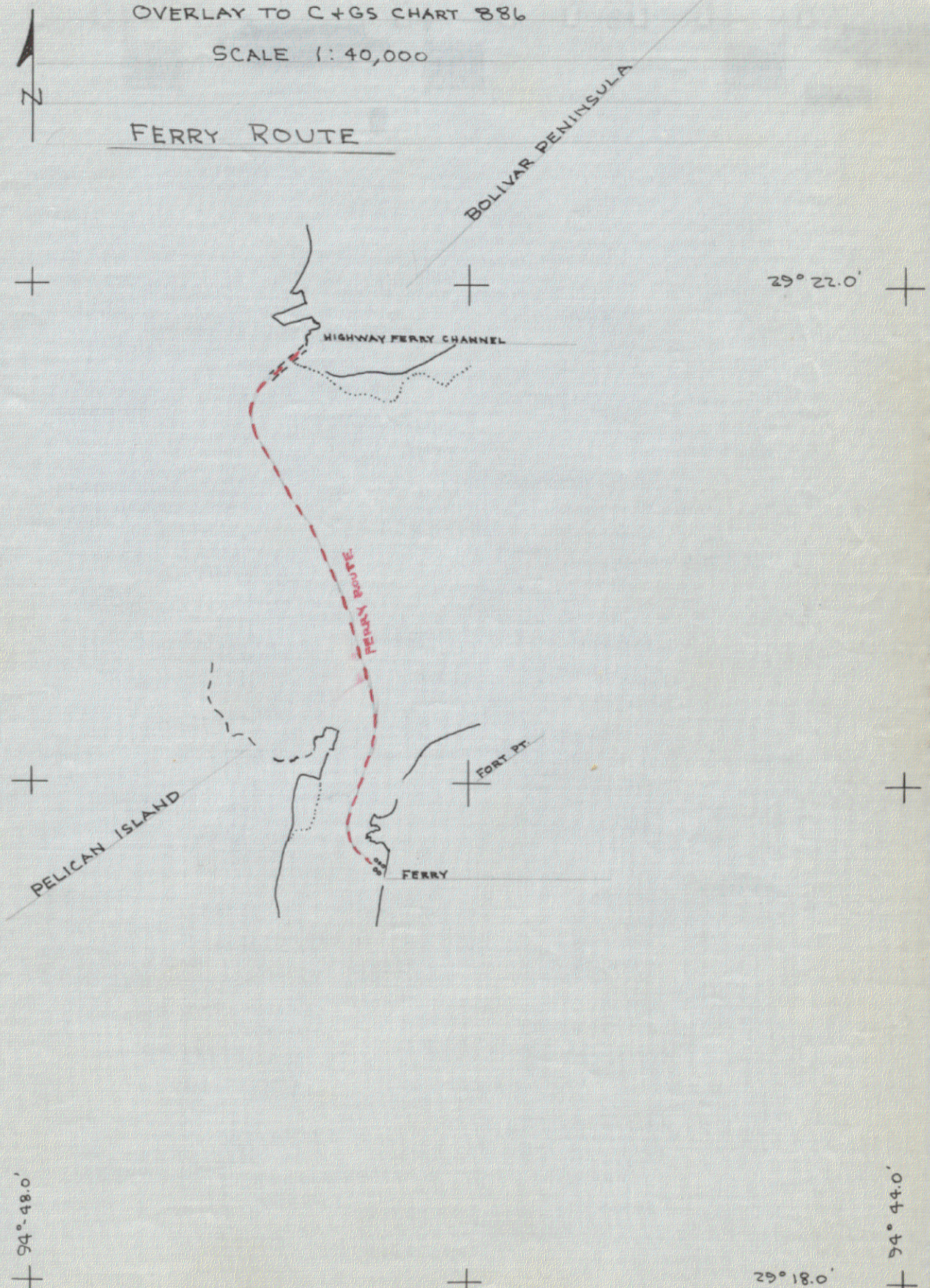
Position Index Lat.	Long.	Bottom Change Index	Use Index	Resurvey Cycle
291	0945	5	9	10 Years
292	0945	5	9	10 Years

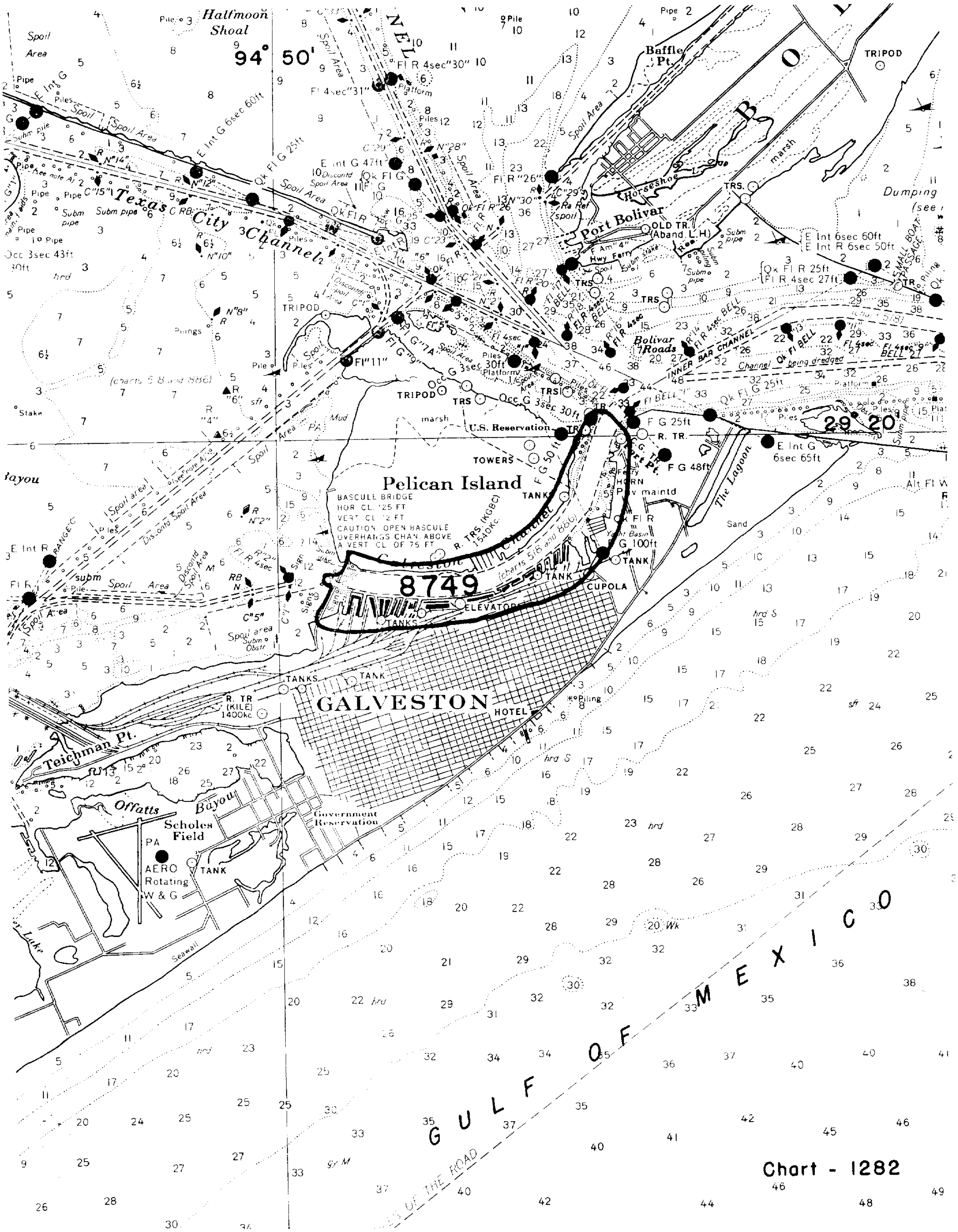

95° 00'
94° 30'
29°30'
29°00'
T-N
17 Oct., 62
T-P
16 Oct., 62
T-O
17 Oct., 62
T-M
12 Oct., 62
T-K
26 Oct., 62
T-L
11 Oct., 62
T-J
23 Oct., 62
3 Oct., 62
T-I
T-6
28 Sep., 62
T-H
11 Oct., 62
T-F
15 Oct., 62
T-C
11 Oct., 62
T-B
11 Oct., 62
LEGEND
E C. OF E TIDE GAGE (TYPE A-35)
P C. & G.S. PORTABLE GAGE
S C. & G.S. STANDARD GAGE
OPR — 428
COAST & GEODETIC SURVEY
H. ARNOLD KARO-DIRECTOR
SKETCH TO ACCOMPANY
TIDE NOTE
JUNE, 1962 — MAY, 1963
EAST COAST FIELD PARTY
P.A. STARK - CHIEF OF PARTY
SCALE — 1:500,000
GALVESTON BAY, TEXAS

OVERLAY TO C+GS CHART 886

SCALE 1:40,000

FERRY ROUTE





Halfmoon Shoal
94° 50'
Spoil Area
Texas City Channel
Baffle Pt.
Port Bolivar
Horseshoe
OLD TR. (Aband. L.H)
TRIPOD
Dumping
Bolivar Roads
INNER BAR CHANNEL
Channel being dredged
29 20'
Pelican Island
BASCULE BRIDGE
HOR CL 125 FT
VERT CL 12 FT
CAUTION OPEN BASCULE OVERHANGS CHAN ABOVE A VERT CL OF 75 FT
Galveston Channel
8749
U.S. Reservation
TOWERS
TANK
ELEVATOR
CUPOLA
The Lagoon
Sand
GALVESTON
HOTEL
R. TR (KILE) 1400kc.
TANKS
Teichman Pt.
Offatts Bayou
Scholes Field
AERO Rotating W & G
Government Reservation
Seawall
GULF OF MEXICO

Chart - 1282

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8749

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
1282 11324	2/11/66	Helmer	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. Appl critical changes. See L-1728(65) Other
			changes from Des. Rep.
518 11324	4/9/66	Helen Quimby	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. Examined, applied critical corrections,
			per L-1728/65 HQ
886	11/18/66	Helmer	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. Cppd thru 518
~~518~~ 11324	~~7-1-75~~	~~OWYANG, JEFFERY~~	~~Full Part Before After Verification Review Inspection Signed Via~~
			Drawing No.
			Adequate
11324	5/1/89	John Pierce	~~Full~~ Part ~~Before~~ After ~~Verification Review Inspection~~ Signed Via
			Drawing No. 25 Applied Examined, no corrections applied;
			~~mostly superseded by BP16 115315-35~~
11326	6/27/91	Dan Gluck	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 25 THRU 11324
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975

USCOMM-DC 8558-P63