

8694

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-10-6-62** Office No. **H-8694**

LOCALITY

State **Texas**

General locality **Galveston Bay**

Locality **Clear Lake & Approaches**

1962

CHIEF OF PARTY

S. L. Hollis, Jr.

LIBRARY & ARCHIVES

DATE **1-29-65**

USCOMM-DC 37022-P66

8694

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER No. H-8694

Field No. ECFP 10-6-62

State TEXAS

General locality GALVESTON BAY

Locality CLEAR LAKE AND ^{Approaches} ~~ENTRANCE TO CLEAR LAKE~~

Scale 1:10,000 Date of survey 19 July - 5 Sept. 1962

Instructions dated 25 April 1962

Vessel Launch CS 183, Skiff 758, Skiff No. 3

Chief of party LCDR Steven L. Hollis, Jr.

Surveyed by LT Wesley V. Hull

Soundings taken by fathometer, graphic recorder, hand lead, ~~with~~ sounding pole

Fathograms scaled by Party Personnel

Fathograms checked by Party Personnel

Protracted by Dorothy C. Calland (Norfolk Office)

Soundings penciled by Dorothy C. Calland " "

Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXXX~~

REMARKS:

.....
.....
.....
.....
.....
.....

JMD

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SURVEY

Field No. ECFP 10-6-62

SCALE: 1:10,000

EAST COAST FIELD PARTY

CHIEF OF PARTY

LCDR STEVEN L. HOLLIS, JR.

SURVEYED BY

LT. WESLEY V. HULL

* * * * *

A. PROJECT

Work on Project OPR 428 was executed in accordance with Instructions 211/pt, S-2-ECFP, dated 25 April, 1962.

B. AREA SURVEYED

The general locality of this survey is Clear Lake and the Entrance to Clear Lake. The area surveyed extends from Latitude 29° 30' 15" to latitude 29° 34' 30" and from longitude 94° 57' 00" to longitude 95° 05' 30".

This survey makes junction with the following contemporary surveys; ECFP 12.5-1-62^{H-8695(1962)} on the southeast, ECFP 20-3-62⁷⁴² on the east, and ECFP 10-8-62 on the north. H-8743(1962-65)

Field work on this sheet commenced on 19 July 1962 and was completed on 5 September 1962.

C. SOUNDING VESSELS

Launch CS 183 was used for 90 percent of the hydrography on this sheet and is indicated by violet day letters. (a thru g days)

Skiff 758 was used approximately one-fifth of the hydrography on the sheet and is indicated by red day letters. (a thru _g days)

Aluminum skiff No. 3 was used for all of Clear Lake and is indicated by green day letters. (a thru d days) also e, f, g & h days

Launch CS 183 and Skiff 758 were based at Kemah for the period of this work.

D. SOUNDING EQUIPMENT

The EDO 255C No. 13 Depth Recorder was used for all work by Launch CS 183, except for the depths of less than 6 feet when a 12 foot sounding pole was used.

Skiff 758 used an 808 Fathometer No. 5734. In depths of less than two feet a twelve foot sounding pole was used.

Skiff No. 3 used the 808 fathometer No. 113S for a and c days. A twelve foot sounding pole was used on "b" day. Fathometer 808J No. 154 was used on "d" day.

Echo sounder corrections were determined from daily bar checks and simultaneous comparisons. These corrections are tabulated in Appendix A, "Abstract of Corrections to Echo Sounders", attached to this report.

E. SMOOTH SHEET

The projection will be made in the Washington Office by a projection ruling machine.

F. CONTROL

Horizontal control was obtained by standard visual three-point fix methods as described in the Hydrographic Manual.

Triangulation dated 1962 was performed by the East Coast Field Party and Photo Sub Unit 721.

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

G. SHORELINE

The shoreline was transferred from Manuscripts T-9794, T-9796 dated May 1962 and T-9797 dated December 1961, in the usual manner. *see addendum*

The shoreline has receded slightly since the date of the original survey. All shoreline and the alongshore features were checked and verified.

H. CROSSLINES

Crosslines were run to the extent of 10 to 12 percent of the regular system of sounding lines. Favorable crossings were found.

I. JUNCTIONS

The depths at junction with contemporary survey ECFP 12.5-1-62 are in good agreement and the depth curves can be adequately drawn. H-8695(1962)

The other contemporary surveys listed in item B are now in progress and a comparison will be made later.

J. COMPARISON WITH PRIOR SURVEYS

There are ten presurvey review items within the limits of hydrography.

Presurvey item A₁ is a pipe at Latitude 29° 34.59' Longitude 94° 59.51'. This item was investigated with a modified sweep on "f" day using CS 183, with negative findings. It is recommended this item be deleted from chart.

A pipe at latitude 29° 34.60', longitude 94° 59.59' with a least depth of 2.6 feet was found 85 meters north northwest of charted position of Item A₁. Recommend this pipe be charted.

Presurvey Item A₂ -pipe- latitude 29° 33.25', longitude 94° 57.88' was investigated by sweep methods on "f" day CS 183 with negative results. It is recommended that this item be deleted.

Presurvey Item A₃ -wreck- Latitude 29° 30.94', longitude 94° 58.95' was investigated on "d" day using Skiff 758 with negative results. It is recommended this item be deleted from chart.

Presurvey Item A₄ is a pile at Latitude 29° 30.81', Longitude 94° 58.60'. This item was disproved by the Hydrographic unit on "d" day using Skiff 758. It is recommended this item be deleted.

Presurvey Item A₅ -platform- Latitude 29° 30.70', longitude 94° 58.45' was investigated on "e" day Skiff 758 with negative results. It is recommended that this item be deleted. *part among stakes*

Item A₆ -platform- Latitude 29° 30.51', Longitude 94° 57.50' was disproved on "e" day using Skiff 758. It is recommended that this item be deleted.

Presurvey Item A₇ -pipe- Latitude 29° 33.20', Longitude 95° 00.49' was investigated on "f" day using Launch CS 183. The results were negative. It is recommended that this item be deleted from the chart.

Presurvey Item A₈ -wreck- charted in Latitude 29° 33.09', Longitude 95° 00.45' was disproved by the hydrographic unit on "d" day Skiff 758. It is recommended this item be deleted from the chart.

Presurvey Item 6, 2"X2" wooden stakes Latitude 29° 33.30', Longitude 95° 00.80' was investigated by Skiff 758 on "d" day. One stake projecting 0.4 foot from the bottom was found. It is not considered as an obstruction. Recommend this item be deleted from the chart.

Presurvey Item 7 -wreck* Latitude 29° 30.98', Longitude 95° 58.30' was disproved by the hydrographic unit on "f" day using Launch CS 183 and on "d" day using Skiff 758. It is recommended this item be deleted from chart.

All investigations done by Launch CS 183 were by a modified sweep method. This consisted of two boards similiar to the ones used by shrimp fishermen. A chain of about 30 meters in length is attached between the boards. As the boards are towed, the force of the water separates them to a distance governed by the length of chain connecting them. The sweep drags on the bottom and covers an area of about 30 meters in width and follows the path of the boat.

All investigations done by Skiff 758 were done with two vessels dragging a weighted line of about 30 meters in length between them.

The position of the main vessel was plotted and the second vessel was on the port side of the main vessel.

On "c" day, positions 84 thru 87, Launch CS 183, six dolphing and an iron pipe were located at Latitude 29° 34.39, longitude 94° 58.90'. On "g" day Launch CS 183 the dolphins and pipe had been removed. This will be forther investigated on ECFP 10-8-62. (H-8742)

A comparison was made with prior survey H-5510 (1:20,000) 1933. There is general agreement between the two surveys with the exceptions of the dredged channel to Clear Creek with a controlling depth of 8 feet, the dredged channel thru Clear Lake with a controlling depth of 7 feet. The channel to Seabrook shows a general shoaling and the northeastern part of the sheet shows greater depths. in some areas due to dredging operations.

This is a
boat sheet
comparison

A comparison was made with a U. S. Corps of Engineers survey of Clear Lake scale 1:5,000, dated June 1962, and the Engineers show lesser depths from 1.5 to 2 feet over the entire lake.

Bp62707 June 1962
2 parts
scales 1:4800
1:1200

K. COMPARISON WITH THE CHART

The examination of C&GS chart 1282, 19th. Edition Feb. 1962, revised 6/25/62 (1:80,000) shows a good comparison with this survey.

L. ADEQUACY OF SURVEY

This survey is complete and is considered adequate to supercede all prior surveys.

The survey in Clear Lake is considered adequate to ^{join} junction with the survey by the U. S. Corps of Engineers listed in item J.

M. AIDS TO NAVIGATION

There are 10 official fixed aids to navigation within the limits of this survey.

For listing of aids see Form 567 submitted by the Tampa District Office 22 June 1962 and the Attached Form 567.

The 1962 List of Lights and other marine aids, Volume 2, list

Seabrook channel daybeacons 1, 3, and 5. Only two of these aids remain; daybeacons 1 and 5. Daybeacon 3 does not exist. The aids are single piles and have no markers or markings.

There are 6 unofficial fixed aids to navigation. } 4 at Clifton channel in L.L.
 Halfway Reef Light
 Courthouse Reef Light

For listings of aids see Form 567 submitted Tampa District Office 22 June 1962 and Form 567 attached to this report.

There are 20 official floating aids to navigation within this survey.

There is one lighted mooring Buoy at latitude $29^{\circ} 33.78'$ longitude $94^{\circ} 58.85'$, maintained by The Ideal Cement Co., Galena Park, Texas.

There are 8 racing buoys in vicinity of latitude $29^{\circ} 32.50'$, longitude $94^{\circ} 59.30'$, maintained by Texas Corinthian Yacht Club, Houston, Texas.

There are 4 home made type buoys in the vicinity of latitude $29^{\circ} 33.50'$, longitude $95^{\circ} 00.50'$. The buoys are made of styrofoam and a wooden 2"X2" with a small cross banner on top. The purpose of these buoys could not be determined.

There is one Landmark for charts to be deleted. See Form 567 attached to this report.

A comparison has been made with the Light List and the largest scale chart of the area and all aids are adequate to serve the purpose for which they were established.

N. STATISTICS

<u>VESSEL</u>	<u>NUMBER OF POSITIONS</u>	<u>NAUTICAL MILES OF SOUNDINGS</u>
Launch CS 183	904	137.7
Skiff 758	715	58.2
Skiff No. 3	<u>330</u> 545	<u>25.0</u>
Total	<u>1949</u> 2164	<u>220.9</u>

Total area of the survey is 13.0 square Nautical Miles.

Two tide stations were used for control of the entire survey. Both gages were portable automatic gages. The Eagle Point Gage latitude $29^{\circ} 29.8'$, longitude $94^{\circ} 54.71'$ controlled hydrography to longitude $95^{\circ} 01.90'$, and a gage located in Clear Lake, controlled the remainder of the survey. For plane of reference of tide staffs see Appendix C of this report. ← off survey sheet
 $29^{\circ} 33.5'$
 $95^{\circ} 03.99'$

There were no current stations within the limits of this survey.

There were 87 bottom samples obtained on this survey.

NORFOLK HYDROGRAPHIC PROCESSING BRANCH
 FLOATING AIDS TO NAVIGATION
 H-8694

<u>BUOY</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>DEPTH</u>	<u>POS. NO.</u>	<u>DATE</u>
GALVESTON BAY CLEAR CREEK CHAN.					
Buoy 2	29-33.14'	94-59.53'	9'	12c(pur)	8-3-62
Buoy 3	33.06	59.82	9	11c	"
Buoy 4	33.07	59.99	9	10c	"
Buoy 5	33.01	95-00.22	7	8c	"
Buoy 6	32.99	00.41	7	7c	"
Buoy 7	32.94	00.63	8	6c	"
Buoy 8	32.95	00.25	4	5c	"
Buoy 9	32.89	00.46	8	2c	"
Buoy 10	32.92	00.45	9	3c	"
Buoy 11	33.11	01.95	6	35a(gr)	7-19-62
Buoy 12	33.18	02.15	7	31a	"
Buoy 13	33.24	02.46	3	27a	"
Buoy 14	33.32	02.73	4	23a	"
Buoy 15	33.39	03.03	8	18a	"
Buoy 16	33.45	03.77	9	14a	"
Buoy 17	33.25	03.71	4	10a	"
Buoy 18	33.22	03.90	8	6a	"
Buoy 19	33.13	04.20	8	2a	"
Buoy 20	33.01	04.36	6	51c(gr)	7-27-62
Buoy 21	32.89	04.46	6	50c	"
CLIFTON CHAN. W. GALVESTON BAY Lighted Mooring Buoy					
	33.77	94-58.85	9	83c(pur)	7-3-62
CORINTHIAN YACHT CLUB					
Racing Buoy	32.67	58.86	9	29e(pur)	8-9-62
Racing Buoy	32.83	59.28	9	13c(pur)	8-3-62
Racing Buoy	32.72	59.70	10	14c	"
Racing Buoy	32.38	59.92	8	15c	"
Racing Buoy	32.01	59.78	8	16c	"
Racing Buoy	31.84	59.40	8	17c	"
Racing Buoy	31.99	58.98	9	80e(pur)	8-9-62
Racing Buoy	32.28	58.77	9	155e	"
PRIVATELY MAINTAINED					
Buoy	34.13	59.76	8	88c(pur)	8-3-62
Buoy	33.69	59.69	8	89c	"
Buoy	33.74	95-00.42	5	91c	"
Buoy	33.42	00.27	6	92c	"

INDEX OF APPENDIXES

- A. ABSTRACT OF CORRECTIONS TO ECHO SOUNDERS
- B. LIST OF SIGNALS
- C. TIDAL NOTE
- D. APPROVAL SHEET

APPENDIX A

Abstract of corrections to echo Sounders

Launch CS 183

"a", "b" and "c" days Depth Recorder EDO 255C No. 13

<u>Depth</u>	<u>Correction</u>
4.0 to 21.0	-0.4
21.1 to 23.0	-0.2
23.1 deeper	0.0

"d", "e", "f" and "g" days

all depths	0.0
------------	-----

Skiff 758

"a" and "e" days Depth Recorder 808J 57-34

<u>Depth</u>	<u>Correction</u>
0.0 to 4.4	0.0
4.5 to 6.0	/0.2
6.1 to 18.0	/0.4
18.1 to 22.0	/0.6
22.1 to 26.0	/0.8
26.1 deeper	/1.0

"b", "c", "d", and "f" days

All depths	0.0
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Skiff No. 3

All depths	0.0
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APPENDIX B

List Of Signals

TRIANGULATION STATIONS

DAY- CLEAR CREEK CHANNEL LIGHT 2 1962

NIT- CLEAR CREEK CHANNEL LIGHT 4 1962

PHOTO-HYDRO STATIONS

MANUSCRIPT T-9797

ASK	MAX	REV	WIT
BOX	NOW	SAG	YAM
COW	ORA	TAX	
DOC	PET	TRE	
ION	POO	VIM	

MANUSCRIPT T-9796

ARM	FIG	IRK	OAK	SUE
ALP	FIX	JOB ← JIB	OIL	TOM ← TAN
BAG	FOX	KID	PAD	TRA
BAT	GAL	KIM	PIT	USE
CAR ← CAB	GEO	LEG	POT	VAN
DIP ← DON	GIN	LIN	QUO ← RAG	VEX
DUC	HEX	LIZ	RIP	WAK
END	HID	MAN	SAX	YAK ← YES
ERA	HUB	NIG	SIC	ZIG
FEW	ICE	NIX	SKI	ZOO

MANUSCRIPT T-9794

ABE	CAT	FIG	JOY	
ADO	COD	GUY	JIM	POW RED
ASH	DIM ← DOO	HER	KEN	SHE
BED	DOG	HOL	LIP	SIF
BUT	EEL	INK	MID ← NAP	TOR
		IVY	FIG	WAS

HYDROGRAPHIC SIGNALS

SIGNAL	OBJECT	POSITION	VESSEL
WEL	oilwell	35a Vol. 5	Launch CS 183
LIG	reefmarker	90c " 6	Launch CS 183
TEX	reefmarker	82c " 6	Launch CS 183
COO	pile	1e " 7	Launch CS 183
LAT	platform	84c " H	Skiff 758

APPENDIX C

TIDAL NOTE

GAGE LOCATION:

Eagle Point Texas
Lat. $29^{\circ} 29.8'$
Long. $94^{\circ} 54.71'$

Used
← E. of Long.
 $95^{\circ} 01.87'$

Clear Lake
Lat. $29^{\circ} 33.8'$
Long. $95^{\circ} 03.99'$

Used
← W. of Long.
 $95^{\circ} 01.87'$

GAGE TYPE:

Portable Automatic

PLANE OF REFERENCE:

Mean low water corresponds
to 2.2 feet on the staff at
Eagle Point and 3.4 feet at
Clear Lake.

The 90th time meridian was
used at these tide stations.

APPENDIX D

APPROVAL SHEET TO ACCOMPANY
Hydrographic Sheet ECFP 10-6-62

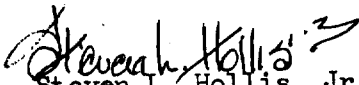
Project OPR-428

The records, corrections, and all field and office work was supervised by LCDR Steven L. Hollis Jr.

The descriptive report was written by Lt. Wesley V. Hull.

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

Approved and Forwarded,


Steven L. Hollis, Jr.
Officer in Charge

NORFOLK RECORDS PROCESSING BRANCH
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8694 (ECFP 10-6-62)

Soundings are in good agreement at crossings. Line spacing is wide but is generally adequate for showing bottom configurations in this area of rather featureless bottom. With the exceptions noted, chart and smooth sheet appear to be in good agreement. *(about 200 m. in offshore areas.)*

OVERLAYS

Sweep investigations of charted obstructions are being submitted on 6 smooth overlays. Soundings recorded on this work were not transferred to the smooth sheet as launch times and courses are usually questionable when a sweep is being towed along the bottom.

Sigs transferred during review

SHORELINE

Shoreline West of Long. 95-04.8' was transferred from incomplete manuscript T-9796 and left in pencil for possible revisions by Washington Office. According to the index for photogrammetric project 21029, shoreline revision ended at this point. *See Review Part 2*

Incomplete manuscript using Corps of Engineer Survey. Manuscript unavailable for verification.
Lat. 29-30.88' Long. 94-59.13' A new pier is penciled at this point. See boat sheet and reference at position 124a (red).

Lat. 29-30.56' Long. 94-58.20' Two new piers were located by positions 67 and 68a (red).

Lat. 29-30.85' Long. 94-58.95' Ruins extend from end of pier. See position 115a (red).

Lat. 29-33.50' Long. 95-00.95' Pier ruins, and ruins at end of pier were transferred from boat sheet.

DISCREPANCIES

Lat. 29-34.50' Long. 94-59.50' A group of piles near station WEL was not plotted due to lack of information. See position 35a (pur).

Lat. 29-32.90' Long. 94-57.68' Sounding of 8.4' (44 to 45b, pur) is shown as an obstruction on the boat sheet. It is believed to be a shoal. *Not shown as obstruction on smooth sheet. It is an ordinary shoal.*

Norfolk, Va.
Jan. 25, 1965

Respectfully submitted,

Hugh L. Proffitt
Hugh L. Proffitt
Cartographer

HP

TIDE NOTE FOR HYDROGRAPHIC SHEET

October 11, 1966

Nautical Chart Division: R. H. Carstens

Plane of reference approved in
13 volumes of sounding records for

HYDROGRAPHIC SHEET 8694

Locality: Galveston Bay, Texas

Chief of Party: S. L. Hollis in 1926-63

Plane of reference is mean low water

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

Eagle Point, Texas
Clear Lake, "

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

Eagle Point = 1.0 feet
Clear Lake = 0.9 "

Remarks


Chief, Tides and Currents Branch

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. 8694

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		6	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS						1
VOLUMES	13					
BOXES						
T-SHEET PRINTS (List) Cronaflex Pos. T-9796, T-9797 & T-9798						
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				2181
POSITIONS CHECKED		218	200	
POSITIONS REVISED		1	100	
DEPTH SOUNDINGS REVISED		62	200	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		13	100	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0	0	
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		12	90.0	
JUNCTIONS		3	10.0	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		40		
SPECIAL ADJUSTMENTS		156		
ALL OTHER WORK				
TOTALS		571	270.0	
PRE-VERIFICATION BY	BEGINNING DATE	ENDING DATE		
VERIFICATION BY <i>Charles S. Forber jr.</i>	BEGINNING DATE	ENDING DATE 9/27/66		
REVIEW BY <i>Fannie B. Powers</i>	BEGINNING DATE 6-8-72	ENDING DATE 84-72 10-4-72		

Insp. by *Dale S. Nuttall* TIME 33 hrs. 9/26/72 USCOMM-DC 6641-P64

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8694

FIELD NO. ECFP-10-6-62

Texas, Galveston Bay, Clear Lake and Approaches

SURVEYED: July 19, 1962, through September 5, 1962

SCALE: 1:10,000

PROJECT NO.: OPR-428

SOUNDINGS: EDO and 808
Depth Recorders
Sounding Pole

CONTROL: Sextant fixes on
shore signals

Chief of Party.....	S. L. Hollis, Jr.
Surveyed by.....	W. V. Hull
Protracted by.....	D. C. Calland (AMC)
Soundings Plotted by.....	D. C. Calland
Verified and Inked by.....	C. S. Forbes
Reviewed by.....	F. B. Powers
.....	Date: August 4, 1972
Inspected by.....	D. E. Westbrook

1. Description of the Area

This inshore survey covers Clear Lake and its tributaries and a portion of Galveston Bay. Survey work in the bay extends north to lat. 29°34.5' and east to approximate long. 94°57.0'.

The bottom gradually slopes to maximum depths of about 12 feet, except for the dredged channels. Alongshore features include piers, piers-in-ruins, and groins. Appearing offshore are numerous piles, pipes, stakes, and duckblinds. Some oyster beds are in the bay area. A federally maintained channel extends the length of Clear Lake and continues into Galveston Bay approximately 1 1/3 mile.

The predominate bottom characteristics are soft mud, shells, and sand.

2. Control and Shoreline

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

The shoreline originates with reviewed photogrammetric manuscripts T-9794, T-9796, and T-9797 of 1960-62. Shoreline appearing in red west of long. $95^{\circ}04.85'$ is from Bp 63086 (1962), which is a copy of T-9796 revised and extended from 1962 photography. Minor revisions in other areas appearing in red are by the hydrographer, including three new piers, several extensions to other piers, and a spoil islet.

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves are adequately delineated, except in lat. $29^{\circ}33.30'$, long. $95^{\circ}02.50'$ and lat. $29^{\circ}32.85'$, long. $95^{\circ}00.35'$ where additional lines should have been run to delineate the curves.

Some dashed curves have been added to emphasize important submarine features.

C. The development of the bottom configuration and the investigation of least depths are considered adequate, except as noted above. In addition, sounding line spacing in Clear Lake is excessive and depths off piers in lat. $29^{\circ}33.7'$, long. $95^{\circ}02.65'$ were not obtained.

4. Condition of the Survey

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

5. Junctions

Adequate junctions were effected with H-8742 (1962-63) on the north, with H-8743 (1962-65) on the northeast, and with H-8695 (1962) on the southeast.

6. Comparison with Prior Surveys

H-414 (1853)

This early survey has been compared with and was superseded by the survey discussed in the following paragraph.

Further consideration of H-414 is not deemed necessary in the present review.

H-5510 (1933) 1:20,000

A comparison between the present and prior surveys reveals minor differences in depths except in areas affected by dredging and disposition of spoil. The present survey depths in the bay area are generally 1-2 feet deeper than the prior survey depths. Borrowing has caused a few scattered depressions in the bottom, such as the one in lat. $29^{\circ}33.25'$, long. $94^{\circ}58.85'$ where present 14 ft. depths compare with 8-ft. depths on the prior survey.

The present survey depths in Clear Lake are generally 1-2 feet shoaler than the prior survey depths. These differences are probably caused by a combination of natural sedimentation, dredging, and spoiling.

A new channel has been dredged into Clear Creek about 0.4 mi. south of the one shown on H-5510. Also, numerous man-made shoreline changes have occurred in the Clear Lake area.

Three submerged piles in lat. $29^{\circ}33.26'$, long. $95^{\circ}00.61'$ ³²⁶; lat. $29^{\circ}33.19'$, long. $95^{\circ}00.34'$; and lat. $29^{\circ}33.12'$, long. $95^{\circ}00.27'$ have been brought forward from H-5510 to supplement the present survey.

With the addition of the submerged piles noted above, the present survey is adequate to supersede the prior survey within the common area.

7. Comparison with Chart 519, 8th Ed., July 31, 1971
Chart 152-SC, 8th Ed., June 12, 1971

A. Hydrography

The charted hydrography originates with the previously discussed prior survey which requires no further consideration and with prior and subsequent Corps of Engineers surveys, supplemented by the partial application of depths from the boat sheet and verified smooth sheet of the present survey. Attention is directed to the following:

- (1) The following items were charted on Chart 519 subsequent to the date of the present survey from

the sources indicated and should be retained on the chart:

- (a) Two signs, one in lat. $29^{\circ}30.48'$, long. $94^{\circ}57.37'$ and the other in lat. $29^{\circ}30.55'$, long. $94^{\circ}57.57'$ from Houston Light and Power Company Bp 69761 of 1966. The two large groins in the vicinity are from the same source.
- (b) A visible wreck in lat. $29^{\circ}32.14'$, long. $95^{\circ}00.07'$ from Local Notice to Mariners No. 1 of 1971.
- (c) A stake PA in lat. $29^{\circ}33.13'$, long. $94^{\circ}59.78'$ from United States Power Squadrons chart letter No. 1281 of 1969.
- (d) A visible wreck in lat. $29^{\circ}32.93'$, long. $95^{\circ}00.47'$ from Notice to Mariners No. 12 of 1969.
- (e) A submerged wreck PA in lat. $29^{\circ}32.97'$, long. $95^{\circ}00.49'$ from Notice to Mariners No. 32 of 1969.
- (f) Two oil wells in lat. $29^{\circ}34.1'$, long. $95^{\circ}00.12'$ and lat. $29^{\circ}34.4'$, long. $94^{\circ}59.8'$ from United States Power Squadrons chart letter No. 1333 of 1966.
- (g) Three oil wells, in lat. $29^{\circ}34.45'$, long. $95^{\circ}00.0'$; lat. $29^{\circ}34.27'$, long. $94^{\circ}59.54'$; and lat. $29^{\circ}34.13'$, long. $94^{\circ}58.42'$, all from Notice to Mariners No. 2 of 1967.
- (h) A submerged wreck PA in lat. $29^{\circ}32.76'$, long. $94^{\circ}58.5'$ from Notice to Mariners No. 37 of 1967.
- (i) The 2-foot soundings in lat. $29^{\circ}32.96'$, long. $95^{\circ}00.9'$ from Corps of Engineers Bp 78340 of 1970.

(2) The following items were charted on Chart 152 subsequent to the date of the present survey from the sources indicated and should be retained on the chart:

(a) A submerged wreck in lat. $29^{\circ}32.9'$, long. $95^{\circ}01.6'$ from United States Power Squadrons chart letter No. 823 of 1969.

(b) A Tripod in lat. $29^{\circ}33.08'$, long. $95^{\circ}03.04'$ from United States Power Squadrons chart letter No. 1007 of 1970.

(c) The numerous markers in the immediate vicinities of lat. $29^{\circ}32.64'$, long. $95^{\circ}05.0'$ and lat. $29^{\circ}32.40'$, long. $95^{\circ}05.75'$ are from United States Power Squadrons chart letter No. 823 of 1969 and Corps of Engineers Bp 66234-35 of 1964 respectively.

(3) The numerous spoil areas on Charts 519 and 152-SC located in Clear Lake, along Clear Creek Channel, Seabrook Channel and Clifton Channel are from Corps of Engineers surveys Bp 66020 (1964), Bp 78340 (1970), Bp 54416 (1954), and Bp 68413 (1965). These spoil areas should be retained on the chart.

(4) Much of the charted topography was charted from air photo corrections subsequent to the date of the present survey and should be retained as charted.

(5) The note Obstr in lat. $29^{\circ}32.87'$, long. $94^{\circ}57.63'$ on Chart 519 is from the boat sheet of the present survey and should be deleted from the chart. The 8-ft. sounding should be retained without the danger curve as this sounding is no more of an obstruction than other 8-ft. soundings in the area.

(6) The pile in lat. $29^{\circ}33.35'$, long. $95^{\circ}00.90'$, the subm piles in lat. $29^{\circ}33.38'$, long. $95^{\circ}00.88'$; lat. $29^{\circ}33.29'$, long. $95^{\circ}00.71'$; lat. $29^{\circ}33.22'$, long. $95^{\circ}00.49'$; lat. $29^{\circ}33.12'$, long. $95^{\circ}00.27'$, and the subm pipe in lat. $29^{\circ}33.20'$, long. $95^{\circ}00.50'$ on Chart 519 are from H-5510 (1933) and have all been discredited or disproved by the present survey. These features should be deleted from the chart.

(7) The channel at Glen Cove in the vicinity of lat. $29^{\circ}33.3'$, long. $95^{\circ}03'$ was charted subsequent to the date of the present survey from Corps of Engineers Bp 64322 (1963) and should be retained on the chart.

(8) The supplemental soundings charted in Clear Lake from H-5510 and Corps of Engineers Bp 62707 (1962) should be retained on the chart to adequately delineate the bottom, because of the sparse soundings on the present survey.

B. Controlling Depths

The controlling depth notes for Clear Creek on Charts 519 and 152-SC are based on Corps of Engineers chart letter No. 726 of 1971.

The controlling depth notes for Seabrook Channel on Charts 519 and 152-SC are based on Corps of Engineers chart letter No. 31 of 1971.

The controlling depth note on Chart 152-SC for Cow Bayou Channel and the access channel in lat. $29^{\circ}32.5'$, long. $95^{\circ}06.0'$ and lat. $29^{\circ}32.64'$, long. $95^{\circ}05.0'$ respectively are based on Corps of Engineers blueprints number 66234-35 of 1964.

The controlling depth note for the channel on Chart 152-SC in lat. $29^{\circ}33.3'$, long. $95^{\circ}04.30'$ is based on Corps of Engineers Bp 79459 (1960) and chart letter No. 283 of 1971.

The controlling depth note for the access channel on Chart 152-SC in lat. $29^{\circ}33.5'$, long. $95^{\circ}03.9'$ is based on Corps of Engineers chart letter No. 875 of 1964.

The controlling depth notes for the Watergate Channel and basin on Chart 152-SC in lat. $29^{\circ}33.0'$, long. $95^{\circ}02.19'$ are based on Corps of Engineers chart letter No. 1 of 1967.

The controlling depth note for Clifton Channel on Chart 519 in lat. $29^{\circ}30.75'$, long. $94^{\circ}57.80'$ is based on Coast and Geodetic Survey chart letter No. 810 of 1956.

All of the charted controlling depth notes supersede the present survey information except the Clifton Channel controlling depth note which the present survey information supersedes.

C. Aids to Navigation

The aids to navigation located on the present survey are in substantial agreement with the charted positions and

adequately mark the features intended. However, attention is directed to the following items:

- (1) NASA--Clear Lake daybeacons A, B, 2, 3, and 4 located on Chart 152-SC in the vicinity of lat. $29^{\circ}33.3'$, long. $95^{\circ}04.3'$ were charted subsequent to the date of the present survey from information published in Local Notice to Mariners 4 of 1971.
- (2) The privately maintained Clear Lake, Watergate Marina buoys C"1", N"2", C"3", N"4", C"5", N"6", C"7", N"8", C"9", N"10", C"11", N"12", C"13", and N"14" located on Chart 152-SC in the vicinity of lat. $29^{\circ}33.0'$, long. $95^{\circ}02.19'$ were applied subsequent to the date of the present survey from information published in Notice to Mariners 17 of 1966 and Local Notice to Mariners 34 of 1966.
- (3) Clear Creek wreck buoy "WR12A" on Chart 152-SC in lat. $29^{\circ}32.89'$, long. $95^{\circ}01.59'$ was charted subsequent to the date of the present survey from information published in Local Notice to Mariners 97 of 1970.
- (4) Clear Creek light number "2" on Chart 519 in lat. $29^{\circ}33.21'$, long. $94^{\circ}59.16'$ was charted subsequent to the date of the present survey from information published in Notice to Mariners 6 of 1966.
- (5) Clear Creek entrance wreck daybeacon "WR1" on Chart 519 in lat. $29^{\circ}32.13'$, long. $95^{\circ}00.04'$ was charted subsequent to the date of the present survey from information published in Local Notice to Mariners 1 of 1971.
- (6) Clifton Channel privately maintained light Number "1" and the Front and Rear Range Lights located on the present survey in lat. $29^{\circ}30.84'$, long. $94^{\circ}57.72'$ and lat. $29^{\circ}30.49'$, long. $94^{\circ}57.91'$ respectively were deleted from the chart subsequent to the date of the present survey from information published in Local Notice to Mariners 111 of 1970.

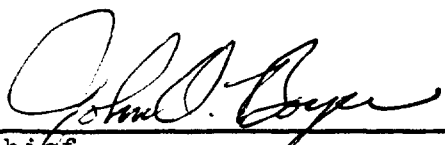
8. Compliance with Instructions

The survey adequately complies with the Project Instructions.

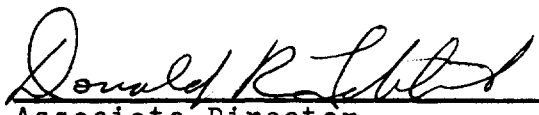
9. Additional Field Work

This survey is considered to be 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-8694 (1962)

Items for Future Presurvey Reviews

The bottom is considered adequately developed on the present survey, except in a few instances. Only minor changes were noticed since the prior surveys. The changes are attributed to a combination of sedimentation, dredging, and spoiling.

Position index lat. 293, long. 0950
Bottom change 2
Use Index 9
Resurvey cycle 25 years

Position index lat. 293, long. 0951
Bottom change 2
Use Index 9
Resurvey cycle 25 years

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED

~~TO BE DELETED~~

STRIKE OUT ONE

EAST COAST FIELD PARTY

1 OCT. 1962

I recommend that the following objects which have ~~(REMOVED)~~ been inspected from seaward to determine their value as landmarks be charted on ~~(REMOVED)~~ the charts indicated.

The positions given have been checked after listing by

Allen G. Davis

Steven L. Hollis
Steven L. Hollis

Chief of Party

STATE			POSITION						METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED		
CHARTING NAME	DESCRIPTION	SIGNAL NAME	LATITUDE*		LONGITUDE*		DATUM									
			° ' "	D. M. METERS	° ' "	D. P. METERS										
LIGHT	CLEAR CREEK CHANNEL LT. 2	DAY	29	33	08.98	276.5	94	59	867.96	N.A.	Triang.	1927	OPR-428	8/21/62	x	1282
LIGHT	CLEAR CREEK CHANNEL LT. 4	NIT	29	33	04.49	138.27	94	59	29.74	"	"	"	"	8/21/62	x	1282

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation determined, shall be reported on this form. The data should be considered for the charts of the area and not by other means. Information under each column heading should be given.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED

STRIKE OUT ONE

~~TO BE DELETED~~

EAST COAST FIELD PARTY 1 Oct. 1962

I recommend that the following objects which have ~~(marked on)~~ been inspected from seaward to determine their value as landmarks be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing by

Allen G. Davis

Steven L. Hollis
Steven L. Hollis
Chief of Party.

STATE	CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION				METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED	
				LATITUDE*		LONGITUDE*								DATUM
				'	"	'	"							
	LIGHT	HALFWAY REEF LIGHT	TEX	29	33 44.98 1385	94	58 18.57 500	N.A. 1927	Sextant OPR-428	8/3/62		x	1282	
	LIGHT	COURTHOUSE REEF LIGHT	BIG	29	33 41.93 1291	95	00 12.63 340	" "	" "	8/3/62		x	1282	

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

~~NONFLOATING AIDS OR~~ LANDMARKS FOR CHARTS

~~TO BE CHARTED~~
TO BE DELETED

STRIKE OUT ONE

EAST COAST FIELD PARTY
1 Oct., 19 62

I recommend that the following objects which have ~~(to be charted)~~ been inspected from seaward to determine their value as landmarks be ~~(to be charted)~~ (deleted from) the charts indicated.

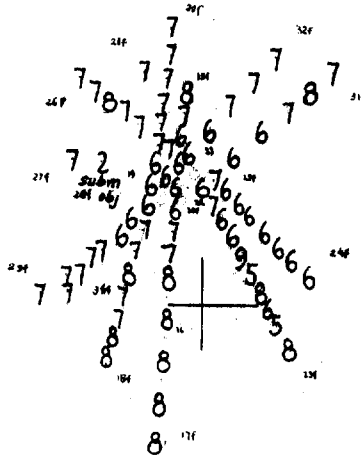
The positions given have been checked after listing by

Allen G. Davis

Steven L. Hollis
Steven L. Hollis Chief of Party

STATE			POSITION						METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
CHARTING NAME	DESCRIPTION	SIGNAL NAME	LATITUDE*		LONGITUDE*		DATUM							
			° ' "	D. M. METERS	° ' "	D. P. METERS								
TANK	ELEV. Humble Oil Co. ht- 74(90)		29	30	885	94	57	1498	N.A. 1927	Photo T-9797	3/16/61	X		1282

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.



95°00'

94°59'
29°34'30"

Pos 28f (submobj) shown on SS as
pipe covered 2 ft. at MLW

95°00'
29°34'



29°34'

Item A₁

Overlay 1 to Accompany
ECFP 10-6-62 H-8694
Pos 15f thru 34f violet
Vol 8 Launch 183

94° 58' 30"

94° 58'

29° 33' 30"

9
9
9
9
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10
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+

+

35f wire drag buoy

29° 33' 30"

Item A2

Overlay 2 to Accompany
ECFP 10-6-62 H-8694

Pos 35f thru 45f violet
Vol 8 Launch 183

ITEM A2

29°33'30"



29°33'30"

Handwritten numbers: "4 4 4 4 5 5 5 6", "4 4 4 4 5 5 5", "4 4 4 4 5 5 5", "3 4 4 4 4 5", "4 4 4 4 5 5 5 5"

1 firing volley

95°01' 29°33'



95°00'

Overlay 5 to Accompany
ECFP 10-6-62 H-8694
Pos 1r thru 14r violet
Vol. 8 Launch 183

A4

Item A7

29°33'30"

232 2 2 3 3 3 3 3 3
2 3 3 2 3 3 3 2
2 2 2 2 2 2 3 3
1 3 2 2 3

29°33'

4 6 5 5 5 5 5 5
4 4 4 4 4 4 4 4
3 3 3 3 3 3 3 3
3 3 3 3 3 3 3 3
2 2 2 2 2 2 2 2
1 1 1 1 1 1 1 1
5 8 9

Overlay 6 to Accompany
ECFP 10-6-62 H-8694

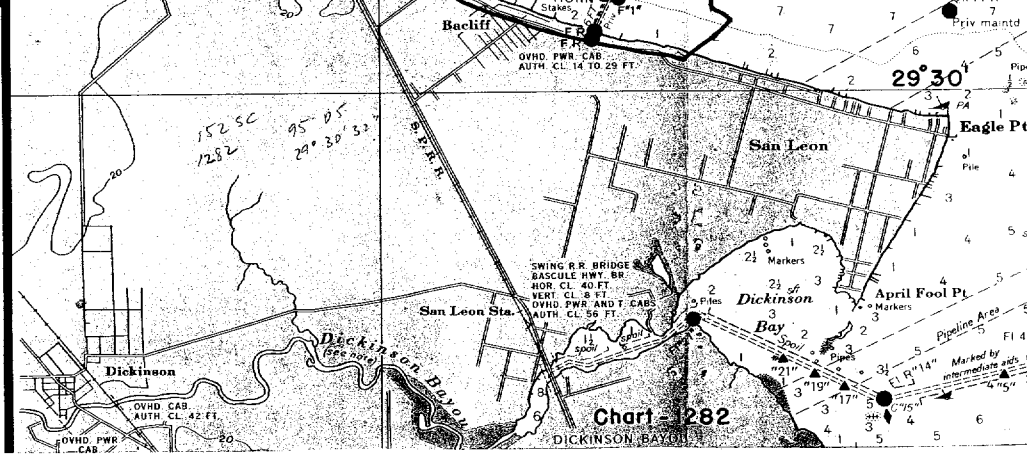
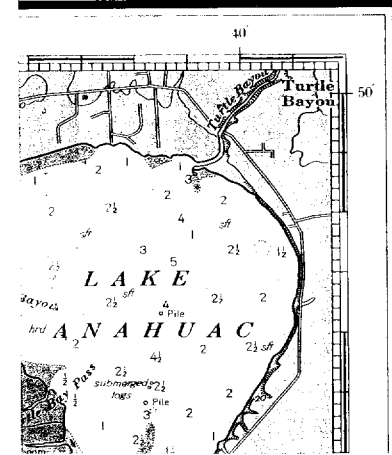
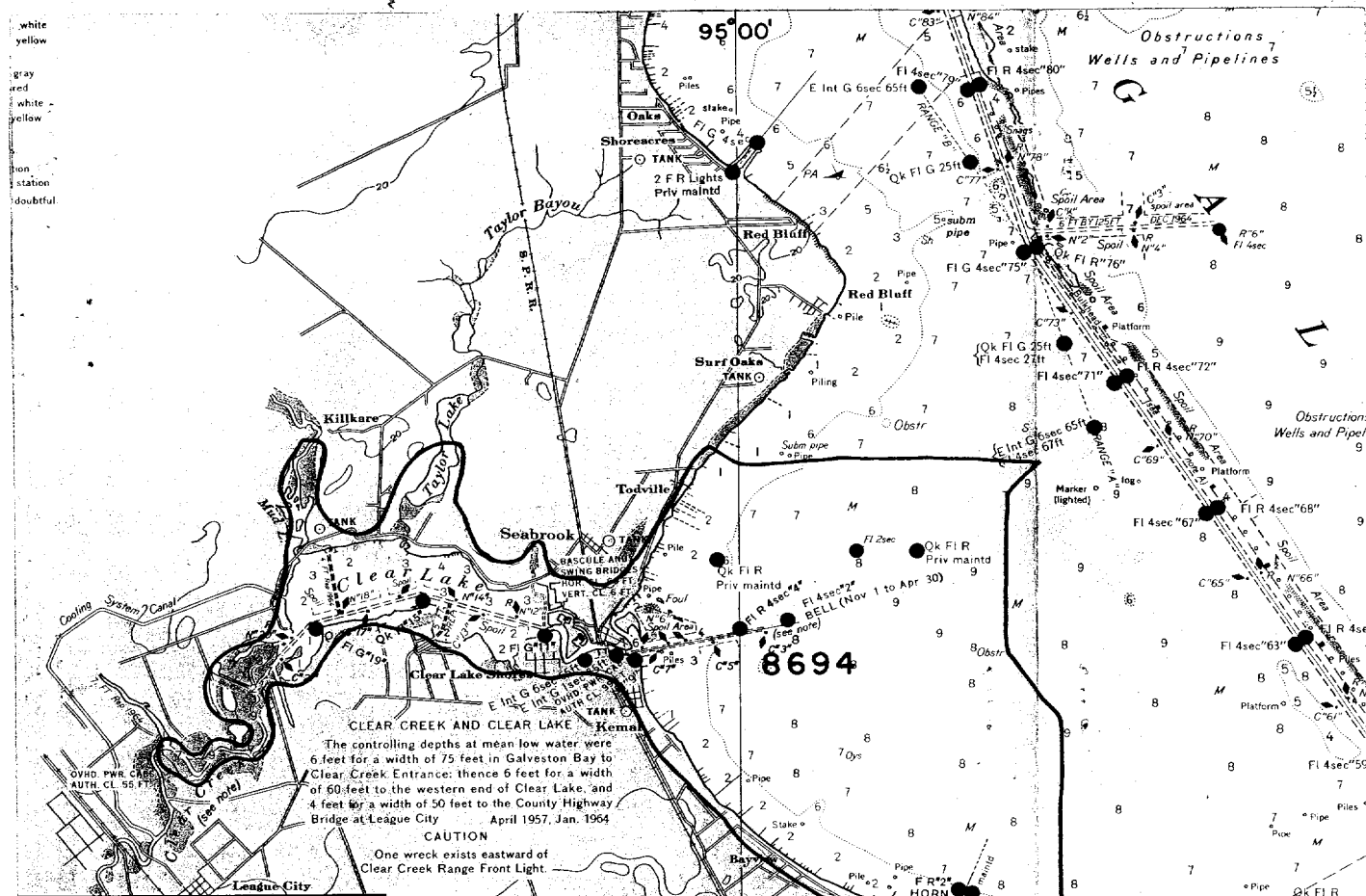
Pos 2a thru 19a red
21a thru 32a red
Vol 12

Skiff 758

95°01

95°00

DRAWING



white
 yellow
 gray
 red
 white
 yellow
 non
 station
 doubtful

CLEAR CREEK AND CLEAR LAKE TANK
 The controlling depths at mean low water were 6 feet for a width of 75 feet in Galveston Bay to Clear Creek Entrance; thence 5 feet for a width of 60 feet to the western end of Clear Lake, and 4 feet for a width of 50 feet to the County Highway Bridge at League City April 1957, Jan. 1964

CAUTION
 One wreck exists eastward of Clear Creek Range Front Light

Chart 282
 DICKINSON BAYOU

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8694

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
519	3/16/65	Helen Dumbley	Full Part Before After Verification Review Inspection Signed Via Drawing No.)
1282	4/16/65	Chelmer	Full Part Before After Verification Review Inspection Signed Via Drawing No. Critical changes thru 519, Dwg #1 after compilation but before engraving #1
152-SC	8/11/65	L. Van Zant	Full Part Before After Verification Review Inspection Signed Via Drawing No. Critical corrections in Clear Cr. remainder applied thru 519
519	11/14/73	D. Williams	Full Part Before After Verification Review Inspection Signed Via Drawing No. 11
152-SC2	2/27/74	W. Wambless	Full Part Before After Verification Review Inspection Signed Via Drawing No. 11 Fully applied in part thru cht 519 Dwg. #11
1282	2/27/74	D. Williams	Full Part Before After Verification Review Inspection Signed Via Drawing No. No corr, No hydro in area.
			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.