**Form 504**

**U.S. COAST AND GEODETIC SURVEY**

**DEPARTMENT OF COMMERCE**

**DESCRIPTIVE REPORT**

**Type of Survey** Shoreline

**Field No.** Ph-76(51)  **Office No.** T-9915

**LOCALITY**

**State** Texas

**General locality** Houston Ship Channel

**Locality** Crystal Bay to Carpenter Bayou

**1941-52.**

**CHIEF OF PARTY**

P.L. Bernstein, Chief of Field Party

J.E. Waugh, Tampa Photo. Office

**LIBRARY & ARCHIVES**

**DATE** March 4, 1958
DATA RECORD

T-9915

Project No. (II): Ph-76 (51)  Quadrangle Name (IV):  

Field Office (II): Houston, Texas  Chief of Party: P. L. Bernstein

Photogrammetric Office (III): Tampa, Florida  Officer-in-Charge: J. E. Waugh

Instructions dated (II) (III): 21 November 1951  Copy filed in Division of
28 Dec. 1954, 2 Feb. 1955  Photogrammetry (IV)

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:10,000  Stereoscopic Plotting Instrument Scale (III): Inapplicable

Scale Factor (III): None

Date received in Washington Office (IV): Date reported to Nautical Chart Branch (IV):

Applied to Chart No.  

Date:  

Date registered (IV): 19 Sept 1957

Publication Scale (IV):  

Publication date (IV):  

Geographic Datum (III): N. A. 1927  

Vertical Datum (III): M. N. W.

Reference Station (III): TIP, 1931

Lat.: 29°46'18.393" (581.7m)  Long.: 95°04'35.050" (941.6m)  Adjusted

Plane Coordinates (IV):  

State:  

Zone:  

Y=  

X=  

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office, or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.

Form T- Page 1  

N-2518-12(43)
Areas contoured by various personnel
(Show name within area)
(II) (III)
DATA RECORD

Field Inspection by (II): J. A. Clear, Jr.
W. M. Reynolds
W. H. Shearouse
Date: June 1952

Planetary contouring by (II): Not applicable.

Completion Surveys by (II): L. F. Woodcock
(See Completion Report)
Date: 26 April 1955

Mean High Water Location (III) (State date and method of location): 19 June 1952
Air Photo Compilation

Projection and Grids ruled by (IV): Jack Allen (W. O.)
Date: 25 Nov. 1952

Projection and Grids checked by (IV): H. D. Wolfe (W.O.)
Date: 26 Nov. 1952

Control plotted by (III): R. J. Pate
Date: 24 Dec. 1952

Control checked by (III): I. I. Saperstein
Date: 20 Jan. 1953

Radial Plot on Stereoscopic
Control extension by (III): M. M. Slavney
Date: 3 Sept. 1953

Stereoscopic Instrument compilation (III):
D. M. S. Inapplicable

Contour
Date:

Manuscript delineated by (III): R. R. Wagner
Date: 30 Oct. 1953

Photogrammetric Office Review by (III): J. A. Giles
Date: 30 Dec. 1953

Elevations on Manuscript
checked by (III): Inapplicable
Date:
Camera (kind or source) (III): Fairchild Cartographic Camera "O" - 6" Metrogon lens

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Camera "W" 54-W-3191 to 3198 incl. 10-19-1954 1:30,000

Tide (III)

Reference Item 7

Ratio of Ranges Mean Range Spring Range

Reference Station:
Subordinate Station:
Subordinate Station:
Washington Office Review by (IV):
Final Drafting by (IV):
Drafting verified for reproduction by (IV):
Proof Edit by (IV):

Date: 23 Feb. 1954

Date: 15 April 1957

Land Area (Sq. Statute Miles) (III): 8
Shoreline (More than 200 meters to opposite shore) (III): 15
Shoreline (Less than 200 meters to opposite shore) (III): Inapplicable
Control Leveling - Miles (II): Inapplicable
Number of Triangulation Stations searched for (II): 28 Recovered: 9 Identified: *8
Number of BMs searched for (II): 3 tidal Recovered: 0 Identified: 0
Number of Recoverable Photo Stations established (III): 13
Number of Temporary Photo Hydro Stations established (III): none

Remarks:

*(III) One (1) of these stations is not plotted on the manuscript.

See Item 23 of Photogrammetric Plot Report.
Summary to Accompany T-9915

Project Ph-76(51) consists of seven map manuscripts, 1:10,000 scale, which delineate the shoreline and the inland area for one-half mile east side of the Houston Ship Channel from Galveston Bay to the city of Houston.

T-9915 includes that part of the Ship Channel between Channel view and Wooster.

After smooth drafting and printing a cloth-backed copy of the map and the descriptive report will be registered and filed in the Bureau Archives.

When all the maps of the project have been thus registered, a Completion Report for the whole project will be written. It will describe the project as to purpose, reports, and records turned in and filed.
2. AREAL FIELD INSPECTION

The area is open and rural except for the waterfront of the City of Baytown and the village of Morgan Point.

The terrain is fairly flat after rising abruptly to approximately 25 feet from the waters of the Houston Ship Channel, and the adjacent bays and streams.

Many of the shallow bays adjoining the ship channel are being filled with spoil from widening and deepening of the channel by the Corps of Engineers.

Woodland cover is spotty, it being pine or deciduous trees or a mixture. Generally the land is open and grassed over, some of it being devoted to cattle pasture. Where the trees are found they stand out very clearly on the photographs and have been labelled as to classification.

Photography is very good as to coverage and quality. No difficulty was experienced in interpretation of tones as they follow the usual pattern and enough notes were made during field inspection to clarify features for delineation.

No part of field inspection was knowingly omitted and it is believed to be complete.

3. HORIZONTAL CONTROL

See "Special Report, Horizontal Control Recovery, Project Ph-76(51)".

The following stations not established by the Coast and Geodetic Survey were recovered:

- P.T.S. NO. 185 (USGS) 1915*
- MON. 160 (USG&Q & STATE SURVEY)**
- P.T.S. S-3204 (H.L. & P.CO.)-third order.
- P.T.S. NO. 174 (USGS)*
- 465/49,47 (USE) 1937-third order.
- 350 P.T. 860/495,47 (USE) 1948-third order.
- 259/403,2 (USE)-third order.
- 308/490,76 (USE)-third order.
- 98/421,16 (USE)-third order.
- 387/38,94 (USE)-third order.
- 0/400 200 OFFSET (USE) 1946-third order.
- 4/400 650 OFFSET (USE) 1946-third order.
- 578/454,04 (USE) 1937-third order.

*Accuracy not known.
**No position available.
All Coast and Geodetic Survey stations were searched for. The following are reported lost on Form 526:

**CUADRANGLE T-9915**

- BATTLEFIELD (USE) 1900
- BOX 1931
- BUFFALO 1931
- BURN 1931
- BURNETT 1900
- CRYSTAL 1900
- DIP 1931
- FLAG 1931
- FULLER 1900
- RANGE O REAR 1931
- RANGE O FRONT 1931
- RANGE S REAR 1931
- RANGE S FRONT 1931
- RANGE U FRONT 1931
- RANGE W REAR 1931
- RANGE X REAR 1931
- RICK 1931
- SANTA ANNA 1900

**CUADRANGLE T-9918**

- BADGER (USE)
- BARNES (USE)
- BLACK 1930
- BRINSON 1930
- DARE 1931
- DAVIS (USE)
- DOG 1930
- DRAGON (USE)
- DUCK (USE)
- DUCKY 1930
- FALSE 1931
- GOAT
- GRASSY (USE)
- HOUSTON CHANNEL BN. 34
- HOUSTON CHANNEL BN. 32
- INLET 1930
- INSULATOR 1938
- JENNINGS (USE)
- JENNINGS 2 1938
- LINE 1930
- MAN 1930
- MARSH (USE)
- MARCH 1930
- McKee (USE)
- PEGGY (USE)
- RANGE C FRONT 1931
- RANGE C REAR 1931
- RANGE K FRONT 1931
- RANGE K REAR 1931
- RANGE M FRONT 1931
- RANGE M REAR 1931
- RANGE N FRONT 1931
- RANGE N REAR 1931
- RANGE O FRONT 1931
- RANGE O REAR 1931
- RANGE P REAR 1931
- RANGE T REAR 1931
- RANGE V FRONT 1931
- RANGE V REAR 1931
- REFINERY 1930
- SMALL (USE)
- SMALL 1930
- SPIL 1930
- SPILLMAN (USE)
- TANK 1938
- UPPER CRACK (USE)
- WHITE 1930
- WOOSTER (USE)
CUADRANGLLE T-9919

| CANE 1930 | OIL 1930 |
| CEDAR BAYOU BEACON | PASS 1930 |
| CRUDE 1931 | FIG 1930 |
| DERRICK 1930 | RANGE D FRONT 1931 |
| DR. SMITH (USE) | RANGE D REAR 1931 |
| EVERGREEN 1931 | RANGE F FRONT 1931 |
| FERRY 1930 | SPILLMAN (USE) |
| HOG (USE) | TAGES (USE) |
| HOG ISLAND (USE) 1900 | TAGES 1930 |
| HOUSTON CHANNEL EIGHT NO. 2 | TREAT 1930 |
| MIDWAY (USE) | |

CUADRANGELE T-9920

| ATKINSON (USE) | ISLE 1930 |
| BEACON 29 | LAST 1930 |
| CANAL (USE) 1900 | MOROGEN POINT CHANNEL LT. |
| DON 1930 | POINT 1930 |
| DUMP 1930 | SAW 1930 |
| END 1930 | SHELL 1930 |
| HEAD 1930 | SOW 1930 |
| | WET |

Of the foregoing lost stations, INLET 1931 and DUCKY 1930 were identified for use in the photogrammetric plot.

In the case of DUCKY 1930, both reference marks were found and the point of intersection of the chained distances was determined and used to establish a substitute station for the plot.

INLET RM 2 1931 was recovered and identified.

After completion of recovery of control stations it was found that a Coast and Geodetic Survey triangulation party had been in the area in early 1952. Descriptions of new stations were requested and several were recovered and identified.

4. VERTICAL CONTROL

Tidal bench marks as follows were searched for and reported on Form 685A:

CUADRANGLE T-9915:

At Lynchburg: TIDAL RM 1, 2, and 3 destroyed.
Quadrangle T-9918:
None.

Quadrangle T-9919:
None.

Quadrangle T-9920:
At Morgan Point:
- TIDAL BM 2 - destroyed.
- TIDAL BM 3 - destroyed.
- TIDAL BM PIPE (USE) - destroyed.
- TIDAL BM 14 - destroyed.
- TIDAL BM 8,643 (USE) - recovered.

5. CONTOURS AND DRAINAGE

Drainage is generally clear on the photographs. It has been labelled or indicated by symbol in a few places.

Contours are not applicable.

6. WOODLAND COVER

Woodland outlines are clear on the photographs. Classification has been made by standard labels.

7. SHORELINE AND ALONGSHORE FEATURES

Tides are negligible but winds blow the water in or out to the extent that a low-water line is visible in places along the ship channel. Where considered worthy of mapping it has been indicated by dots as approximate.

The high-water line is clear in most places. It has been inspected and indicated throughout. Heavy ship traffic in the channel causes a false-appearing line on the photographs. The wake waves wash inshore some 15 or 20 feet from normal high-water line and cause a visible line on the photographs. The high-water line should be delineated about 20 feet offshore from this line except where deepwater is, in which case there is only the one line.

The foreshore is mud and clay from the western limits eastward to Lynchburg Ferry, then it becomes sand, clay, and shell.

There is a Field Edit Report of the shoreline of the channel and some adjacent areas, by L.F. Woodcock of 26 April 1955 (bound with Completion Report).
Piers and shoreline structures have been labelled on the photographs as have cable and pipeline crossings.

9. LANDMARKS AND AIDS

Non-floating aids to navigation have been located by direct identification or theodolite method and are reported on Form 524 and 567. See Special Report - Landmarks for Charts by Percy L. Bernstein, 1952 (bound with Form 567 and 524 are being submitted for landmarks. Completion Report).

10. BOUNDARIES, MONUMENTS, AND LINES

Inapplicable.

11. OTHER CONTROL

None required.

12. OTHER INTERIOR FEATURES

Roads and buildings have been classified according to instructions. Generally, only Class 2 buildings have been labelled. To assist the compiler many Class 1 buildings have been blocked in or circled in red. Structures not to be shown have been deleted in green.

There are no bridges over navigable water except for small boat traffic in Goose Creek at Baytown. Clearances are shown on photograph 51-0-5668 and are tabulated on the following page.

A copy of letter advising the District Engineer, Corps of Engineers, U. S. Army, Galveston, Texas, of discrepancies in bridge clearances is a part of this report.

Overhead cables crossing navigable water are power transmission lines of the Houston Lighting and Power Company. They are built so as not to obstruct navigation. Clearances were furnished by the power company and visually estimated as correct in the field.

Transmission line crossing at Alexander Island (Quadrangle T-9913), Photograph 51-0-5661, Vertical Clearance of 198.4 ft. above MLW.

Transmission line crossing Old River (Quadrangle T-9915), Photograph 51-0-5662, Vertical Clearance of 76.9 ft. above MLW.
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODESY SURVEY
Arabi, Louisiana

To: District Engineer
Galveston District
Corps of Engineers, U. S. Army
606 Santa Fe Building
Galveston, Texas

Subject: Bridge Data

There is enclosed a list of the bridge clearance data determined by this party.

Encl.
cc: The Director

Percy L. Bernstein
Commander, U. S. C. & G. S.
Chief of Party
## Tabulation of Bridge Data

*Navigable to skiffs & small boats only.*

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<th>Name</th>
<th>Type</th>
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<th>Vertical Clearance</th>
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<td>F</td>
<td>56.0</td>
<td>12.8</td>
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<tr>
<td>Highway</td>
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<td>56.0</td>
<td>8.0 above H.W.</td>
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<td>Railroad</td>
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<td>45.5</td>
<td>11.0</td>
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<tr>
<td></td>
<td></td>
<td>45.0</td>
<td>4.0 &quot; &quot;</td>
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</tbody>
</table>

Measurements were made at 1000 and 1015 respectively 3 July 1952.

Winds and rain water strongly influence vertical clearance and accurate comparison cannot be made.

*List of Bridges Over The Navigable Waters of the United States revised to July 1, 1941 and Supplement thereto.*
Transmission line crossing San Jacinto River (Quadrangle T-9915( ) Photograph 51-0-5684), Vertical Clearance of 92.2 ft., above M.L.W.

These are measured clearances by the power company. The permits were checked at the Corps of Engineers office and the actual clearances exceed the permit in each instance.

13. GEOGRAPHIC NAMES

See "Special Report, Geographic Names, Project Ph-76(51)".

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA

"Special Report, Geographic Names, Project Ph-76(51)", submitted to Washington Office on 2 July 1952.


Data, Quadrangles T-9915( ), T-9918( ), T-9919( ), and T-9920( ), forwarded to Washington Office on letter of transmittal 76-2 dated 21 July 1952.

Submitted
10 July 1952

William H. Shearouse
William H. Shearouse
Cartographer (Photo)

Approved and forwarded
21 July 1957

Percy L. Bernstein
Chief of Party
PHOTOGRAMMETRIC PLOT REPORT.

21. AREA COVERED.

This photogrammetric plot was for Ph-76(51), which is comprised of shoreline surveys T-9914 to T-9920 inclusive. These surveys cover the Houston Ship Channel, Texas.

The sketch on Page 15 of this report shows the arrangement of surveys in Ph-76(51), the centers of photographs used, and the control identified for use in this plot.

22. METHOD.

Radial Plot:

Map Manuscripts: -- The map projections are on acetate at a scale of 1:10,000 with the Lambert South Central Grid Zone in red, and the polyconic projection in black. Small discrepancies, 0.3 millimeter (3 meters) maximum, were noted in the relationship of the grid coordinates with the polyconic projections when checking the junction of several manuscripts.

All the manuscripts were 7'30" in longitude and 3'45" in latitude excepting T-9917 which is 3'55" in latitude and T-9918 which is 4'30" in latitude.

Control was plotted using dividers, beam compass, and meter bar. Positions were computed for plotting substitute stations more than 30 meters from the triangulation station, and/or more than one instrument set-up was used to locate the substitute station.

Base grids of vinylite with the 5,000 foot interval at 1:10,000 scale were used for laying the plot. Identified control was transferred from the map manuscripts by matching grid values and adjusting the scale differences. Special adjustments were made for the minor discrepancies noted in the first paragraph under Item 22.
Photographs: -- The photographs were single-lens taken on 4 May 1951 with Cartographic Camera "0". The negative scale was 1:24,000 and the print scale was 1:10,000. Reprints were required for some photographs when the fiducial marks were masked out.

Photographs used were:

51-0-5641 through 51-0-5673
51-0-5677 through 51-0-5686

Temples: -- Vinylite templates were made from all the photographs using the distortion template furnished by the Washington Office for Cartographic Camera "0". It is noted that the distortion template was a 2 diameter enlargement and the photographs used in this project were 2.4 diameter enlargements.

Closure and adjustment to control: -- A preliminary radial plot disclosed that six "positively" identified stations could not be held. The discrepancy in position of Substitute Point 860 + 95.47 (USE), 1948, No 35 on sketch, on T-9917 was resolved before the final radial plot. The preliminary plot position was 0.5 mm (5 meters) from the field position. Investigation disclosed that the identification on the field print differed by 0.5 mm (5 meters) from the point as described on the identification card. When the point was used as described on the identification card it held exactly. BAYTOWN HUMBLE REFINERY STACK, 1931, No. 56 on sketch, on T-9918 was "positively" identified but a caution note on the Control Station Identification card stated that "no description was available -- there are several other stacks in the vicinity". The radial plot position was about 3.14 cm (314 meters) west southwest of the geographic position. There was a stack in the area that did satisfy the geographic position on the plot; this stack has been used and appropriate notes made on the field print and Control Station Identification card.

The final radial plot was developed conventionally from the most strongly fixed photographs through weaker fixes until completion. The plot was re-laid several times to insure its final accuracy; this was especially true where slight control adjustments gave a tighter plot, and in areas of control discrepancies. The radial plot discrepancies of PRIMARY TRAVERSE STATION 185 (USGS), 1915 on T-9915, Substitute Point 308 + 90.76 (USE), 1938, and Substitute Point LOW, 1931 on T-9918,
and Substitute Point RANGE F REAR LIGHT, 1931 on T-9919 are discussed under Item 23, "ADEQUACY OF CONTROL".

The photograph centers and pass points were transferred to the map manuscripts by matching grid values with the base grid and adjusting scale differences. Dog-ears were added for photograph centers that fall off the manuscripts but are needed for compilation.

23. ADEQUACY OF CONTROL.

Eighty-one (81) control stations were identified for this photogrammetric plot; of which three (3) were not used. Two (2) - HOUSTON MERCHANTS AND MANUFACTURING COMPANY TANK SOUTH, 1942, and GULF (H.L. & P.CO.), 1942, on T-9911h, were within 25 and 125 meters of other identified control stations in downtown Houston. Substitute Point HAT, 1931, on T-9917, was surrounded by "positively" identified control that held.

Of the seventy-eight (78) identified stations no geographic positions could be found for two - MONUMENT 160 (Texas State Survey), No. 73 on sketch, on T-9915; and MONUMENT 27 (Texas State Survey), No. 74 on sketch, on T-9917. See copy of letter attached.

Seventy-six (76) identified control stations were used, of which four positively identified refused to hold. They were disposed of as follows:

On T-9915, PRIMARY TRAVERSE STATION 185 (USGS), 1915, No. 51 on sketch, failed to hold the position as furnished in the copy of letter attached. The letter did not indicate whether the position was North American or North American 1927 datum and it is noted that plotting the station on both assumptions gave discrepancies from the radial plot position of 1.4 mm (14 meters) east southeast and 1.0 mm (10 meters) west northwest. Because the aforesaid letter also stated "The accuracy of these positions is not known and, therefore, if used at all they should be used with caution", the station symbol has therefore been removed from the manuscript and the pass point shown.

On T-9918 two "positively" identified control stations refused to hold:
22 May 1952

To: Comdr. Percy L. Bernstein
    U. S. Coast and Geodetic Survey
    P. O. Box 208
    Arabi, Louisiana

Subject: Control - Project Ph-76(51).

Reference is made to paragraph 5 of page 1 of your report on horizontal control.

Positions for monuments Nos. 27 and 160 have not been determined. This condition is not unusual for monuments established under the C. W. A. program. Data on these stations was intentionally omitted when the field data was forwarded to you.

Information regarding G. S. control was not collected at the time the project was planned because there appeared to be enough control by this agency, if it could be recovered, to control the plot. An inquiry has been made regarding the U. S. G. S. stations P. T. S. Nos. 174 and 185. The positions of these stations as established by the U. S. G. S. is as follows:

P. T. S. No. 174: 29° 43' 58.80"
                  95 05 22.39

P. T. S. No. 185: 29 45 03.38
                  95 02 08.46

The accuracy of these positions is not known and, therefore, if used at all they should be used with caution.

(Signed) O. S. Reading
O. S. Reading
Chief, Division of Photogrammetry

cc: Tampa Photogrammetric Office
Substitute Point 308 + 90.76 (USE), 1937, No. 75 on sketch, gave a radial plot position 4.5 mm (45 meters) south southwest of the field position. Although the identification card classifies the accuracy of identification as "positive", a caution note on the card drew attention to the "doubtful recovery of 308 + 90.76 (USE), 1937." The radial plot position is shown with a pass point.

Substitute Point LOW, 1931, No. 63 on sketch, gave a radial plot intersection about 0.9 mm (9 meters) north northwest of the field position. Investigation disclosed that the radial plot position was on the azimuth from LOW, 1931 as determined in the field but scaled 147 feet from the station instead of 117 feet as indicated on the identification card. The radial plot position is shown with a pass point.

On T-9919 Substitute Point RANGE F REAR LIGHT, 1931, No. 64 on sketch gave a radial plot intersection 3.1 mm (31 meters) southwest of the field position. The identification is classified "positive" but a note on the identification card states "use with caution, light rebuilt in 1934, foundation recovered in plotted position." The radial plot position is shown with a pass point.

Control was more than adequate for a good plot with the exception of the southern part of T-9920, which is comprised of narrow islands covered by photographs 51-0-5672 and 51-0-5673 which required control to "stop" the centers to insure accuracy.

24. SUPPLEMENTAL DATA.

None.

25. PHOTOGRAPHY.

Photographic coverage was adequate and definition and contrast were good. Several photographs were tilted, none severely enough to justify computation.
26. **GENERAL.**

Dates of completion of the photogrammetric plot are as follows:

- T-9914 on 14 July 1953
- T-9916 on 16 July 1953
- T-9917 on 1 Sept 1953
- T-9915 on 3 Sept 1953
- T-9918 on 18 Sept 1953
- T-9919 on 18 Sept 1953
- T-9920 on 18 Sept 1953

Respectfully submitted

\[Signature\]

Milton M. Slavney, Cartographer, Tampa Photogrammetric Office

APPROVED AND FORWARDED:

\[Signature\]

J. E. Waugh, Chief of Party
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<th>STATION</th>
<th>SOURCE OF INFORMATION (INDEX)</th>
<th>DATUM</th>
<th>LATITUDE OR y-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD (BACK)</th>
<th>DATUM CORRECTION FORWARD (BACK)</th>
<th>N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)</th>
<th>FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)</th>
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<td>Baytown, Wooster Municipal Water Tower, 1952</td>
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<td>4,051.39 (948.61)</td>
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<td>Channelview Municipal Water Tank, 1952</td>
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<td>29 43</td>
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<td>PASADENA, 1931</td>
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<td>29 44</td>
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<td>BUFFALO, 1931</td>
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<td>RADIO, 1931</td>
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<td>N</td>
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DATE: 5 Nov. 1952
CHECKED BY: R.J. Pate
DATE: 10 Nov. 1952
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1 FT = 0.304800 METER

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DATE: 5 Nov. 1952

CHECKED BY: R. J. Pate
DATE: 10 Nov. 1952
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DATE: 5 Nov. 1952

CHECKED BY: R. J. Pate [Signature]
DATE: 10 Nov. 1952
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<td>29 43 20.185</td>
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<td>SAN, 1930</td>
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CHECKED BY: R. J. Pate DATE: 10 Nov. 1952
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1 FT. = 0.3048006 METER

COMPUTED BY: I. I. Saperstein
DATE: 6 Nov. 1952

CHECKED BY: R. J. Pate
DATE: 10 Nov. 1952
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<td>HOUSTON CHANNEL BEACON NO. 26, 1931</td>
<td>G.P's Pg 105</td>
<td>N.A. 1927</td>
<td>29 40</td>
<td>20.595</td>
<td>624.1 (1213.3)</td>
<td></td>
<td>980.5 (632.9)</td>
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<tr>
<td>RAIL, 1930</td>
<td>G.P's Pg 107</td>
<td>&quot;</td>
<td>29 40</td>
<td>42.802</td>
<td>West</td>
<td>1317.9 (529.5)</td>
<td>660.6 (952.7)</td>
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<td>MORGAN PT. (USE) 1901, 1911</td>
<td>G.P's Pg 103</td>
<td>&quot;</td>
<td>29 40</td>
<td>51.528</td>
<td>1586.5 (260.9)</td>
<td></td>
<td>236.7 (1376.5)</td>
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<td>SHELL, 1930</td>
<td>G.P's Pg 112</td>
<td>&quot;</td>
<td>29 40</td>
<td>51.24</td>
<td>1577.7 (269.7)</td>
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<td>925.5 (687.8)</td>
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<td>MORGAN PT. (2, ...) 1931</td>
<td>G.P's Pg 143</td>
<td>&quot;</td>
<td>29 40</td>
<td>51.731</td>
<td>1592.8 (254.6)</td>
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<td>240.4 (1372.8)</td>
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<td>NEAL, 1932</td>
<td>G.P's Pg 97</td>
<td>&quot;</td>
<td>29 39</td>
<td>59.648</td>
<td>1836.6 (10.8)</td>
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<td>1436.0 (177.5)</td>
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1 FT = 0.3048006 METER

COMPUTED BY: I.L. Saperstein  DATE: 6 Nov. 1952
CHECKED BY: R.J. Pate    DATE: 10 Nov. 1952
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<th>DATUM CORRECTION</th>
<th>N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
<th>FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
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<td>0 + 000 (800 OFFSET) (USE)</td>
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<td>&quot;</td>
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<td>2664.16 (2335.84)</td>
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31. **DECLINEATION.**

The manuscript was delineated by the graphic method. No unusual methods of compilation were used.

The field inspection was adequate with a few minor exceptions as listed below:

1. No limits were recovered for the small cemetery in San Jacinto State Park.

2. The location of the indicated power line on field photograph No. 51-0-5664 is believed to be in error. A turning point was shown on the map manuscript at approximate latitude 29° 46'2 and longitude 95° 04'2 where the compiler believes a pole or tower is visible. This agrees with the published quadrangle. Another turning point was placed at approximate latitude 29° 45'8 and longitude 95° 03'6 which does not agree with the information on the field photograph No. 51-0-5663. The pole or tower is visible on the photographs and the position shown on the map manuscript agrees with that on the published quadrangle.

3. The cable clearance across the San Jacinto River and Old River, listed in Item 12 and as shown on the map manuscript, does not agree with the Notice to Mariners.

32. **CONTROL.**

Horizontal control was adequate with reference to identification, density and placement.

33. **SUPPLEMENTAL DATA.**

None.
34. CONTOURS AND DRAINAGE.

No difficulties were encountered in delineating the drainage. Contours are inapplicable.

35. SHORELINE AND ALONGSHORE DETAILS.

The shoreline inspection was adequate.

No low water or shoal lines have been shown on the map manuscript.

36. OFFSHORE DETAILS.

No statement.

37. LANDMARKS AND AIDS.  Ch. L. No. 35 (1954)

HOUSTON SHIP CHANNEL, RANGE Q FRONT AND REAR LIGHTS, were identified direct on field photograph No. 51-0-5684. The 1953 light list shows the aids rebuilt in 1952. The rear light was located on the map manuscript by intersections from three-point fix with check angles that were used to locate other aids. The position varied from that as identified on the photograph. In view of the foregoing, the front light has been shown on the back of the map manuscript in red ink. The position of this aid has not been listed on Form 567 or Form 524.

The difference between FRONT and REAR RANGE LIGHTS as shown on the map manuscript and in the 1953 Light List are as follows:

<table>
<thead>
<tr>
<th>LIGHT</th>
<th>MANUSCRIPT</th>
<th>LIGHT LIST</th>
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</thead>
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<tr>
<td>Bearings</td>
<td>Distance</td>
<td>Bearings</td>
</tr>
<tr>
<td>GALVESTON BAY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOUSTON SHIP CHANNEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RANGE X FRONT &amp; REAR LIGHTS</td>
<td>28°</td>
<td>561</td>
</tr>
<tr>
<td></td>
<td>121°40'</td>
<td>121°</td>
</tr>
<tr>
<td></td>
<td>565</td>
<td>600</td>
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<tr>
<td>RANGE S FRONT &amp; REAR LIGHTS</td>
<td>344°14'</td>
<td>343°</td>
</tr>
<tr>
<td></td>
<td>648</td>
<td>590</td>
</tr>
<tr>
<td>RANGE U FRONT &amp; REAR LIGHTS</td>
<td>326°55'</td>
<td>327°</td>
</tr>
<tr>
<td></td>
<td>292</td>
<td>292</td>
</tr>
<tr>
<td>LIGHT</td>
<td>Bear-</td>
<td>Distance</td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td></td>
<td>ings</td>
<td>in Yards</td>
</tr>
<tr>
<td>GALVESTON BAY HOUSTON SHIP CHANNEL - RANGE Q FRONT &amp; REAR LIGHTS</td>
<td>327° 28'</td>
<td>327°</td>
</tr>
<tr>
<td>RANGE W FRONT &amp; REAR LIGHTS (Re-plotted during review)</td>
<td>301° 10'</td>
<td>2/3</td>
</tr>
</tbody>
</table>

Aids to navigation were identified on 1954 photography or located by field methods.

38. CONTROL FOR FUTURE SURVEYS.

Fourteen (14) Forms 524, one for each nonfloating aid, are being submitted herewith. Only those aids that fall on land have been listed under Item 49.

39. JUNCTIONS.

Junction was made to the south with T-9918.

There are no contemporary surveys to the west, north and east.

40. HORIZONTAL AND VERTICAL ACCURACY.

No statement.

46. COMPARISON WITH EXISTING MAPS.

Comparison was made with Corps of Engineers, BURNETT BAY quadrangle, scale 1:31,680, edition of 1944, and USG&GS topographic survey No. 4518, LYNCHBURG and vicinity, scale 1:5,000, dated February 1931. The changes in shoreline appear around BURNETT and CRYSTAL BAYS. A new channel has been dug for CARPENTER BAYOU.
47. **COMPARISON WITH NAUTICAL CHARTS.**

Comparison was made with USC&GS Nautical Chart No. 589, scale 1:10,000, published in 1952, corrected to 24 March 1952. The two are in fair agreement. The maps listed in Item 46 are thought to be the sources of topography shown on the nautical charts. The same differences exist.

**ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY.**

None.

**ITEMS TO BE CARRIED FORWARD.**

None.

[Signature]

Robert R. Wagner
Carto Photo Aid

APPROVED AND FORWARDED:

[Signature]

J. E. Waugh, Chief of Party
48. GEOGRAPHIC NAME LIST.

AVENUE C

BATTLEGROUND ROAD
BATTLESHIP TEXAS
BAYSHORE DRIVE
BROWNSWOOD (SUBDIVISION)
BUFFALO BAYOU
BURNETT BAY

CARPENTER BAYOU
CHANNELVIEW
CROSBY LYNCHBURG ROAD
CRYSTAL BAY
CROW ROAD

DE ZAVALLA CEMETERY
DE ZAVALLA ROAD

FRESH WATER BAYOU

HOG ISLAND
HOUSTON SHIP CHANNEL

LOST LAKE
LYNCHBURG

MARKET STREET ROAD
MISSOURI PACIFIC RAILROAD

OLD RIVER

SAN JACINTO ORDNANCE DEPOT
SAN JACINTO RIVER
SAN JACINTO STATE PARK
SPRINGS GULLY
STATE 134
TEXAS
TORY HILL

U. S. GOVERNMENT RAILROAD

Names approved
2-24-54. L. Heck.
49. **NOTES FOR THE HYDROGRAPHER.**

The following topographic stations will be of value to the hydrographic party:

- **HOUSTON SHIP CHANNEL, RANGE W REAR LIGHT, 1952** 1955
- **HOUSTON SHIP CHANNEL, RANGE W FRONT LIGHT, 1952** 1955
- **HOUSTON SHIP CHANNEL, RANGE X REAR LIGHT, 1952** 1955
- **HOUSTON SHIP CHANNEL, RANGE Q REAR LIGHT, 1952** 1955
I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on the charts indicated.

The positions given have been checked after listing by

Robert R. Wagner, Carto Photo Aid

<table>
<thead>
<tr>
<th>STATE</th>
<th>TEXAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARTING NAME</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>TOWER</td>
<td>Steel, black, spheroid, atop stand-pipe, ht=125' (155')</td>
</tr>
<tr>
<td></td>
<td>BAYTOWN, WOOSTER MUNICIPAL WATER TOWER</td>
</tr>
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</table>

<table>
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<th>CHARTED TO BE CHARTED</th>
<th>TO BE DELETED</th>
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<th>LATITUDE</th>
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<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF LOCATION</th>
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<td></td>
<td></td>
<td></td>
<td>J. H. Haugh</td>
<td>Chief of Party.</td>
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</table>

<table>
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<th>CHARTS AFFECTED</th>
<th>1202</th>
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This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids or landmarks for charts.
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<tr>
<th>STATION</th>
<th>SOURCE OF INFORMATION INDEX</th>
<th>DATUM</th>
<th>LATITUDE OR $\phi$-COORDINATE</th>
<th>LONGITUDE OR $\lambda$-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET OR PROJECTION LINE IN METERS</th>
<th>DATUM CORRECTION</th>
<th>N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
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<td>N.A. 1927</td>
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<td>457.6 (1154.4)</td>
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<td>00.284</td>
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<td>695.3 (916.7)</td>
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<td>55.325</td>
<td>1709.9 (137.5)</td>
<td>6.5 (1805.4)</td>
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<td>**</td>
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<td>175.8 (1436.1)</td>
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<td>1177.0 (670.4)</td>
<td>358.7 (1253.3)</td>
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1 FT = 0.3048006 METER

COMPUTED BY: R. S. Tibbetts DATE: 3-7 Oct. 1955
PHOTOGRAMMETRIC OFFICE REVIEW

1. Projection and grids
2. Title
3. Manuscript numbers
4. Manuscript size

CONTROL STATIONS
5. Horizontal control stations of third-order or higher accuracy
6. Recoverable horizontal stations of less than third-order accuracy (topographic stations)
7. Photo hydro stations
8. Bench marks
9. Plotting of sextant fixes
10. Photogrammetric plot report
11. Detail points

ALONGSHORE AREAS
12. Shoreline
13. Low-water line
14. Rocks, shoals, etc.
15. Bridges
16. Aids to navigation
17. Landmarks
18. Other alongshore physical features
19. Other alongshore cultural features

PHYSICAL FEATURES
20. Water features
21. Natural ground cover
22. Planetary contours
23. Stereoscopic instrument contours
24. Contours in general
25. Spot elevations
26. Other physical features

CULTURAL FEATURES
27. Roads
28. Buildings
29. Railroads
30. Other cultural features

BOUNDARIES
31. Boundary lines
32. Public land lines

MISCELLANEOUS
33. Geographic names
34. Junctions
35. Legibility of the manuscript
36. Discrepancy overlay
37. Descriptive Report
38. Field inspection photographs
39. Forms

40. Jesse A. Giles

Supervisor, Review Section or Unit

41. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT
42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

43. Remarks:

Compiler

Supervisor

M-2623-12
62. Comparison with Registered Topographic Surveys. -
   T-4618 1:5,000, 1931, Lynchburg and vicinity
   Except for the contour T-9915 supersedes the older survey
   for charting purposes.

63. Comparison with maps of other agencies. -
   AMS Quad. Burnett Bay, Texas, 1:25,000, 1949
   The present survey supersedes the quadrangle for shoreline
   and those cultural features noted by the field inspection.

64. Comparison with Contemporary Hydrographic Surveys. -
   No hydrographic surveys were made since the 1931 series
   H-5121 to 5128, incl., 1:5,000.

65. Comparison with Nautical Charts. -
   589, 1:10,000, 1st combined ed. 1952, Houston Ship
   Channel, Alexander Island to Carpenter Bayou.
   Shoreline shape and position as well as cultural features
   differ greatly from the chart. Range lines agree in direction
   though not in position. The transmission line over Burnett Bay
   entrance has been relocated in part.

66. Accuracy. - This survey conforms to project instructions and
   meets the National Standards of Map Accuracy.

Reviewed by:
Lena T. Stevens

APPROVED:

Chief, Review Branch
Div. of Photogrammetry

Chief, Nautical Chart Branch
Div. of Charts

Chief, Div. of Photogrammetry
5 Jan. 1958
## NAUTICAL CHARTS BRANCH

**SURVEY NO. _______**

**Record of Application to Charts**

<table>
<thead>
<tr>
<th>DATE</th>
<th>CHART</th>
<th>CARTOGRAPHER</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/7/54</td>
<td>589</td>
<td>J. H. Brown</td>
<td>Before After Verification and Review</td>
</tr>
<tr>
<td>5/17/54</td>
<td>590</td>
<td>C. Leick</td>
<td>Before After Verification and Review</td>
</tr>
</tbody>
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A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

Give reasons for deviations, if any, from recommendations made under “Comparison with Charts” in the Review.