

6054

U. S. COAST & GEODETIC SURVEY
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MAY 21 1934

Acc. No.

Form 504
Rev. Dec. 1933
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY,
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic

Sheet No. **L**

~~Hydrographic~~

6054

6054

State **Texas**

LOCALITY

Galveston Channel

193 3-4

CHIEF OF PARTY

Earl O. Heaton

U. S. GOVERNMENT PRINTING OFFICE: 1934

6054

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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MAY 21 1934

Acc. No. _____

REG. NO. 6054

TOPOGRAPHIC TITLE SHEET

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

Field No. L

REGISTER NO. 6054

State Texas

General locality Galveston ^{Bay} Island

Locality Galveston Channel

Scale 1 : 10,000 Date of survey Dec. 1933 to Jan. 1934

Vessel Project: HT-118 Galveston Bay

Chief of party Earl O. Heaton

Surveyed by W. T. White

Inked by W. T. White

Heights in feet above m.h.w. to ground ~~to tops of trees~~

Contour, Approximate contour, Form line interval _____ feet

Instructions dated Nov. 5, 1932

Remarks: _____

DESCRIPTIVE REPORT
TO ACCOMPANY TOPOGRAPHIC SHEET NUMBER L
GALVESTON CHANNEL

Scale 1 : 10,000

Project HT-118, Galveston Bay

Surveyed December 1933 to January 1934

E. O. Heaton, H. & G. Engineer, Chief of Party

W. T. White, Topographer

Instructions Dated November 5, 1932

General Description of the Coast:

This sheet covers Galveston Channel, the city of Galveston and Pelican Spit. Galveston Channel extends from a point in Galveston Harbor between Bolivar Peninsula and Fort Point along the wharf front in Galveston to the Galveston dike West End Beacon. The channel entrance is well marked by lighted buoys. The channel is protected on its northerly side by Pelican Spit. The city of Galveston is located on the south side of the channel and covers the eastern end of Galveston Island. The wharfs are built on the north side of the city and abut on Galveston Channel. The south side of Galveston fronts on the Gulf of Mexico and is protected by a concrete seawall 15 feet high (above m.h.w.). On the northeast part of the island a flat strip of land extends between the Gulf and the seawall. On this area a wide sand beach extends along the Gulf shore and between this beach and the seawall a lagoon is situated in a grassy area.

The Galveston South Jetty is extended along the north shore of Galveston Island until it reaches a point near the Santa Fe Ry. ferry landing. The terminal facilities at Galveston are the most extensive on the Texas coast. Details of these facilities are shown on the topographic sheet and on the blueprints forwarded with this sheet. Pelican Spit, on the north side of the channel, has been largely built up from the dredging of ship channels in this vicinity. Clay spoil mounds of heights varying up to 25 feet are situated on the south shore of Pelican Spit. Back of these mounds the spit extends as a flat area largely covered with mud from dredging and also partly covered with scattered patches of vegetation. Pelican Island and Pelican Spit now appear as one area of land; the shallow water between the two having been filled in with mud from dredging. The only important features on the spit are the U. S. Quarantine Station, U. S. Coast Guard Station, Galveston Dry Dock, and the Lighthouse Service base.

The Galveston Wharf Company's grain elevator located between pier 27 and pier 29 is a large white concrete structure and is the first object readily distinguishable from any distance offshore. The Buccaneer Hotel located near the seawall in Galveston is also readily distinguishable from a long distance offshore. Other prominent objects distinguishable from a short distance offshore are given under the list of landmarks.

Landmarks:

Grain Elevator located between piers 27 and 29.

Buccaneer Hotel located near the seawall between 22nd St. and 23rd St.

Galvez Hotel stack located near the seawall on 19th St.

Mexican Petroleum Corp. stack located just east of Galveston.

Fort Point Light, Old-Bell tower located on the northern extremity of Galveston Island.

Santa Fe Railway building located at 25th St. and Ave. B.

M - 35 foot tripod signal located on north central part of Pelican Island.
 Radio Masts, Radio Marine Corp. located on 28th and 29th Streets between Ave. C and D.
 Radio Masts, U. S. Naval Radio D/F Station located near northeast end of Galveston Seawall.
 Cupola main bldg. U. S. Quarantine Station located on northeast extremity of Pelican Spit.
 Flag Pole on U. S. Coast Guard Station located on Pelican Spit.
 Cupola main bldg. John Sealy Hospital located on Ave. B between 8th and 9th Streets.
 Water tank located at Pier 16.

Control:

The control for this work consists of stations located by second and third order triangulation and supplemental stations located by plane-table triangulation and plane-table traverse.

Traverse Closures and Methods of Adjustment:

Traverses	Closure Error (meters)	Distance (miles)
Galveston Dike West End Beacon to Cupola U.S. Quarantine Station.	9	3.9
Jacinto to Fort Point Light	3	1.0
Jacinto to San	4	1.5
San to Wall	3	1.5
Wall to Galves Hotel stack	1	0.6
Intermediate station located by tra- averse from San to Wall, to Mexican Petroleum Corp. stack.	3	1.1
San to Mexican Petroleum Corp. stack	2	0.6
Mexican Petroleum Corp. stack to Water Tank Pier 16.	4	1.0
Water Tank Pier 16 to Galveston Ice and Cold Storage Co. stack.	1	0.4
Galveston Ice and Cold Storage Co. stack to East Radio Tower of Radio Marine Corp.	4	1.1
East Radio Tower of Radio Marine Corp. to Water Tank Pier 34.	2	0.7
Water Tank Pier 34 to Water Tank Pier 40.	2	0.8
Water Tank Pier 40 to intermediate point located by traverse from Brazos Valley R. R. Water Tank.	3	0.9
U. S. Quarantine Station to 3-point fix on north shore of Pelican Island.	3	0.9
Mexican Petroleum stack to Fort Point Light.	6	2.0

All traverses were adjusted on the sheet in accordance with para-
 graph 12, part 1, Topographic Manual.

Auxiliary Surveying Methods:

The features listed below were located by taking 3-point fixes

with a sextant in the field and plotting positions with a three arm protractor in the office;

Drainage ditches, earthen dikes and limits of marsh area on northeast end of Galveston Island.

Spoil mounds and limits of mud flow around spoil mounds on Pelican Spit. (The size of the spoil mounds was obtained by pacing.)

The high and low water line along the western side of Pelican Spit was obtained by setting up on the wrecked barge in that vicinity and reading a rodman who had rowed as near to shore as possible; the rodman in turn estimated the distance to low and high water lines and signaled back to the observer. This procedure was necessary because the mud shore would not support a rodman's weight.

New Names:

It is recommended that the name "Pelican Spit" be omitted from future charts and that the area of land now known as Pelican Spit and Pelican Island be called "Pelican Island".

A small lake situated just east of the seawall on the northeast part of Galveston Island is locally known as "The Lagoon". It is recommended that this name be adopted, since it is a well established local name. OK
J.B.

List of Plane-Table Positions:

AL and US - 75 foot masts at U. S. Naval Radio D/F Station.

CUP - flag pole on U. S. Coast Guard Station.

LAM - sign on Del Mar Night Club.

West Radio Tower of Radio Marine Corp.

OWL - mark No. 6 (U.S.E.), station mark of U. S. Engineers on south central part of Pelican Spit.

Changes in Coast Line:

A comparison of this sheet with U. S. C. & G. S. Chart No. 520 shows the change in the area between Pelican Spit and Pelican Island. This area has been filled in from the dredging of ship channels in this vicinity to such an extent that at present it is bare at mean high water and appears as a low flat marsh and mud area.

A comparison of this sheet with the Galveston Quadrangle, Galveston County Texas, U. S. Geological Survey map indicates that the general shape of most of the features is the same. The area between Pelican Spit and Pelican Island is entirely different. It is understood that the U. S. Geological Survey map was compiled from aerial photographs. In case the aerial photographs were made immediately after a large quantity of mud from dredging had been pumped on to Pelican Spit, the area between Pelican Spit and Pelican Island might appear similar to water. This would possibly result in the location of the shore line entirely wrong in case no field inspection was made. The mean high water line on the Gulf shore of Galveston Island as located on the U. S. Geological Survey map is approximately 75 meters too far inshore. This may be due to the aerial photographs having been made when the tide was considerably above mean high water. The control of the U. S. Geological work was apparently very poor.

Character of Marsh:

The marsh area on the northeast part of Galveston Island has been recently drained by CWA workers. If the drainage ditches are maintain-

ed and the drainage work continued, this area will probably lose its marsh characteristics and become grassland. When this survey was made the drainage work was not complete and the area was marshland and is delineated as such on the sheet. Storm tides will back water up through the drainage ditches and flood most of this area.

The marsh area on Pelican Spit extends around the shore line as shown on the sheet. Marsh vegetation has grown up only along the shore and this growth stands in very soft mud. When last visited most of the partly dried mud area in the interior of the spit was covered with scattered patches of vegetation (small weeds and other small plants) and was taking on a green appearance.

The mud area in the interior of Pelican Spit is drying rapidly; however high tides flood the shore to a considerable extent and as a result this flooded area remains as very soft mud.

Station Symbols:

Recovered triangulation stations are marked with a triangle inscribed in a circle. After the name of these stations, two dates are given. The date enclosed in parenthesis is the date of original establishment of the station while the other date is the date of the recent relocation of the station. The change of datum in 1927 caused a change in the geographic position of these stations. The 1933 date is the date of location which is plotted on the sheet.

Approved:

Earl O. Heaton
Earl O. Heaton, H. & G. Engr.,
Coast and Geodetic Survey.

Respectfully submitted,

W. T. White
W. T. White,
Observer.

Topo sheet L 6054

U. S. COAST & GEODETIC SURVEY
DIVISION OF CHARTS AND ARCHIVES

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

MAY 22 1934

LANDMARKS FOR CHARTS

Acc. No.

Corpus Christi, Texas

April 10 1934

DIRECTOR, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

Earl O. Heaton
Earl O. Heaton

Chief of Party.

DESCRIPTION	POSITION					METHOD OF DETERMINATION	CHARTS AFFECTED		
	LATITUDE		LONGITUDE		DATUM				
	°	'	D. M. METERS	°				'	D. P. METERS
Grain elevator between piers 27 & 29 (N.E. corner)	29	18	893.0	94	48	85	1927	Topo-graphy	520, 1282
Buccaneer Hotel near the seawall.	29	17	757.9	94	47	460.6	"	Triangu-lation	"
Galves Hotel stack near the seawall	29	17	1041.6	94	47	173.3	"	"	"
Mexican Petroleum Corp. stack east of Galveston.	29	18	1616.2	94	46	558.4	"	"	"
Fort Point Light- old Bell Tower.	29	20	348.2	94	46	10.0	"	"	" 886 Helmer
Santa Fe. Ry. bldg. at 25th St. and Ave. B.	29	18	699.0	94	47	1309.1	"	"	"
M - 35 ft. triod signal north cent. part Pelican Is.	29	20	844.9	94	48	341.7	"	"	" 886 Helmer
East Radio Mast Radio Marine Corp.	29	18	442.5	94	47	1590.6	"	"	"
West Radio Mast Radio Marine Corp.	29	18	420.6	94	48	52.2	"	Topo-graphy	"
East Radio Mast U. S. Naval Radio Station	29	20	43.6	94	45	372.3	"	"	"
West Radio Mast U. S. Naval Radio Station.	29	20	79.4	94	45	410.3	"	"	"
Cupola main bldg. U. S. Quarantine Station	29	20	354.5	94	46	1012.9	"	Tringu-lation	" 886 Helmer
Flag pole on U. S. Coast Guard Station.	29	19	738.5	94	46	1498.3	"	Topo-graphy	"
Cupola main bldg. John Sealy Hospital	29	18	1275.0	94	46	1071.8	"	Triangu-lation	" 886 Helmer
Water tank Pier 16	29	18	1269.4	94	47	332.3	"	"	" 886 Helmer

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance.

The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tall stack, red chimney, radio mast, etc. Generally, flagstuffs and like objects are not sufficiently permanent to chart.

Section of Field Records

REVIEW OF TOPOGRAPHIC SURVEY NO. 6054 (1934)

Galveston Channel, Galveston Bay, Texas
Surveyed: December, 1933 - January, 1934
Instructions dated: November 5, 1932 (HEATON)

Plane Table Survey

Aluminum Mounted

Chief of Party - E. O. Heaton.
Surveyed by - W. T. White.

1. Condition of Records.

The records conform to the requirements of the Topographic Manual in every respect.

2. Compliance with Instructions for the Project.

The survey complies with instructions and contains many descriptive notes which add to its value.

3. Junction with Contemporary Surveys.

Satisfactory junctions were made with T-4863 (1934), T-6052 (1934) and T-6053 (1934).

4. Comparison with Prior Surveys.

a. T-282 (1850).

Only a general comparison of this survey with the present survey was possible because of the construction of jetties and many improvements since the time of this survey.

b. Chart No. 520.

A comparison of this chart with the present survey shows some differences, particularly in The Lagoon outside of the sea wall and in the union of Pelican Island and Pelican Spit. Attention is called to the field party's recommendation that the entire island be named Pelican Island.

5. Field Drafting.

The field inking of the survey is very good.

6. Additional Field Work Recommended.

The survey is complete and no additional field work is required.

7. Superseding Old Surveys.

Within the area covered, the new survey will supersede the following surveys for charting purposes:

T-282 (1850) in part.

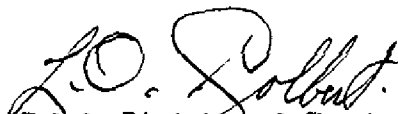
8. Reviewed by - A. F. Jankowski, October, 1934.

Examined and approved:

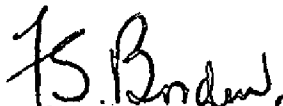
C. K. Green,
Chief, Section of Field Records.



L. O. Zolbert,
Chief, Division of Charts.



Chief, Section of Field Work.



Chief, Division of H. & T.



Applied to Chart #520 by J. Fleming, May 21, 1935, G. H. S.

SURVEY NO. *T-6054*

[illegible]

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.