DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: Texas

TOPOGRAPHIC SHEET NO. 4821

LOCALITY
Galveston Bay
Turtle Bay

1933

CHIEF OF PARTY
Earl O. Heath
DESCRIPTIVE REPORT
TO ACCOMPANY TOPOGRAPHIC SHEET "A"
TURTLE BAY & TRINITY RIVER DELTA
Scale: 1:10,000
Project: HT-118, Galveston Bay
Surveyed January to March 1933
E. O. Heaton, H. & G. Engineer, Chief of Party.
J. W. Somers, Topographer
Instructions Dated Nov. 6, 1932

General Description of Coast:
The coast from Anahuac, Texas, west to Cross Bayou is low, flat marsh land covered with marsh grass and sea-cane. A few willow trees have grown up along the shores of the Trinity River and its tributaries. The Trinity River is navigable by boats of a draft of five feet or less. The passage from Galveston Bay is made through the Trinity River Channel. The channel is well marked by three lighted beacons; however extreme caution is advised due to a number of submerged logs and other similar obstacles. During periods of high water a log boom extends across the mouth of the Trinity River about one hundred meters North of the head of Brown's Pass. The down stream end of this Log Boom is marked by a flag and a red lantern. Middle Pass, Main Pass, and Jack's Pass are not navigable, except by skiff.

The Turtle Bay Channel will accommodate boats of a draft of three feet or less. This channel is reached via Browns Pass to Irrigation canal, thence North 250 m., thence Southeast 450 m. to Turtle Bay channel, thence Northeast through the channel, 1750 m. to a 4" x 4" post surmounted by cross arms. This marker is on the west side of the channel. Thence North to Turtle Bayou. The entrance to Turtle Bayou is 100 m. East of a small shell island just off the left bank of the Bayou.

Landmarks:
The Chambers County Court House is the only prominent landmark in this locality. A three story gray brick building with a two story light tower. A light on this tower tended by the building custodian is visible 15 miles in clear weather.

Character of Control:
Sheet "A" is controlled by four Second Order Triangulation Stations; Anahuac, Pine Mound, and Lawrence Cove. Two Second Order Triangulation Stations (intersection); Turtle, and Jack. Three Third Order Triangulation Stations (intersection); Beacon "C", River (not marked) and Trinity. Intermediate control; Stadia Traverse.

Dates on Triangulation Stations:
Two dates are shown on this sheet at triangulation stations which have been recovered. The date of original establishment is shown and the last date of occupation. This was done because the datum was changed in 1927 and the last date is the one which represents the plotted positions.
Closing Errors of Traverse and Methods of Adjustment:

Error of closure, traverse; Turtle to Pine, 9 m. (2.5 mi.);
Pine to Mound, 7 m. (3 mi.); Mound to Beacon "C", 10 m. (4 mi.);
Beacon "C" to River, 5 m. (2 mi.); River to Trinity, 6 m. (2 mi.);
Sta. Trinity to topographic signal Hog, 3 m. (1.5 mi.); River to
Jack, 2 m. (1 3/4 mi.); Jack to Lawrence Cove (U.S.E.D.), 10 m.
(3 1/2 mi.); topographic signal #5 to Jack, 8 m. (2 mi.).

An error was introduced into the line Mound to Beacon
"C". The erroneous section was retraversed, all points affected
were corrected. This procedure was also followed to correct an
error in Lighthouse Pass. All traverse lines were adjusted as per-

Failure to Agree with Former Work - Chart #1282:

A discrepancy of about 90 m. mostly West and North was
found to exist between this work and Chart #1282. Thirty points
on the chart were compared to similar points on Sheet "A". This
discrepancy is not consistent throughout and seems to indicate a
lack of control in the original work.

New Names:

The following names of passes and bayous, of local origin
and acceptance, do not appear on the original chart: Kings Pass,
Lighthouse Pass, Turtle Bay Pass, Smiths Bayou, Hog Bayou, and
Little Hog Bayou, Peterson's Lake, Jack's Pass, Triangle Pass, and
Little Triangle Pass, Bulkhead Cove, Cross Bayou. Blind Bayou
does not appear on the chart. These names are adopted as local names.

List of Recoverable Plane Table Positions:

1. OIL - east end of dike Anahuac, Texas.
2. BLACK 2 - stack of Lone Star Pumping Co., Anahuac, Texas.
3. BAN - banner in 24" cypress tree in Turtle Bay.
4. RED - red brick chimney.
5. STA. 10 - 2 piles N end of log boom mouth of Trinity River.
6. LONE - lone tree left bank of bayou.
7. TANK - water tank Danss Lodge, Cross Bayou.

Changes of Coast Line:

The East shore of Turtle Bay shows a gradual erosion, due
to the wave action. There was nothing to definitely indicate the
exact amount of this erosion over any period of time. The East shore
of Turtle Bay is filling very slowly. The Trinity River Delta is
building out into Galveston Bay. The Bay shore from Jack's Pass
West to Cross Bayou shows a gradual recession.

Character of Marshes and the Extent Covered by High Water:

Black Gumbo, composed of sand clay, decayed vegetable and
animal matter. This section is covered with marsh grass and sea-
cane. About 40% covered at high water.

Approved:

[Signature]
Earl O. Heaton,
H. & G. Engineer, C. & G.S.

Respectfully Submitted,

[Signature]
J. W. Somers, Observer.
The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

Earl O. Houston
Chief of Party.

<table>
<thead>
<tr>
<th>Description</th>
<th>Position</th>
<th>Method of Determination</th>
<th>Charts Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steeple of Chambers Co. Court House, Anahuac, Tex.</td>
<td>29 46</td>
<td>+252.7 94 41</td>
<td>Triangulation</td>
</tr>
<tr>
<td>Water tank, on left bank of Cross Bayou, 1/2 mile N of Galveston Bay.</td>
<td>29 46</td>
<td>+1159 94 47</td>
<td>&quot; &quot; &quot; Plane Table</td>
</tr>
</tbody>
</table>

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 such 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, flagstaffs and like objects are not sufficiently permanent to chart.
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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. A

REGISTER NO.

State. Texas
General locality. Galveston Bay
Locality. Turtle Bay
Scale. 1:10,000. Date of survey. Jan. 5 - Feb. 20, 1933
Vessel.
Chief of party. Earl O. Heaton
Surveyed by. J. W. Somers
Inked by. J. W. Somers & C. W. O'Melveny
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: 

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

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>METHOD OF DETERMINATION</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steeple of Chambers Co. Court House, Anahumac, Tex.</td>
<td>29 46 +252.7 94 41 +141.4</td>
<td>Triangulation</td>
<td>1282</td>
</tr>
<tr>
<td>Water tank, on left bank of Cross Bayou, 1/4 mile N of Galveston Bay.</td>
<td>29 46 +1159 94 47 +64</td>
<td>&quot; &quot; Plane Table</td>
<td>1282</td>
</tr>
</tbody>
</table>

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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, flagstaffs and like objects are not sufficiently permanent to chart.
Section of Field Records

REVIEW OF TOPOGRAPHIC SURVEY T-4621 (1933)

Turtle Bay, Galveston Bay, Texas
Surveyed Jan. - Feb., 1933
Instructions dated Nov. 5, 1932

Chief of Party - Earl C. Heaton.
Surveyed by - J. W. Somers.
Inked by - J. W. Somers & C. W. O'Malley.

1. **Condition of Records.**

The records are complete except that Descriptions of Recoverable Topographic Stations Form 524 were not made.

2. **Compliance with Instructions for the Project.**

The work complies with instructions except that it should have extended about 1/2 mile farther north to include Wallinsville on the Trinity River, to embrace the area on Chart No. 1282.

3. **Junctions.**

Satisfactory junctions were made with Survey T-4622 (1933).

4. **Comparison with Prior Surveys.**

T-330 (1851). Comparison with the new survey showed a good agreement in general characteristics, except where the dike had been constructed across the mouth of Turtle Bay. No detailed comparison of shoreline was attempted because of absence of a recent geographic datum on the old survey. However, attention is called to comparisons with Chart No. 1282 as noted in the Descriptive Report. See Paragraph No. 8.

5. **Field Drafting.**

The field inking of the survey is satisfactory.

6. **Additional Field Work Recommended.**

Outside of furnishing Form 524 no additional work is necessary.

7. **Superseding Old Surveys.**

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

T-330 (1851) in part.

The Descriptive Report mentions erosion of the East shore of Turtle Bay and filling in of the west shore. Also it states that the north shore of Galveston Bay from Jacks Pass to Cross Bayou is gradually receding.

In the case of Turtle Bay, the discrepancies are more likely due to difference in datums, since the distance between shores is about the same.


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

Fred. L. Peacock
Chief, Section of Field Work.

L. O. Dobbs
Chief, Division of Charts.

Chief, Division of H. & T.