

6278

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

MAY 11 1935

Acc. No. _____

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. PATTON, Director

State: TEXAS

DESCRIPTIVE REPORT

Topographic

Hydrographic

Sheet No. E

LOCALITY

TEXAS

~~EAST COAST~~

Intracoastal Waterway

~~INTRACOASTAL CANAL~~

~~Lat. 29-45 to 29-55~~

~~Long. 93-55 to 93-59~~

Port Arthur and Vicinity

19 35

CHIEF OF PARTY

R. F. LUCE

6278

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

REG. NO.

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. E

REGISTER NO. 4273

State TEXAS

General locality. ~~EAST COAST~~ Intracoastal Waterway
Port Arthur and Vicinity Lat. 29-49 to 29-53

Locality INTRACOSTAL CANAL Long. 93-55 to 93-59

Scale 1:10,000 Date of survey February 14 - 27, 1935.

Vessel.....Str. HYDROGRAPHER.....

Chief of party.....R. F. LUCE.....

Surveyed by EVERETT E. MUMAW

Inked by.....EVERETT E. MUMAW.....

Heights in feet above MHW to ground & to tops of ~~trees~~ objects

Contour, Approximate contour, Form line interval.....feet

Instructions dated October 23, 1934

Remarks:

DESCRIPTIVE REPORT TO ACCOMPANY

SHEET E

Instructions of October 23, 1934.

GENERAL DESCRIPTION:

This sheet, Sheet E, is the fifth sheet in a series of five covering the Intracoastal Canal from East Bay, Galveston, to the Port Arthur ship canal, Port Arthur, Texas. This sheet shows the detail of the entrance of the Intracoastal Canal into the junction of the north end of the Port Arthur Canal and south end of the Sabine Neches Canal. The Sabine Neches canal is the route of the Intracoastal Waterway from the north end of the Port Arthur canal to a point on the Sabine Neches canal, a few miles north of Port Arthur, where the Intracoastal Waterway again branches off to the right north of and around Lake Sabine to Orange Texas. The sheet also includes the Turning Basins of the Gulf Refining Company and Texas Company together with portions of Taylor's Bayou and the back waterway connection with the Intracoastal Canal.

The Turning Basins and slips have been dredged out of Taylor's Bayou and surrounding marsh land. The narrow strip of land between the Port Arthur Canal and Sabine Neches Canal and the Sabine Lake was originally a marsh with mud the predominating feature. Waste from dredging operations have built up this strip to heights varying from ten to twenty-five feet. It is still a marsh in the wet seasons and is bordered on the Lake side by a mud beach of varying width. Most of the mud here is run-off from the spill when dredging operations are going on, but the waves of the lake build it up to a long sloping mud bottomed beach. Considerable agitation is now going on for government funds to build a revetment along the portion of the strip owned by the

city of Port Arthur, Texas. They have spent \$1,000,000 already in their seawall and bordering roadway on the city side of the Canal, and the millions spent by the government on dredging operations in the canals of this section is gradually but surely destroying their lake front.

A fill made at a portion of former Taylor's Bayou near the location of the present Gulf Refining Company's office, and a cut made in dredging out the Gulf Refining Company's Turning Basin, originally called Taylor's Bayou Turning Basin, resulted in the formation of a strikingly heart shaped piece of land. This piece of land is the location of the towers and sending and receiving station of radio station WPA. The remainder of this area is gradually-drying marsh land. The shoreline is complete within the limits of the sheet but much other data such as may be shown on aerial photos is omitted. I expect this detail can be supplied from the aerial photos when made.

LANDMARKS:

The number of landmarks on Sheet E are so great that only a few have been picked out to locate as permanent topographic stations. Four of the five triangulation stations on the sheet are the most important of these. I have included in my list some stacks, aerial towers, water tanks etc. I have tried to pick out those most easily identified. The lay of the land in this area, with respect to the Lake, The Canals and the Turning Basins are in themselves quite striking, forming with the Port Arthur Canal as the stem, a large irregular shaped Y.

CHARACTER OF CONTROL USED:

The station INTRACOASTAL, TEXAS (1933) and the four stations established in 1931, (the 400 foot stack of the PORT ARTHUR GULF REFIN*

ING COMPANY, the PORT ARTHUR TEXAS OIL COMPANY DOCKS WATER TANK, the PORT ARTHUR GULF STATES UTILITY COMPANY STACKS AND the PORT ARTHUR GOODHUE HOTEL TOWER), form the foundation of this survey. Only one station, INTRACOASTAL, TEXAS (1933) was suitable to use as the starting point for a traverse by occupying it as a planetable station. I rebuilt this station with a high signal and was able to get a three point fix almost anywhere on the sheet.

CLOSING ERRORS OF TRAVERSE RUN AND HOW ADJUSTED:

Two or three of the standard methods of planetable surveying were used on this sheet. At the northern end of the sheet near USE 205, I set up by lining in the 400 foot stack of the PORT ARTHUR GULF REFINING COMPANY and the GOODHUE HOTEL TOWER, approximately, orienting on the hotel and resecting on other stations visible. At another station near the roadway north of Slip No. 3, I lined on this same 400foot stack with the PORT ARTHUR TEXAS OIL COMPANY DOCKS WATER TANK and resected on the GOODHUE HOTEL TOWER. At the point on Taylor's Bayou marked Rough Screens I made an independent three point determination. For the remaining stations I either ran a traverse from these three starting points, checking by three point fixes at intervals or carried the two traverses from my original starting point on the sheet, INTRACOASTAL, TEXAS (1933), one up the strip of land to the northeast to a station near USED docks and the other up the turning basins with branches to the slips, and down the back waterway to connect with sheet D. I checked each station by either resection or an independent three point fix and feel that no point so determined is as much as 5 m. in error from its true position and in most cases is much less than that.

DETAIL DESCRIPTION:

The strip of land shown as marsh to the eastward of the Sabine Neches Canal is not strictly marsh. Originally it was made land formed from the first dredging operations when the original smaller canal than the present was cut out on what was then the high water line of Lake Sabine. At that time, from reports of older residents, the beach itself, particularly around the pleasure pier as early located, was sand instead of mud as at present. The first cutting of the canal brought up dry or fairly dry soil by shovel. Later dredging operations used the hydraulic system where all mud and other soil removed is liberally dissolved in water and this run off is always towards the lake side of the ridge first formed. The result is a marshy strip of land with mud from the bottom of the canal spreading out over the lake bottom near shore. The irregular line of marsh shown is from my own rod readings. The dotted line farther out is the approximate present high water line in this sea of mud as determined from reducing the five Engineer's maps of scale 1" equals 100' for this section. The U. S. Engineer's determined their shore line by running offsets from their 100' stations on the strip out to a boat anchored at right angles to their traverse line, and the mean lake level determined from the soundings obtained. At the north end of the Port Arthur Canal their work is as late as 1934 but for the remainder of the strip it dates back to 1931. Check readings of the present shore at the pier were taken. The paved roadway on the city side of the Canal north of the Pleasure Pier bridge and the latest bridge itself, a bascule bridge of the Schertzer Rolling Lift type, are improvements put in since 1930 at a cost to the city of \$1,000,000. The bridge is raised for passing boats on signal from a

control house shown on the west end, anytime between the hours of 6:00 A.M. and either 10:00 or 12:00 P.M. For the remainder of the night it remains open except on special occasions at the Pleasure Pier. The bridge has a clearance of 16 feet above normal high water when closed. The city is surrounded by a levee about 5 feet high and branches run down to the Gulf and Texas docks. Part of this at the north end and along the canal is shown by the hachure lines. The higher tower of the radio station KPAC is shown as well as the white painted stack of the Junior High School set on the centerline of Stillwell Boulevard. The Port Arthur municipal water tank near the intersection of Stillwell and Thomas boulevards is also shown. It is situated in a parklike area to which these roads lead. The city ran out of money and has left much of the street and park improvements for future work.

The Kansas City Southern R. R. came here to Port Arthur when the Texas Company was organized. Freight switches from the main station in town run south to the "Island", and branches to the three slips. The Southern Pacific, an earlier road, has lines and freight facilities to West Port Arthur and the Gulf Refining Company's plant. All of these railroad lines, except for a few crossing of streams as at West Port Arthur, were omitted from this survey. They with the details of the two oil plants and the docks and other buildings, can be taken from an aerial map of this area. A short section of the highway in the vicinity of PORT ARTHUR TEXAS OIL COMPANY DOCKS WATER TANK (1931), is shown. This connects on the northwest to Seventh Street and on the west by a branch to the three slips. Slips No. 2 and No. 3 seem to be the only ones used at present. Slip No. 1 is surrounded by marsh. The Texas Company Grain Elevator situated near the center of the west side of slip No. 3

is in disrepair and not used now. The long shed on the east side of this slip seems to be stocked with lumber though the lumber dock is the one on the northern side of the West Turning Basin. Here they formerly loaded coal and coke and a short section of the tracks to the present coal pile at the entrance to Slip No. 1 is shown. The docks along slip No. 2 are in bad condition though used by some small boats. The long dock of Slip No. 3 on the east side is used for visiting ships to tie up. The short section of Taylor's Bayou between West Turning Basin and the Gulf Refining Company's Turning Basin is navigable only to the bend. The upper end is silted up from a large stream of waste water from the Gulf Plant flowing into it. The railway bridge and the Highway U. S. 87 bridge both have swing spans of about 30 foot to 40 foot in width. The draft in the creek below is less than 5 feet so this waterway extension is seldom used. A row boat or outboard motor on a small boat can clear the timbers of the bridges closed. The railway, a section shown at the bridge runs parallel to the highway to a point near West Turning Basin. It is apparently an abandoned mail line of the S. P. Branches run across the entrance of Alligator Bayou into Taylor's Bayou and on to the southwest.

The dredged branch of the canal, running north at the extreme western edge of the sheet connects up with Taylor's Bayou. At a point just west of West Port Arthur, a branch was run to the northeast, closing at a point beyond the Gulf Power Plant known as the Rough Screens of the water filtration system of the Gulf Refining Company. The northern connection to Taylor's Bayou is shut off by a bulkhead. Comparatively fresh water and water free from oil waste seen in Taylor's Bayou is drawn into a tunnel through these Rough Screens at the head of this canal. It

crosses under Taylor's Bayou to and through some fine screens on the other side and filtration and cleaning is completed in this part of the plant. After it is sufficiently purified it is again piped across under Taylor's Bayou to the Power Plant of which the north of two stacks is shown. This explains the sign, Closed to Navigation, posted at the entrance to this northern branch of the Intracoastal Canal and shown on Sheet D. This dredged section takes a middle course through old Salt Bayou which at one time connected with Taylor's Bayou. The area to the right of this canal branch west of the Gulf Company Storage Tanks is mostly mud. The connection between Taylor's Bayou and Salt Bayou was just north of these tanks at the western bend in Taylor's Bayou. This shore is built up artificially by being used as a dump so the level of this land is lifted enough from mud and marsh land to support a road running back to the Power Plant. The waterways here have been transformed by the oil companies to suit their needs and may be changed at anytime their needs so require. The three dredged turning basins are probably permanent.

U. S. Highway 87 is much used at present as the entrance to the beach road from Port Arthur to Galveston. It crosses the entrance to the Intracoastal Canal by a bascule bridge similar to the one at Pleasure Pier but smaller. The closed clearance of this bridge above mean high water is 16 feet. There is a concrete walkway raised above the pavement on the east side of the bridge. It is an 18 foot roadway and a three foot walk. No. 1 Beacon, marked Sabine Galveston Intracoastal, is just east of this bridge on the point. An arrow with 1 painted on it points north or at right angles to the direction of the canal. It can be seen by anyone cruising down the Sabine Neches Canal and intending to enter the Intracoastal. The entrance is so close to the bridge that boats have to

slow up to wait for the bridge to raise after giving the signal. Road engineers are talking of relocating part of this beach road below Keith along the spoil bank of the Intracoastal Canal, or some point between it and the present location of the road. It is expected to have the new road laid out within the next twelve months.

Everett E. Mumaw
Everett E. Mumaw, Surveyor,
Coast and Geodetic Survey,
Topographer.

Examined and Approved:

R. F. Luce
R. F. Luce, Commander,
Coast and Geodetic Survey,
Chief of Party.

S T A T I S T I C S
F O R
TOPOGRAPHIC SHEET E
1 9 3 5

Shore line	12.0 statute miles
Slips	1.0 statute miles
Area	5.0 square miles, statute

GEOGRAPHIC NAMES

Survey No. T 6278Date. May 14, 1935 TEXASChart No. 1280 & 1279Diagram No. 1280 & 1279

Approved by the Division of Geographic Names, Department of Interior. *

Referred to the Division of Geographic Names, Department of Interior. R

Under investigation. Q

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	<u>Port Arthur</u> ✓	Same			
	Stillwell Boulevard				
	<u>Procter Street</u> ✓				
	City Docks				
	U.S.E. Docks				
	Pleasure Pier				
	Sabine Towing Company				
	City Limits				
	Barge Yard				
	<u>Sabine-Neches Canal</u> ✓	Same			
	Gulf Refineries				
	<u>West Port Arthur</u> ✓	Same			
	<u>Alligator Bayou</u> ✓	"			
	<u>Taylor Bayou</u> ✓	"			
	^{Refining} Gulf Company Storage Tanks				
	Gulf Refining Company	Turning Basin			
	State Highway U.S. 87				
	<u>West Turning Basin</u> ✓				
	<u>East Turning Basin</u> ✓				
	Texas Company				

Names not underlined and not Geo. Names

Date. May 14, 1935

Chart No. 1279 & 1280

Under investigation. Q

M-136

REVIEW OF TOPOGRAPHIC SURVEY No. 6278

Title (Par. 56) *Port Arthur & Vicinity, Texas*Chief of Party *R.F. Luce* Surveyed by *E.E. Murnaw* Inked by *E.E. Murnaw*Ship *Hydrographer* Instructions dated *Oct 23, 1934* Surveyed in *February 1935*

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.) ✓
2. The character and scope of the survey satisfy the instructions. ✓
3. The control and closures of traverses were adequate. ✓ (Par. 12, 29.)
4. ~~The amount of vertical control that the Manual specifies for contours-formlines was accomplished. (Par. 18, 19, 20, 21, 22, 23.)~~
5. ~~The delineation of contours-formlines is satisfactory. (Par. 49, 50.)~~
6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.) *None Submitted with the sheet. An arial survey of this section was available to the topographers mentioned in the descriptive report.*
7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.) ✓
8. The representation of low water lines, ~~reefs, coral reefs and rocks,~~ and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.) ✓
9. ~~Reefs and~~ other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.) ✓
10. The span, draw and clearance of bridges are shown. (Par. 16c.)
*Only vertical Clearances shown in Descriptive Report on 2 bridge - Not shown on sheet
Other bridge clearances not indicated at all*
11. ~~Locations and elevations of summits are given. (Par. 19, 51.)~~
12. ~~The tree line was shown on mountains. (Par. 16g.)~~

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.

13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.) ✓
14. ~~The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.~~
15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DMS and DPS, 68.) *None Submitted*
16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) ✓
17. The magnetic meridian was shown and declination was checked. ✓ (Par. 17, 52.) *Meridian erroneously drawn thru triangulation station*
18. The geographic datum of the sheet is *N.A. 1927 (Adjusted)* and the reference station is correctly noted. (Par. 34.) ✓
19. Junctions with contemporary surveys are adequate. ✓
20. Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 66k.) ✓
21. The quality of the drafting is ^{Fair} good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.) *Stations carelessly drawn and lettered H.W. Line not uniform*
22. No additional surveying is recommended. ✓
23. The Chief of Party inspected and approved the sheet and the descriptive report ~~after review by~~

24. Remarks:

Reviewed in office by *Chas. R. Busch Jr. May 16, 1936*

Examined and approved:

C. H. Green
Chief, Section of Field Records

L. O. Lobbut
Chief, Division of Charts

Fred. L. Peacock
Chief, Section of Field Work

Shude
Chief, Division of Hyd. and Top.