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U. S. COAST AND GEODETIC SURVEY
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JUN 22 1936

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: TEXAS

DESCRIPTIVE REPORT

Photo
Topographic } Sheet No. 5357
Hydrographic

LOCALITY

LAVACA
Matagorda Bay

Cellinipper It. to the north end of

Port Lavaca Bay.

193 4

CHIEF OF PARTY

T. M. Price Jr., Ensign.

U. S. GOVERNMENT PRINTING OFFICE: 1923

5357

applied to chart 1284 Jan. 21, 1938 J. G. L.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5357

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. 7

REGISTER NO. 5357

State Texas

General locality LAVACA
Matagorda Bay

Locality Port Lavaca
Gallinipper Pt. to the North end of Lavaca Bay

Scale 1:20,000 Date of survey Photographs, Jan. 8, 1934
Compilation August-September, 1934

Vessel Army Air Corps Camera Fairchild T-3a, 31-76

Compilation Party # 20, Corpus Christi, Texas.

Chief of party Ens. T. M. Price Jr.

Surveyed by See data sheet in the descriptive report.

Inked by J. R. Reynolds

Heights in feet above _____ to ground to tops of trees

Contour, Approximate contour, Form line interval _____ feet

Instructions dated November 7, _____, 19 33

Remarks: Compilation of aerial photographs 81-B25; A19-A28.

Sheet reduced to scale and printed by photo-lithographic process.

COMPILER'S REPORT

for

PHOTO TOPOGRAPHIC SHEET

FIELD NO. 7. Reg. No. 5357

1. GENERAL INFORMATION

This sheet was compiled from photographs taken by the U.S. Army Air Corps, using a Fairchild T- 3A camera # 31-76. The photographs used are # 1 - 25 B flight and a part of # 19 - 28 A flight. The flights for the photographs were made January 8, 1934 at 1:45 - 1:55 P.M. and 1:22 - 1:35 respectively.

The tide in Matagorda Bay and Lavaca Bay is small and the only difference in its stage that would affect interpretation of the several photographs would be caused by the strong continued winds. The height of the water at the time the pictures were taken appeared to be about ~~6 inches below mean high water.~~ (except for the interpretation of the pictures)

2. CONTROL.

(a) Sources

Triangulation by F.L.G., 1931.

Triangulation by Lieut. E. O. Heaton, 1934.

The field parties geographic positions were used for the 1934 triangulation. The difference between the unadjusted and final adjusted positions would be unplotable at the scale of this compilation.

Station Lavaca U.S.E. was established by the U.S.E.D. in 1930. The U.S.E. geographic position was adjusted using other 1930 U.S.E. stations in the locality which were included in the U.S.C. & G.S. 1934 triangulation. *This station is shown thus on the compilation*

① Lavaca, U.S.E.

This control is adjusted to 1927 N. A. Datum.

(b) Errors

No errors in control were found by the radial line plot on this sheet, but due to the wrong location of station Mitchell on sheet # 6, some difficulty was experienced in connecting the two sheets as explained later under adjustment of plot.

(c) Remarks

The recoverable topographic stations (shown by black circles and by appropriate notations) were located on the ground and spotted directly on the photographs by the field inspection party and their position is established by the radial plot only, except "WAY" (center of operators house on causeway) which was located by taking a theodolite 3 pt. fix near the station and making a traverse tie to the station. The 3 pt. fix was computed and the position of "WAY" obtained graphically on this sheet from the plotted position of the 3pt. fix set-up. There was 7 meters difference (in a line parallel to the causeway) between this and the point as previously located by radial plot alone. The instrument location was held to in the tracing.

3. COMPILATION

(a) Method

The usual radial line method of plotting from five lens photographs was used in the compilation of this sheet. There was no departure from the standard method, now in practice.

(b) adjustment of plot.

The radial plots of this sheet and sheet ^{FM. 16} 6 were made in direct connection with each other, since the control for the N. W. end of A flight was scarce. B flight was plotted first, then A flight was plotted as for N.W. as a good fix could be obtained, then the intermediate pictures plotted to give a good connection. The radial plot showed station Mitchell 1934 had been incorrectly located on photographs. Its location in the field substantiated the radial plot. *Considerable time* and effort was ^{necessary} in the making of the smooth plot of sheets 6 and 7, but the final plot resulted in good intersections and a good connection.

The photographs covered by this sheet appear to be free from excess tilt and scale fluctuation, however a number of photographs are tilted sufficiently to make tracing more difficult than ordinarily. The weakest position of the plot is North Latitude $28^{\circ} - 44'$ east of $96^{\circ} - 39'$ where the plot was extended a short distance beyond ground control.

(c) General Description of topography and interpretation.

In addition to the General Report of Matagorda and Lavaca Bays by the field inspection party (filed with Descriptive Report Register no. 5351) the following notes are submitted to act as a guide in the interpretation of this sheet since the compiler also assisted in the field inspection of this area.

The coast line running north from Callinipper Pt. to Port Lavaca is in general a marshy type with a narrow beach of sand and shell at the high water line , with the exception of a short length of shore line just south of Port Lavaca, which is ^{surmounted} ~~surrounded~~ by a steep bluff approximately 15 feet in height, as indicated on the sheet. At Port Lavaca there is a small mooring basin with docking

From this point and thence around the north shore of Lavaca Bay the shore is generally marshy with an occasional stretch of narrow sand and shell beach. The aforementioned areas " sand and mud flats " are much in evidence in this section.

Inland, the topography consists almost ^{predominantly} fundamentally of cultivated fields with an occasional area of dense brush and trees. The ^{cultivated} ~~alternated~~ areas are so ~~extreme~~ that labelling, on the west side of the sheet, rather than symbolization was used for this area and any land not otherwise marked is cultivated. This cultivated area is broken up by a series of ditches and by roads. The more important of these are indicated on the sheet, the ditches as solid black lines and the farm roads as single ^{growth in the} dash lines. In many cases they adjoin each other. The bush and tree area covered by this sheet is various, consisting chiefly of mesquite, huisache, and scrub oak, the tallest seldom exceeding 20 ft. The " general tree " symbol was used to denote all of the above growths.

The through highways are indicated by double solid lines and the travelled roads of lesser importance by double dash lines. The importance rather than the type or material of the road was emphasized. A portion of the Port Lavaca - Rockport highway, that appears on this sheet was under construction and dirt covered the concrete so that it is indistinct, but the right of way was clear enough to trace the ^{portions} of the highway.

All boundaries of shallow water areas (shown by a single line of sand symbol) on this sheet were so indicated from their appearance on the photographs alone and cannot be taken as representing the low water line but only as an indication of shoal areas. This shallow water line was left out when the shading on the photos. could not be easily followed.

(A) Bridges

The Lavaca Bay Causeway consists of a 1600 ft. earth fill approach at the north end and a 10300 ft. long timbered trestle with concrete super structure between them. ^{At the N. end} midway in the trestle is a single leaf bascule bridge over the channel, with a clear width between piers of 37.9 feet. The clear height above M.L.W. of the bascule closed is 10 feet and above H.W. is 8 feet. (Clearance furnished by C. & G. D. Galveston, Tex. Dimensions of causeway by Texas State Highway Dept.)

There are five fixed highway bridges consisting of concrete slab superstructure on wooden pile bents over streams which ~~is~~ navigable at all are only so, at present, to the very shallow draft skiffs. In some seasons " Little Chocolate Bayou " is dry. The clearances of these bridges are as follows:

1. Lynns Bayou Bridge, approx. 1 mile N.E. of Port Lavaca
Horizontal clearance : 17 ft. Vertical Clearance : 6ft.
2. Little Chocolate Creek Bridge, approx. $\frac{1}{2}$ mi. N.W. of its mouth.
Horizontal clearance : 20 ft. Vertical clearance : 6 ft.
3. Little Chocolate Creek Bridge, approx. $1 \frac{1}{2}$ mi. N.W. of its mouth.
Horizontal clearance : 14 ft. Vertical Clearance 20 ft.
4. Chocolate Creek Bridges approx. $\frac{1}{4}$ mi. W. of its mouth.
Northerly bridge, Hor. Clear. : 17 ft. Vert. Clear. : 5 ft.
Southerly bridge, " " 4 ft. " " 5 ft.

The above data from measurements by field inspection party.

3. COMPLIATION (CONT'D)

(e) Information from other sources

The only source of information was that furnished by the photographs and the notes written on the photographs by the Field Inspection Party. The data on the Lavaca Bay Causeway was furnished by the U. S. Engineers office, Galveston, Texas, and the Texas Highway Department. If the present hydro. survey discloses any changes from the photos. caused by 1934 storm, they will be made on this sheet and

(f) Conflicting Names

noted at the end of this report.

Chocolate Creek was used instead of Chocolate Bayou (Chart #1117.) The term "Creek" conforms to the practice of the Department of Interior Map and of Texas State Highway Department. There is a difference in spelling of Garcitas Creek and Zorillo Bayou as shown on the Coast Survey sheet as against Garcetas Creek and Zorrilla Creek as shown on the State of Texas Map, Department of the Interior, U.S. Geological Survey, 1922. The spelling on the Coast Survey Chart was used.

(g) New Names

Lynna Bayou to name the stream entering Lavaca Bay about $\frac{1}{2}$ mile N. E. of Port Lavaca. Authority is Texas State Highway Department. "Little Chocolate Creek" to name stream entering extreme N.W. end of Chocolate Bay and the course of which is approximately NW - SE. Authority is Texas State Highway Department and Local usage.

4. COMPARISON WITH OTHER SURVEYS

This sheet is joined by sheet Reg. No. 5351 on the South and by Sheet Reg. No. 5356 on the East. The junction with adjoining sheets is satisfactory. Surveys of this area were made by the Coast and Geodetic Survey about 1880 (Chart #1284).

DETAIL COMPARISON TO SURVEYS TO 1880 (Chart #1284)

1. Change in position of M. H. W. where it crosses the following meridians or parallels:

Latitude	Longitude	Change, old to new ** (meters)	Remarks
On 28°-37'-00"	Near 96°-37'-30"	+ 26	Noble Pt.
Near 28°-38'-00"	Near 96°-36'-30"	-253	
On 28°-40'-00"	Near 96°-38'-00"	- 22	
On 28°-42'-00"	Near 96°-40'-00"	+ 39	
Near 28°-43'-00"	On 96°-37'-00"	-116	
On 28°-42'-00"	Near 96°-35'-00"	+140	
** +Accumulation; - Recession.			

2. Chocolate Bay

Change in width measured along meridian or parallel

Measured along	Change in width (meters)
96°-37'-00"	-44
96°-38'-00"	+17
28°-35'-00"	+17

4. COMPARISON WITH OTHER SURVEYS (CONT'D)

3. GENERAL COMPARISON

- (a) Two houses and roads shown on chart #1284 near longitude 96°-38' latitude 28°-43' are no longer in evidence.
- (b) Piers and docks shown on chart #1284 vicinity of Port Lavaca should be removed.
- (c) Railroad at Port Lavaca no longer serves waterfront.
- (d) Road and Highway layout on chart to be entirely revised.
- (e) Name of railroad to Port Lavaca should be changed from G.H. and S.A. Railroad to Southern Pacific.
- (f) The relative lengths of Zorillo Bayou and Placido Creek are *not* correctly shown on chart #1117.
- (g) Reference is made to the hydrographic survey of Lieut. E. O. Heaton, 1934 for the condition of Gallinipper Reef beacons, and Sand Point Reef beacons. (Now rebuilt and located by triangulation. See descriptive report for sheet Reg. No. 5356)

5. LANDMARKS

The following determined objects are prominent, can be readily distinguished from seaward and should be charted. They have been described on Form #567 which accompanies this sheet.
 Tank, (elevated) (Station Port Lavaca municipal water tank, 1931)
~~Dome, (Station Port Lavaca High School cupola, 1931.)~~

6. RECOVERABLE OBJECTS

The field inspection party has submitted descriptions on Form #524 for the following recoverable objects. The position of all (except #2 of these objects were determined by the radial plot of this sheet. which was located by theodolite)

Corn	1. N.E. corner of Barn.	Latitude: 28°-41.7'	Long.: 96°-40.0'	
Way	2. Center of Operator's Ho. "	28°-39.0'	"	96°-35.7'
	3. S. E. corner of Barn. "	28°-40.3'	"	96°-38.6'
	4. U.S. Weather Bureau Mast "	28°-36.8'	"	96°-37.3'
Chap	5. N. Peak of Gable of Chapel "	28°-36.1'	"	96°-36.8'

7. RECOMMENDATIONS FOR FURTHER SURVEYS

The compilation of this sheet is believed to have a probable error of 5 meters in well defined detail of importance for charting and of 8 meters for other data. The width of roads etc. may be slightly exaggerated in order to keep the detail clear and to facilitate clear photographing in the photo-lithographic process.

To the best of my knowledge this sheet is complete in all detail of importance for charting purposes, within the accuracy stated above, and no additional surveys are required.

Submitted By (sgd) *J. R. Reynolds*
J. R. Reynolds

Assisted by (sgd) *J. L. Puring*
J. L. Puring

Note: Since the photographs covering Lavaca Bay were taken at low water, several reefs appear to be bare that were found to be awash or below at M. H. W. by the hydrography. Information regarding the height of reefs was taken from the hydrographic sheets and applied to this sheet.

At $28^{\circ}35.1'$, $96^{\circ}36.5'$, F-5357 shows a small island.
Soundings on H-5857 cut across this island. The
island is visible in the photographs. Ple by drop table.

REVIEW OF AIR PHOTO COMPILATION T 5357

Scale 1:20,000

Projection

The projection diagonals were checked and found correct. No further check is considered necessary.

Comparison with Graphic Control Surveys

There are no graphic control surveys of the area covered by this compilation.

Comparison with the Charts

The results of a detailed comparison with chart No. 1284 are listed on pages 6 and 7 of the descriptive report, T 5357.

Comparison with Old Surveys

There is a close agreement between this compilation and T 740 in the vicinity of Chocolate Bay. Minor discrepancies probably are due to interpretation and to seasonal changes. The relatively large discrepancies in upper Lavaca Bay probably are due to some extent to interpretation but largely to insufficient control on T 740 and T 742. No definite conclusion can be drawn as to exact amount of changes because of difficulty in establishing the new datum on the old sheets and because of lack of control and probable errors in the old surveys.

This compilation is complete and adequate to supersede plane table surveys Nos. T 740 and T 742 for the area covered except for hachures which are not complete on the compilation.

A complete description as to the character of the area is given on pages 4 and 5 of the descriptive report, T 5357.

Comparison with new Hydrographic Surveys

Examination of hydrographic sheet H 5857 shows this compilation to be in agreement with the hydrography. *see opposite page*

Landmarks and Recoverable Stations

All landmarks and recoverable topographic stations have been located on the compilation.

Geographic Names

A list of geographic names has been prepared. Reference is made to new names and to conflicting names on page 6 of the descriptive report, T 5357.

Fred A. Riddell
Fred A. Riddell.

B.G. Jones
1/16/36

GEOGRAPHIC NAMES

Survey No. *T5357*

Name on Survey	On Chart No. On previous survey No. On U. S. quadrangle Maps From local information On local Maps P. O. Guide or Map Rand McNally Atlas U. S. Light List										
	A	B	C	D	E	F	G	H	K		
											1
<u>Lavaca River</u> ✓	1284										2
<u>Venado Creek</u> ✓	1284										3
<u>Garcitas Creek</u> ✓	1284										4
<u>Garcitas Cove</u> ✓	1284										5
<u>Placido Creek</u> ✓	1284										6
<u>Zorrillo Bayou</u> ✓				✓							7
<u>Noble Point</u> ✓	1284										8
out <u>Lynn's Bayou</u> ✓				✓							9
<u>Port Lavaca</u> ✓	1284										10
<u>Lavaca Bay</u> ✓	1284										11
Rockport											12
<u>Chocolate Bay</u> ✓	1284										13
<u>Chocolate Creek</u> ✓				✓							14
Magnolia Beach											15
Seadrift											16
<u>Little Chocolate Creek</u>				✓							17
<u>Sixmile Creek</u>											18
Names transcribed and approved by <u>C. E. Egner</u> on 1/21/36											19
											20
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Remarks

Decisions

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DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

~~Corpus Christi, Texas~~

September 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:

T. M. Price, Jr.

Chief of Party.

Sheet Field No. 7 (Reg. No. 5357)

[illegible]

A list of objects carefully selected because of their value as landmarks as determined from seaward, together with individual descriptions, 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 an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive identification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) Offshore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstuffs and like objects are not sufficiently permanent to chart.

REVIEW OF AIR PHOTO COMPILATION NO. 5357

Chief of Party: T. M. Price, Jr.

See page 2
Compiled by: of descriptive
report.

Party #20
Project: Corpus Christi, Texas .

Instructions dated:
Nov. 7, 1933

- ✓1. The charts of this area have been examined and topographic information necessary to bring the charts up to date is shown on this compilation. (Par. 16a, b,c,d,e,g and i; 26; and 64)
- ✓2. Change in position, or non-existence of wharfs, lights, and other topographic detail of particular importance to navigation which affect the chart, is discussed in the descriptive report. (Par. 26; and 66 g,n)
- ✓3. Ground surveys by ~~plane table, sextant~~, or theodolite have been used to supplement the photographic plot where necessary to obtain complete information, and all such surveys are discussed in the descriptive report. (Par. 65; and 66 d,e)
- ✓4. Blue-prints and maps from other sources which were transmitted by the field party contain sufficient control for their application to the charts. (Par. 28).
~~Yours submitted~~

3. All station points are exactly marked by fine black dots.
4. Closely spaced lines are drawn sharp and clear for printing.

5. Reasonable symbols for similar features are used.

7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground.