

5360

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Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton., Director

State: Texas

DESCRIPTIVE REPORT

PHOTO
Topographic } Sheet No. 5360
~~ENGINEERING~~

LOCALITY

Matagorda Bay

Liveoak Bay
Gulf to Cany Creek

193 5

CHIEF OF PARTY

T. M. Price, Jr., Ensign

applied to chart 1283
" " " 1284

Dec 7, 1937
Jan. 1938

J. G. L.
J. G. L.

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

REG. NO. 5360

PHOTO
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. 10

REGISTER NO. 5360

State Texas

General locality Matagorda Bay

Locality ~~Gulf to Cany Creek~~ Liveoak Bay

Scale 1/20000 Date of survey Photographs Dec. 19, 1933.

Compilation, December 1934--February 1935

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

Compilation Party #20, Gorpus Christi, Texas

Chief of party Ensign T. M. Price, Jr.

Surveyed by See data sheet in descriptive report

Inked by J. L. Smith

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated November 7, 1933.

Remarks: Compilation of aerial photographs L-37 to L-59

Sheet reduced to scale and printed by photo-lithographic process

- NOTES ON COMPILATION -

- SHEET NO. 10 -

PHOTOS. NO. L-37 to L-59

DATE OF PHOTOGRAPHS: Dec. 19, 1933

TIME: 10:47 to 11:18 A.M.

	BY	DATE
SCALE FACTOR (0.96) (sgd)	<u>C. H. Rulfs & J. L. Smith</u>	6/16/34
PROJECTION (sgd)	<u>J. L. Smith</u>	6/21/34
PROJECTION CHECKED (sgd)	<u>W. H. Burwell</u>	6/23/34
CONTROL PLOTTED (sgd)	<u>J. L. Smith</u>	6/26/34
CONTROL CHECKED (sgd)	<u>J. R. Reynolds</u>	6/27/34
TOPOGRAPHY TRANSFERRED (sgd)		
TOPOGRAPHY CHECKED (sgd)		
SMOOTH RADIAL LINE PLOT (sgd)	<u>J. L. Smith</u>	12/ 5/34
DETAIL INKED (sgd)	<u>J. L. Smith</u>	2/27/35
AREA OF DETAIL INKED	62.5	sq. statute miles.
LENGTH OF SHORE LINE OVER 200 m.	17.0	statute miles.
LENGTH OF SHORE LINE UNDER 200 m.	76.2	statute miles
LENGTH OF SHORE LINE OF LAKES	93.0	statute miles
GENERAL LOCATION: <u>Matagorda Bay</u>		
LOCATION: <u>Gulf to Cany Creek</u>		
DATUM STATION: <u>IRENE, 1934</u>	LATITUDE: 28°-44'-44.471"	METERS 1369.0 ✓
	LONGITUDE: 95°-45'-48.619"	1319.2 ✓
	(position from field computations)	

- COMPILER'S REPORT -

for

- PHOTO TOPOGRAPHIC SHEET FIELD NO. 10 (REG. NO. 5360) -

1. GENERAL INFORMATION

This sheet was compiled from photographs taken by the U. S. Army Air Corps, using a Fairchild T-3A camera No. 31-76. The photographs used on this sheet are L-37 to L-59 inclusive. The flight for the L-photographs was made on December 19, 1933 from 10:47 to 11:18 A.M.

The tide in Matagorda Bay is small and the only difference in its stage which would affect the interpretation of the aerial photographs would be caused by strong continued winds. The water level at the time these photographs were taken is considered normal.

2. CONTROL

(a) Sources

Triangulation by F. L. Gallen, 1931.

Triangulation by 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. Former C. & G. S. stations and the U. S. E. stations that were recovered were incorporated in the 1931 ~~on~~ 1934 schemes of triangulations.

Supplemental control points were established by the field inspection party. These stations are objects, such as grass spots, points of land etc., which showed up well on the photographs and were located in order to fill in the gaps between triangulation stations and better control certain photographs. The positions of these stations were determined by theodolite three point fixes from triangulation stations or short traverses from triangulation stations and fourth order accuracy was obtained. No recoverable marks were established for these stations, and since they were not needed as hydrographic stations they have not been shown on this compilation.

They are as follows:

Hap--Latitude	28°-45'-07.407"	228.0 meters
Longitude	95°-41'-26.259"	712.5 meters

Bel-- Latitude	28°-44'-39.026"	1201.4 meters
Longitude	95°-42'-36.146"	980.8 meters

Several others which were used as control come within the limits of Sheet Reg. No. 5359 and are ~~located~~ ^{listed} in the descriptive report for that sheet.

None of these stations are recoverable.

2. CONTROL (COND'T.)

(b) Errors

No errors in control were found by the radial line plot on this sheet.

(c) Remarks

The two ~~temporary~~ hydrographic stations shown on this sheet were located on the photographs in the field by the hydrographic party and their positions were determined by radial plot. These stations are shown by standard black circles and are described on cover sheet, only.

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 plot of the L-flight was continued from sheet No. 5358 onto this sheet No. 5360 by joining the two sheets together, thereby assuring a perfect junction.

No unusual adjustments were required in making the plot for this sheet and good intersections were obtained. Radial points from Sheet Reg. No. 5361 and 5359 were transferred by proportional dividers to the east end of this sheet near the junctions. These points were not needed as control but were used as a check on the accuracy of the plots. Good agreement was obtained.

The photographs included on this sheet are remarkably free from tilt and are close to scale. The clarity of detail is also good.

(c) General Description of Topography and Interpretation

In addition to the "General Report of Matagorda and Adjoining Bays" by the field inspection party (filed with Descriptive Report Register No. 5351) the following notes are given to assist in the interpretation of this sheet.

The shore line is clearly defined by marsh grass with occasional short stretches of sand and shell beach for nearly the entire length of this sheet. However, in the section from approximately longitude $95^{\circ}45'$ to longitude $95^{\circ}43'$ the grass lands extend to the shore and there is a low bluff (approx. 2 ft. high) near the shore. This was not considered of sufficient prominence to indicate on the tracing.

The sand symbol where used inland indicates sand areas bare of grass. These are usually found along intermittent streams or former stream beds (as near Long. $95^{\circ}43.5'$, between Lat. $28^{\circ}44'$ and $47'$.)

3. COMPILATION (CONT'D.)

(c) (Cont'd)

The small shoal areas in the vicinity of Latitude $28^{\circ}-44'$ and longitude $95^{\circ}-48'$, which have been shown by ~~dotted lines~~, *dash Lines* were located from their appearances on the photographs alone and cannot be taken as representing the low water line, but only as an indication of shoal area.

The general topography of this region may be described as grass lands interspersed with marsh areas, the division line between the grass land and marsh usually being a strip of sand which shows up white on the photographs. From longitude $95^{\circ}-53'$ to longitude $95^{\circ}-45'$ the land along the shore is marshy with numerous small lakes scattered over it. In some cases the marsh areas extend inland for several miles. Rice is grown in the large cultivated area in the vicinity of latitude $28^{\circ}-47'$ and longitude $95^{\circ}-49'$.

The region between longitude $95^{\circ}-45'$ and longitude $95^{\circ}-39'$ is not so marshy and between Cany Creek and Live-oak Bayou north of latitude $28^{\circ}-47'$ there are numerous cultivated fields and heavily wooded areas.

The heavily wooded areas consist chiefly of oak trees. There are other varieties of trees scattered over this region. The "general tree and brush" symbol has been used to indicate all these growths. The maximum height of the trees in the heavily wooded area on this sheet probably does not exceed 30 ft. The height of trees increases further inland.

There are no roads of any great importance appearing on this sheet. The road symbols used indicate the importance rather than the type and material of the roads. A double dash line indicates the more traveled dirt roads. Trails are shown by a single dash line, as far as they can be distinguished on the photographs.

Large canals and ditches have been indicated by a double solid line and smaller canals and ditches by a single full line.

(d) Bridges

There are several small fixed wooden bridges on this sheet, the dimensions and clearance of which are of no importance since they cross only small streams which are not navigable.

There is a wooden swing highway bridge over Cany Creek near latitude $28^{\circ}-48'-40''$ and longitude $95^{\circ}-40'$. The clear height with swing closed at M. L. W. is 9.5 ft. and at H. W. is 4.0 ft. The clear width between piers is 51 ft. There is a timber trestle approach on the west end. This information was obtained from U. S. Engineers office at Galveston, Texas.

3. COMPILATION (CONT'D.)

(e) Information from Other Sources

The only source of information was that furnished by the field inspection party, except name sources as shown below and the above bridge data.

(f) Conflicting Names

(1) There are no names on this sheet conflicting with names shown on the U. S. C. & G. S. charts of this area except that the spelling of "Liveoak" has been changed from "Liveoak" to "Live-oak", which corresponds with Webster's dictionary. The U. S. Coast Pilot gives Live Oak. *Liveoak Appx. by D.G.M.*

(2) There are new names on this sheet and there are differences in the names of certain features on the ~~charts~~ of other organizations, *however, as indicated below. maps*

(3) "Boggy Creek"

The U. S. Geological Survey map of Texas gives "Big Boggy Creek".

The U. S. E. Intracoastal Waterway Survey, Section 8, Sheet No. 6 gives Big Boggy Bayou

"Boggy Creek" is recommended. (This occurs on Chart 1117 but not on chart 1283).

(4) "Boggy Bayou"

The U. S. E. Intracoastal Waterway Survey, Section 8, Index Sheet # 2 gives "Big Boggy Bayou".

The U. S. Geological Survey map of Texas gives "Liveoak Creek" as a name of this feature.

"Boggy Bayou" is recommended.

(5) Cany Creek

The U. S. Coast Pilot gives "Caney Creek".

"Cany Creek" is recommended as all maps available show it spelled without the "e".

(g) List of New Names

"Chinkapin Creek" *Chinquapin*

"Chile Mott Dam "

The above names were obtained from J. F. Culver, local surveyor, Wadsworth, Texas and E. L. MacDonald, owner of the land on which these features occur, Bay City, Texas.

4. COMPARISON WITH OTHER SURVEYS

This sheet is joined by sheet Reg. No. 5359 on the south and south east; by sheet Reg. No. 5358 on the west; and by sheet Reg. No. 5361 on the north east. The junction with sheets Reg. No. 5359 and 5358 is satisfactory. This sheet had not been completed when Sheet Reg. No. 5361 was submitted. The junction with this sheet and Sheet No. 5361 was marked on this sheet but in one place a change was made to sheet 5361 at the junction which was not transferred to this sheet. Therefore there may be

4. COMPARISON WITH OTHER SURVEYS (CONT'D.)

a slight discrepancy in the joining of Cany Creek at Lat. $28^{\circ}-49.5'$. If there is, the position on this sheet should be accepted as correct, since it is closer to the scale of the photographs and required less adjustment in tracing than for Sheet. No. 5361.

Junction checked and changed to agree photographs. H.H.

Surveys of this area were made by the U. S. Coast and Geodetic Survey about 1880 and 1897 (charts # 1283 and 1284) and the Intracoastal Waterway Survey, U. S. Engineers 1927-28 (section 8, sheets Nos. 4, 5, 6.). No detailed comparison was made to the U. S. E. surveys.

Comparison to Surveys of 1880 and 1897 (charts #1283 and # 1284, Sept. 1934 issue.)

(1) There have been no radical changes in the shore line included on this sheet. There is now an island shown ~~near chart # 1283, Sept. 1934 issue~~ at latitude $28^{\circ}-44'$ and Longi. $95^{\circ}-45'$. On chart # 1283, Sept. 1934 issue this is shown as a peninsula connecting with the mainland.

(2) Change in position of M. H. W. line where it crosses the following meridians, the change being measured along the meridian and not necessarily normal to the shoreline:

	Latitude ° ' "	Longitude ° ' "	Change, old to new. (meters)*
Near	28 43 00	On 95 52 00	No change
Near	28 44 00	On 95 50 00	+ 38
Near	28 44 00	On 95 48 00	- 208
Near	28 44 00	On 95 46 00	- 107
Near	28 44 00	On 95 44 00	- 62.0
Near	28 45 00	On 95 42 00	- 52.0
Near	28 46 00	On 95 40 00	- 132.0

* + = Accumulation; --recession.

(3) General Comparison

(a) On this sheet there are lakes shown near latitude $28^{\circ}-43'-20''$, longitude $95^{\circ}-52'-10''$ and near latitude $28^{\circ}-43'-50''$, longitude $95^{\circ}-50'-40''$, where only marsh is shown on chart # 1284.

(b) There is now no stream shown running into the bay near latitude $28^{\circ}-43'-30''$, longitude $95^{\circ}-51'-40''$.

(c) Numerous lakes are now shown in the vicinity of latitude $28^{\circ}-45'$ and longitude $95^{\circ}-49'$.

(d) Live-oak Bayou now connects with Lake Austin near latitude $28^{\circ}-46'-20''$ longitude $95^{\circ}-46'-10''$.

(e) There is now no small island just north of the large island near Latitude $28^{\circ}-43'-50''$ and longitude $95^{\circ}-45'-40''$.

4. COMPARISON WITH OTHER SURVEYS (CONT'D.)

(3) (Cont'd.)

(f) Lakes are now shown near latitude $28^{\circ}-47'-10''$, longitude $95^{\circ}-46'-30''$; latitude $28^{\circ}-45'-00''$, longitude $95^{\circ}-44'-30''$; latitude $28^{\circ}-45'-20''$, longitude $95^{\circ}-41'-30''$; which do not appear on previous charts.

(g) The layout of all roads, canals, ditches and trails should be revised.

(h) There is now a pier at Lake Austin near Latitude $28^{\circ}-46'-20''$, longitude $95^{\circ}-46'-10''$.

(i) Boggy Bayou is shown on this compilation as being an intermittent stream, except near its mouth.

5. LANDMARKS

There are no objects of sufficient prominence on this sheet to serve as landmarks. Day beacons in this area were not located by triangulation and could not be located on the photographs. These will be located later by the hydrographic party but will not be transferred to this compilation. *See review.*

6. RECOVERABLE OBJECTS

The following object is selected as a recoverable H and T station. It was located on the photographs by the hydrographic party and its position determined by radial plot. Since no description other than that given below was furnished for this object, it was not described on form 524.

	Lat.	meters	Long.	meters
Tin House	$28^{\circ}-45'$	+ 1456.6	$95^{\circ}-40'$	+ 368.8
(old sestern inverted)				

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. *See review for accuracy*

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. L. Smith
J. L. Smith

REVIEW OF AIR PHOTO TOPOGRAPHIC SURVEY T-5360

Scale 1:20,000

Comparison with Contemporary Topographic Surveys.

There are no contemporary topographic surveys in this area.

Comparison with Graphic Control Surveys.

There are no graphic control surveys in this area.

Comparison with Previous Topographic Surveys.

a. T-557 (1856) scale 1:20,000.

T-557 covers the eastern half of this survey. There have been numerous changes in this area since ^{T-557} ~~this survey~~ was executed. The northerly shore of Matagorda Bay has receded about 75 meters throughout the area from Dressing Point to the eastern limit of the sheet; the shore line around Liveoak Bay has receded about 25 meters.

The canals in the area near Cany Creek are no longer in existence.

T-5360 is adequate to supersede T-557 in all respects.

b. T-642 (1855-56-57) scale 1:20,000.

T-642 covers the western part of this survey. There have been numerous changes in this area since ^{T-642} ~~this survey~~ was made. The northerly shore of Matagorda Bay has receded from 25 to 100 meters in places. The western shore of Lake Austin has receded about 100 meters. Numerous new ponds have been shown in the marsh area at the western end of this survey.

T-642 shows the bluff symbol around the higher spots in the marshes. This has not been shown on this survey as there is no indication of bluffs and no mention in the field inspection report.

T-5360 is adequate to supersede T-642 in all respects.

Comparison with Contemporary Hydrographic Surveys.

There are no contemporary hydrographic surveys in this area, *in the office at this time. See addition on following page.*

Comparison with Chart 1283.

Chart 1283 covers the eastern part of this survey. For a detailed comparison with this chart see the descriptive report for T-5360. *(Preceding page?)*

Comparison with Chart 1284.

Chart 1284 covers the western part of this survey. For a detailed comparison with this chart see the descriptive report for T-5360. (*Preceding Page 7*)

Landmarks.

There are no landmarks on the charts in the area covered by this survey, and none have been recommended at this time.

Aids to Navigation.

The day beacons on the Intracoastal Waterway have not been shown. Chart letter 701 (1935) gives the location of these day beacons.
Also see below.

Remarks.

The degree of accuracy stated in "Recommendations for Further Surveys" is considered too high. A better estimate of this accuracy would be 0.3 to 0.5 mm. for intersected points and 0.3 to 0.8mm. for other data.

August 15, 1935.

H. L. Hawkins
H. L. Hawkins.

Grant G. Entine

H 5858 covers the water area on this survey. There is no conflict between this survey and H 5858. In addition to Chart letter No. 701 (1935), the day beacons on the Intracoastal Waterway are located on H 5858.

For shoal areas and reefs, see H 5858.

August 26, 1935.

H. L. Hawkins
H. L. Hawkins

B. G. Jones

REVIEW OF AIR PHOTO COMPILATION NO. 5360

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

Compiled by: See page 2
of descriptive report

Project: Party No. 20
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)
None transmitted
5. Differences between this compilation and contemporary ~~plane table and~~ hydrographic surveys have been examined and rectified in the field before forwarding the compilations to the office and are discussed in the descriptive report.
Comparison made only to the boat sheet which has not been completed at this time. *Hydro survey, which office.*
6. The control and adjustment of the photo plot are discussed in the descriptive report. Unusual or large adjustments are discussed in detail and limits of the area affected are stated. (Par. 12b; 44; and 66 c, h, i)
No unusual or large adjustments.
7. High water line on marshy ~~and mangrove~~ coast is clear and adequate for chart compilation. (Par. 16a, 43, and 44)

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Refer also to the pamphlet "Notes on the Compilation of Planimetric Line Maps from Five Lens Air Photographs."

8. The representation of low water lines, reefs, ~~coastal reefs and rocks~~, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41) *dashed*
Small shoals were ~~dotted~~ in outline from their appearance on the photographs only. No low water line obtained.
9. Recoverable objects have been located and described on Form 524 in accordance with circular 30, 1933; circular letter of March 3, 1933, and circular 31, 1934. (Par. 29, 30, and 57)
One recoverable object not described on Form 524. See report.
10. A list of landmarks was furnished on Form 567 and instructions in the Director's letter of July 16, 1934, Landmarks for Charts, complied with. (Par. 16d, e; and 60)
No landmarks.
11. All bridges shown on the compilation are accompanied by a note stating whether fixed or draw, clearance, and width of draw if a draw bridge. Additional information of importance to navigation is given in the descriptive report. (Par. 16c)
12. Geographic names are shown on the overlay tracing. The accepted local usage of new names has been determined and they are listed in the report, together with a general statement as to source of information and a specific statement when advisable. Complete discussion of place names differing from the charts ~~and from the U.S. Coast and Geodetic Survey~~ is given in the descriptive report, together with reasons for recommendations made. (Par. 64, and 66k)
13. The geographic datum of the compilation is N. A. 1927 and the reference station is correctly noted.
14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j)
Except as noted in report. *Junctions O.K. 8/10/35 H.L.H.*
15. The drafting is satisfactory and particular attention has been given the following:
 1. Standard symbols authorized by the Board of Surveys and Maps have been used throughout except as noted in the report.
 2. The degrees and minutes of Latitude and Longitude are correctly marked.

3. All station points are exactly marked by fine black dots.
4. Closely spaced lines are drawn sharp and clear for printing.
5. Topographic symbols for similar features are of uniform weight.
6. All drawing has been retouched where partially rubbed off.
7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground.

(Par. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48)

16. No additional surveying is recommended at this time.

17. Remarks:

18. Examined and approved;

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

19. Remarks after review in office:

Reviewed in office by: *Frank Kiskine* *B. G. Jones*

Examined and approved:

C. H. Green
Chief, Section of Field Records
L. O. Polk
Chief, Division of Charts

B. B. Borden
Chief, Section of Field Work
G. W. Hinde
Chief, Division of Hydrography
and Topography.