

5370

U. S. COAST & GEODETIC SURVEY
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Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: Texas

DESCRIPTIVE REPORT

Photo
Topographic
~~Hydrographic~~

} Sheet No. 5370

LOCALITY

Copano Bay

~~Arenas Bay~~

Port Bay

Southwest shores of Copano Bay

1935

CHIEF OF PARTY

T. M. Price Jr., Ensign

U. S. GOVERNMENT PRINTING OFFICE: 1923

5370

Applied to drawing of chart 1117. May, 1940 g.H.S.
Applied to chart 1285. May 1940 PBL
Applied to Chart 892-SC July 1969 JCR

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

REG. NO. 5370

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. 20

REGISTER NO. 5370

State Texas

General locality ~~Aransas Bay~~ Copano Bay

Locality ~~Southwest shores of Copano Bay~~ Port Bay

Scale 1:20,000 Date of ~~survey~~ Photographs March 19, 1934

Compilation February 1935

Vessel Army Air Corps Camera Five lens, Type T-3A No. AC-31-76

Chief of party T. M. Price Jr.

Surveyed by See data sheet in descriptive report

Inked by R. J. Moore Jr.

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 P-flight # 11 to 25, incl.,

Q-flight # 1 to 18 incl., R-Flight # 1 to 14 incl. Sheet reduced to scale and printed by photo-lithographic process.

- NOTES ON COMPILATION -

SHEET NO. 20

PHOTOS: NO. P-11 to P-25 incl.: Q-1 to Q-18 incl.: R-1 to R-14 incl.

Date of Photographs: March 19, 1934

TIME: (2:01 P.M. to 2:47)

	BY	DATE
SCALE FACTOR (0.97)	(Sgd) Ben Benson <i>Ben Benson</i>	10/17, 20, 27/34
PROJECTION	(sgd) T. M. Price Jr. <i>T. M. Price Jr.</i>	11/9/34
PROJECTION CHECKED	(sgd) V. L. Riehl <i>V. L. Riehl</i>	11/10/34
CONTROL PLOTTED	(sgd) R. J. Moore <i>R. J. Moore</i>	11/17/34
CONTROL CHECKED	(sgd) J. R. Reynolds <i>J. R. Reynolds</i>	11/20/34
SMOOTH RADIAL LINE PLOT	(sgd) W. H. Burwell <i>W. H. Burwell</i>	1/16/35
DETAIL INKED	(sgd) R. J. Moore <i>R. J. Moore</i>	3/18/35

AREA OF DETAIL INKED 80.2 sq. statute miles

LENGTH OF SHORELINE OVER 200m. 30.5 statute miles.

LENGTH OF SHORELINE UNDER 200m. 11.5 statute miles.

GENERAL LOCATION Copano Bay
~~ARANSAS BAY~~

LOCATION port Bay
~~SOUTHWEST SHORES OF COPANO BAY~~

DATUM STATION BAYSIDE 1931

Latitude $28^{\circ} 05' 22.229''$ (+ 684.3 meters)
Longitude $97^{\circ} 12' 50.139''$ (+1368.8 meters)
position from office adjusted list

COMPILER'S REPORT

for

PHOTO TOPOGRAPHIC SHEET FIELD NO. 20 (REG. NO. 5370)

1. GENERAL INFORMATION

This sheet was compiled from photographs taken by the U. S. Army Air Corps using Fairchild T-3A camera # 31-76. The photographs used are Nos. 11 to 25 P-flight made March 19, 1934 from 2:01 to 2:10 P.M.; photos # 1 to 18 Q-flight made March 19, 1934 from 2:20 to 2:27 P.M.; and photos # 1 to 14 R-flight made March 19, 1934 from 2:37 to 2:47 P.M.

The predictable tide range in Copano and Port Bays is too small to affect to a large extent the interpretation of aerial photographs of this scale. Apparently the tide was nearly low when the photos were taken.

2. CONTROL

(a) Sources

Triangulation By Lieut. F. L. Gallen 1931

Triangulation by Lieut. E. O. Heaton 1934

Star 1911 was incorporated in the 1934 triangulation. Port 1911 was adjusted for the N. A. 1927 datum. The control is on the N. A. 1927 datum. The field parties unadjusted positions were used for the 1934 triangulation. The difference between these and the final adjusted positions will not be plottable on the scale of this sheet.

The following theodolite three point fixes were made by the field inspection party with fourth order accuracy. They are all recoverable objects, and their position may be found by reference to Form 524: Cast, Sub, Rincon.

(b) Errors

The radial plot showed Windmill T, 1934 as first located to be in error. When it was reobserved it checked the plot. Another windmill was located by 3 point fix which did not fit the plot. Station Sub was selected near by and its position checked the plot. There were several cases of stations being slightly mislocated on the photographs in which case it was necessary to relocate them in the field.

(c) Remarks

For station Club, Star and Mail nearly ^{by} definite points were selected to use as control instead of the station itself. These were ~~correct~~ ^{located} by traverse and azimuth from the triangulation station and plotted graphically on the sheet.

3. COMPILATION

(a) Method

The usual radial line method of plotting from 5 lens photographs was used in the compilation of this sheet. There was no departure from standard practice.

(b) Adjustment of Plot

In general the photographs covered by this sheet appear to be free from excessive tilt and scale fluctuation and the radial plot required no unusual adjustments. While the control for the 3 flights of this

3. COMPILATION (CONTINUED)

(b) Adjustment of Plot (continued)

sheet was originally weak, it was strengthened by the introduction of 3 point fix locations. Furthermore it is safe to say that the final plot is strong because the considerable overlap between all the flights showed agreement. The junction of the P and Q flights was very satisfactory. A little difficulty was found in joining up the Q and R flights, because the control was weaker here, but final intersections obtained were good. Since the adjoining sheets are of the same scale, the plots from these sheets were carried through by joining the sheets directly together and in this way full advantage was taken of all effective control. The principal points of photographs 10, 11 and 12 of R flight fall in Copano Bay but sufficiently close to the shore so that no difficulty from this was experienced.

(c) General Description of Topography and Interpretation.

In addition to the General Field Inspection Report filed with sheet Reg. No. 5369 the following is submitted as an aid in interpreting the detail on this sheet as the compiler assisted in the field inspection.

The area covered by this sheet can properly be divided into three distinct sections. The First section is that which lies to the south-east of Copano and Port Bays. The Second section is that which is bounded by Port Bay, Copano Bay, and the Aransas River. The Third section is that which lies to the north of the Aransas River.

First Section -- Between the shoreline and the main road traversing this section, the country is a low flat area characterized by a number of intermittent lakes and ponds and large marsh areas. From station Club southwest on either side of said road are numerous dome shaped mounds two to four feet high and some twenty to forty feet in diameter. These mounds are either grass covered or else hold a cluster of small mesquite trees and weeds. They are most numerous between the road and Port Bay and between Lat. $27^{\circ} 58'$ and $28^{\circ} 01'$. This area is often wet or soggy because of its low area there is little runoff of the rainfall. The area between station Club and Rattlesnake Point is accurately represented by the symbols except that paralleling the North shore of Rattlesnake Point is a sand and shell ridge varying in height from 4 to 10 feet. This does not give the appearance of a bluff from the bay however and was not shown for that reason. Southeast of the improved road is dense brush consisting chiefly of Mesquite and scrub oak trees. The trees seldom reach twenty feet in height. Throughout this First Section are scattered cultivated areas. The Oak Grove School near Lat. $27^{\circ} 59'$ and Long. $97^{\circ} 08'$ has been moved and does not occupy the position shown on the U. S. G. S. Quadrangle Sheet.

Second Section -- This entire area is under cultivation unless otherwise indicated by symbols and by notes on the cover sheet. This area is very flat and does not average more than 5 feet above sea level. Along the Copano Bay shore is a bluff from 3 to 8 feet high. The roads are all dirt roads and in general are well kept up though hardly passable in very wet weather. The ditches shown are often 4 to 6 feet deep; only the most important ditches along the roads were shown. The sand and mud flats near the mouth of the Aransas River are covered at extreme high water. They are shown by widely spaced sand symbol and the boundary between these flats is marked either by the bluff symbol or rows of closely spaced sanding dots.

Note regarding shoal areas:

The new hydrographic survey of this area has not yet been received in this office. The shoal areas as shown by the field draftsman ~~but~~ are approximate only and are subject to change. The review of the hydrographic survey, should give greater weight to the hydrographic party's delineation of these shoals.

At a later printing, this compilation can be modified to correspond with any changes made in this connection.

Ralph M. Berry
August 13, 1935.

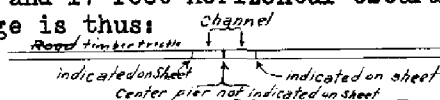
3. COMPILATION (CONTINUED)

(c) General Description of Topography and Interpretation (continued)

Third Section -- This area is heavily wooded and partly intermittently cultivated. It is about twenty five feet above sea level and contains the town of Bayside. The bluff shown along the Copano Bay shore from station Bayside 1931 to the northeast is very steep and from fifteen to twenty feet high. From station Bayside 1931 to the west the bluff has a considerable flatter slope but is nevertheless quite pronounced. The wooded areas of this section consists chiefly of Mesquite and scrub oak trees and all that type of growth generally classed as chaparral. Just north of the town of Bayside are several ravines 8 to 12 feet deep. All streets in Bayside are graded dirt except the shell street which was part of the Woodsboro-Rockport road.

(d) Bridges

On this sheet there are a number of small fixed wooden bridges over marsh areas, deep ditches, and ravines. All are indicated by the standard bridge symbol but only a few are labeled as they are of no importance to navigation. There is a fixed timber trestle causeway across the mouth of Port Bay. Over the channel, near the middle, of there are two spans, each having a horizontal clearance of twenty-two feet and a vertical clearance of nine feet at M. H. W. These clearances were obtained by measurements of the field inspection party and are shown thus on the cover sheet. The U. S. Engineers office at Galveston gives a vertical clearance of 11 feet at M. L. W. and 10 feet at M. H. W. and 17 feet horizontal clearance. The span of the bridge is thus:



A telephone line and electric power line cross Port Bay almost parallel with the causeway and just to the south of same. The clearances ^{are} greater than that of the causeway.

At the west end of Copano Bay and the mouth of the Aransas River is a timber trestle causeway which has been partially destroyed by a hurricane. Most of the wooden piles remain but there is very little left of the superstructure. The former clearances of the former channel span given by the U. S. Engineers office is as follows: vertical clearance is 11 feet at M. L. W. and 10 feet at M. H. W. and a horizontal clearance of 16 feet.

(e) Shoals

No low water line has been delineated on this sheet, and shallow water where it parallels a straight shoreline has not been indicated. Where the photographs have indicated extensive shallow water areas of such position that assistance could be afforded the hydrographic party by showing their approximate outline, this has been done by the use of a light dash line about $2\frac{1}{2}$ m.m. long. Dotted outline represents a shoal probably bare at low water. *See opposite page.*

(f) Information from other sources

No information was used except that furnished by the photographs and the field notes thereon, except clearances given above.

(g) Conflicting Names

Puerto Bay is more commonly known as Port Bay. The name "Puerto" appears on U. S. C & G. S. chart # 1285 and # 1117. However the name Port is used on the U. S. G. S. Quadrangles and is the accepted local name for the bay. This is further borne out by the name "Port Bay Hunting and Fishing Club" which is located nearby.

3. COMPILATION (CONTINUED)

(g) Conflicting Names (continued)

The name St. Mary does not refer to a town as indicated on chart # 1117 but merely designates a locality.

Chiltipin creek is thus named on the San Patricio county map and by the State Highway Department, and this spelling is recommended. It is spelled "Chilipin" on chart #1117 and "Chillipin" on the U. S. G. S. State of Texas map.

(h) List of New Names

Port Bay as explained above.

Rattlesnake Point, ^{Italian} Indian Bend, and Swan Lake are names furnished by local authorities. Checks were obtained on each of these names.

(i) Junction with Adjoining Sheets.

This sheet is joined by the following photo topographic sheets:

On the Northeast by Sheet Reg. No. 5395

On the Southeast by Sheet Reg. No. 5369

On the South by Sheet Reg. No. 5367

Junctions with these adjoining sheets have been compared and are satisfactory, except as follows: The road at the junction with sheet Reg. No 5367 (which has already been submitted) may be slightly different. If so, the position on this sheet should be accepted as correct since the plot at this point was later strengthened.

The trail at the junction with sheet Reg. No 5395 at Lat. 28° 03.8' and Long. 97° 06.8' was not carried through on this sheet as it becomes indistinct.

The dashed outline of shallow water as indicated off the shore of Copano Bay on Sheet Reg. No. 5395 was not carried through on this sheet at the junction because it was not thought to be of sufficient importance to indicate here.

4. COMPARISON WITH OTHER SURVEYS

Surveys of this area were made by the U. S. C. & G. S. in 1891 (chart No. 1285) and in part by the U. S. G. S. in 1923 (Aransas Pass Quadrangle)

(a) Detail Comparison with Chart # 1285

Change in position of M. H. W. line of the shoreline where it crosses the following meridians and parallels.

Latitude		Longitude		Change, old to new (meters)*	Remarks
	o ' "		o ' "		
Near	28 07	On	97 11	0	Copano Bay
On	28 06	Near	97 12	+40	
On	28 05	Near	97 13	+13	
Near	28 04.4	On	97 13	+115	
Near	28 04	On	97 12	+76	
Near	28 04	On	97 11	-77	
Near	28 02	On	97 09	+20	
Near	28 02	On	97 08	-53	
Near	28 03	On	97 08	-35	
Near	28 04	On	97 07	+47	

* + Accumulation; - Recession

The above differences were measured along a given meridian or parallel from the nearest parallel or meridian and do not necessarily give changes normal to the shoreline.

4. COMPARISON WITH OTHER SURVEYS (CONTINUED)

(b) General Comparison with Chart # 1285

1. The chief change is in the number and shape of the marsh islands at ~~the~~ Rincon De La Cera.
2. There are piers now at Bayside and at the Port Bay Club.
3. The Aransas River entrance has changed considerably, and there is now ~~the remains~~ ^{remains} of a timber trestle causeway ~~across~~ the mouth of the river.
4. There is a causeway now across the entrance of Port Bay.

5. LANDMARKS

The large white hotel building at Bayside has two chimneys and the one nearest the center of the building has been selected and was established by the radial plot. Submitted on Form No. 567. This is the same landmark probably as formerly shown on chart # 1285 although there is 50 meters difference in position.

6. RECOVERABLE OBJECTS

The following recoverable H & T stations were submitted on form No. 524:

1. Northeast corner of Shed	Lat. 28	04.0	Long. 97	12.0
2. East Corner of House	Lat. 28	06.8	Long. 97	11.2
3. "Sub" (road intersection)	Lat. 27	59.5	Long. 97	11.3
4. "Rincon" (road & ditch intersection)	Lat. 27	59.7	Long. 97	15.0
5. "Cast" (windmill)	Lat. 28	04.4	Long. 97	17.5

Nos. 3, 4, 5, are theodolite three point fix stations. No 4 falls outside the photographing limits and No. 5 falls just off the sheet.

7. RECOMMENDATION FOR FURTHER SURVEYS

The compilation of this sheet is believed to have the probable error of 5 meters in well defined detail of importance for charting and of 8 meters for other data. It is understood that the width of roads, etc. may be slightly exaggerated in order that the detail may be kept clear and the running together of lines avoided. The size of buildings may also be slightly exaggerated.

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)

R. J. Moore
R. J. Moore

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Corpus Christi, Texas

March 20, 1935

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:

Sheet Reg. No. 5370
Field No. 20

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

DESCRIPTION	POSITION						METHOD OF DETER- MINATION	CHARTS AFFECTED	
	LATITUDE			LONGITUDE					DATUM
	°	'	D.M. METERS	°	'	D.P. METERS			
BUILDING (chimney near center of white hotel)	28	05	-855.8 +981.1	97	12	- 410.8 +1227.2	N. A. 1927	Photo Comp.	# 1285
This should be substituted for same landmark formerly shown as Hotel in slightly different position.									
Inspected from Copano Bay									
Checked by <u>W. M. Crook</u>									

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.

Date. June 27, 1935

Chart No. 1117 & 1265

Under investigation. Q

[illegible]

REVIEW OF AIR PHOTO COMPILATION T-5370

(1:20,000)

Comparison with Graphic Control Surveys.

There are no graphic control surveys in this area.

Comparison with Previous Topographic Surveys.

T-827 (1861)(1:20,000)

T-827 covers Mission Bay and the western end of Copano Bay.

From Mission Bay to Black Point, the two surveys are in agreement within 50 m.

At the mouth of Aransas River, extensive changes have taken place, amounting to nearly one-half mile in the worst places. This condition, however, can readily exist in a delta region such as this.

From Aransas River to Rattlesnake Point, the general outline is in agreement although the positions vary as much as 300 meters. This change is generally recession.

The end of Port Bay is not shown.

The compilation is adequate to supersede T-827 in all points of detail within the area common to the two surveys.

T-838 (1861)(1:20,000)

T-838 covers Rattlesnake Point.

The position at Rattlesnake Point and the islands agree within 20 meters on the Copano Bay side.

On the Port Bay side the islands have extended 100 meters.

The compilation is adequate to supersede T-838 in all points of detail within the area common to the two surveys.

Comparison with Recent Hydrographic Surveys.

The hydrographic surveys in this area are under way but have not as yet been received in this office.

Comparison with chart 1285.

A very complete and detailed comparison with chart 1285 is given on pages 6 and 7 of Descriptive Report for T-5370.

Landmarks and Aids to Navigation.

One landmark is submitted with the compilation. See page 7 of the preceding report.

Respectfully submitted,

Ralph M. Berry

Ralph M. Berry

August 13, 1935.

W. B. Jones

Approved
K. T. Adams

REVIEW OF AIR PHOTO COMPILATION NO.5370

Chief of Party: T. M. Price Jr.

Compiled by: See page 2
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.
Hydrographic surveys have not been made at the date of this review.
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, coral reefs and rocks,~~ and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41)
Boundaries of shallow water outlined by dashes, and shoals ^{usually} ~~are~~ ^{bare probably at low} ~~water,~~ by dotted outline. No low water 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)
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)
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)
Only those over navigable streams have clearances^{given}. Bridges over non-navigable streams have not all been labeled.
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. G. S. Quadrangles 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 the report.
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.

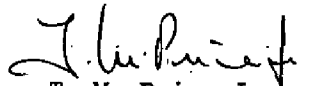
3. All station points are exactly marked by fine black dots.
4. Closely spaced lines are drawn sharp and clear for printing.
5. Topographic symbols for similar features are of uniform weight.
6. All drawing has been retouched where partially rubbed off.
7. Buildings are drawn with clear straight lines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

19. Remarks after review in office:

Reviewed in office by: *Ralph M. Berry* ~~Beggs~~

Examined and approved:

K. T. Adams
Asst Chief, Section of Field Records
~~Division of Charts~~
L. O. Solbert
Chief, Division of Charts

B. Borden
Chief, Section of Field Work
G. H. Hulse
Chief, Division of Hydrography
and Topography.