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U. S. COAST AND GEODETIC SURVEY
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Form 504
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 DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY
 R. S. FATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic } Sheet No. V
Hydrographic }

State Texas

LOCALITY
Matagorda Bay Island
Pass Cavallo

193 4

CHIEF OF PARTY
E. O. Heaton

4903

applied to sheet 1284 Feb, 1938 (through T-5045 to which
applied to sheet 1285 May 1940 - PBL J.C.L.
this sheet has been transferred

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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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. V

REGISTER NO. **4903**

State Texas

General locality Matagorda Bay Island

Locality Pass Cavallo

Scale 1:10,000 Date of survey May, 19 34

~~Vessel~~ Project: HT-118

Chief of party Earl O. Heaton

Surveyed by J. W. Somers

Inked by W. T. White

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, Nov. 16, 1933, 19 _____

Remarks: _____

DESCRIPTIVE REPORT
TO ACCOMPANY TOPOGRAPHIC SHEET V
PASS CAVALLO
Scale 1:10,000
Project: HT-118
Surveyed May 1934

E. O. Heaton, H. & G. Engr., Chief of Party
J. W. Somers, Topographer
Instructions dated Nov. 5, 1932, Nov. 16, 1933

General Description of the Coast:

The Gulf shore of Matagorda Peninsula on this sheet is a sand beach extending inshore to the foot of a chain of sand dunes. These dunes vary in height from 5 ft. at Decros Pt. to about 15 ft. near station Gar. The tops of these dunes are partly covered with grass.

The NW shore of Matagorda Peninsula is low sandy prairie and intermittent marsh which extends SE to the chain of sand dunes mentioned above. This area is covered with a heavy growth of salt grass and weeds. There are two substantial stands of salt cedars on this shore.

Pelican Island is a low, barren sand island in Pass Cavallo, bare about 1 ft. at mean high water. It is visible only a short distance off shore.

The eastern extremity of Matagorda Island, between the old Life Saving Station and Matagorda Lighthouse, is a wide low sand flat extending inshore to a chain of grass covered sand dunes. These dunes are from 5 ft. to 25 ft. high. The highest dunes are near the old Life Saving Station. The Gulf shore west of Long. $96^{\circ} 25'$ is a sand beach about 200 meters wide. Between the Gulf beach and the Matagorda Lighthouse is an area of low sand dunes and intermittent marsh.

Matagorda Lighthouse is built on a low sand ridge. There are two dwelling houses and a small store-house near the light tower. This group of buildings is surrounded by a hedge-row of salt cedars.

The west shore of Pass Cavallo and Matagorda Bay northward from the old Life Saving Station to the Port O'Connor jetties is all low marsh land and sand flats broken up by several bayous.

The Life Saving Station (abandoned) is partly surrounded by high sand dunes and salt cedar bushes but the cupola of the building makes an excellent landmark from the Gulf.

The Saluria Coast Guard Station on the south bank of Saluria Bayou is readily seen in the Gulf off Pass Cavallo east of Long. $96^{\circ} 24'$.

The Matagorda Lighthouse is the first object near Pass Cavallo that can be seen when making land from any direction in the Gulf. The Life Saving Station can next be seen when making land from any direction in the Gulf.

The Pass Cavallo channel follows closely the shore of Matagorda Island and can be easily distinguished by day. A beacon at Lat. $28^{\circ} 23.9'$, Long. $96^{\circ} 23.8'$ marks the SE side of the entrance to Saluria Bayou. The Coast Guard maintains a day beacon on the southern point of Big Bayou Flat, but its position is shifted as the flat changes. Boats proceeding to points in Matagorda Bay are cautioned to pass about $\frac{1}{4}$ mile to not more than one mile east of this beacon.

The entrance to the boat slip and docks at Port O'Connor is marked by a 6" cedar post at Lat. $28^{\circ} 25.97'$, Long. $96^{\circ} 24.84'$. Boats going to the Port O'Connor docks must pass to the westward of this post. This channel will not accommodate boats drawing more than 4 ft.

Caution is advised when sailing near the wreckage of West Shoal Lighthouse. One member of this structure, an ¹⁸ inch pipe, bare 7 ft. at M.H.W., marks this foul area. The wreckage of East Shoal Lighthouse is not visible and it has probably been washed away. The hydrographic sheets will ascertain whether or not this is true.

9ft at MLW
H-5864(1934-5)

Landmarks:

- Matagorda Lighthouse
- Saluria Coast Guard Station
- Life Saving Station (abandoned)

Character of Control Used:

Sheet V is controlled by four second order triangulation stations; Cavallo, Matagorda Lighthouse, Cupola of Life Saving Station (abandoned), Cupola of Saluria Coast Guard Station, and two third order triangulation stations; Port O'Connor Beacons 1 and 3. Intermediate control by plane-table traverse.

Dates on Triangulation Stations:

Two dates are shown on this sheet for stations which have been recovered. The date of original establishment is shown in parenthesis and the last date of occupation is also shown. This was done because the datum was changed in 1927. The last date is the one which represents the plotted position.

Closing Errors of Traverse and Methods of Adjustment:

Traverses	Closing Error (meters)	Distance (miles)
Port O'Connor Bn. 3 to Cupola Saluria C. G. Sta.	5	2.7
Cupola Saluria C.G.Sta. to Cupola Life Saving Sta.	9	3.2
Cupola Life Saving Sta. to Matagorda Lighthouse	7	3.5
Cavallo to Cavallo, circuit on Matagorda Peninsula	10	5.0

All traverse adjusted as prescribed in Special Publication #144.

Survey Methods:

The topography on this sheet was determined by a plane-table survey, except for some detail on Matagorda Peninsula and west of Long. 97° 25'. This detail was taken from an unfinished photo-topographic sheet of this area which was compiled expressly for the purpose of transferring detail from the photographs to the plane-table sheet.

Changes in Off-lying Objects:

Pelican Islands formerly consisted of four islands, located near the center of Pass Cavallo $1\frac{1}{2}$ miles SW of Decros Pt. Only one island remains and it has changed entirely in shape. The shape of this island is subject to frequent changes.

Comparison with Other Surveys:

The shore line on this sheet was compared with that of chart 1284 which was taken to represent the latest previous survey. The following conditions were found. Considerable recession has taken place along these shores except in two places where the shore has built out noticeably.

The following scaled comparisons have been adjusted for differences in the 1906 Triangulation Datum and the 1927 Datum, and show the changes in shore line:

On Matagorda Peninsula:

At Long. 96° 21' the Gulf shore has receded 125 m. northward.

At Lat. 28° 24' the Gulf shore has receded 310 m. westward.

At Long. 96° 22' the Gulf shore has receded 270 m. northward.

At Lat. 28° 24' Decros Pt. has built out 90 m. westward.
 At Long. 96° 22' the bay shore has receded 250 m. southward.
 At Lat. 28° 25' the bay shore has receded 110 m. eastward
 At Long. 96° 21' the bay shore has not changed.
 On the west shore of Matagorda Bay and Pass Cavallo:
 At Lat. 28° 26' the bay shore has receded 70 m. westward.
 At Lat. 28° 25' " " " " " 170 m. " ✓
 At Lat. 28° 24' " " " " " 550 m. " ✓
 At Lat. 28° 23' " Pass Cavallo shore has receded 250 m. westward.
 At Lat. 28° 22' " " " " " not changed.
 At Lat. 28° 21' " " " " " built out 200 m. eastward.
 At Lat. 28° 20.7' " " " " " 350 m. " ✓
 On the Gulf shore of Matagorda Island:
 At Lat. 28° 20' the Gulf shore has receded 130 m. westward.
 At Long. 96° 24.5' the Gulf shore has receded 680 m. northward.
 At Long. 96° 25' " " " " " 500 m. " ✓

Junctions have been compared with photo-topographic sheets compiled by the party of Ensign T. M. Price and were found to be satisfactory. The Registry numbers of these sheets are: 5351, 5352, and 5364. ✓

Geographic Names:

- (1) The word Saluria on the chart should represent the name of a locality ✓ and not a village as now shown.
- (2) McHenry Bayou is known locally as Saluria Bayou and the latter name is ✓ recommended for charting.
- (3) Pelican Islands should be changed to read Pelican Island. ✓

Changes in Shore Line:

Changes in the shore line on this sheet are mainly due to wave action ✓ during the tropical storms which are quite frequent in this locality. See paragraph on comparison with chart 1284 for the amount of erosion. ✓

Character of Marsh:

The marsh lands on the west shore of Matagorda Bay and Pass Cavallo are composed of clay and sand. It is generally firm underfoot even when covered ✓ by water. About 50% of this marsh is covered by M.H.W. The marsh on Matagorda Island between the Lighthouse and the Gulf shore is intermittent and not flooded by M.H.W. The marsh area on Matagorda Peninsula is also intermittent and less than 10% is covered by M.H.W. ✓

List of Plane-table Positions:

- Mast, flagpole ✓
- Ed, U.S.ED. B.M.
- Beacon 2, Port O'Connor Bn. 2
- Post, 6 inch post channel marker, Lat. 28° 25.9', Long. 96° 24.8'
- Big, telephone pole N side Big Bayou ✓
- Tel, " " S " " " "
- Beacon, McHenry Bayou (Saluria Bayou.)
- Club, Windmill
- Pipe, 8" pipe remains of wrecked West Shoals Lighthouse.
- Beacon 1, Barroom Bay Bn. 1 (Stump)

Inspected and approved:

Earl O. Heaton
 Earl O. Heaton,
 Chief of Party, C. & G.S.

Respectfully submitted,

J. W. Somers
 J. W. Somers,
 Observer.

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Corpus Christi, Texas

February 23, 1935, 193

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:

Carl O. Heaton

Earl O. Heaton

Chief of Party.

DESCRIPTION	POSITION						METHOD OF DETERMINATION	CHARTS AFFECTED	
	LATITUDE			LONGITUDE					DATUM
	°	'	D.M. METERS	°	'	D.P. METERS			
1,2,*MATAGORDA, Δ Matagorda 3 Lighthouse, 1934	28	20	473.3	96	25	700.5	N.A. 1927	Triangu- lation 1007, 1117, 1284 ✓	
1,2, C.G., Δ cupola, Saluria 3 C.G. Station, 1934	28	23	1724.0	96	24	663.9	" "	1117, 1284 ✓	
1 2,3 CUPOLA, Δ Life Saving Station, 1906	28	21	677.8	96	24	689.0	" "	" " ✓	
Checked and verified by: <i>J.H. B. Wmeyer</i>									

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, flagstaffs and like objects are not sufficiently permanent to chart.

U.S. GOVERNMENT PRINTING OFFICE: 1934 25379

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
~~DELETIONS~~
LANDMARKS FOR CHARTS

Corpus Christi, Texas

Feb. 23, 1935, 193

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:

Earl O. Heaton

Earl O. Heaton

Chief of Party.

Delete

DESCRIPTION	POSITION					METHOD OF DETERMINATION	CHARTS AFFECTED
	LATITUDE		LONGITUDE		DATUM		
	°	'	°	'			
1. St. L. B. & M. Ry. at Port O'Connor.							
2. Tank, Lat. 27° 26.5', Long. 97° 24.6'							
3. Bn., Big Bayou, Lat. 27° 25.4', Long. 97° 24.3'							
4. " " " Lat. 27° 25.3', Long. 97° 24.2'							
5. " " " Lat. 27° 25.0', Long. 97° 23.8'							
6. " " " Lat. 27° 24.4', Long. 97° 23.6'							
7. Village symbol "Saluria", Lat. 27° 23.8', 97° 24.2'							

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.

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REVIEW OF TOPOGRAPHIC SURVEY No. 4903 (1934) *Field No. V*Title (Par. 56) *Pass Cavello, Matagorda Island, Texas*Chief of Party *E. O. Heston* Surveyed by *J. M. Somers* Inked by *W. J. White*Ship *Shore party*
Proj. HT 118 Instructions dated *Nov. 5, 1932* Surveyed in *May 1934*.
Nov. 16, 1933

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.) ✓
The entire area is low and no elevations are shown.
5. The delineation of -contours-formlines- is satisfactory. (Par. 49, 50.) *No contours are shown.*
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*
7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.) ✓
The shoreline is very unstable in some places, shifting with every storm. The representation is that existing at the time of the survey.
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. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.)
To lat. 28-24 long. 96-24. RFB Apr. 12, 1936 (see H-5864(1934-5))
Remainder examined May 8, 1936 RFB
10. The span, draw and clearance of bridges are shown. (Par. 16c.) ✓
No bridges are shown.
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.) ✓
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.) *There is no evidence that the declination was checked.* ✓
18. The geographic datum of the sheet is *North American 1927* and the reference station is correctly noted. (Par. 34.) ✓
19. Junctions with contemporary surveys are adequate. ✓
The same area is covered by airphoto compilation T-5045 (1933-4).
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 good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.) ✓
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 *R. J. Christman April 13, 1936.*
Inspected by P. L. Johnston A.S.

Examined and approved:

E. H. Green

Chief, Section of Field Records

Chief, Section of Field Work

Chief, Division of Charts

Chief, Division of Hyd. and Top.