

9214

9214

Diag. Cht. No. 1298

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey TOPOGRAPHIC

Field No. Ph-36(48)E Office No. T-9214

LOCALITY

State TEXAS

General locality LAGUNA MADRE

Locality GREEN ISLAND

194 / 52

CHIEF OF PARTY

G.E. Morris, Jr., Chief of Party

H.A. Paton, Baltimore Photogrammetric Office

LIBRARY & ARCHIVES

DATE Sept 28-53

DATA RECORD

T -9214

Project No. (II): Ph-36(48)E

Quadrangle Name (IV): Green Island.

Field Office (II): Brownsville, Texas

Chief of Party: George E. Morris, Jr.

Photogrammetric Office (III): Baltimore, Maryland

Officer-in-Charge: Hubert A. Paton

Instructions dated (II) (III): 14 February 1949

8 June 1949
26 July 1949
28 July 1949
24 February 1950

Copy filed in Division of
Photogrammetry (IV)
Office Files

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:20,000

Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): 1.000

Date received in Washington Office (IV):

NOV 15 1950 -manus
NOV 22 1950 -Report

Date reported to Nautical Chart Branch (IV): NOV 21 1950

Applied to Chart No. 897

Date: Nov 1951

Date registered (IV): Oct 29, 1952

Publication Scale (IV): 1:24,000

Publication date (IV):

Geographic Datum (III): N. A. 1927

Vertical Datum (III): MSL

Mean sea level except as follows:
Elevations shown as (25) refer to mean high water
Elevations shown as (5) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III): GREEN, 1913

Lat.: 26° 23' 33.845" (1041.6m) Long.: 97° 19' 24.971" (692.1m)

Adjusted
~~Unadjusted~~

Plane Coordinates (IV): Lambert Grid

State: Texas

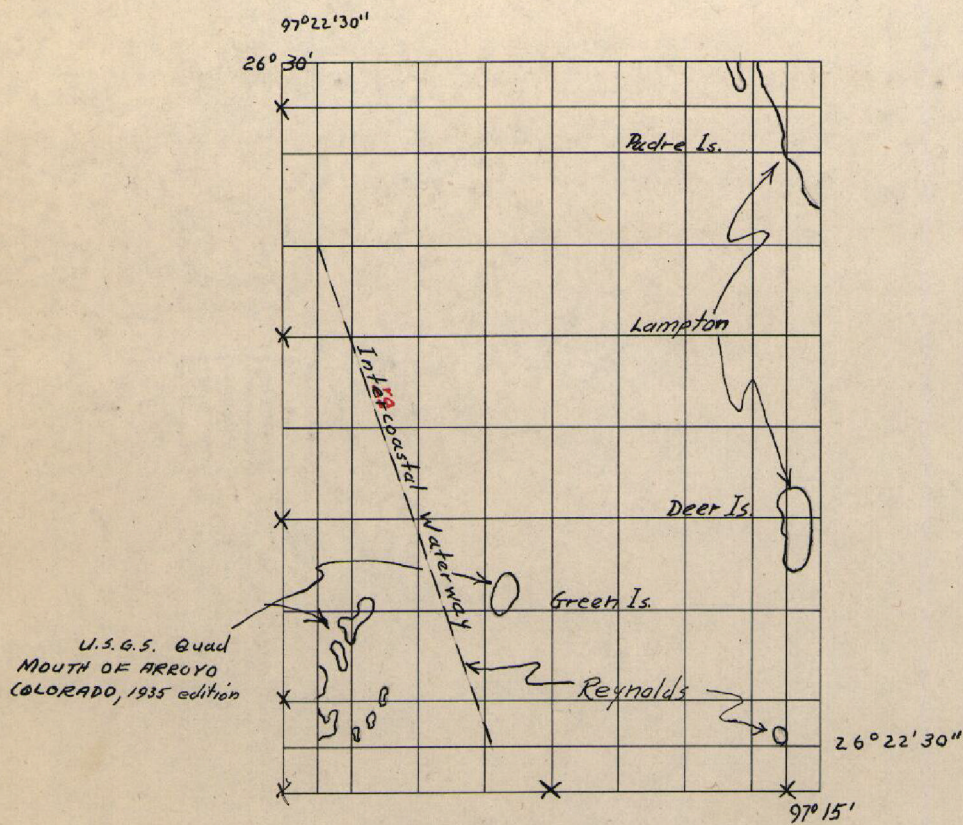
Zone: South

Y= 265,705.38

X= 2,385,099.14

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office, or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.



Areas contoured by various personnel
(Show name within area)
(II) (III)

DATA RECORD

Field Inspection by (II): **W. H. Nelson**
G. B. Torbert
W. M. Reynolds
B. F. Lampton, Jr.
Planetable contouring by (II): **B. F. Lampton, Jr.**
W. M. Reynolds

Date: **Jan & June 1950**
August 1950
July 1950
July 1950
Date: **Jan 1950**
August 1950

Completion Surveys by (II): *W. H. Shearouse*

Date: *25 Feb. 1952*

Mean High Water Location (III) (State date and method of location): **Field Inspection, Aug. 1950**

Projection and Grids ruled by (IV): **T.L.J.**

Date: **9/18/50**

Projection and Grids checked by (IV): **H.D.W.**

Date: **9/18/50**

Control plotted by (III): **F. J. Tarcza**

Date: **9/25/50**

Control checked by (III): **B. Wilson**

Date: **9/26/50**

~~Radial Plot or Stereoscopic~~
~~Control extension~~ by (III): **F. J. Tarcza**

Date: **10/18/50**

Stereoscopic Instrument compilation (III):
Planimetry
Contours

None

Date:

Date:

Manuscript delineated by (III): **B. Wilson**

Date: **11/14/50**

Photogrammetric Office Review by (III): **R. Glaser**

Date: **11/14/50**

Elevations on Manuscript **R. Glaser**
checked by (II) (III):

Date: **11/14/50**

USC&GS nine lens camera, focal length 8 1/4"
 Camera (kind or source) (III): USC&GS single lens type "O" camera, focal length 6"

Number	Date	PHOTOGRAPHS (III) Time	Scale	Stage of Tide
48-0-1460 to 48-0-1463 incl.	12-8-48	1453	1:20,000	No periodic tide
48-0-1466	12-8-48	1504	1:20,000	<i>* See Remarks</i>
48-0-1523	12-9-48	1057	1:20,000	
25739	5-4-50	1409	1:20,000	
25740	5-4-50	1410	1:20,000	
25793	5-4-50	1526	1:20,000	

(see REMARKS for additional photograph)

Reference Station:

Subordinate Station:

Subordinate Station:

Washington Office Review by (IV):

Final Drafting by (IV):

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): 2 1/2 approx

Shoreline (More than 200 meters to opposite shore) (III): 24

Shoreline (Less than 200 meters to opposite shore) (III): 3

Control Leveling - Miles (II): 5.0

Number of Triangulation Stations searched for (II): 3

Number of BMs searched for (II): 0

Number of Recoverable Photo Stations established (III): none

Number of Temporary Photo Hydro Stations established (III): none

Remarks:

Diurnal

Ratio of Ranges	Mean Range	Spring Range
1.0	1.0	1.4
0.9	0.9	1.3

Date: *15 May, 1952*

Date:

Date:

Date:

25794

5-4-50

1527

1:20,000

** In the Laguna Madre area, the periodic tide is negligible; the variation in water level depends principally on the wind.*

Summary T- 9214

Project Ph-36(43) consists of fifty-two quadrangles at 1:20,000, each 7.5 minutes in latitude and longitude, covering the Gulf Coast of Texas and the Intracoastal Waterway from Aransas Bay to Brownsville and the Mexican Border. Adjoining the project to the north is a series of shoreline surveys in Part IV of Project Ph-14(46).

Information concerning Ph-36(43) in its broader aspects will be included in a project completion report to be compiled at the conclusion of the review of all surveys in this project.

Twenty-six of the quadrangles in this project are topographic surveys and are to be published at 1:24,000 scale by the Geological Survey. The other twenty-six quadrangles are planimetric surveys. Of these, nineteen are to be used as bases by the Geological Survey for the compilation of 7.5 minute topographic quadrangles and will not be published as planimetric maps. The remaining seven, T-9175, T-9176, T-9177, T-9181, T-9189, T-9204, and T-9206, will be published as planimetric maps.

Cloth-backed lithographic prints of the original map manuscripts at compilation scale and the descriptive reports for all maps in this project will be filed in the Bureau Archives. Cloth-backed copies of the published topographic quadrangles at 1:24,000 scale will also be filed.

All special reports except the Geog. Names Report will be filed in the Project Completion Report.

48. GEOGRAPHIC NAME LIST

Cameron County .

Commissioner Precinct No. 4 (Cameron County)

Commissioner Precinct No. (Willacy County)

*precincts have been
omitted from map manuscript.
in accordance with USGS
topographic instructions.*

Deer Island .

Green Island .

Gulf of Mexico .

Intracoastal Waterway

Laguna Madre .

Padre Island .

Willacy County .

Names approved

7-30-51

a. j. w.

50.

PHOTOGRAMMETRIC OFFICE REVIEW

T- 9214

- 1. Projection and grids h
- 2. Title h
- 3. Manuscript numbers h
- 4. Manuscript size h

CONTROL STATIONS

- 5. Horizontal control stations of third-order or higher accuracy h
- 6. ~~Recoverable horizontal stations of less than third-order accuracy (topographic stations)~~ _____
- 7. Photo hydro stations _____
- 8. Bench marks _____
- 9. ~~Plotting of control fixes~~ _____
- 10. Photogrammetric plot report h
- 11. Detail points h

ALONGSHORE AREAS

(Nautical Chart Data)

- 12. Shoreline h
- 13. Low-water line h
- 14. ~~Rocks, shoals, etc.~~ _____
- 15. ~~Bridges~~ _____
- 16. Aids to navigation h
- 17. Landmarks _____
- 18. Other alongshore physical features h
- 19. ~~Other along-shore cultural features~~ _____

PHYSICAL FEATURES

- 20. Water features h
- 21. Natural ground cover h
- 22. Planetable contours h
- 23. ~~Stereoscopic instrument contours~~ _____
- 24. Contours in general h
- 25. Spot elevations h
- 26. ~~Other physical features~~ _____

CULTURAL FEATURES

- 27. ~~Roads~~ _____
- 28. Buildings _____
- 29. ~~Railroads~~ _____
- 30. Other cultural features h

BOUNDARIES

- 31. Boundary lines h
- 32. ~~Public land lines~~ _____

MISCELLANEOUS

- 33. Geographic names h
- 34. Junctions h
- 35. Legibility of the manuscript h
- 36. ~~Discrepancy overlay~~ _____
- 37. Descriptive Report h
- 38. Field inspection photographs h
- 39. Forms h
- 40. Raymond Saluse Reviewer
- Joseph Steinberg Supervisor, Review Section or Unit

41. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT

42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

Compiler

Supervisor

43. Remarks:

2. AREAL FIELD INSPECTION

This quadrangle is located in Willacy and Cameron Counties.

A small portion of Padre Island in the northeast corner, Green Island in the south-central, a small island in the southeast corner, and a little of the mainland at the mouth of the Arroyo Colorado in the southwest corner, comprise the land area.

The Padre Island portion was completed as a whole; Green Island was done while recovering station GREEN, and the small area of mainland, in the southeast corner, was done with quadrangle T-9213().

The photography was of recent date and no difficulty was encountered interpreting the photographs. The photographic tones vary from white to black. The white tones are sand; the light gray is sand over mud; the gray is shallow water over mud with marine vegetation; and the black is scrub vegetation and deep water in the channel.

Field inspection is believed to be complete and adequate.

Field inspection was done on single lens ratio prints, Nos. 48-0-1462, 48-0-1465, 48-0-1467, and 48-0-1425. Also single lens contact prints Nos. 48-0-1523 and 48-0-1524.

3. HORIZONTAL CONTROL

The following aids to navigation were located by third-order methods by this party: CORPUS CHRISTI-PORT ISABEL LT 306 1949, CORPUS CHRISTI-PORT ISABEL LT 311 1949, CORPUS CHRISTI-PORT ISABEL LT 316 1949, and CORPUS CHRISTI-PORT ISABEL LT 321 1949. See " Special Report, Supplemental Third Order Control and Aids to Navigation, Project Ph-36(48), Baffin Bay to the Arroyo Colorado."

Stations GULF 1939 and STORM 1913 were reported lost.

Horizontal control was identified on single lens ratio print No. 48-0-1462.

4. VERTICAL CONTROL

A level line was run across Laguna Madre from USGS bench mark JBL 27 in quadrangle T-9217() to the small island in the extreme southeast corner of the quadrangle. The length of the line was approximately five miles and the closure was 0.05 foot. The line was run simultaneously with two instruments and was run in one direction only. No level points were established.

5. CONTOURS AND DRAINAGE

The only contouring done by this party was the spoil along the Intracoastal Waterway, Padre Island, and a small island in the south-east corner.

6. WOODLAND COVER

All woodland areas have been classified according to Photogrammetry Instructions No. 15, dated 16 June 1947.

7. SHORELINE AND ALONGSHORE FEATURES

See Review Report.
See "Special Report, Identification and Delineation of the Shoreline of Laguna Madre, Project Ph-36(48)."

There are no alongshore features.

8. OFFSHORE FEATURES

There are no offshore features.

9. LANDMARKS AND AIDS

There are no landmarks for nautical charts or aeronautical aids.

Chart Letter 899(50)
For aids to navigation, see "Special Report, Supplemental Third Order Control and Aids to Navigation, Project Ph-36(48), Baffin Bay to the Arroyo Colorado."

10. BOUNDARIES, MONUMENTS, AND LINES

See "Special Report, Boundaries, Project Ph-36(48), Baffin Bay to the Rio Grande."

11. OTHER CONTROL

None was established.

12. OTHER INTERIOR FEATURES

There are none.

13. GEOGRAPHIC NAMES

See "Special Report, Geographic Names, Project Ph-36(48), Port Mansfield (Red Fish Landing) to the Rio Grande."

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA

"Special Report, Supplemental Third Order Control and Aids to Navigation, Project Ph-36(48), Baffin Bay to the Arroyo Colorado", forwarded to the Washington Office 13 March 1950.

"Special Report, Identification and Delineation of the Shoreline of Laguna Madre, Project Ph-36(48)", to be submitted at a later date.

"Special Report, Geographic Names, Project Ph-36(48), Port Mansfield (Red Fish Landing) to the Rio Grande", forwarded to the Washington Office 6 June 1950.

"Special Report, Boundaries, Project Ph-36(48), Baffin Bay to the Rio Grande", forwarded to the Washington Office 8 June 1950.

Data, Quadrangle T-9215(), forwarded to the Washington Office 16 February 1950, on letter of transmittal Ph-36 Field 53.

Data, Supplemental Third Order Control, Aids to Navigation, and Form 567, forwarded to the Washington Office 13 March 1950, on letter of transmittal Ph-36 Field 56.

Data, Quadrangle T-9214(), forwarded to the Baltimore Office 16 August 1950, on letter of transmittal Ph-36 Field 89.

Submitted
8 August 1950

B. Frank Lampton, Jr.

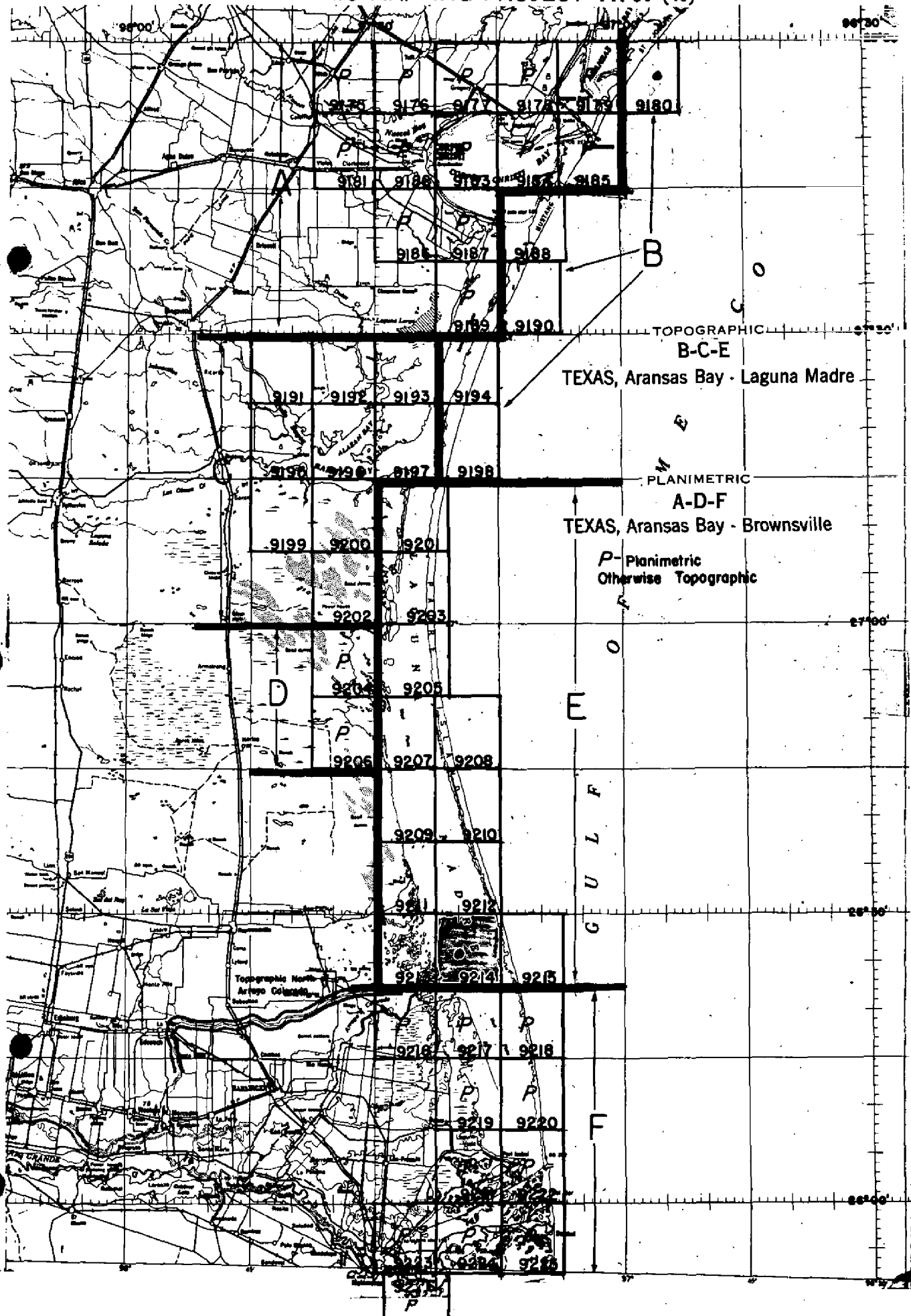
B. Frank Lampton, Jr.
Cartographic Survey Aid

Approved
16 August 1950

George E. Morris, Jr.

George E. Morris, Jr.
Chief of Party

TOPOGRAPHIC AND PLANIMETRIC MAPPING PROJECT PH-36 (48)



COMPILATION REPORT

T-9214

The photogrammetric plot report covering the area of this survey has been submitted with the descriptive report for Survey T-9215.

31. DELINEATION

The graphic method of compilation was used for this survey.

It is noted that Green Island was not contoured by the field party. The U.S.G.S. quadrangle, Mouth of Arroyo Colorado, verifies this to be an omission. *See Field Edit Report, item 53.*

32. CONTROL

Identification, density and placement of horizontal control was adequate.

33. SUPPLEMENTAL DATA

In addition to the data listed in item 14 of the field inspection report, the following supplemental data was used during the compilation of this survey:

1. C of E tactical map of Josephine Island, Texas, used for geographic names and comparison.
2. Geographic names standard on Nautical Chart No. 1288.
3. USGS quadrangle, Mouth of Arroyo Colorado, Texas, used for comparison.

34. CONTOURS AND DRAINAGE

As noted under item 31, no contouring was done on Green Island. This matter is left for disposition by the Washington Office Review Section or the Field Edit Party. *See item 31 above.*

35. SHORELINE AND ALONGSHORE DETAILS

The field inspection of the shoreline was adequate for the delineation of the manuscript.

The location of the low water line was based on data furnished by the field party.

36. OFFSHORE DETAILS

None.

37. LANDMARKS AND AIDS

Form 567 for four lights, newly established as triangulation stations on this survey, is being submitted with this report.

The wooden tower (ht. 30 ft.) on Green Island was not recommended as a landmark as it is partially obscured by trees. This information was submitted by the field editor on the field edit sheet.

38. CONTROL FOR FUTURE SURVEYS

No recoverable topographic stations or photo-hydro control was established in the area of this survey.

39. JUNCTIONS

Junctions with Surveys No. T-9213 to the west and with T-9215 to the east have been made and are in agreement.

Junctions with Surveys No. T-9212 to the north and with T-9217 to the south will be made when these manuscripts are completed.

Satisfactory junctions made.

40. HORIZONTAL AND VERTICAL ACCURACY

No comment.

41. BOUNDARIES

That portion of the Willacy County-Cameron County boundary line from the mouth of the Arroyo Colorado east to the Gulf of Mexico is in dispute. There is a difference of opinion as to the exact location of the mouth of the Arroyo Colorado. A thorough search for the markers of this boundary was promised by the field party in the special report on boundaries (Baffin Bay to the Rio Grande) with the results to be discussed in the field inspection report for T-9213. However, the field inspection report for T-9213 on the subject of boundaries, simply refers to the special report. *Statement is correct. The county line has been noted as approximate.*

The special report on boundaries does make it clear however, that the commissioner precinct lines in both Willacy and Cameron Counties are extremely indefinite as no monuments were ever set. *See item 48.*

42 through 45

Inapplicable.

46. COMPARISON WITH EXISTING MAPS

The manuscript was compared with the following:

- 1.) USGS Mouth of Arroyo Colorado quadrangle, scale 1:31,680, edition of 1935, reprinted in 1944.
- 2.) C. of E. tactical map of Josephine Island, Texas, scale 1:62,500, published in 1931.

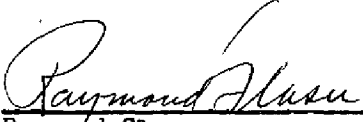
47. COMPARISON WITH NAUTICAL CHARTS

The manuscript was compared with chart No. 1288, scale 1:80,000, published 3-6-50 and corrected to 3-20-50.


Items to be applied to nautical charts immediately:
None.

Items to be carried forward:
None.

Respectfully submitted
16 November 1950


Raymond Glaser
Raymond Glaser
Cartographic Aid

Approved and forwarded
20 November 1950


Hubert A. Paton
Hubert A. Paton
Comdr., C&GS
Officer in Charge

Field Edit Report, T-9214

51. Methods.--The spoil areas and islands along the Intracoastal Waterway were inspected for delineation of storm and low water lines from a skiff and at low tide. The small area of Padre Island was edited by Jeep, travelling the beach.

Field edit information will be found on the Discrepancy Print, Field Edit Sheet and photographs 48-0-1461, 1462 and 25739.

52. Adequacy of compilation.--Compilation of the map manuscript will be adequate and complete after application of field edit information.

53. Map accuracy.--The contours on Green Island and the islets in the southwest corner, which were transferred from the U. S. Geological Survey quadrangle were tested and found to be substantially correct. Some washing or eating away of the shoreline was noted. Where the contours are shown outside the storm water line they should be pulled in to conform to the delineated storm water line. Nine-lens photograph number 25739 was used to show the accurate storm water line for the islets in the southwest corner.

The contoured spoil dunes along the Intracoastal Waterway were inspected and no appreciable erosion detected.

54. Recommendations.--None offered.

55. Examination of Proof copy.--It is recommended that the proof copy of the map be sent to Mr. Luther C. Goldman, Manager, Laguna Atascosa Wildlife Refuge, San Benito, Texas, for examination.

No discrepancies were noted in geographic names.

56. Laguna Atascosa Wildlife Refuge.--A small part of the refuge lies in the southwest corner. The limits should be transferred to the map manuscript from the map furnished by the Fish and Wildlife Service. This map is included in the Special Report on Boundaries, Baffin Bay to the Rio Grande. One monument in quadrangle T-9213 was recovered by the field edit party to assist in controlling the placement of the boundary line. *The boundary line (approx) has been indicated by the reviewer.*

Respectfully submitted,
25 February 1952

William H. Shearouse

William H. Shearouse,
Cartographer

For a more detailed study and investigation of this subject, refer to the correspondence and various reports to be attached to the completion report which will be submitted when the review of the surveys on this project has been completed.

The reasons and the decision reached in adopting the special treatment accorded to the shoreline delineation are discussed in the following pages of correspondence *and instructions attached to this report.*

Reviewed by:

Charles Hanavich
Charles Hanavich

Approved:

S. V. Griffith
Chief, Review Section *B*
Division of Photogrammetry

W. H. H. H. H.
Chief, Nautical Chart Branch
Division of Charts *CR*

L. W. Swanson
Chief, Div. of Photogrammetry

Carl O. Heston
Chief, Div. of Coastal Surveys *CR*

24 February 1950

To: Comdr. George E. Morris, Jr.
U. S. Coast and Geodetic Survey
Airport Branch Post Office
Brownsville, Texas

Subject: Instructions - Project Ph-36(48)-Field,
Supplement 1

Reference: Your letter of 1 February 1950. Subject:
Shoreline in the Laguna Madre and previous
correspondence on this subject.

1. These supplemental instructions cover the mapping of shoreline in Laguna Madre.

2. Where the mean high-water line is definite and can be readily distinguished on the ground, it shall be identified on the photographs and will be delineated on the manuscripts in the usual manner with a solid black line. As for example, at the southern end of the Laguna and along parts of the west shore the high-water line appears to be quite definite and subject to identification and delineation in the usual manner.

3. In the mud flat areas of Laguna Madre or in any part of the Laguna where the mean high-water line is indefinite and is not subject to accurate identification on the photographs, it shall be omitted and will not be mapped. In such areas the shoreline will be mapped as indicated in paragraph 4.

4. In the mud flat areas and in other areas where the mean high-water line is indefinite and is omitted as stated in paragraph 3, the storm water line shall be identified on the photographs and shall be mapped as the shoreline. The storm water line shall be shown on the manuscripts by a broken black line to represent the edge of land that is seldom, if ever, inundated. This line will be the limit of the buff tint on nautical charts.

5. In the mud flat areas and in other areas of the Laguna Madre where extensive areas are bare at low water stage, the approximate low-water line shall be indicated by the field inspection and shall be delineated on the

24 February 1950

manuscripts with a dotted line. This line will mark the limits of flats that are frequently inundated and will define the limits of the green tint on the nautical charts.

6. Each map manuscript on which any part of the shoreline is defined by the broken line specified in paragraph 4 shall carry the following note and this note shall be shown on the published maps:

Water stages in this area vary widely with meteorological conditions; the mean high-water line is extremely indefinite and has been omitted. The usual mean high-water line has been replaced with a broken line that defines the edge of land that is seldom, if ever, inundated. The dotted line represents the approximate mean low-water line and defines the edge of areas that are frequently inundated.

7. One flight of 1:20,000 nine-lens photographs will be flown along the center of the Laguna Madre as soon as aerial photography is started this spring, probably in late March or early April. The officer-in-charge of the photographic mission will contact you and will endeavor to fly these photographs when the water stage is either normal or below normal. These photographs will be taken especially for the field delineation of the approximate low-water line.

8. This office will consider favorably your estimates for the hire of a plane for field inspection of the photographs for delineation of the mean low-water line.

9. With reference to the last paragraph, page 2, of the reference letter, you are authorized to run cross section level lines or do any surveying you consider economically justifiable for delineating the approximate mean low-water line on the photographs. You should keep in mind that the line to be mapped is an approximate mean low-water line for charting purposes and that it is not the intent of these instructions that the exact mean low water contour be mapped. If relatively stable high water conditions occur, short sounding lines at intervals normal to the mean low-water line might be preferable to the level lines mentioned in your letter. It is assumed that signals from opposite shores of the Laguna Madre would be visible for this purpose and that soundings from a skiff might serve the purpose as well as the level lines.

Comdr. Geo. E. Morris

-3-

24 February 1950

10. Reference should be made to the ~~Fumble~~ Gil Company map and other tested survey data in sketching the approximate mean low-water line on the photographs. The low water contour will not be copied directly from such maps but will be compiled from the approximate line shown on the field inspection photographs.

11. Please do not hesitate to write to the office if you have further questions regarding these instructions.

/S/ L. O. COLBERT

Director

REVIEW REPORT T-9214
Topographic
15 May 1952

62. Comparison with Registered Topographic Surveys:

1476b	(1879-80)	1:20,000
1477a	(1879-80)	1:20,000
6704b	(1939)	1:20,000

A recession of about 80 meters in the shoreline along the Gulf coast was noticed. Inland, in the Laguna Madre area, there were noticeable changes along Padre Island. The Intracoastal Waterway has been constructed since the old surveys.

The previous topographic surveys, which are listed above, are superseded for nautical charting by the new map T-9214.

63. Comparison with Maps of Other Agencies:

Mouth of Arroyo Colorado Quadrangle (Cameron Co.), Edition 1935, Reprint 1944, 1:31,680.

Josephine Island, Texas Quadrangle, Edition 1931, 1:62,500

There were noticeable changes inland along Padre Island. The Intracoastal Waterway does not appear on these old maps.

64. Comparison with Contemporary Hydrographic Surveys:

None

65. Comparison with Nautical Charts:

Chart No. 1288, 15 January 1951, 1:80,000

Pronounced shoreline changes were noticed along Padre Island in the Laguna Madre Area.

66. Adequacy of Results and Future Surveys:

In the Laguna Madre area the water stages vary widely with meteorological conditions. In view of this, it was decided to omit the high-water line where it is indefinite and unmarked by visible evidence on the ground, and in its stead to indicate by a broken line symbol the approximate limits of areas which were subject to inundation. This decision was arrived at mainly for these reasons:

1. The difficulty encountered in identifying the MHW line from photographs of the Laguna Madre area and of other similar areas throughout the project.
2. It was considered impractical to resolve this problem by extensive leveling.

Excerpt from Bureau letter of April 26, 1950 to Mr. Nelson Jones, Humble Oil & Refining Company.

You are correct in your contention in paragraph 1 of page 2 of your letter "that the mean high water line is never indefinite where sufficient work has been done to determine it in accordance with accepted practice", but for the purposes for which our surveys are intended, it is only necessary generally to delineate a line which approximates the mean high water line. In accordance with this understanding, the following changes are being made in statements 1, 2, and 4 quoted under those numbers on the first page of your letter.

1. Where the high water line is indicated by definite differences in the terrain and can be readily distinguished on the ground, as in the southern end of Laguna Madre and along parts of the west shore, it shall be shown in the usual manner with a solid black line.
2. In the mud flat areas, or in any part of the Laguna madre where the high water line is not indicated by differences in appearance of the terrain, the high water line shall be omitted and will not be mapped. In these areas the storm water line shall be mapped as a broken black line to represent the edge of land that appears seldom, if ever, to be inundated, except perhaps in violent storms. This line will be the limit of the buff tint on nautical charts.
4. Each map on which the storm water line is shown shall carry the following note:

Water stages in this area vary widely with meteorological conditions; where the high water line is very indefinite it has been omitted. The usual high water line has been replaced with a broken line to indicate the edge of land which appears to be seldom, if ever, inundated except perhaps in violent storms. The dotted line represents the approximate low water line and the edge of areas usually inundated.

It must be emphasized that for the purposes of the nautical charts an approximation to mean high water is all that is needed for the guidance of the mariner, and this so-called high water line is estimated by the topographer from the physical appearance of the beach and the stage of the tide at the time the survey is made. Those using our charts must keep this limitation in mind, particularly if they are to be used for purposes for which the charts are not intended.

C
O
P
Y

April 30, 1951

Memorandum

To: Atlantic Region Engineer
Central Region Engineer

From: Chief Topographic Engineer (RT-4)

Subject: Coast Survey manuscripts covering recent surveys
on the southern Texas coast.

The following information should be noted by your cartographers for use when subject manuscripts are received from the Coast and Geodetic Survey for drafting and publication by the Geological Survey. Manuscripts covering the Laguna Madre areas (see the Lopena Island and Saltillo Ranch 15-minute maps) will be among the first deliveries from the South Texas project area of Coast and Geodetic Survey.

In a recent conference with Coast Survey personnel and Mr. Wilson of Humble Oil Company, some of the unusual features characterizing these areas were discussed. It appears that the mean high water line (our normal shoreline) cannot be determined in the Laguna Madre area and others of like character. Our old maps, and the new C&GS compilations, delineated as shoreline the limits of occasional inundation. It is now recognized that this line should be otherwise designated to avoid the implication that much of the Laguna Madre area is of a normal tideland nature. Actually most of this area is known as the Laguna Madre Flats--an essentially mainland feature. Except for a very small sector which Humble Oil mapped on a large scale (with 0.2 foot contour interval) the actual line of mean high water is indeterminate within feasible costs. The problem therefore resolves itself to one of an editorial nature, to devise some means of presenting the available facts in understandable form, and to convey the actual conditions properly for general map use.

The consensus recommendation is that of limiting the blue tint in the Laguna Madre area, and others of similar nature, to the low water line. The limits of occasional inundation (shown on our old maps and the C&GS manuscripts as normal shoreline) should be delineated by broken line on the dark blue drawing and should be described in the legend as noted below. This is an identifiable feature on the ground, and as such is an essential item of map content.

The treatment recommended herewith will pose a minor problem in occasional spots where the normal high waterline (shore) line is dropped (or changes to the line limiting occasional inundation) in estuaries from the Gulf. We understand that the low water line will closely parallel the shoreline in such cases and the blue

tint would therefore lack a bounding line only for a tenth of an inch or so.

Question was also raised concerning the relative propriety of the generic terms island vs potrero for specifically named isolated segments above the limits of occasional inundation. This question will be resolved by field check soon to be made by USC&GS and we should use the terms that will be indicated on their final compilations. Note attached copy of letter of April 24 from the Humble Oil Company to the Coast and Geodetic Survey.

The unusual conditions noted above will call for a marginal note on maps so affected, such as the following:

Water stages vary with meteorological conditions. Approximate limits of occasional inundation shown by broken blue lines where mean high water (normal shore line) is undetermined for lack of visual evidence.

s/ Gerald FitzGerald
Chief Topographic Engineer

C
P
T

June 7, 1951

Mr. S. W. Oberg
Chief Engineer
Humble Oil & Refining Co.
Post Office Box 2180
Houston 1, Texas

Dear Mr. Oberg:

Careful consideration has been given to the several suggestions contained in your letters of June 27, 1950, March 20, 1951, and April 24, 1951, relative to the symbolization, notations, and nomenclature to be used on manuscript topographic maps and nautical charts of the Coast and Geodetic Survey covering the Laguna Madre area of Texas, or similar areas elsewhere.

In the light of these suggestions and the conferences had with your representatives, this Bureau is prepared to adopt the following procedures relative to these matters:

A. SYMBOLIZATION FOR MANUSCRIPT TOPOGRAPHIC MAPS
(These are prepared as black and whites only)

(1) A solid heavy black line will be used for the high-water line where this feature is definite and marked by visible evidence on the ground.

(2) Where the high-water line is indefinite and is not marked by visible evidence on the ground, a broken line will be used to indicate the approximate inshore limits of areas subject to inundation.

(3) A dotted line will be used to represent the approximate low-water line.

B. SYMBOLIZATION FOR NAUTICAL CHARTS

(1) Where the high-water line has been delineated on the topographic map by a solid heavy black line, it will be so shown on the nautical charts.

(2) Where the high-water line has not been delineated on the topographic map, a light broken line will be used on the charts to indicate the approximate inshore limits of areas subject to inundation.

(3) The low-water line will be shown by a dotted line.

(4) Inshore of (1) or (2) above, a bluff tint will be used to show land above high water.

(5) Between (1) or (2) above and the low-water line, a green tint will be used.

(6) Offshore of (3) the area will be left blank or a blue tint will be used.

C. SYMBOLICATION FOR QUADRANGLE MAPS

It is the understanding of this Bureau that the U. S. Geological Survey will limit the blue tint on the quadrangle maps to the low-water line for the areas where the high-water line is indefinite. In such cases the area inshore of the low-water line will be left untinted or will be symbolized by a fine black stippling.

D. NOTATIONS TO BE USED

(1) On Manuscript Topographic Maps.--The following notation will be used on the manuscript topographic maps where the high-water line is omitted:

Note:

"Water stages in this area vary widely with meteorological conditions. The high-water line has been omitted where it is indefinite and is not marked by visible evidence on the ground. The broken line indicates the approximate inshore limits of areas subject to inundation. The dotted line represents the approximate low-water line."

(2) On Nautical Charts.--No notations regarding the omission of the high-water line or the nature of the broken line will be shown on the published chart. It is considered that the color symbolization provided for under section A above will sufficiently designate the character of the area.

(3) On Quadrangle Maps.--It is the understanding of this Bureau that the U.S. Geological Survey will place a notation in the margin of the map covering this area substantially the same as given in D (1) above but in an abbreviated form.

Regarding other notations suggested in your letters of June 27, 1950, and March 20, 1951, for use on our manuscript topographic maps and nautical charts, to the effect that "This map (or chart) is not intended for use as evidence of boundaries or property ownership," I regret that we cannot comply with this request. As was stated in my letter of October 10, 1950, it is the Bureau's desire to have its surveys and charts correctly interpreted by those having occasion to use them. It is also our desire to have them serve a maximum usefulness. While their primary purpose is to promote safety in navigation, we know from experience that they have a great many collateral uses. They have been used many times in the past in boundary disputes as evidence of the condition of our coastline as of a given date, or to show the successive changes (both natural and artificial) that have taken place in an area over a period of years. We would not want to

circumscribe their uses. The limitations that must be placed upon our surveys and charts are set out in the pamphlet titled "Coast and Geodetic Survey Data--An Aid to the Coastal Engineer," a copy of which was previously sent to you. I trust you will understand our position in this matter.

E. NOMENCLATURE

This office is cognizant of the importance of using correct geographic names on its surveys and charts, and special efforts are taken by our field parties and in our office investigations to arrive at the most probably correct name. Where published names differ from well-established local usage, our field parties are instructed to obtain verification from at least three local authorities. This was the case with the names that were placed on the advance prints of topographic maps T-9203 to T-9208, inclusive, that were sent to you.

The comments contained in your letter of March 20, 1951, as well as in the several letters received from interested parties, throw new light on the nomenclature problem of this area. In view of the conflicting information, a reevaluation is required of the correctness of the tentative names adopted by this Bureau.

It is our established practice to submit all names (generic or specific) of a conflicting nature to the U. S. Board on Geographic Names for final settlement. This Board is charged with responsibility for deciding all name conflicts. The Federal agencies are required to conform to the decisions of the Board. All of the information that has been received thus far, including letters, maps, etc., will be furnished to the Board. It might be mentioned that in 1943 the Board approved the name Lopeno Island, rejecting the form Potrero Lopena.

Should you wish to submit additional information to the Board, you may send it to the U. S. Board on Geographic Names, Department of the Interior, Washington 25, D. C. Pending final decision by the Board, conflicting names will be appropriately indicated on our topographic maps.

I wish to assure you of our full cooperation in these matters. It was indeed a pleasure to have been able to meet personally with representatives of your company. If I may be of further service to you, please do not hesitate to call on me again.

Very truly yours,

s/ R.F.A. Studts
Rear Admiral, USCGS
Director

History of Hydrographic Information
Quadrangle T-9214
Laguna Madre - Vicinity of Green Island, Texas

Hydrography was applied to the manuscript of this quadrangle in accordance with Division of Photogrammetry general specifications dated 18 May 1949.

Soundings at mean low water datum originate with the following:

USC&GS, Nautical Chart
897, 1:40,000, Temporary aid proof dated 5-28-52

Hydrography compiled by K.N. Maki and verified by
R. E. Elkins.

K. N. Maki

K. N. Maki
Div. of Photogrammetry
28 May 1952

