

13133

13133

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
COAST AND GEODETIC SURVEY

## DESCRIPTIVE REPORT

Type of Survey Shoreline (Photogrammetric)

Field No. \_\_\_\_\_ Office No. T-13133

### LOCALITY

State Puerto Rico

General locality Southwest Coast

Locality Puerto De Quayanilla

1966-1969

### CHIEF OF PARTY

Alfred C. Holmes, Director, AMC

### LIBRARY & ARCHIVES

DATE \_\_\_\_\_

## DESCRIPTIVE REPORT - DATA RECORD

T-13133

OBJECT NO. (II):

PH-6708

FIELD OFFICE (II):

None

CHIEF OF PARTY

PHOTOGRAMMETRIC OFFICE (III):

Atlantic Marine Center, Norfolk, VA

OFFICER-IN-CHARGE

Alfred C. Holmes, Director

INSTRUCTIONS DATED (II) (III):

OFFICE - Nov. 14, 1967

OFFICE - SUPPLEMENT 1 - Nov. 4, 1968

METHOD OF COMPILATION (III):

Wild B-8 Plotter

MANUSCRIPT SCALE (III):

1:5,000

STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):

1:2,500 Pantographed To 1:5,000

DATE RECEIVED IN WASHINGTON OFFICE (IV):

DATE REPORTED TO NAUTICAL CHART BRANCH (IV):

APPLIED TO CHART NO.

DATE:

DATE REGISTERED (IV):

JUN 1975

GEOGRAPHIC DATUM (III):

Puerto Rico

VERTICAL DATUM (III):

MEAN ~~LOW~~ HIGH WATER 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):

Verraco (PRS) 1966

LAT.:

17° 58' 09.90341" 305.3M

LONG.:

66° 48' 24.10343" 709.2M

☒ ADJUSTED☐ UNADJUSTED

PLANE COORDINATES (IV):

y = 49,547.86 Ft.

x = 370,248.19 Ft.

STATE

Puerto Rico

ZONE

1

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.

## DESCRIPTIVE REPORT - DATA RECORD

T-13133

FIELD INSPECTION BY (II): None		DATE:
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION): Air Photo Compilation - Date of Photography - Nov. 15, 16, 1966		
PROJECTION AND GRIDS RULED BY (IV): A. Bethea		DATE Oct. 10, 1968
PROJECTION AND GRIDS CHECKED BY (IV): L. F. Van Scoy		DATE Oct. 14, 1968
CONTROL PLOTTED BY (III): Aerotriangulation Points: - J. Steinberg Triangulation Stations: - C. E. Blood		DATE Nov. 12, 1968 Dec. 6, 1968
CONTROL CHECKED BY (III): Aerotriangulation Points: - B. Nicholson Triangulation Stations: - B. Wilson		DATE Nov. 12, 1968 Dec. 6, 1968
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III): I. I. Saperstein		DATE Oct. 31, 1967
STEREOSCOPIC INSTRUMENT COMPILATION (III): Wild B-8	PLANIMETRY By: R. R. White Reviewed By: L. O. Neterer	DATE Dec. 17, 1968 Dec. 17, 1968
	CONTOURS Inapplicable	DATE
MANUSCRIPT DELINEATED BY (III): R. R. White		DATE Jan. 20, 1969
SCRIBING BY (III): W. Gilbert		DATE 6/30/72
PHOTOGRAMMETRIC OFFICE REVIEW BY (III): Compilation: C. H. Bishop Field Edit: R. Smith Scribing and Stick Up: B. L. Barge		DATE Jan. 24, 1969 March, 1969 Sept. 24, 1971
REMARKS: Field Edit By: - R. E. Kesselring		DATE: Feb., 1969

## DESCRIPTIVE REPORT - DATA RECORD

T-13133

MERA (KIND OR SOURCE) (III):

U.S.C. &amp; G.S. Types "L" &amp; "M" Wild RC-8 &amp; RC-9

## PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
66-L-8485 and 8486	Nov. 16, 1966	09:00	1:15,000	+ 0.45 above MLW

## PREDICTED TIDE (III)

## DIURNAL

	RATIO OF RANGES	MEAN RANGE	RANGE
REFERENCE STATION: Galveston, Texas			1.4
SUBORDINATE STATION: Quanica, P.R.	0.50		0.3
SUBORDINATE STATION:			

WASHINGTON OFFICE REVIEW BY (IV): Bernard Kurs, AMC

DATE:  
Dec. 1972

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II):

1

RECOVERED:

1

IDENTIFIED:

None

NUMBER OF BM(S) SEARCHED FOR (II):

None

RECOVERED:

None

IDENTIFIED

None

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

None

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

None

REMARKS:

T-13133

COMPILATION RECORD	COMPLETION DATE	REMARKS
Alongshore Area For Hydro.	Jan. 1969	Superseded
Field Edit Applied; Manuscript Complete	March 1969	Superseded
Final Review	Dec. 1972	

67° 00'

66° 30'

## OFFICIAL MILEAGE FOR COST ACCOUNTS

JOB PH - 6708

778

Sheet No.

Sq. Mi.

Sheet-No.

Sq. Mi.

T-13118  
T-13119  
T-13120  
T-13121  
T-13122  
T-13123  
T-13124  
T-13125  
T-13126  
T-13127  
T-13128.

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9

T-13129  
T-13130  
T-13133  
T-13134  
T-13135  
T-13136  
T-13137  
T-13138  
T-13139  
T-13140  
Total

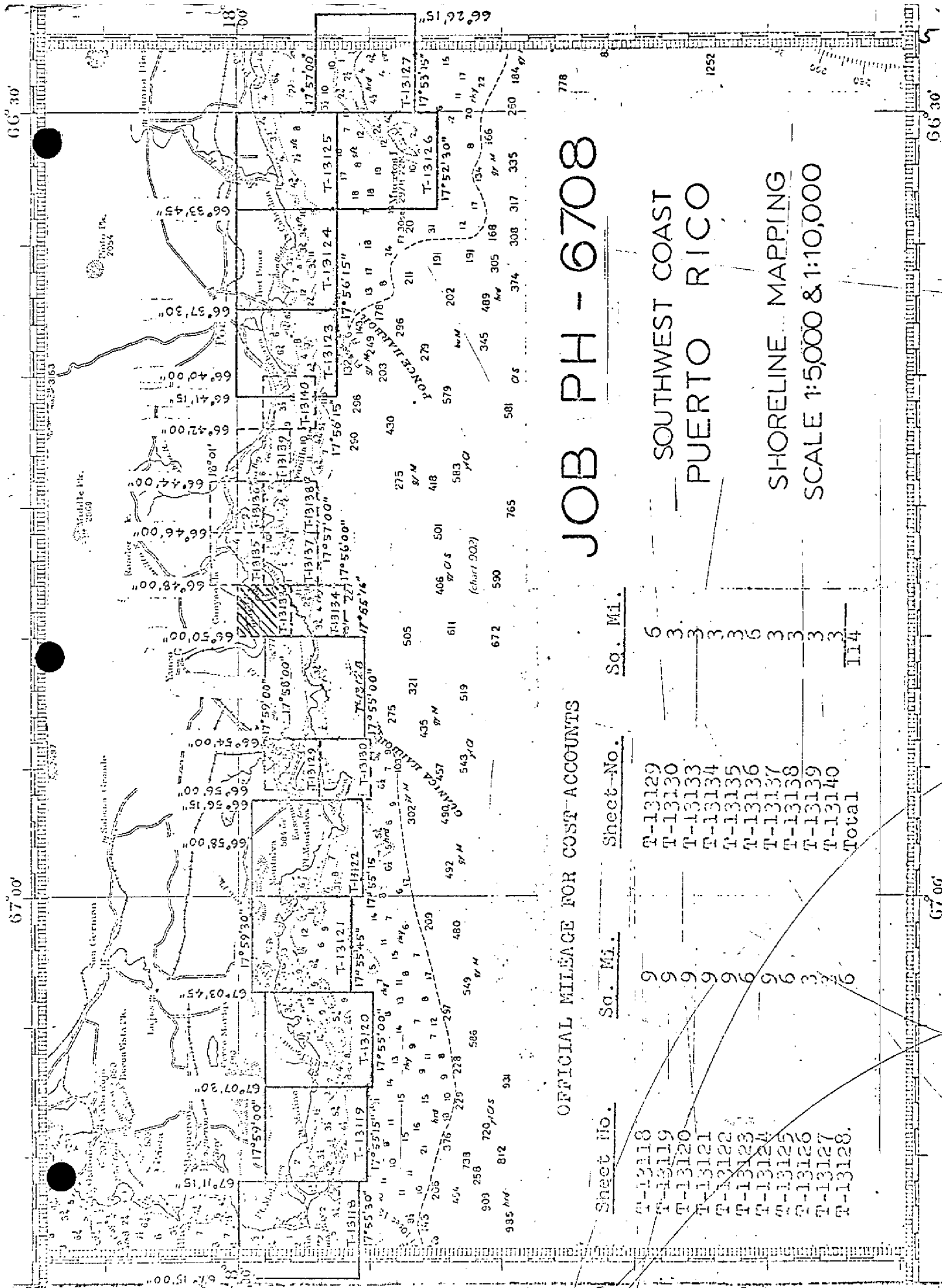
6  
3  
3  
3  
3  
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3  
3  
3  
3  
114

SOUTHWEST COAST  
PUERTO RICO

SHORELINE MAPPING  
SCALE 1:5,000 & 1:10,000

67° 00'

66° 30'



## SUMMARY TO ACCOMPANY

## DESCRIPTIVE REPORT

T-13133

Shoreline survey T-13133 is one of twenty-one similar surveys in project PH-6708. The project is on the south shore of Puerto Rico and extends from Cabo Rojo to Cayo Berberia. This survey covers a short section of shoreline at Cerro Toro and Puerto de Guayanilla.

There was no field work prior to the compilation of this manuscript.

Compilation was at 1:5,000 scale by B-8 plotter, using November, 1966 photography. A copy of the manuscript, classified "incomplete" along with ozalids and specially prepared photographs were furnished for the preparation of the boat sheets, location of photo-hydro signals and field edit use.

The manuscript was a vinylite sheet 2 minutes longitude by 2 minutes latitude. After field edit was applied the manuscript was scribed, stuck-up and reproduced on cronaflex. Final review was at AMC in December 1972. One cronaflex and negative of the final reviewed survey are being forwarded for record and registry.

## FIELD INSPECTION REPORT

PH-6708

T-13133

There was no field inspection prior to compilation.



PHOTOGRAMMETRIC PLOT REPORT  
Job PH-6708  
Puerto Rico

October 31, 1967

21. Area Covered

This report covers the southwest part of Puerto Rico, consisting of eight (8) 1:10,000 scale T-sheets, T-13118 thru T-13125, and thirteen (13) 1:5,000 scale T-sheets, T-13128 thru T-13140. Photography covering sheets T-13126 and T-13127 was not bridged at this time due to lack of control.

22. Method

Analytic aerotriangulation methods were used to bridge Strip 1, 1:60,000 scale color diapositives, using premarked and office identified control. Numerous tie points were located to control the compilation photography. Strips 3, 5, 5A, 6, 7 and 8 were bridged by analytic methods. Strips 2 and 4 were bridged by stereoplanigraph in order to facilitate the work.

The attached sketch of the strips bridged shows the placement of triangulation used in the final strip adjustment. Closures to control are shown for each strip on the IBM readout, along with all bridge points on Puerto Rico plane coordinates.

23. Adequacy of Control

Horizontal control is adequate to control Strip 1. All other strips were bridged using tie points and horizontal control and is adequate.

The premarked paneling at station PAGEN was removed prior to photography and the subpoint could not be identified. It was decided, therefore, to end Strip 1 with photo 66-M-625 and Strip 6 with photo 66-L-8433. However, it is believed that sheet T-13125 can be adequately compiled.

Station GUANICA L.H. 1900 does not have a valid position. Geodesy did not tie to this station during the 1966 work, and no adjustment was made to the new Puerto Rico datum. (Station has been reported destroyed.) The positions shown on Form 725d computed by Geodesy is arbitrary. Therefore, GUANICA L.H. Subpoint 1 and subpoint 2 are unreliable and were not held in the bridge.

9

It is to be noted that all horizontal control used on this job and the final pass point positions are on the new Puerto Rico Datum. A Xerox copy of triangulation station positions issued by Geodesy is submitted to the Compilation office with this job. Previously published GP's and plane coordinates should not be used for plotting.

24. Supplemental Data

Vertical control needed for the adjustment was taken from USGS quadrangles.

25. Photography

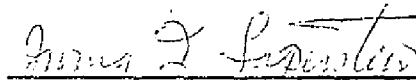
The definition and quality of the RC-9 "M" and RC-8 "L" color photography was fair and good respectively. Smoke covers parts of some photographs on Strips 3 and 5A, but should not hinder compilation of the shoreline.

Although sheets T-13137 thru T-13140 are covered by 1:15,000 scale photographs, these photographs were not bridged, nor can they be used for compilation on the plotter because of water areas. Strip 3, therefore, should be used to compile the above sheets.

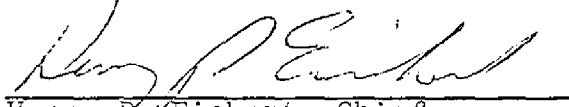
Ratio prints have been ordered for the 1:30,000 and 1:15,000 scale photographs to compilation scale, on black and white base.

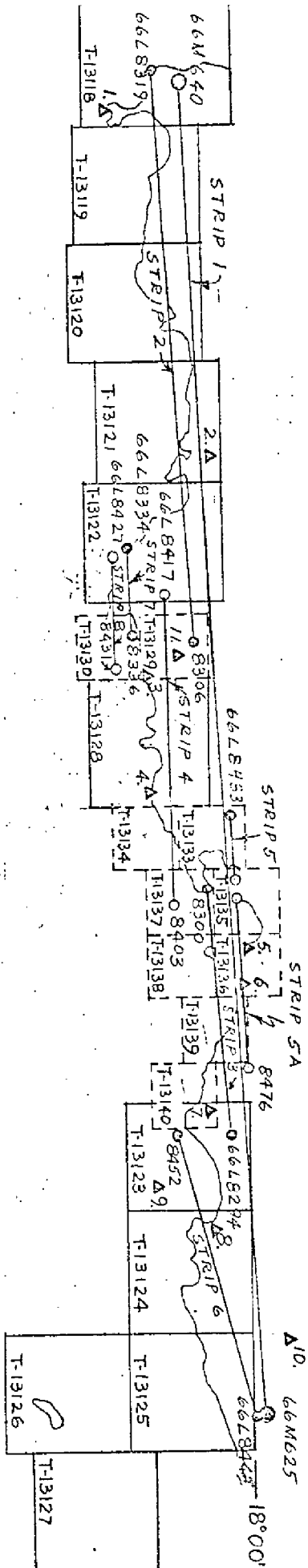
Several points were transferred to ratio print 66-L-8394 in order that a reef on T-13140 may be compiled graphically.

Respectfully submitted

  
I. I. Saperstein

Approved and Forwarded

  
Henry P. Eichert, Chief  
Aerotriangulation Section



# AEROTRIANGULATION

PUERTO RICO  
Southwest Coast

PH-6708

Oct. 1967

## LEGEND

- Control used in Adjustment
- 1:60,000 Photos (color)
- 1:30,000 Photos ( " )
- 1:15,000 Photos ( " )

1. CABO RUJO (USAF) 1966
2. CERRO VERTERO 2(USGS) 1934
3. ENSENADA, SOUTH R.R. SUGAR CO.  
CENT. GUANICA WEST & EAST STACKS, 1966  
GUANICA MUNIC. W.T. 1966
4. VAQUERO, 1900
5. TURN 2, 1966
6. GUAYANILLA, UNION CARBIDE CO. W.T. 1966
7. REY, 1966
8. PONCE, RADIO STATION WELO MARST, 1966
9. PONCEBAY FRONT & REAR RANGE LTS. 1966
9. CAÑADONA ISLAND L.H. 1900
10. PONCE, DON Q RUN CO. STACK, 1966
11. BAHIA DE GUANICA RANGE FRONT  
& REAR LTS. 1966



## COMPILATION REPORT

T-13133

MAP MANUSCRIPT PROJECT PH-6708

31. DELINEATION

The shoreline and all other features were compiled using the Wild B-8 stereoplotter and color photography taken at 0.4 ft. above mean low water.

There was no field inspection.

32. CONTROL

See Photogrammetric Plot Report dated October 3, 1967, attached.

33. SUPPLEMENTAL DATA

None

34. CONTOURS AND DRAINAGE

Inapplicable

35. SHORELINE AND ALONGSHORE DETAILS

See Paragraph 31. No low water line was delineated. All details were compiled from office interpretation of the photographs.

36. OFFSHORE DETAILS

None

37. LANDMARKS AND AIDS

None

### 38. CONTROL FOR FUTURE SURVEYS

No recoverable topographic or photo hydro stations have been shown; however, a sufficient number of shoreline pass points have been shown as an aid for the Hydrographer in establishing hydrographic signals.

### 39. JUNCTIONS

Junctions are in agreement with T-13135 and T-13137 to the East, T-13134 to the South, and T-13128 (scale 1:10,000) to the West, South of latitude  $17^{\circ}59'00''$ . There are no contemporary surveys to the North and to the West, North of latitude  $17^{\circ}59'00''$ .

### 40. HORIZONTAL AND VERTICAL ACCURACY

No statement

### 46. COMPARISON WITH EXISTING MAPS

A comparison has been made with USGS Quadrangle PUNTA VERRACO, PR, scale 1:20,000 dated 1958.

### 47. COMPARISON WITH NAUTICAL CHARTS

A comparison has been made with Chart 928 BAHIA DE GUAYANILLA, scale 1:10,000, 5th edition, dated October 18, 1965.

### ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None

### ITEMS TO BE CARRIED FORWARD

None

Submitted:

*Bernard Kump*  
for

Richard R. White  
Cartographic Aid

Approved:

*Alfred C. Holmes*

Alfred C. Holmes, RADM, NOAA  
Director, Atlantic Marine Center

December 11, 1972

GEOGRAPHIC NAMES

FINAL NAME SHEETS

Ph-6708 (Puerto Rico)

TP-13133

Cerro Toro

Mar Caribe

Puerto de Guayanilla

Rio Yauco

Approved:

*A. J. Wraight*

A. Joseph Wraight  
Chief Geographer

Prepared by:

*Charles E. Harrington*

Charles E. Harrington  
Cartographer

T-13133

49. NOTES FOR THE HYDROGRAPHER:

NONE.



FORM C&GS-1002  
(9-66)U.S. DEPARTMENT OF COMMERCE  
ESSA  
COAST AND GEODETIC SURVEY

## PHOTOGRAMMETRIC OFFICE REVIEW

T-13133

1. PROJECTION AND GRIDS CHB		2. TITLE CHB		3. MANUSCRIPT NUMBERS CHB		4. MANUSCRIPT SIZE CHB	
CONTROL STATIONS							
5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY CHB				6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY (Topographic stations) XX		7. PHOTO HYDRO STATIONS XX	
8. BENCH MARKS X		9. PLOTTING OF SEXTANT FIXES X		10. PHOTOGRAMMETRIC PLOT REPORT CHB		11. DETAIL POINTS CHB	
ALONGSHORE AREAS (Nautical Chart Data)							
12. SHORELINE CHB		13. LOW-WATER LINE X		14. ROCKS, SHOALS, ETC. None		15. BRIDGES X	
16. AIDS TO NAVIGATION None		17. LANDMARKS None		18. OTHER ALONGSHORE PHYSICAL FEATURES CHB		19. OTHER ALONGSHORE CULTURAL FEATURES CHB	
PHYSICAL FEATURES							
20. WATER FEATURES CHB				21. NATURAL GROUND COVER X		22. PLANETABLE CONTOURS XX	
23. STEREOSCOPIC INSTRUMENT CONTOURS XX		24. CONTOURS IN GENERAL XX		25. SPOT ELEVATIONS XX		26. OTHER PHYSICAL FEATURES X	
CULTURAL FEATURES							
27. ROADS CHB		28. BUILDINGS X		29. RAILROADS X		30. OTHER CULTURAL FEATURES X	
BOUNDARIES							
31. BOUNDARY LINES XX				32. PUBLIC LAND LINES XX			
MISCELLANEOUS							
33. GEOGRAPHIC NAMES CHB				34. JUNCTIONS CHB		35. LEGIBILITY OF THE MANUSCRIPT CHB	
36. DISCREPANCY OVERLAY CHB		37. DESCRIPTIVE REPORT CHB		38. FIELD INSPECTION PHOTOGRAPHS None		39. FORMS CHB	
40. REVIEWER C.H. Bishop 1/20/69				SUPERVISOR, REVIEW SECTION OR UNIT Albert C. Rauck, Jr. <i>Albert C. Rauck, Jr.</i>			
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 R.E. Smith 3/24/69				SUPERVISOR <i>Albert C. Rauck, Jr.</i>			
Reviewed By: C.H. Bishop 3/27/69				Albert C. Rauck, Jr.			
43. REMARKS Field Edit Applied From: Field Edit Ozalid, Field Photos (Matte) No. 66-L-8405, 8484, 8485 & Color Contact Photo No. 66-L-8485. Compilation Reviewed Hurriedly 14:00 To 16:00 Hrs. 1/20/69.							

FIELD EDIT REPORT  
SOUTHWEST COAST OF PUERTO RICO  
JOB PH-6708  
MAP T-13133

52. ADEQUACY OF COMPILATION

Compilation was adequate. One or two unimportant bare rocks were overlooked as was a foul area. There is one bluff on this map and it was correctly compiled. Several minor shoreline changes were recommended and indicated on the photographs. A few interior details were changed, primarily, that all the roads on this map are private.

54. RECOMMENDATIONS

There are no recommendations.

55. EXAMINATION OF PROOF COPY

Sr. Oscar Padilla, Urb. Estella Box 28, Guayanilla, Puerto Rico, will be happy to examine a proof copy of the map. Sr. Padilla is the senior harbor pilot of Bahía de Guayanilla.

56. GEOGRAPHIC NAMES

There are only three geographic names on the compiled portion of this map.

CERRO TORO at  $17^{\circ}58'2''$ ,  $66^{\circ}48'3''$  was omitted from the manuscript. All the authorities consulted agree that this name is correct and in common usage. RIO YAUCO is correct and requires no comment. PUERTO DE GUAYANILLA is archaic and was probably used when small boats took shelter from storms in this small bay in an earlier era. All the below listed authorities agree that the name would now apply, if used at all, to the playa and the dock area of Bahía de Guayanilla.

Authorities consulted are listed below.

- I. Sr. Oscar Padilla  
Urb. Estella Box 28  
Guayanilla, Puerto Rico

Sr. Padilla is the senior harbor pilot of Bahía de Guayanilla and has been a resident for 64 years.

- II. Sr. Gilberto Castro Pérez<sup>1</sup>  
Bo Playa  
Guayanilla, Puerto Rico

Sr. Castro is a boat operator and has been a local resident for nine years.

- III. Sr. Daniel Santiago  
Bo Playa  
Guayanilla, Puerto Rico

Sr. Santiago is a harbor pilot and has been a local resident for three years. He is retired from the U.S. Merchant Service.

- IV. Sr. Faustino Allongo  
R.F.D. 2 639 H  
Ponce, Puerto Rico

Sr. Allongo is a contractor and has been a local resident and fisherman for twenty years.

- V. Sr. Ramon Torres Echevarria  
Ext. Mariani A-110  
Ponce, Puerto Rico

Sr. Torres is a mechanical engineer and prominent local sports fisherman. He has been a resident for 36 years.

The harbor pilots mentioned above are licensed by the Puerto Rican Pilot Service.

#### 57. LANDMARKS AND NONFLOATING AIDS TO NAVIGATION

There are no landmarks or fixed aids to navigation within the limits of this map.

#### 58. ROCKS, SHOALS, REEFS AND FOUL AREAS

Compilation was generally good. One rock awash was deleted and bottom vegetation in one area was mistakenly delineated as submerged coral. There are no shoals on this map.

The present edition of chart 928 shows a ledge along the shore in the area labeled Puerto de Guayanilla. No evidence could be found of this ledge. It is possible that the mangrove along the shore has grown out over the ledge or it may be covered with silt. There is definitely

no ledge in this area that uncovers at the sounding datum.

59. PHOTOGRAPHY

Photography consisted of 1:5000 matte finish photographs and 1:15,000 and 1:30,000 color contact prints. The photography was good. It permitted the identification of details not mapped and the confirmation of the compilation.

60. DISPOSITION OF DATA

All data was forwarded to the Photo Branch, Atlantic Marine Center. Copies of the Field edit, Form 567's and form 526's were transmitted to the ship Whiting.

  
Richard E. Kesselring  
Surveying Technician

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REVIEW REPORT

SHORELINE

T-13133

61. GENERAL STATEMENT

See summary which is page 6 of the Descriptive Report.

62. COMPARISON WITH REGISTERED SURVEYS

A visual comparison was made with a copy of registered survey No. 2468, 1:20,000 scale dated 1900. There is only a general agreement between the two. In the bay area the shoreline is entirely encompassed by mangrove which made any planetable work in 1900 virtually impossible. That along with man made and natural change plus the improved methods of compilation and surveying techniques account for the differences.

Registered survey No. 2468 is superseded by T-13133 for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

A visual comparison was made with USGS Punta Verraco, PR, quadrangle, 1958 at 1:20,000 scale. There are no reefs indicated on the quadrangle and the shoreline agrees, in general, with the manuscript.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

A comparison was made with sounding overlay #2 dated 11/1/72 at 1:5,000 scale. The shoreline of this boat sheet is the incomplete manuscript. Since there were no shoreline changes indicated by the field editor, there are no differences.

65. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with Chart 928, 1:10,000 scale dated March 4, 1972. They generally agree except there is an apparent datum shift. Differences are noted on the comparison print in red.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

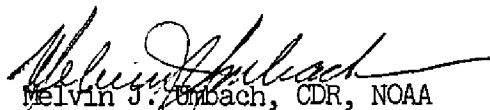
This survey meets with project instructions and ~~appears to meet~~ the National Standards of Map Accuracy.

Reviewed by:



Bernard Kurs  
Cartographer

Approved for forwarding:



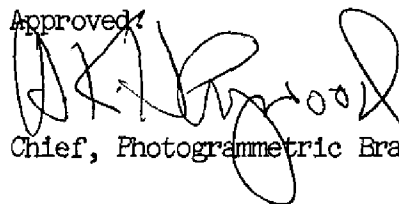
Melvin J. Umbach, CDR, NOAA  
Chief, Coastal Mapping Division, AMC

Approved:

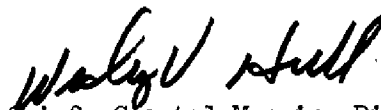


Alfred C. Holmes, RADM, NOAA  
Director, Atlantic Marine Center

Approved:



Chief, Photogrammetric Branch, DA



Chief, Coastal Mapping Division



K-1333

NOTE:

"The photogrammetric location and delineation of features offshore from the mean high-water line on this survey may not be complete or final. The contemporary reviewed hydrographic survey of the area where available, should be consulted for the final delineation."

Row of post

Catwalk

Pier

Rio Yauco

59'

y = 54,000 FT.

Puerto de Guayanilla

CHART  
928

17° 58' 45"

Ditch

Mg awash

Pond

Private

Pond

y = 52,000 FT.

Private road

18° 30'

18° 30'

66° 48' 00"



