

13122

13122

FORM C&GS-504	
U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey <u>Shoreline (Photogrammetric)</u>	
Field No.	Office No. <u>T-13122</u>
LOCALITY	
State	<u>Puerto Rico</u>
General locality	<u>Southwest Coast</u>
Locality	<u>Caleta Salinas</u>
<u>1966-1968</u>	
CHIEF OF PARTY <u>Alfred C. Holmes, NOAA</u> <u>Director, Atlantic Marine Center</u>	
LIBRARY & ARCHIVES	
DATE	

DESCRIPTIVE REPORT - DATA RECORD

T-13122

PROJECT NO. (II): PH-6708		
FIELD OFFICE (III): None		CHIEF OF PARTY
PHOTOGRAMMETRIC OFFICE (III): Atlantic Marine Center		OFFICER-IN-CHARGE Alfred C. Holmes, RADM - Director
INSTRUCTIONS DATED (II) (III): Field - September 27, 1966 December 14, 1967 Office - November 14, 1967		
METHOD OF COMPILATION (III): Wild B-8 Plotter		
MANUSCRIPT SCALE (III): 1:10,000		STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III): 1:5,000 pantographed to 1:10,000
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): <u>MHW</u> 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 MEAN LOW WATER
REFERENCE STATION (III): ENSENADA, 1966		
LAT.: 17° 58' 24.27997" (746.4m)	LONG.: 66° 56' 17.45360" (513.5m)	<input checked="" type="checkbox"/> ADJUSTED <input type="checkbox"/> UNADJUSTED
PLANE COORDINATES (IV): Y = 51,104.76 ft. X = 324,557.85 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

FIELD INSPECTION BY (II):		DATE:
None		
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION):		
Air Photo Compilation - Date of photography, Nov. 15 & 16, 1968		
PROJECTION AND GRIDS RULED BY (IV):		DATE
A. Bethea		10/23/67
PROJECTION AND GRIDS CHECKED BY (IV):		DATE
L. F. Van Scoy		10/23/67
CONTROL PLOTTED BY (III):		DATE
L. O. Neterer B. L. Barge		11/17/67
CONTROL CHECKED BY (III):		DATE
B. L. Barge L. O. Neterer		11/17/67
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):		DATE
I. Saperstein		10/31/67
STEREOSCOPIC INSTRUMENT COMPILATION (III):	PLANIMETRY	DATE
	R. R. White Reviewed by: A. L. Shands	1/21/68 1/21/68
Wild B-8 Plotter	CONTOURS	DATE
	Inapplicable	
MANUSCRIPT DELINEATED BY (III):		DATE
R. R. White		1/26/68
SCRIBING BY (III):		DATE
R. R. White		5/23/68
PHOTOGRAMMETRIC OFFICE REVIEW BY (III):		DATE
Compilation: C. H. Bishop Field Edit: R. J. Pate		2/12/68 5/10/68
REMARKS:		
FIELD EDIT BY: R. E. Kesselring		3/26/68
{ SCRIBING & STICK UP: R. E. Smith Review		5/29/68

DESCRIPTIVE REPORT - DATA RECORD

CAMERA (KIND OR SOURCE) (III):

RC-8 and RC-9

PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
66M(C) 634 & 635	Nov. 15, 1966	0854	1:60,000	0.3' above MLW
66M(C) 648	Nov. 15, 1966	0904	"	" " "
66L(C) 8309	Nov. 15, 1966	0944	1:30,000	0.4' " "
66L(C) 8333-8335	Nov. 15, 1966	0955	"	" " "
66L 8508R & 8510R	Nov. 16, 1966	0926	"	0.3' " "

TIDE (III)

	RATIO OF RANGES	MEAN RANGE	SPRING RANGE
REFERENCE STATION: Galveston, Texas			1.4
SUBORDINATE STATION: Paraguera (Isla Maguey)	0.4		0.6
SUBORDINATE STATION:			

WASHINGTON OFFICE REVIEW BY (IV): Leo F. Beugnet, Atlantic Marine Center

DATE: June 1970

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II):

2

RECOVERED:

2

IDENTIFIED:

0

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

0

RECOVERED:

0

IDENTIFIED

0

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

0

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

0

REMARKS:

T-13122

COMPILATION RECORD

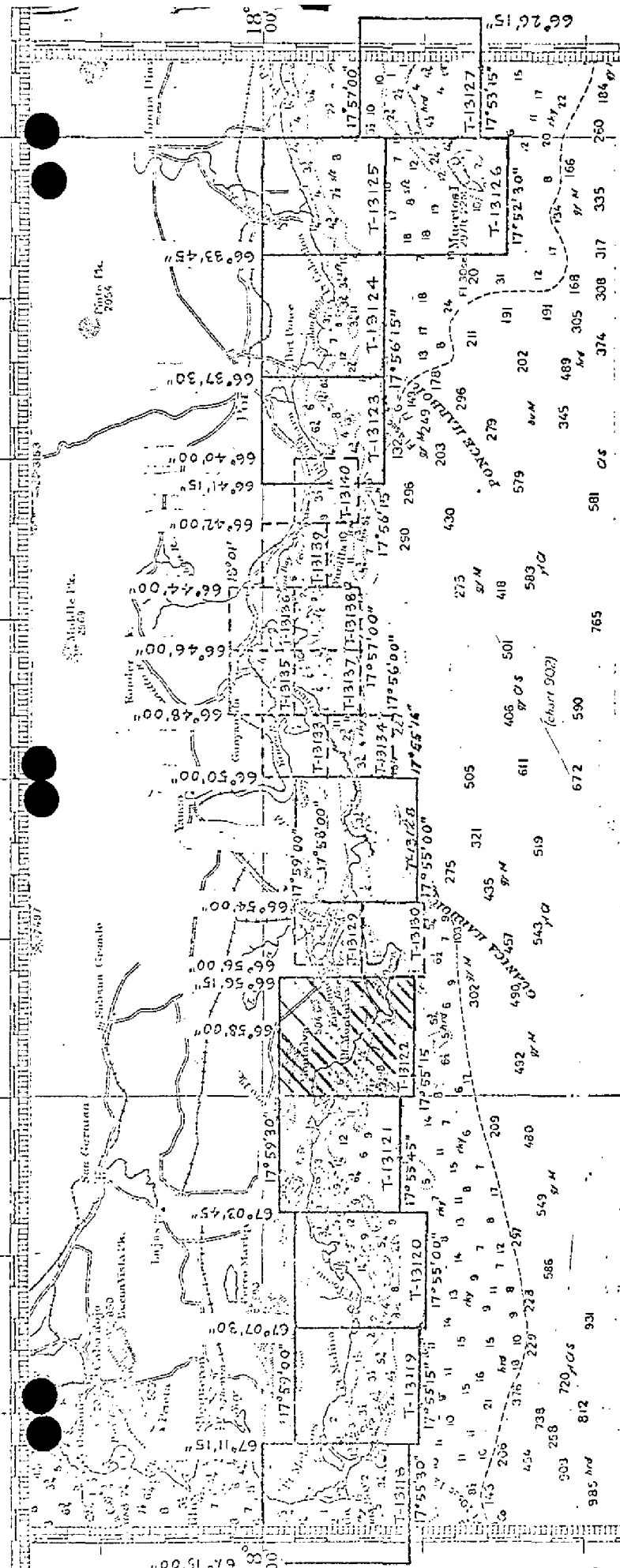
COMPLETION DATE

REMARKS

Alongshore area for Hydro	January 1968	Superseded
Field Edit applied Compilation Complete	April 1968	Superseded
Final Review	June 1970	

67° 00'

66° 30'



OFFICIAL-MILEAGE FOR COST ACCOUNTS

JOB PH - 6708

Sheet No.

So. 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.

9
9
9
9
9
9
9
9
9
9
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
3
3
3
3
3
114

SOUTHWEST COAST
PUERTO RICO
SHORELINE MAPPING
SCALE 1:50,000 & 1:10,000

67° 00'

66° 30'

5

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT T-13122

Shoreline survey T-13122 is one of twenty-one similar surveys in Job PH-6708. The job is located on the south coast of Puerto Rico and extends from Cabo Rojo to Cayo Berberia. There are ten 1:5,000 and eleven 1:10,000 scale surveys within the job. This survey covers the area from Bahia Montalva to Arrecife Baul.

The only field work preceding compilation consisted of identification of horizontal control. The survey was field edited subsequent to compilation.

Compilation was at 1:10,000 scale by B-8 Plotter, using the photography of November 1966. A copy of the manuscript, classified incomplete, along with ozalids and specially prepared photographs, was furnished for preparation of the boat sheet, location of photo-hydro signals, and field edit use.

The manuscript was a vinylite sheet 4 minutes 15 seconds in latitude by 3 minutes 45 seconds in longitude. After application of field edit, the manuscript was scribed, stuck-up, and reproduced on cronaflex. Final review was in the Atlantic Marine Center in June 1970. One cronaflex copy and a negative of the final reviewed survey are forwarded for record and registry.

FIELD INSPECTION REPORT
T-13122
Project PH-6708

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.

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

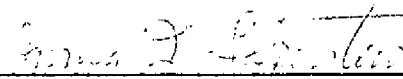
The definition and quality of the RC-9 "M" and RC-8 "L" color photography was fair and good respectively. Smoke covers parts of some photographs on Strips 3 and 5A, but should not hinder compilation of the shoreline.

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

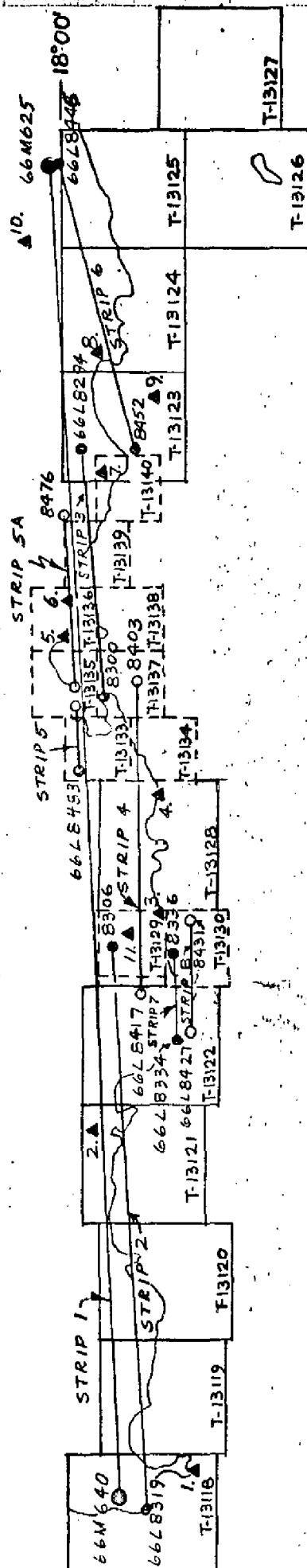

I. I. Saperstein

Approved and Forwarded


Henry P. Eichert, Chief
Aerotriangulation Section

66°30'

67°00'



1. CABO ROJO (USAF) 1966
2. CERRO VERTERO 2 (USGS) 1934
3. ENSENADA, SOUTH R.R. SUGAR CO.
CENT. GUANICA WEST & EAST STACKS, 1966
4. GUANICA MUNIC. W.T. 1966
5. VAQUERO, 1900
6. TURN 2, 1966
7. GUAYANILLA, UNION CARBIDE CO. W.T. 1966
8. REY, 1966
9. PONCE, RADIO STATION WELO MAST, 1966
PONCE BAY FRONT & REAR RANGE L.T.S. 1966
10. CARDONA ISLAND L.M. 1900
11. PONCE, DON Q RUM CO. STACK, 1966
12. BAHIA DE GUANICA RANGE FRONT
& REAR L.T.S. 1966

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 (")

None.....

[illegible]

COMPILATION REPORT
Project PH-6708
Map Manuscript T-13122

31. DELINEATION:

The shoreline and all other features were compiled using the Wild B-8 stereoplotter and color photographs taken at 0.6 ft. above mean low water. The infrared photographs were used as a check on the shoreline compilation. There was no field inspection.

32. CONTROL:

See Photogrammetric Plot Report attached.

33. SUPPLEMENTAL DATA:

None

34. CONTOURS AND DRAINAGE:

Contours are inapplicable.

Drainage was delineated from office interpretation of the photographs.

35. SHORELINE AND ALONGSHORE DETAILS:

See paragraph #31. No low water line was delineated. The shallow and foul limits were delineated using the Wild B-8 and from office interpretation of the photographs.

36. OFFSHORE DETAILS:

Since there was no prior field inspection and due to penetration over water areas, underwater features and hazards to navigation could not be delineated with accuracy. See notes for the Hydrographer.

37. LANDMARKS AND AIDS:

None

38. CONTROL FOR FUTURE SURVEYS:

None.

39. JUNCTIONS:

Junctions are in agreement with T-13121, scale 1:10,000, to the west and T-13128, scale 1:5,000, to the east, south of Lat. $17^{\circ} 57'$ and to the south, east of Long. $66^{\circ} 58'$. There are no contemporary surveys to the north or to the south, west of Lat. $66^{\circ} 58'$.

40. HORIZONTAL AND VERTICAL ACCURACY:

No statement.

46. COMPARISON WITH EXISTING MAPS:

A comparison has been made with U.S.G.S Quadrangle GUANICA, P.R., scale 1:20,000, dated 1956.

47. COMPARISON WITH NAUTICAL CHARTS:

A comparison has been made with USC&GS Chart 901, scale 1:100,000, 9th edition, dated March 1, 1965.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY:

None.

ITEMS TO BE CARRIED FORWARD:

None.

Submitted,

R. R. White

Approved for forwarding:

R. R. White
Cartographic Aid

Melvin J. Umbach
Melvin J. Umbach, CDR, NOAA
Chief, Photogrammetry Division, AMC

Approved:

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

September 9, 1970

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6708 (Puerto Rico)

T-13122

Arrecife Baul

Arrecife Romero

Bahia Montalva

Caleta Salinas

Cayo Don Louis

Cayo Turrumote II

Mar Caribe

Punta del Obispo

Punta Jorobado

Punta Montalva

Punta Sombrero

Salinas


Salinas Fortuna

Salinas Providencia

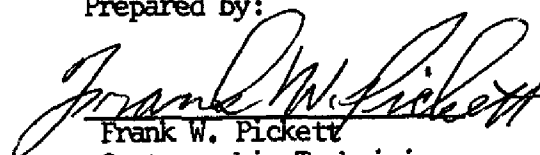
Salinas Salineta

Salinas Vernaes

Approved by:

A. Joseph Wright
Chief Geographer

Prepared by:

Frank W. Pickett
Cartographic Technician

FORM C&GS-1002 (9-66)		U.S. DEPARTMENT OF COMMERCE ESSA COAST AND GEODETIC SURVEY	
PHOTOGRAMMETRIC OFFICE REVIEW T. 13122			
1. PROJECTION AND GRIDS CHB	2. TITLE CHB	3. MANUSCRIPT NUMBERS CHB	4. MANUSCRIPT SIZE BW
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 XX	9. PLOTTING OF SEXTANT FIXES XX	10. PHOTOGRAMMETRIC PLOT REPORT Bridge (W.O.)	11. DETAIL POINTS Wild B-8
ALONGSHORE AREAS (Nautical Chart Data)			
12. SHORELINE CHB	13. LOW-WATER LINE CHB	14. ROCKS, SHOALS, ETC. CHB	15. BRIDGES XX
16. AIDS TO NAVIGATION CHB	17. LANDMARKS CHB	18. OTHER ALONGSHORE PHYSICAL FEATURES CHB	19. OTHER ALONGSHORE CULTURAL FEATURES CHB
PHYSICAL FEATURES			
20. WATER FEATURES CHB		21. NATURAL GROUND COVER XX	22. PLANETABLE CONTOURS XX
23. STEREOSCOPIC INSTRUMENT CONTOURS XX	24. CONTOURS IN GENERAL XX	25. SPOT ELEVATIONS XX	26. OTHER PHYSICAL FEATURES CHB
CULTURAL FEATURES			
27. ROADS CHB	28. BUILDINGS CHB	29. RAILROADS XX	30. OTHER CULTURAL FEATURES CHB
BOUNDARIES			
31. BOUNDARY LINES XX		32. PUBLIC LAND LINES XX	
MISCELLANEOUS			
33. GEOGRAPHIC NAMES RJP		34. JUNCTIONS CHB	35. LEGIBILITY OF THE MANUSCRIPT CHB
36. DISCREPANCY OVERLAY XX	37. DESCRIPTIVE REPORT RJP	38. FIELD INSPECTION PHOTOGRAPHS XX	39. FORMS CHB
40. REVIEWER <i>Charles H. Bishop</i> C. H. Bishop 2/12/68		SUPERVISOR, REVIEW SECTION OR UNIT <i>Albert C. Rauck, Jr.</i> A. C. Rauck, Jr.	
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 <i>R. J. Pate</i> Reviewed by: R. J. Pate		5/10/68	SUPERVISOR <i>Albert C. Rauck, Jr.</i> A. C. Rauck, Jr.
43. REMARKS Field Edit was applied from Field Edit Ozalid, color transparencies Nos. 66-L-8309, 8333, 8334, and Matte Ratio Photos No. 66-L-8335.			

49. NOTES FOR THE HYDROGRAPHER

There are no photo hydro stations or recoverable topographic stations within the limits of this shoot.

All reefs, shoals, shallow areas, foul areas, and submerged rocks are from office interpretation of the color photographs.

There was considerable penetration on the color photography; due to this and without the aid of any prior shoreline inspection, these offshore features have been shown only as aid to the hydrographer. They may be only bottom changes, coral, or marine vegetation. The delineation of all these features should be verified, and if any exist that are not shown they should be located. Also, any that are shown that do not exist should be deleted.

If landmarks or non-floating aids to navigation exist in the area, please locate and submit Form 567.

See notes on the FIELD EDIT OZALID.

FIELD EDIT REPORT

T-13122

Job PH-6708

Southwest Coast of Puerto Rico

Field edit was performed in accordance with Instructions - PHOTO-HYDRO SUPPORT AND FIELD EDIT - Job PH-6708, dated December 14, 1967, and with Photogrammetry Instructions concerning field edit.

52. Adequacy of compilation.

Compilation was adequate. The coral reefs along the shore in the southeastern part of the sheet were not delineated. One or two small piers were overlooked and some mangrove islets mapped that were not extant. One house appears to be in error. It was drafted incorrectly and when the peak was radial plotted for a photo-hydro signal the intersection fell somewhat to the east of the compiled position. The intersection was checked with a theodolite cut from triangulation station JOROBADO 1966.

54. Recommendations.

There are no recommendations.

55. Examination of proof copy.

Dr. Luis R. Almodovar of La Parguera, Lajas, Puerto Rico, will be happy to examine a proof copy of this map.

56. Landmarks and non-floating aids to navigation.

There are no landmarks or non-floating aids to navigation within the limits of this map. Mapped houses, at least the larger ones, should be retained for proposed chart 948.

57. Reefs, shoals, rocks and foul areas.

None of the reefs from Cayo Don Luis to the eastern limit of the sheet were mapped. These are coral reefs and are awash or bare as indicated on the field edit ozalid. Two submerged reefs, in the southeastern portion of the sheet, were shown as shallow rather than as reefs. One small reef was changed to a shoal.

Several small shoals were added and one shoal was actually a submerged coral reef.

Three submerged rocks and two bare rocks were deleted. Several submerged rocks were added, as well as three bare rocks and a rock awash.

57(cont.)

The shallow limit line, except where deleted, is actually the foul line, up to and including the northwest end of Cayo Don Luis. This is particularly true to the east of Punta Jorobado.

58. Drainage and flooded areas.

The notes under this heading in the report for T-13118 also apply to this sheet.

59. Geographic names.

There is one undisputed new name on this map. The spelling of one name is also disputed. The authorities listed in the report for T-13120 are the same for this map.

The new name is:

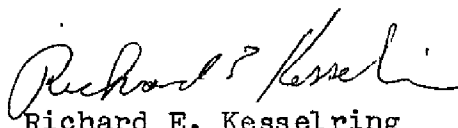
ARRECIFE LA CORONA or LA CORONA - which means crown reef or crown-shaped reef. The name is derived from the shape of the reef.

The disputed spelling:

TURRUMOTE II - charted as CAYO TERREMOTO. The CAYO may be retained if this name is adopted. TURRUMOTE I was referred to in the report for T-13121. All the listed authorities agree that Turrumote is the correct spelling. The numeral is to distinguish it from Turrumote I.

60. Photography.

There are adequate comments on the photography in the reports for T-13118, T-13119, T-13120 and T-13121.


Richard E. Kesselring
Surveying Technician
March 26, 1968

REVIEW REPORT
SHORELINE
T-13122

JUNE 25, 1970

61. GENERAL STATEMENT:

See Summary, which is page 6 of the Descriptive Report.

62. COMPARISON WITH REGISTERED SURVEYS:

Comparison was made with a copy of registered survey No. 2469, 1:20,000 scale, dated 1900. The two surveys are in only fair agreement. Although there has been some change in the shoreline along the mainland, the most noticeable discrepancy between the two surveys is in the offshore reefs and mangrove islands. Arrecife Baul, in the southeast part of the survey near latitude $17^{\circ} 55.7'$, longitude $66^{\circ} 57.1'$, is approximately 400 meters out of position on the older survey. The differences in the shoreline and reefs of the two surveys have been indicated on the comparison print in blue.

Registered survey No. 2469 is superseded by survey T-13122 for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Comparison was made with U.S.G.S. GUANICA, P.R., $7\frac{1}{2}$ minute quadrangle, 1:20,000 scale, edition of 1956. The two surveys are not in good agreement; the differences have been indicated on the comparison print in brown.

The reefs, both alongshore and offshore, are symbolized on the U.S.G.S quadrangle with scattered danger to navigation rock symbols. These have also been indicated on the comparison print in brown.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

To the west of longitude $66^{\circ} 57' 30''$ comparison was made with a copy of boat sheet WH-10-1B-68, H-8984. There was no contemporary survey available to the east of this longitude at the time of final review.

All of the shoreline was not on the boat sheet, and it contained no mangrove islets, reefs, or rocks. The shoreline that is on the boat sheet was obtained from a copy of incomplete manuscript T-13122, and there are no discrepancies.

65. COMPARISON WITH NAUTICAL CHARTS.


A visual comparison was made with Chart 901, 1:100,000 scale, 10th edition, March 25, 1968. The two surveys are in good general agreement.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This survey complies with instructions and meets the National Standards of Map Accuracy.


Reviewed by:

Approved for forwarding:


Melvin J. Umbach, CDR, NOAA
Chief, Photogrammetry Division, AMC


Leo F. Beugnot
Cartographer

Approved:


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

Approved:


Chief, Photogrammetric Branch


Chief, Coastal Mapping Division

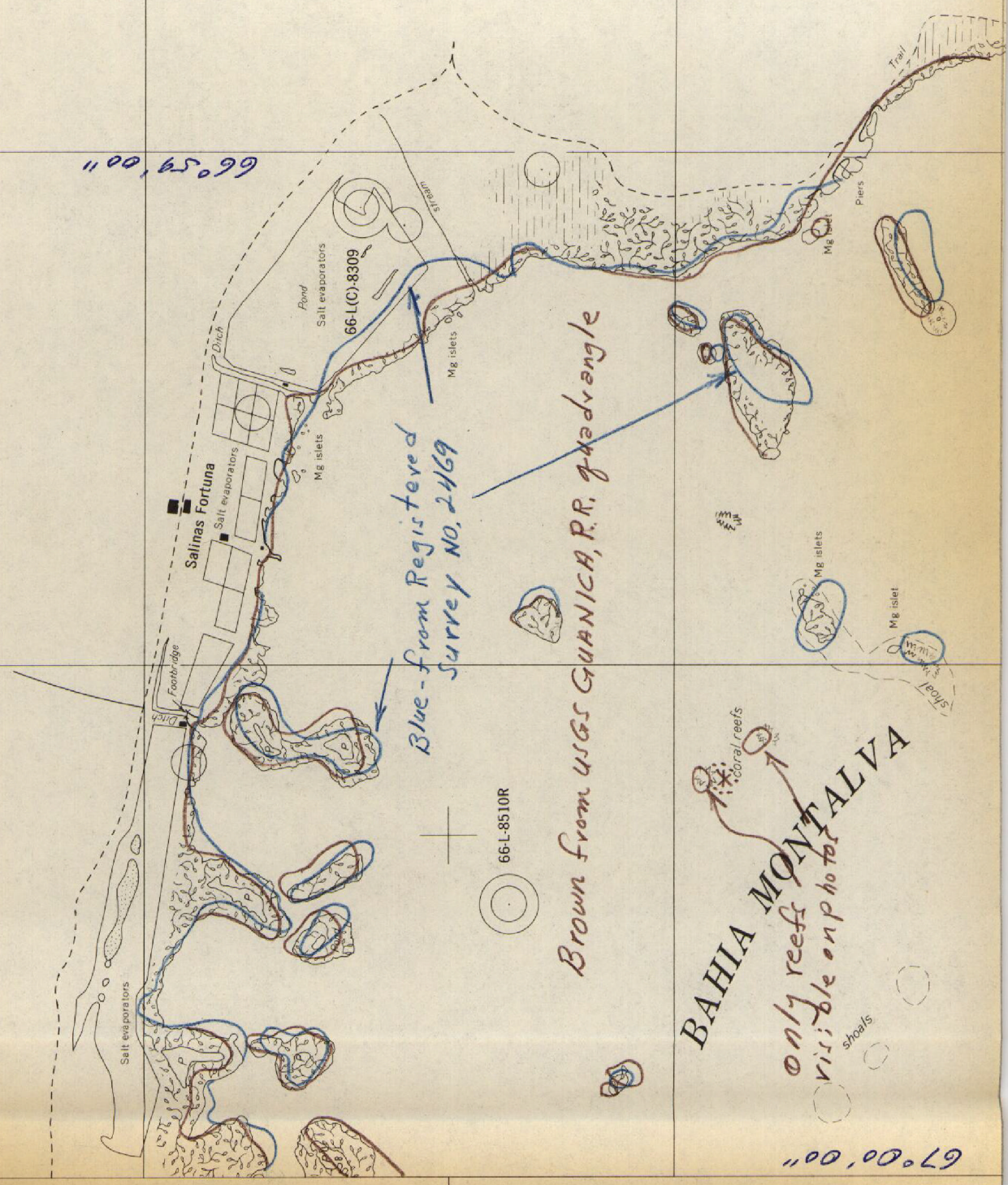
17° 58' 30"

17° 58' 00"

T-13122

11° 00' 45.099

67° 00' 00"



Blue - from Registered Survey NO. 2469

Brown from USGS GUANICA, R.R. quadrangle

BAHIA MONTALVA
only reefs visible on photo

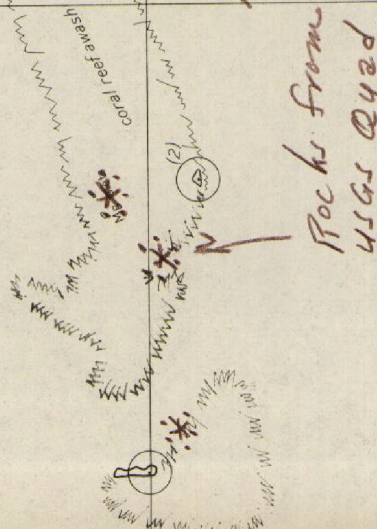
66-L-8510R

66-L(C)-8309

17° 57' 30"



Appears only as shoal on photo



Rocks from
USGS Quad

67° 00' 00"

Punta Montalva

Blue from Registered Survey No. 2469
Brown from USGS GUANICA, P.R. Quad.

shoal

Punta del Obispo

Arrecife

Romero

17° 57' 00"

Dashed area is reef
on Reg. Sur. No. 2469
66L(C) 8333

100, 25, 99

NOTE:

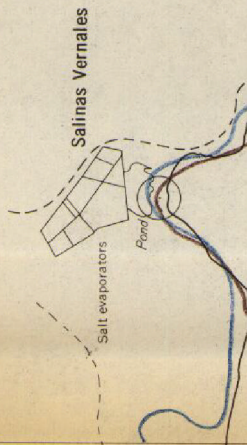
"The photogrammetric location and delineation of features offshore from the mean high-water line on this survey may not be complete or final. The contemporary reviewed hydrographic survey of the area where available, should be consulted for the final delineation."

T-13122

Blue from Registered Survey No. 2469
Brown from USGS GUANICA, P.R. quadrangle

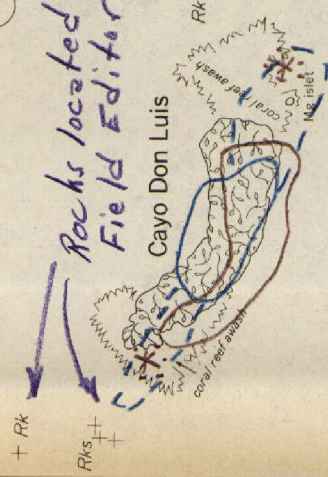
17° 57' 00"

66-L(C)-8334



Rocks located by
Field Editor

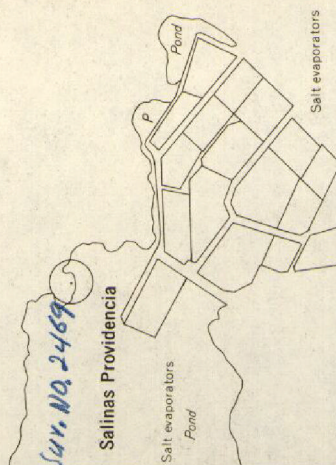
Cayo Don Luis



Salinas Salineta

Salt evaporators
Pond

Dashed areas are reefs on Reg. Sur. No. 2469



Salt evaporators

Punta Sombbrero

66-L-8532R

Pier ruins

Caleta

Salt evaporators

F-13/22

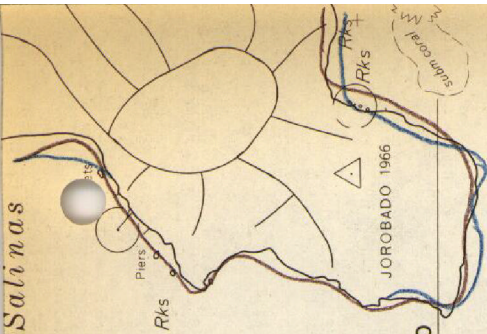
Rocks in brown from
USGS quadrangle
17° 56' 30"

66° 57' 00"

66° 57' 00"

NOTE: The predicted tide range is 0.6 Ft. Therefore no distinction has been made for rocks or coral awash at M.H.W. or M.L.W. All are indicated as awash.

Salinas



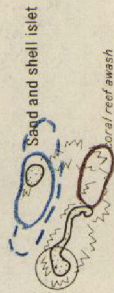
Punta Jorobado

Blue from Registered Survey No. 2469
Brown from USGS GUANICO, P.R. quadrangle



66° 57' 30"

T-13122



Cayo Terremoto

R I B E

66° 58' 30"

17° 55' 15"

17° 56' 00"

Blue from Registered Survey No. 2469
Brown from USGS GUANICA, P.R. quadrangle



Rocks in brown from USGS quadrangle

Sand and shell islet

Sand and shell islet
Subm coral reef
Arrecife Baul

Dashed areas are reefs on Reg. Sur. 2469

66° 57' 30"

17° 55' 30"

T-13122

Punta Jorobado

JOROBADO 1966