

BORIKEN

USGS - San Juan, PR

88006

CRUISE 2:

June 1-6

Dates: 30 May - 8 June 1988

Location: Boqueron Bay, southwestern Puerto Rico

Objectives: General seismic and sediment survey of Boqueron Bay

Sampling gear: same as for cruise 1

Personnel: same as for cruise 1

Operations Log:

30 May: mobilize to Boqueron

31 May: Boat broken down en route from Vieques, spent night of 30 May in Ponce, arrives Boqueron late on 31 May. Nav stations chosen and surveyed.

1 June: Generator problems with Boriken, beach samples taken from land. Tyson and Trias in Vieques helping surveyor with Mini-ranger site locating.

2 June: Seismic started and completed, 14 lines obtained. Bay and area immediately outside the bay surveyed. Navigation equipment failed; cause (giant, hungry rat) not determined until end of day, navigation done by radar. Seismic equipment broken down and stored. Rigging of vibracoring equipment started.

3 June: Vibracoring equipment rigged and diving gear prepared. One vibracore obtained.

4 June: 4 vibracores.

5 June: 2 vibracores. Vibracoring finished, equipment broken down, prepare for grab sampling. Grab sampling done after vibracoring (instead of reverse order) due to possible time constraints.

6 June: Shipek grab sampling completed. Breakdown of all equipment and mobilization for trip back to San Juan.

7 June: In San Juan. Unload samples. Organize warehouse for equipment storage.

8 June: Unload equipment from truck. Pack electronic gear for shipping back to Woods Hole.

Findings and Summary:

This cruise was to collect data to be used by Nalini Torres for her master's thesis. Boqueron Bay's surficial sediment cover is a not-too-exciting light grey carbonate mud with some shelly gravel in places. The cohesiveness of the mud made core extraction from the sea bottom extremely difficult and time-consuming.

The exciting findings came in the seismic. Boqueron Bay is the western extension of the Lajas Valley graben. It appears on seismic that the northern boundary of the basin is a hinge, not a fault in that dipping strata and a classic angular unconformity can be clearly seen. This would make the valley a half-graben. Unfortunately, we never could track down the southern boundary fault. With more time, we could have extended the seismic survey farther to the south, outside of the bay and probably located the fault. Unfortunately, it would have been too large an area to cover in the allotted time. In addition, the same southeasterly swells and winds that knocked us out in Vieques would have done the same on the shelf outside of Boqueron Bay.

Preliminary findings make the Mayaguez Quadrangle for marine geologic mapping a potentially exciting study area. One that certainly could be used to help update some of the details of the land geology, at least as far as precise fault locations. Perhaps even a deep-penetration seismic array should be considered for at least a few north-south lines.

Compressed air for the divers was a severe limitation in that bottles had to be ferried to shore on the Zodiac to be refilled at a dive shop. The Jean A's on-board compressor would have been handy in this situation. In addition, the same logistical problems mentioned under cruise 1 apply to cruise 2.

SAMPLE INVENTORY:

- Seismic: 14 Uniboom lines
- Grab samples: 8 beach samples
13 Shipek samples
- cores: 7 diver-operated jackhammer vibracores

Cruise report submitted 9JUN88

David M. Bush
Chief Scientist

Sample listing, locations, etc

note: An addendum with sample logs will be submitted at the earliest possible date.

CRUISE REPORT

Boriken 88-2

Name of Vessel: RV BORIKEN

Branch Principal: Rafael W. Rodriguez

Cruise Area: Boqueron Bay

Dates: May 30-June 8, 1988

Personnel: David Bush-Chief Scientist (Duke U.)
Juan Trias (USGS)
Rodney Priddy (Duke U.)
Rob Theiler (Duke U.)
Maritza Barreto (UPR)
Dave Nichols (USGS)
Thorton Tyson (USGS)

Objective: General seismic and sediment survey of Boqueron Bay.

Sample Inventory: Eight grab samples from the beach
Thirteen Shipec samples from the Bay
Fourteen Uniboom Lines

Notice to Mariners
 This chart has been prepared to provide safe navigation. The soundings are based on the best available information. It is the responsibility of the user to determine the accuracy of the information and to use it accordingly. The U.S. Coast and Geodetic Survey is not responsible for any errors or omissions in this chart.

SOUNDINGS IN FEET

25675

ABBREVIATIONS FOR SYMBOLS OF SOUNDINGS AND CHARTS

1. Soundings	2. Depth	3. Nature of Bottom	4. Direction of Current
5. Direction of Surface Current	6. Direction of Undercurrent	7. Direction of Tidal Stream	8. Direction of Wind
9. Direction of Wave	10. Direction of Ice	11. Direction of Fog	12. Direction of Rain
13. Direction of Snow	14. Direction of Hail	15. Direction of Sleet	16. Direction of Drizzle
17. Direction of Mist	18. Direction of Fog	19. Direction of Rain	20. Direction of Snow
21. Direction of Hail	22. Direction of Sleet	23. Direction of Drizzle	24. Direction of Mist
25. Direction of Fog	26. Direction of Rain	27. Direction of Snow	28. Direction of Hail
29. Direction of Sleet	30. Direction of Drizzle	31. Direction of Mist	32. Direction of Fog
33. Direction of Rain	34. Direction of Snow	35. Direction of Hail	36. Direction of Sleet
37. Direction of Drizzle	38. Direction of Mist	39. Direction of Fog	40. Direction of Rain
41. Direction of Snow	42. Direction of Hail	43. Direction of Sleet	44. Direction of Drizzle
45. Direction of Mist	46. Direction of Fog	47. Direction of Rain	48. Direction of Snow
49. Direction of Hail	50. Direction of Sleet	51. Direction of Drizzle	52. Direction of Mist
53. Direction of Fog	54. Direction of Rain	55. Direction of Snow	56. Direction of Hail
57. Direction of Sleet	58. Direction of Drizzle	59. Direction of Mist	60. Direction of Fog
61. Direction of Rain	62. Direction of Snow	63. Direction of Hail	64. Direction of Sleet
65. Direction of Drizzle	66. Direction of Mist	67. Direction of Fog	68. Direction of Rain
69. Direction of Snow	70. Direction of Hail	71. Direction of Sleet	72. Direction of Drizzle
73. Direction of Mist	74. Direction of Fog	75. Direction of Rain	76. Direction of Snow
77. Direction of Hail	78. Direction of Sleet	79. Direction of Drizzle	80. Direction of Mist
81. Direction of Fog	82. Direction of Rain	83. Direction of Snow	84. Direction of Hail
85. Direction of Sleet	86. Direction of Drizzle	87. Direction of Mist	88. Direction of Fog
89. Direction of Rain	90. Direction of Snow	91. Direction of Hail	92. Direction of Sleet
93. Direction of Drizzle	94. Direction of Mist	95. Direction of Fog	96. Direction of Rain
97. Direction of Snow	98. Direction of Hail	99. Direction of Sleet	100. Direction of Drizzle

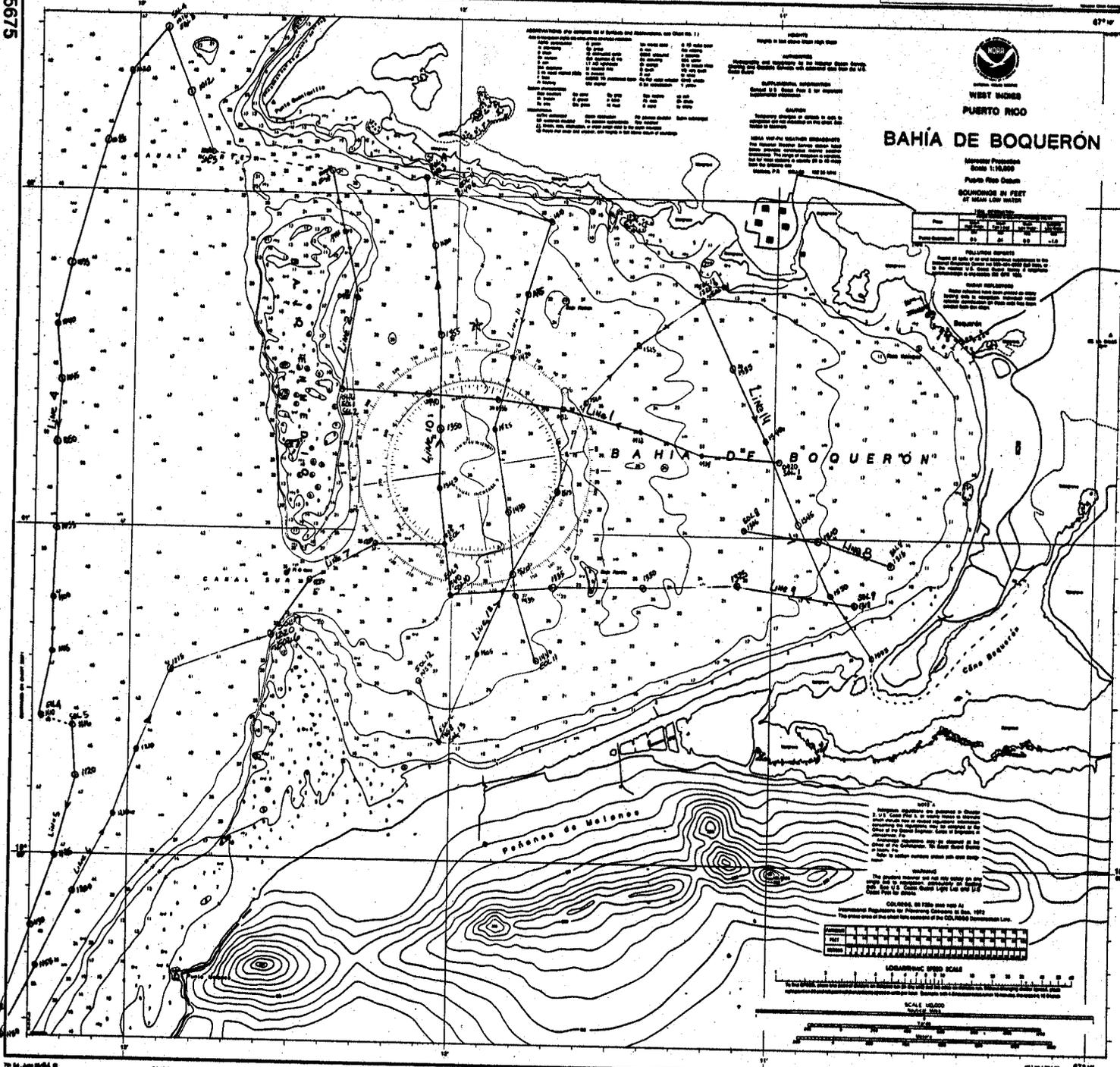


WEST INDIES
 PUERTO RICO

BAHIA DE BOQUERÓN

Minimum Protection
 Scale 1:10,000
 Puerto Rico Ocean
 SOUNDINGS IN FEET
 OF MEAN LOW WATER

Scale	1:10,000	1:20,000	1:50,000	1:100,000
Length	1" = 1000'	1" = 2000'	1" = 5000'	1" = 10000'
Breadth	1" = 1000'	1" = 2000'	1" = 5000'	1" = 10000'



25675

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 U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE

SOUNDINGS IN FEET

Bahía de Boquerón
 SOUNDINGS IN FEET - SCALE 1:10,000

25675