93001

BRANCH OF ATLANTIC MARINE GEOLOGY
U.S. GEOLOGICAL SURVEY
Woods Hole, MA 02543

CRUISE REPORT

Ship Name: RV Zodiac

Cruise No.: PR93-1

Project: Minerals - silt fraction heavy mineral placers

Funding Agency: Strategic and Critical Minerals Program
Office of Mineral Resources

Area of Operation: Insular shelf off north-central Puerto Rico

Cruise Dates: February 1-4, 1993; San Juan to San Juan

Chief Scientist: Larry Poppe

Scientific Party:
Larry Poppe, USGS
Gretchen Luepke, USGS
Juan Trias, USGS
Milton Carlo, USGS

Ship Operator: Milton Carlo, USGS

Purpose of Cruise: Bottom sampling (1) to determine the distributions of heavy minerals near the mouths of the Rio de La Plata, Rio Cibuco, Rio Grande de Manati, and adjacent rivers, (2) to relate these distributions to active fluvial and insular shelf sedimetary and geochemical processes, and (3) to evaluate potential near-shore gold, silver, titanium, and chromium resources.

Navigation Techniques: Magellan GPS, Brunton Compass

Scientific Equipment: Ponar Grab Sampler

Days at Sea: 3

Stations Occupied:

Rio de La Plata	8
Rio Cibuco	9
Rio Grande de Manati	4
Rio Arecibo	2
Rio Grande de Loiza	2
Rio Espiritu Santu	2
Rio Mameyes	2
	29

cc
B. Butman
T. Aldrich
N. Soderburg

Rio de La Plata

RP-1	18°28.67′N	66°15.26′W
RP-2	18°28.69′N	66°15.35′W
RP-3	18°28.87′N	66°15.23′W
RP-4	18°28.85′N	66°15.14′W
RP-5	18°28.71′N	66°15.05′W
RP-6	18°28.73′N	66°15.12′W
RP-7	18°28.69′N	66°14.88′W
RP-8	18°28.61′N	66°15.27′W

Rio Cibuco

RC-1	18°29.24′N	66°22.76′W
RC-2	18°29.25′N	66°22.96′W
RC-3	18°29.39′N	66°22.90′W
RC-4	18°29.42′N	66°23.005′W
RC-5	18°29.57′N	66°22.885′W
RC-6	18°29.575′N	66°23.10′W
RC-A	18°29.245′N	66°22.70′W
RC-B	18°29.20′N	66°23.00′W
RC-C	18°29.225′N	66°23.09′W

Rio Grande de Manati

RM-A	18°29.01′N	66°32.01′W
RM-B	18°29.00′N	66°32.065′W
RM-C	18°28.95′N	66°32.085′W
RM-D	18°29.01′N	66°32.01′W

Rio Grande de Arecibo

RA-A	18°28.525′N	66°42.425′W
RA-B	18°28.525′N	66°42.425′W

Rio Grande de Loiza

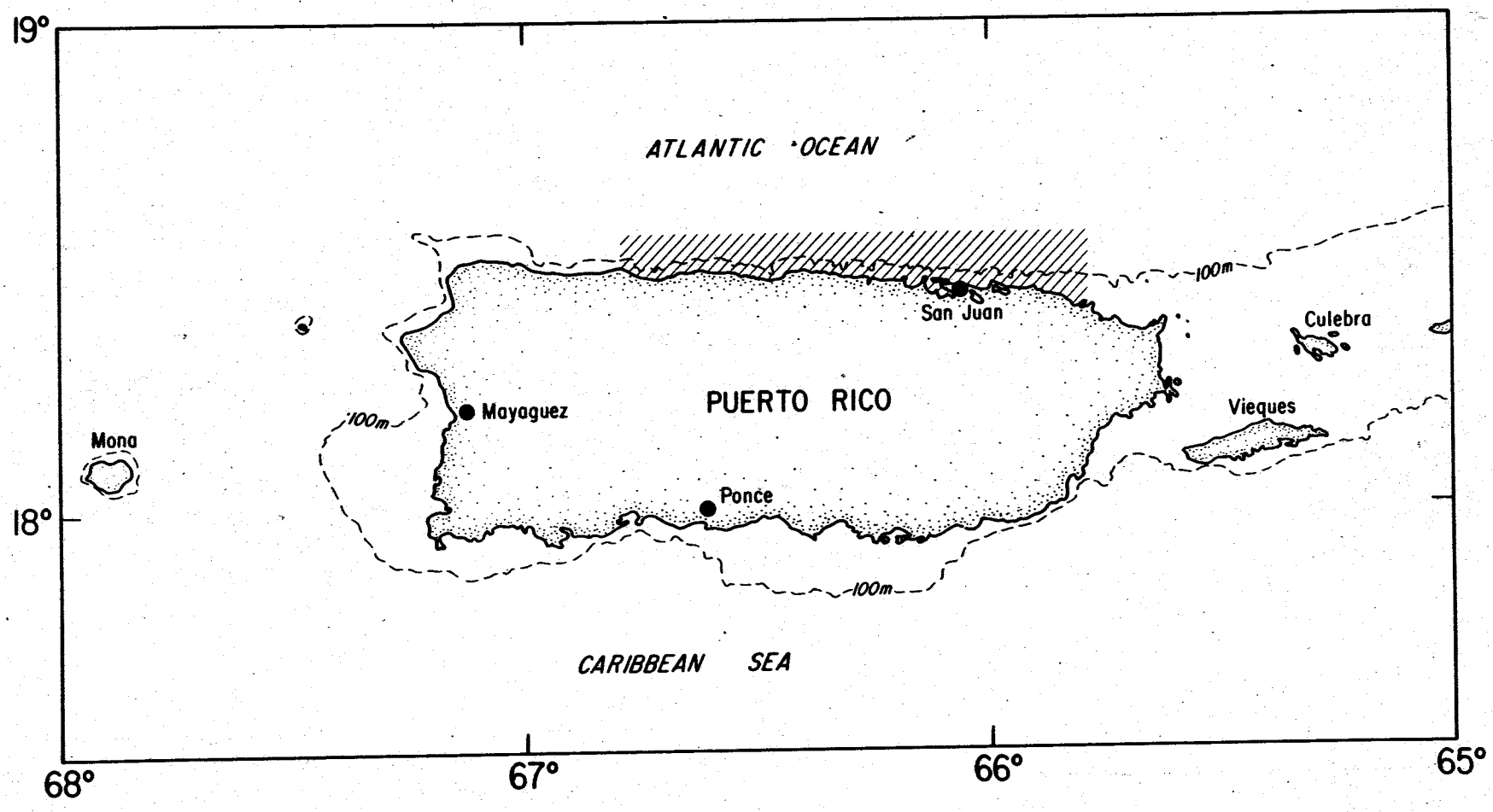
RL-A	18°26.392′N	65°52.705′W
RL-B	18°26.392′N	65°52.705′W

Rio Espiritu Santo

RES-A	18°24.780′N	65°48.258′W
RES-B	18°24.780′N	65°48.258′W

Rio Mameyes

RMAM-A	18°23.210′N	65°45.038′W
RMAM-B	18°23.210′N	65°45.038′W


19°
18°
68°
67°
66°
65°
ATLANTIC OCEAN
CARIBBEAN SEA
PUERTO RICO
San Juan
Mayaguez
Ponce
Mona
Culebra
Vieques
100m
100m
100m