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CRUISE REPORT
U. S. Virgin Islands

79003

1. Ship: R/V Sarima & R/V Black Coral
2. Area of Operation: Eastern St. Croix, 3/18 - 3/24/79
Southern St. Thomas - St. John Platform, 3/24 - 3/31/79
3. Dates of Operation: 3/18/79 - 3/31/79
4. Personnel: Charles W. Holmes
David Folger (3/18 - 3/24/79)
Ronald Miller
Jack Kindinger
Neal Lillard

5. Purpose:

The purpose of this cruise was to obtain high resolution data from the eastern portion of St. Croix, in addition to obtaining some core data for "ground truth" on a suspected sand body. Off St. Thomas - St. John the purpose of the cruise was to make current measurements in the Saba Island area, to obtain additional surface samples in the same area, and to core the reef masses to obtain samples for dating.

6. Equipment:
 - a. Del Norte Minisparker & ORE 1032 "tunable" subbottom profiler.
 - b. 4 Bendix current meters.
 - c. Dokken-Circe vibracorer.
 - d. Miller-Holmes drilling corer.
7. Navigation: Miniranger.
8. Data Acquired:
 - a. Approximately 100 km of high resolution data were acquired (mostly minisparker). The 1032 system lacked the power to penetrate the hard carbonate surface. The few centimeters of sand could not be resolved.
 - b. 5 days of continuous current data, the last two under winter storm conditions.
 - c. 4 vibracores -- the thin sand veneer prevented significant core penetration.
 - d. 1 130 cm drill core, 30 cm recovery.
 - e. 12 surface samples.

9. Comments:

Due to boat breakdown at the beginning of the work period, only 4 days of data were obtained during the first week. However, the main mission of the phase was to obtain data on the south shore "sand body." This was accomplished. In addition, data were obtained on "Lang Bank." This feature was believed to be an accretionary feature, but the data indicate an atoll-like platform. The data, both geophysical and sedimentological, indicate that the "sand mass" is only a very thin sheet.

During the second phase, the current data which were obtained substantiate the supposition that strong currents control the geometry of the seafloor in the Saba Island area. The sample from the outer reef indicated a very dense, highly cemented sand/coral matrix. Additional information will be obtained from ^{14}C dating and thin sections.

10. Tabulated Information:

- a. Number of days at sea - 13
- b. Number of working days - 9
- c. Total ship track - 250 km
- d. Km's of continuous data - 100 km
- e. Total number of stations - 21
 - 4 current
 - 4 vibracores
 - 1 drill core
 - 12 surface sediment

