UNIVERSITY OF RHODE ISLAND • KINGSTON, RHODE ISLAND 02881

Narragansett Marine Laboratory *Graduate School of Oceanography*

ASAF ASHRAF

CRUISE REPORT
CRUISE TR-71

"DUMP"

30 July - 13 August 1969

R/V TRIDENT

Core Laboratory
Graduate School of Oceanography
University of Rhode Island

A 14-day cruise was made in the North Atlantic Ocean from 30 July to 13 August 1969. The operations involved geological and geochemical studies.

Leg 1. 30 July-13 August 1969 - St. Georges Bermuda to Narragansett (14 days)

Scientific Party

Bonnie A. McGregor (URI) Scientific Leader, Geology

Thomas H. Johnston (URI) Geology

Philip Meyers (URI) Geochemistry

John Farrington (URI) Geochemistry

Robert Cooke (URI) Geochemistry, International Nickel, Inc.

Doris Smith (Hope College) Geology

Richard Sugatt (Wesleyan Univ.) Biology

Timothy Kennard (URI) Oceanographic Specialist

William Hahn (URI) Oceanographic Specialist

Ship Personnel

B. Collinson, Master

C. Sawyer, Chief Mate

P. Rynn, 2nd Mate

O. Palardy, Bosn.

H. Martin, Able Bodied Seaman

R. Connery, Able Bodied Seaman

J. Archambault, Able Bodied Seaman

E. Jaquith, Ordinary Seaman

O. Ammons, Ordinary Seaman

P. Neves, Cook

F. Flores, Messman

H. Rougas, Electrician

Ship Personnel (continued)

J. Evans, Radio Officer
J. Symonds, Chief Engineer
G. Williams, 1st Ass't Engineer
T. Surrette, 2nd Ass't Engineer
D. Gentsch, Oiler
E. McLendon, Oiler
W. Williams, Oiler

Soundings and magnetic readings were obtained routinely with, respectively, a metric Alpine PESR coupled to an Edo echo sounder and a Varian shipborne magnetometer. Bottom sampling was done with a 150 lb. gravity corer, a Smith-McIntyre grab sampler, a light weight dredge, and a chain bag dredge. Bottom photographs were taken in areas where dredge hauls were made.

The purpose of this cruise was a dredging program in the Corner Seamounts Area 36°35'-34°N and 52°-47°W. On an earlier cruise to this area (TR-49) the surveying and preliminary sampling were done. The dredging was concentrated on two seamounts, at 35°30'N 51°58'W and 34°35'N 49°49'W. A total of 11 dredge hauls, 5 camera stations, and one gravity core were made on the two seamounts (see tables). The seamount at 35°30'N 51°58'W has a flat terrace at approximately 900 m and a pinnacle at 650 m. The seamount at 34°35'N 49°49'W has a flat top between 1000 and 1100 m.

Anchored buoys were put out on the seamount tops to assist in positioning the ship for dredge hauls. The types of material dredged included solitary horn corals, consolidated blocks of carbonate sand, and manganese cobbles, with botriodal surfaces. The bottom photos show the bottom to have patches of sediment and outcrops of carbonate and manganese crusts. Additional bathymetric and magnetic survey lines were done before leaving the Corner Seamount Area.

At 30°52'N 59°24'W an unsuccessful attempt was made to dredge up some manganese nodules and sediment. A similar station was planned at 36°45'N 67°55'W but hurricane Bernice made that station impossible to occupy.

On the continental shelf in 55 m of water at 40°51.5'N 71°W, two successful grab samples were made with the Smith-McIntyre. The grey mud obtained will be analyzed for lipids, carbohydrates and amino acids plus total organic carbon. This sample will be compared with samples from Narragansett Bay. This is part of a study to establish if a polution gradient in the sediments of Narragansett Bay and offshore waters exists and can be detected by organic chemistry.

A BT profile was made across the continental slope from 200-800 m at about 40°N 70°W for Tom Mead of the School of Commercial Fisheries and Marine Technology.

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DREDGE HAULS

Seamount At	Dredge No.	Date (1969)	Depth m	Location	Samples Received
35°30'N 51°58'W	1A	Aug. 3	2200-1450	SE side of seamount	-
	1B	Aug. 3	1050-1400	SE side of seamount	-
	2A	Aug. 3	875	Top of seamount	-
	2B	Aug. 4	650-725	Top of seamount	4 sea urchins, 1 star fish
	3	Aug. 4	1320-1450	NE side of seamount	-
	4	Aug. 4	1200-1700	NW side of seamount	-
34°35'N 49°49'W	5	Aug. 6	1075-1330	Top of seamount	Horn coral pelecypods, brittle stars, block consolidated carbonate sandstone
	6	Aug. 6	2200-2500	NW side of seamount	Carbonate sandstone blocks with Mn coating, Mn boulders with botriodal surfaces
	7	Aug. 7	1550-2000	NW side of seamount	Mn and sandstone gravel
	8	Aug. 7	1300-1400	NW side of seamount	Horn coral
	9	Aug. 7	2080-2350	SE side of seamount	- botryoidal

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CAMERA STATIONS

Seamount At	Station No.	Date (1969)	Depth m	Location
35°30'N 51°58'W	2-1	Aug. 3	830	Top of seamount
	4-2	Aug. 4	1250	NW side of seamount
34°35'N 49°49'W	5-3	Aug. 6	1050	Top of seamount
	6-4	Aug. 6	2160	NW side of seamount
	9-5	Aug. 7	2000	SE side of seamount

OTHER SAMPLES

Type	Location	Date (1969)	Depth m	Sample Recovered
Gravity core	35°30'N 51°58'W	Aug. 4	960	coral fragments
Smith-McIntyre	40°51.5'N 71°W	Aug. 13	55	grey mud