



DREDDGE
CRUISE REPORT
R/V ENDEAVOR
EN-025

EN-025

DREDDGE

SCHEDULE

DEPART: 15 July 1978 Narragansett, RI
ARRIVE: 28 July 1978 Reykjavik, Iceland

REGION OF INVESTIGATION AND PURPOSE

Rock dredging along the Mid-Atlantic Ridge Axis (Reykianes Ridge) for the purpose of laboratory petrological, geochemical and geological studies.

SCIENTIFIC PARTY

H. Zajac Chief Scientist, URI (J-G Schilling sponsor)
P. Justus Geologist, Fairleigh Dickinson Un.
H. Mukherji Graduate Student, URI
K. Benjamin Graduate Student, URI
J. Hickey Student, URI
C. Sylvia Student, URI
K. Carter Student, Prov. College
V. Stetson Student, URI
C. Fulton Student, Fairleigh Dickinson Un.
K. Gehrke Student, Fairleigh Dickinson Un.
S. Imms Marine Technician, URI

SHIP COMPANY

H. P. Bennett, Jr., Master
S. E. Kosinski, 1st Mate
T. J. Lavin, 2nd Mate
H. P. Rickford, Boat Swain
D. H. Andrisek, Able-Seaman
I. B. Hall, Able-Seaman
C. E. Parks, Able-Seaman
J. P. Symonds, Chief Engineer
P. G. Nielsen, Assistant Engineer
C. L. Smith, Assistant Engineer
J. H. DeFarros, Steward/Cook
D. R. Lizotte, Cook/Boysman

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OPERATIONS AND RESULTS

1. Line (9) successful dredge stations were occupied. Station location, depth and nature of recovery are given in Table 1.
2. Each dredge station was preceded by a short seismic, bathymetric and magnetic intensity profile run perpendicular to the ridge to locate outcrops for dredging. Ship tracks are shown in Figure 1.
3. Breakdown of operations are the following:

| | <u>Hours</u> | <u>Nautical Miles</u> |
|---------------------------------------|--------------|-----------------------|
| Dredging | 38.5 | -- |
| Magnetic Profiling | 21.3 | 180 |
| Sub-bottom seismic profiling (3.5KHz) | 13.2 | 120 |
| Bathymetric profiling (12KHz) | 307 | 2795 |
| Total | <u>307</u> | <u>2795</u> |

ACKNOWLEDGMENTS

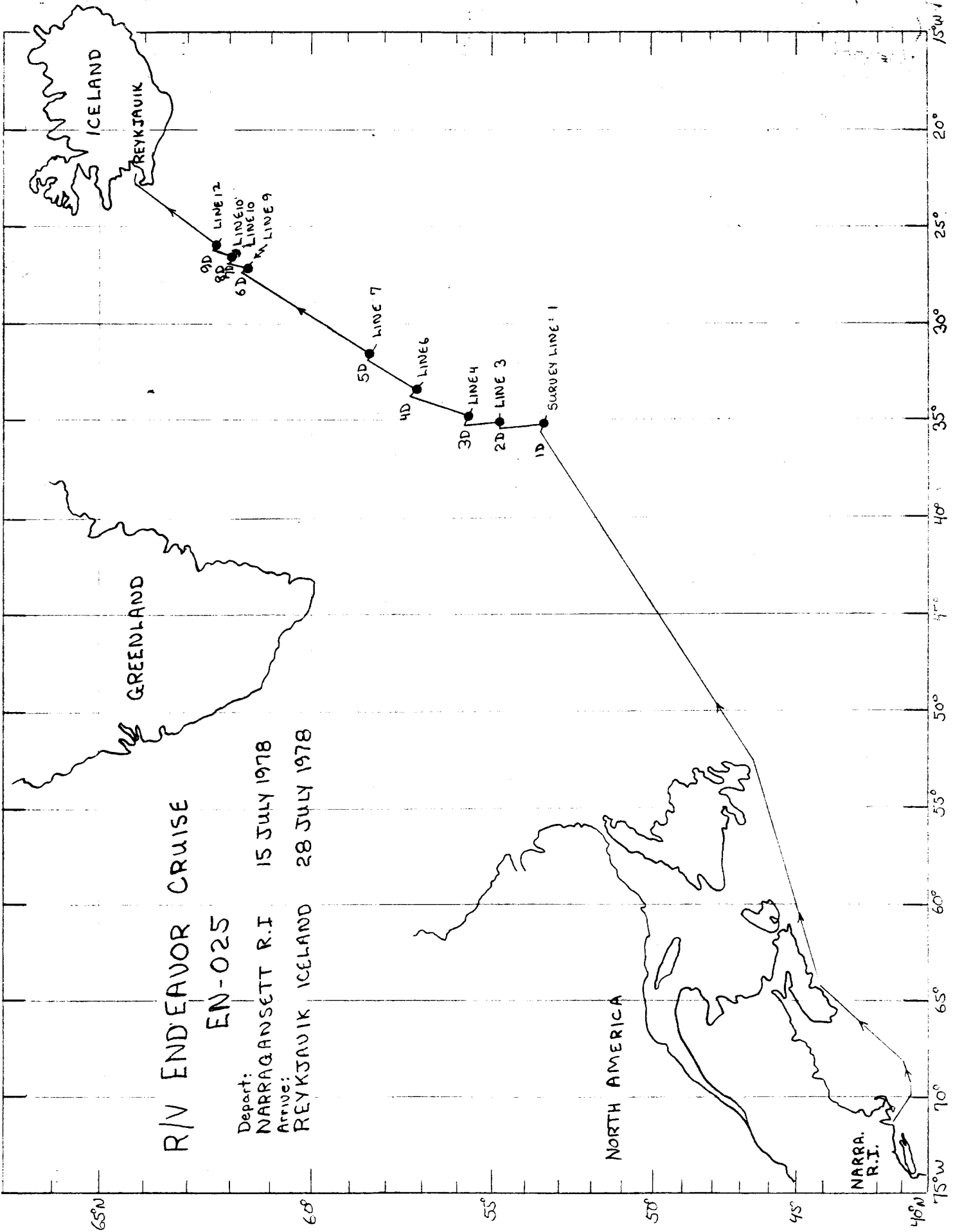
The assistance and cooperation of Captain H. P. Bennett and his crew are greatly appreciated. This work was supported by the National Science Foundation under Grant OCE76-01577.

EM-025 DREDGING RECOVERY

| SURVEY LINE | STATION | LOCATION | DEPTH(m) | FEATURE | RECOVERY | OPERATOR |
|-------------|---------|----------------------------|-----------|---------------------|---|--------------|
| 1 | 1D | 53° 24.8'N 35° 14.4'W | 2000-2000 | W. wall of MAR rift | 250kg--Few semifresh basalts. Some glass and Palagonite. | Zajac |
| 3 | 2D | 54° 45.55'N 35° 13.2'W | 2100-2050 | MAR rift center | Well developed glass with palagonite on very fresh basalt crusts and pillow pieces. Feldsparphyric | Zajac |
| 4 | 3D | 55° 40.2'N 34° 52.1'W | 2200-1950 | MAR rift center | 400 kg of basalt pillow pieces semifresh. Some remnant glass rinds. | Zajac/Justus |
| 6 | 4D | 57° 08.53'N 33° 25.39'W | 2020-2300 | MAR rift | Fresh to semifresh glassy basalt; some palagonite; many very large pillows; remnant glass abundant | Zajac/Hickey |
| 7 | 5D | 58° 25.1'N 31° 37.0'W | 1575-1340 | MAR rift | 1300 kg semifresh to fresh basalts. Connecting necks and pillow pieces. Remnant glass with some palagonite. Vesicular with some large pipe vesicles. Feldsparphyric | Zajac/Justus |
| 9 | 6D | 61° 36.2'N 27° 04.1'W | 760 | MAR rift center | 300 kg of fresh basalt fragments, pillows and slabs; aphyric and vesicular with glassy rinds. Some iron oxide staining | Justus |
| 10 | 7D | 61° 52.9'N 26° 20.2'W | 850-775 | MAR E. flank | Mostly erratics and rounded boulders. Some vesicular basalt pieces with glass palagonite. Some massive igneous rock. | Hickey |

FN-025 DREDGING RECOVERY

| SURVEY LINE | STATION | LOCATION | DEPTH(m) | FEATURE | RECOVERY | OPERATOR |
|-------------|---------|--------------------------|----------|------------------------|--|----------|
| 10' | 8D | 61° 58.7'N 26° 32.1'W | 660-780 | MAP axis (elevated) | Fresh to semifresh vesicular basalt crust and pillow pieces with glass and palaeonite. | Zajac |
| 12 | 9D | 62° 18.8'N 25° 55.6'W | 750 | MAP axis (elevated) | 1300 kg of fresh glassy pillow basalt fragments, anhyric and vesicular; some palaeonite. | Zajac |



R/V ENDEAVOR CRUISE

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Depart: NARRAGANSETT R.I. 15 JULY 1978
Arrive: REYKJAVIK ICELAND 28 JULY 1978

65°N

60°

55°

50°

45°

40°N

75°W

70°

65°

60°

55°

50°

45°

40°

35°

30°

25°

20°

15°W

ICELAND

GREENLAND

NORTH AMERICA

NARRA.
R.I.

REYKJAVIK