

CRUISE REPORT
TR 119 (AZORES-MAR)
21 July - 28 July 1972
R/V TRIDENT

J-G

SCHEDULE

Departed	Horta, Fayal, Azores	21 July 1972, 18:36
Returned	Ponta Delgada, San Miguel	28 July 1972, 16:06

GRANTS

J-G. Schilling and D. C. Krause NSF Grant GA-30677X

PROGRAM & PURPOSE

The object of the cruise was to dredge basalts from the Mid-Atlantic Ridge Crest southwest of the Azores Platform, away from this volcanic center, for the purpose of establishing geochemically the presence and extent of influence of a hot mantle plume rising beneath the Azores Region.

The survey was to overlap the area of PROJECT FAMOUS (an international program of detailed geophysical and geological study and sampling of a small segment of the Mid-Atlantic Ridge near 36°N, which includes some 40 submersible dives within the rift during 1973 and 1974). The regional sampling planned for TR119 was to relate the volcanism of the Azores Platform to FAMOUS area, and during a subsequent cruise to the 45°N CANADIAN PROJECT; and be an important part of URI contribution to the international cooperative effort.

OPERATION

Originally, the cruise was scheduled for 15 days to dredge at some 10 to 12 stations between 39°N to 32°N along the Mid-Atlantic Ridge Axis. Due to an unfortunate breakdown of the deep sea winch, the operation had to be terminated on July 26, 8:45 a.m. at 34°56'N, 36°36.7'W; after having occupied only 4 stations. TRIDENT then returned to the nearest port, Ponta Delgada, for repair, and further operations had to be cancelled.

SCIENTIFIC PARTY

Dr. J-G. Schilling	URI	Chief Scientist	USA
D. G. Johnson	URI	Graduate Assistant	USA
M. D. Tapia	URI	Graduate Assistant	USA
M. Zajac	URI	Geologist, Staff	USA
J. A. Radway	Wesleyan Univ.	Student	USA
J. T. Wibberley	Wesleyan Univ.	Student	USA
W. H. Mook	Wesleyan Univ.	Student	USA
J. Moore	Wesleyan Univ.	Student	USA
H. L. P. Knuttel	Wesleyan Univ.	Student	USA
G. Kim	URI	Spec. student	USA
A. Buddington	URI	Marine Technician	USA
E. Weitzner	URI	Marine Technician	USA
E. Houde	URI	Marine Technician	USA

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CREW

Terry Hansen, Master	Lawrence Davey, O.S.
Robert Reusswig, Ch. Mate	Richard Barker, Ch. Eng.
Stephen Beuth, 2nd. Mate	Theodore Surrette, 1st. Assist.
Willard James, Radio Officer	Gregory Freeman, 2nd. Assist.
John Stohlberg, Bosun	Joseph Moscatelli, Oiler
Frederick Russell, A.B.	David Smith, Oiler
Omar Palardy, A.B.	Ronald Gosinski, Oiler
Bruce Grant, A.B.	Eric Buehrens, 2nd. Cook
William Hession, O.S.	Antonio G. da Rosa, Ch. Cook

RESULT

Six(6) subbottom profiles with accompanying bathymetry and total magnetic intensity surveys were run across the Mid-Atlantic Ridge to locate dredging stations (Figure 1.). Four(4) dredge stations were occupied and basaltic rocks successfully recovered (Figure 1. and Table 1.).

Cruise time allocation is:

Transit (PESR & MAG)	111 hours	30 minutes
Survey Profiles (PAR, PESR, MAG)	31 h "	50 "
Dredging Stations	22 "	10 "
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Total	165 hours	30 minutes, or ~6d. & 22 hrs.

The poor ratio of scientific return to transit is due to the repeated electrical problems encountered with the deep sea winch, its final breakdown, and as a result cancellation of further scientific operations and return to the nearest port.

TABLE 1. TR119 DREDGE LOCATION AND RECOVERY

Station	Latitude	Longitude	Depth(m)	Sample description and remarks
✓ 4D	36°50.7'N	33°13.7'W	2375 ± 100	MAR Rift, bottom of East wall, moderately fresh pillow basalt with glass. (1 large, 3 med. and fragments) phenocrysts, olivine and feldspar.
✓ 6D	35°50.2'N	34°10.8'W	2450 ± 50	MAR Rift center, 1 gunny sack full of glassy pillow basalts and fragments.
✓ 7D	35°20'N	34°54'W	2250 ± 150	MAR Rift center, bottom west wall, 15 kg fresh, highly vesicular crust and small pillow fragments, pahoehoe structures apparent
✓ 8D	34°56.34'N	36°36.7'W	1750 ± 30	MAR crest, rift location uncertain - muddy ground; small <u>altered</u> pillow basalt and fragments, < 2mm Mn-coating.

