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CRUISE REPORT

Ship Name: R/V Conrad

Cruise No: 22-03

Departure: February 23, 1979
Date

from Manzanillo, Mexico
Port

Arrival: March 16, 1979
Date

at Manzanillo, Mexico
Port

Days at Sea: 21
(Count day of departure but
not day of arrival in port)

Days Foreign Port: 3
(number of days in arrival port before
next log)

Area of Operation:

15°N, 105°W in the vicinity of the Orozco fracture zone

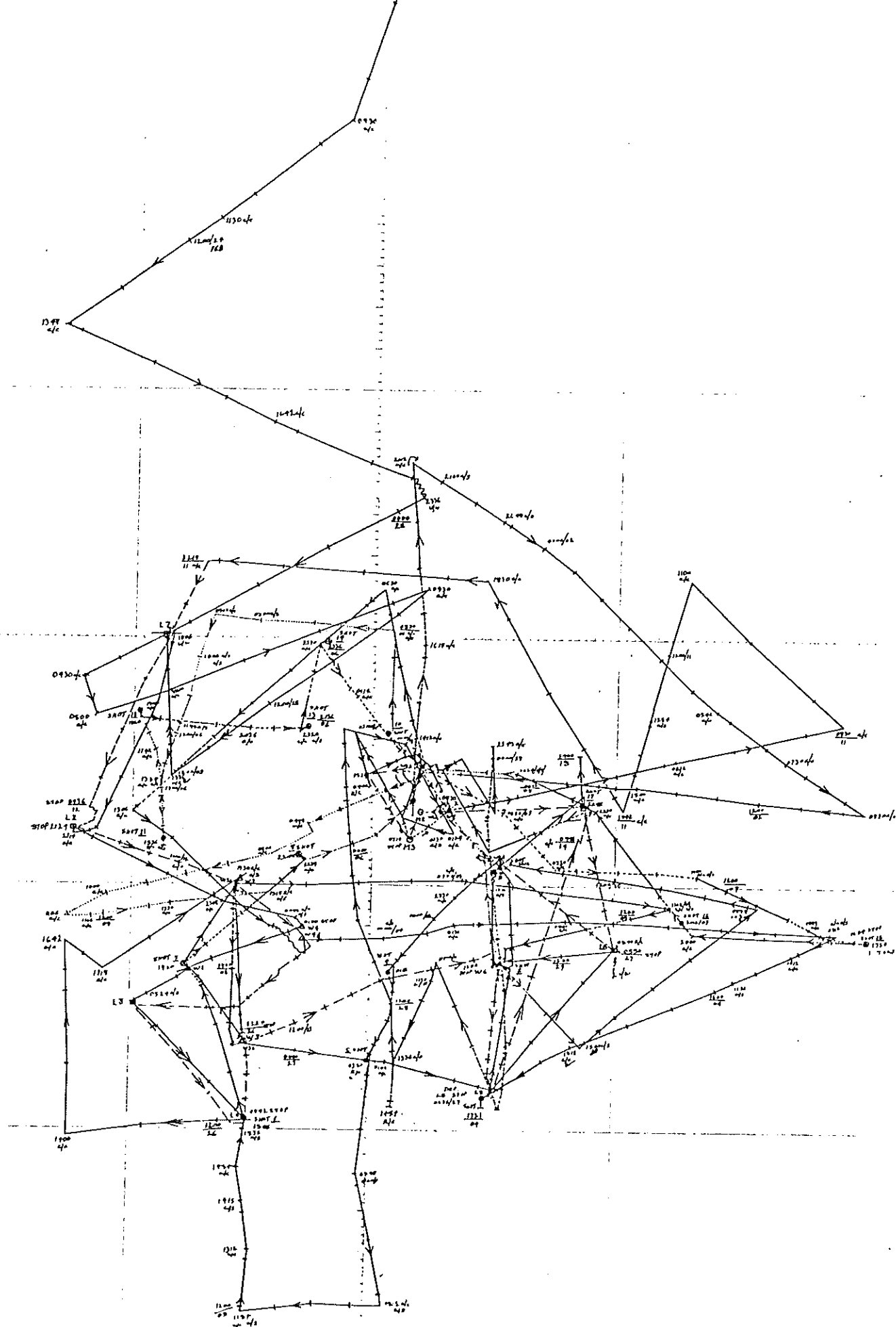
Program Description: Project ROSE Phase II - principally monitoring earthquake activity in the fracture zone. Also detonated and recorded 2-1 ton shots, 15 500#shots and 4 lines of 5#shots.

Program supported by what contact: TO-210-Scope Z; NSF 78-23849

Participants: (All L-DGO unless otherwise specified)

<u>Name</u>	<u>Institution</u>	<u>Title</u>
Paul W. Pomeroy		Co-Chief Scientist
Robert Bookbinder		Electronic Engineer
George Gunther		Technician
Ivars Bitte		Technician
John Ewing	WHOI	Co-Chief Scientist
Donald Koelsch	WHOI	Engineer
Jeremy Duschenes	MIT	Seismologist
Timothy Barash	MIT	Engineer
Anne Trehu	MIT	Seismologist

All inquiries regarding cruise should be made to the chief scientist.



NARRATIVE DESCRIPTION

R/V conrad departed Manzanillo on 23 February toward the proposed study area north of the ROSE Phase I area near the Orozco fracture zone. On our way to the OBS deployment area, five crossings of the East Pacific Rise were made to delineate the ridge crest north of the fracture zone. At 1000 local, the deployment of OBS's was initiated and carried out in the following order:

LDGO L1	15°29.8'N	105°26.2'W
LDGO L2	15°06.5'N	105°36.4'W
WHOI WH4	14°54.9'N	105°08.5'W
WHOI WH1	14°49.7'N	105°22.6'W
LDGO L3	14°46.3'N	105°30.3'W
LDGO L4	14°31.9'N	105°17.5'W
WHOI WH2	14°59.1'N	105°17.0'W
WHOI WH3	14°40.4'N	105°15.8'W
LDGO L5	14°35.9'N	104°46.0'W
LDGO L6	14°53.4'N	104°30.7'W
WHOI WH6	14°50.5'N	104°44.4'W
WHOI WH5	15°02.1'N	104°44.9'W
LDGO L7	15°09.3'N	104°33.9'W
MIT M1	15°13.2'N	105°01.5'W
WHOI WH8	15°14.0'N	104°54.7'W
MIT M3	15°06.8'N	104°56.6'W
WHOI WH7	15°08.9'N	104°51.3'W
MIT M2	15°09.2'N	104°50.6'W

On March 3, WH4 was picked up and redeployed as WH4B.

Once all of the OBS's aboard the Conrad were deployed, a series of 500 pound charges were detonated: 5 on March 4th, 5 on March 5th and 4 on March 6th. Detonation locations were over specific instrument sites within the entire OBS array of 63 sensors:

	<u>Bridge Positions</u>	
L5	14°34.5'N	104°45.5'W
WH6	14°50.4'N	104°44.0'W
WH5	15°02.9'N	104°45.0'W
S	14°50.5'N	104°57.4'W
O5	14°39.1'N	104°59.2'W
L4	14°31.0'N	105°15.0'W
WH1	14°49.8'N	105°23.3'W
T6	15°03.6'N	105°08.5'W
M2	15°10.3'N	104°55.1'W
H4	15°18.2'N	104°58.5'W
T4	15°05.3'N	105°26.8'W
T1	15°20.7'N	105°29.1'W
S3	15°19.5'N	105°08.0'W
H1	15°21.5'N	105°06.0'W

All of these shots were detonated at 300 meters depth.

On the following day March 7, two 1-ton shots were detonated at

14°53.7'N, 103°59.0'W

14°54.3'N, 104°21'W

A final 500 pound charge was detonated at:

15°09.9'N, 104°34'W

Beginning on the eighth of March, the WHOI OBH's had run out of tape and they were retrieved, retaped and redeployed.

On March 8th, WH2B and WH3B were deployed.

On March 9th, WH5B and WH6B were deployed.

On March 10, WH7B and WH8B were deployed.

On March 11, 1630 local time, the pickup of all the OBS units was initiated in the order L1, L2, WH2B, WH4B, L3, L4, WH3B, WH6B and L5. We then proceeded to site L7, arriving at 2215 and transmitted the acoustic command to release the instrument. The instrument acknowledged receipt of the command but did not release. Repeated attempts were made to achieve release but were not successful. At 0043 on the 14th, we departed for site L6 and picked up in order L6, WH5B, WH7B, WH8B and M1. We then proceeded to site M3 to pick up that MIT instrument but it failed to release. We then picked up the M2 instrument. Finally, we returned to the L7 site and again tried dozens of commands in an effort to release the instrument. In all cases, the instrument acknowledged receipt of the commands but we were unable to release it. We departed the L7 site at 0712 and returned to Manzanillo on the 16th at ~ 0800.