

NOV 4 1993

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SO. GEOL. DATA CENTER

SCRIPPS INSTITUTION OF OCEANOGRAPHY
UNIVERSITY OF CALIFORNIA, SAN DIEGO
LA JOLLA, CALIFORNIA 92093

Westward Expedition



R/V Melville
November 1993 - June 1994

LEGS 1-5

CRUISE PROSPECTUS

Robert A. Knox
Robert A. Knox
Associate Director, SIO

Westward EXPEDITION

R/V MELVILLE

Leg 01

T. Urabe, Geophysical Survey of Japan
81-298-54-3636
OBS, SEA BEAM, CTD
San Diego - Papeete
23 Nov - 30 Dec 1993

Leg 02

P. Lonsdale, Scripps Institution of Oceanography
(619) 534-2855
SEA BEAM
Papeete - Wellington
3 Jan - 8 Feb 1994

Leg 03

S. Bloomer, Boston University
(617) 353-5511
J. Natland, RSMAS
(305) 361-4123
P. Castillo, Scripps Institution of Oceanography
(619) 534-0383
Dredging, SEA BEAM
Wellington - Iquique
14 Feb - 21 Mar 1994

Leg 04

M. McCartney, Woods Hole Oceanographic Institution
(508) 548-1400 X2797
WOCE P21, Hydrographic Oceanography
Iquique - Papeete
27 Mar - 15 May 1994

Leg 05

H. Bryden, Woods Hole Oceanographic Institution
(508) 548-1400 X2806
WOCE P21, Hydrographic Oceanography
Papeete - Brisbane
19 May - 25 June 1994

Leg 02
Peter Lonsdale, SIO
Papeete - Wellington
03 Jan - 08 Feb 1994

A marine geophysical survey is planned of the Heezen, Tharp, Hollister and Udintsev transform faults in the far south Pacific (sites H, T, Ho, and U on the attached map). Survey tools to be used are a SEA BEAM 2000 multibeam echosounder, magnetometer, gravimeter, and 3.5 kHz acoustic profiler.

The geophysical survey in this remote location is scheduled for a leg of R/V *Melville* from Papeete, Tahiti to Wellington, New Zealand. As a contribution to the geophysical data base for interpreting the geologic history and tectonic pattern of the South Pacific, the survey equipment will be operated throughout the leg, not just in the planned survey area (53°-58°S 120°-150°W). A shallow feature (100 fathoms), which may possibly be an active volcano at about 56°S 150°W, may be dredged.

The transit south-southeast from Papeete to Heezen transform (a direct route from Papeete to 56°S, 125°W) will take the vessels through the French Exclusive Economic Zone around Tahiti and the Austral Islands. Clearance has been requested from France to operate our echosounders, magnetometer and gravimeter during this part of our route.

The transit northwest from Udintsev transform to Wellington will take the vessel through the New Zealand Economic Zone around the main islands and Chatham Island. Clearance from New Zealand has also been requested.

Scientific party: Leg 02:

1. Ms. Elizabeth Baker, UCSD/SIO, Graduate Student/RA
2. Ms. Nancy E. Bowers, UCSD/SIO, Graduate Student/RA
3. Mr. Sean Fitts, UCSD/SIO, Graduate Student
4. Dr. Peter Lonsdale, UCSD/SIO, Chief Scientist
5. Mr. Ronald Moe, UCSD/SIO/SCG, Programmer
6. Mr. Seth Mogk, UCSD/SIO/STS, Resident Technician
7. Dr. David Sandwell, UCSD/SIO/GRD, Assoc. Professor
8. Mr. Jeffrey Skinner, UCSD/SIO/SCG, Instrumentation Engineer
9. Ms. Kimberly M. Williams, UCSD/SIO, Graduate Student/RA
10. TBD
11. TBD
12. TBD

UNDERWAY GEOPHYSICAL DATA ACQUISITION PLAN

Date revised 19 Oct 1993
By: S.M. Smith

LEG: Westward, Leg 2 (WEST02MV) R/V Melville

DATES: (and ship-days): 03jan-08feb94 (39 days)

PORTS: Papeete, Tahiti - Wellington, New Zealand

CHIEF SCIENTIST(S): Peter Lonsdale, SIO

FOREIGN CLEARANCES REQUESTED FOR: France, New Zealand

UW DATA COLLECTION (yes/no)	DAYS PAID FOR; RATE and FUNDING SOURCE
<input type="checkbox"/> Depth, 12kHz (analogue,wide)	(included in daily ship rate)
yes Depth, 3.5kHz (analogue,wide)	(included in daily ship rate)
yes Magnetics	(included in daily ship rate)
yes Gravity	
no Seismic Reflection, Analogue	
no Seismic Reflection, Digital	
yes SEA BEAM 2000 with sidescan:	
Collection Mode (one only):	39 days full rate w/o processor
<input type="checkbox"/> Full Rate w/ processor	
<input checked="" type="checkbox"/> Full Rate w/o processor	
<input type="checkbox"/> Intermittent use mode	
<input type="checkbox"/> Non G&G Ancillary	

DATA SHIPMENT AT END OF LEG: Ship Records back to GDC/SIO via Air Freight or may be handcarried back to SIO by scientific party.

NOTES: Dredging may be done on recently active volcano at 56°S, 150° W.

Contact:
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