

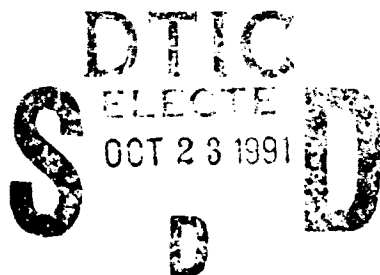
Marine Physical Laboratory

AD-A241 999



SUPPORT OF NRL ACOUSTIC EXPERIMENTS IN THE NORTH PACIFIC

Peter F. Lonsdale
(Principal Investigator)



*Final Report to Office of Naval Research Grant
N00014-89-J-3131 for the Period 05-01-89 - 09-30-89*

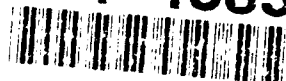
MPL-U-81/91
August 1991

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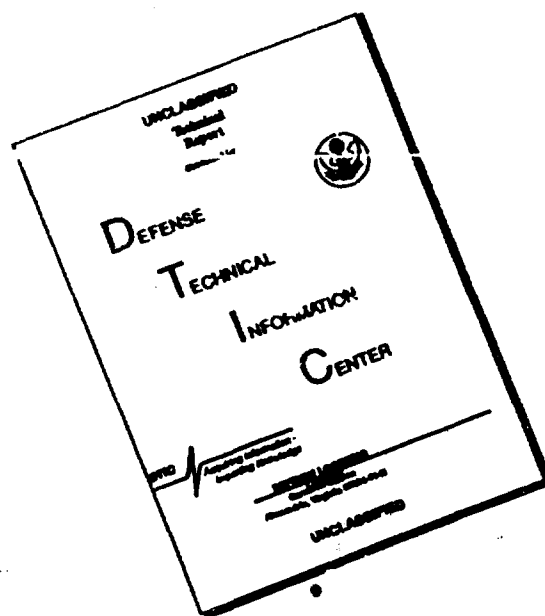
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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.			
1. Agency Use Only (Leave Blank).	2. Report Date. August 1991	3. Report Type and Dates Covered. Final Report	
4. Title and Subtitle. SUPPORT OF NRL ACOUSTIC EXPERIMENTS IN THE NORTH PACIFIC		5. Funding Numbers. N00014-89-J-3131	
6. Author(s). Peter F. Lonsdale (Principal Investigator)		Project No. Task No.	
7. Performing Monitoring Agency Name(s) and Address(es). University of California, San Diego Marine Physical Laboratory Scripps Institution of Oceanography San Diego, California 92152		8. Performing Organization Report Number. MPL-U-81/91	
9. Sponsoring/Monitoring Agency Name(s) and Address(es). Office of Naval Research Department of the Navy 800 North Quincy Street Arlington, VA 22217-5000		10. Sponsoring/Monitoring Agency Report Number.	
11. Supplementary Notes.			
12a. Distribution/Availability Statement. Approved for public release; distribution is unlimited.		12b. Distribution Code.	
13. Abstract (Maximum 200 words). During the transit portion of the ONR funded research cruise to study the Pieberling Guyot: the R/V THOMAS WASHINGTON was utilized to collect an east-west swath of multibeam bathymetry and seismic profiler data between the Murray and Pioneer Fracture Zones.			
14. Subject Terms. Murray Fracture Zone multibeam bathymetry acoustic measurements seismic profiling		15. Number of Pages. 1	
		16. Price Code.	
17. Security Classification of Report. Unclassified	18. Security Classification of This Page. Unclassified	19. Security Classification of Abstract. Unclassified	20. Limitation of Abstract. None

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Peter F. Lonsdale (Principal Investigator)
Final Report to the
Office of Naval Research
Grant N00014-89-J-3131
for the Period 05-01-89 - 09-30-89

Summary

During the transit portion of the ONR funded research cruise to study the Fierberling Guoyt: (as part of the Topographic Interaction Project) the R/V THOMAS WASHINGTON was utilized to collect an east-west swath of multibeam bathymetry and seismic profiler data between the Murray and Pioneer Fracture Zones. This data was collected at the request of Dr. Orest Diachok of the Naval Research Laboratory. Seafloor roughness and sediment thickness measurements are required by NRL to enhance the interpretation of the bottom reflectivity experiments "Pacific Echo 1" and "Pacific Echo 2", which assessed the dependence of bottom reflectivity on such factors as grazing angle, acoustic frequency, abyssal hill orientation and geologic age.

Data was collected along the 34°N between 130°W and 140°W; on a survey of a 400 km² area around 34°N, 140°W; and on a great circle track between 34°N, 140°W and 31°14'N, 156°W.

The systems used were the Sea Beam echo-sounder, and a single-channel profiler which used an 80 cubic inch watergun as the sound-source. A magnetic profile (for establishing crustal age) was collected for the Scripps archives. The data was given to NRL at the end of the cruise in the form of contour swaths of Sea Beam data, a navigationally reconciled Sea Beam survey of the area, 9-track tapes of merged Sea Beam and navigation data, and copies of the analog seismic profiles.

The geophysical data will be archived at Scripps, as well as being supplied to NRL, and will be available for use by other investigators.