### VOLUME 195 Initial Reports

SEAFLOOR OBSERVATORIES AND THE KUROSHIO CURRENT SITES 1200-1202

### PROCEEDINGS OF THE OCEAN DRILLING PROGRAM

Prepared by the OCEAN DRILLING PROGRAM, TEXAS A&M UNIVERSITY, in cooperation with the NATIONAL SCIENCE FOUNDATION and JOINT OCEANOGRAPHIC INSTITUTIONS, INC.



Frontispiece. Japan Marine Science and Technology Center (JAMSTEC) submersible Shinkai 6500 (Dive 351) bottom photograph of the megafaunal community at Ocean Drilling Program (ODP) Site 1200 on the summit of South Chamorro Seamount, a serpentine mud volcano on the southern Mariana forearc. The submersible's manipulator arm is holding a push core to sample a small carbonate chimney (white mound immediately below core tube) at the edge of a narrow vent fissure in the serpentine muds. Mussels, likely of the genus Bathymodiolus, galatheid crabs, tube worms, crinoids, and gastropods are the surface manifestation of the biological community supported by the slab-derived fluids emanating from this spring (Fryer and Mottl, 1997). A microbial community recovered in Hole 1200D, near this location, persists

to 20 meters below seafloor and provides the base of the food chain supporting the surface megafaunal community.

#### Reference

Fryer, P., and Mottl, M., 1997. Shinkai 6500 investigations of a resurgent mud volcano on the southeastern Mariana forarc. JAMSTEC J. Deep Sea Res., 13:103–114.

# PROCEEDINGS OF THE OCEAN DRILLING PROGRAM

Volume 195 Initial Reports Seafloor Observatories and the Kuroshio Current

Covering Leg 195 of the cruises of the Drilling Vessel JOIDES Resolution Apra Harbor, Guam, to Keelung, Chinese Taipei Sites 1200–1202 2 March–2 May 2001

#### SHIPBOARD SCIENTISTS

Matthew H. Salisbury, Masanao Shinohara, Carl Richter, Eiichiro Araki, Samantha R. Barr, Massimo D'Antonio, Simon M. Dean, Bernhard Diekmann, K. Michelle Edwards, Patricia B. Fryer, Philippe J. Gaillot, William S. Hammon III, David Hart, Nicole Januszczak, Stephen C. Komor, Mette B. Kristensen, John P. Lockwood, Michael J. Mottl, Craig L. Moyer, Kazuo Nakahigashi, Ivan P. Savov, Xin Su, Kuo-Yen Wei, Tomoaki Yamada

SHIPBOARD STAFF SCIENTIST

Carl Richter

VOLUME EDITOR Lorri L. Peters **VOLUME GRAPHIC DESIGNER** Nancy H. Luedke VOLUME PRODUCTION EDITOR Patrick H. Edwards

#### Reference to the whole or to part of this volume should be made as follows:

### Print citation for Chapter 1:

Shipboard Scientific Party, 2002. Leg 195 summary. *In* Salisbury, M.H., Shinohara, M., Richter, C., et al., *Proc. ODP, Init. Repts.*, 195: College Station TX (Ocean Drilling Program), 1–63.

#### **CD-ROM volume citation:**

Salisbury, M.H., Shinohara, M., Richter, C., et al., 2002. *Proc. ODP, Init. Repts.*, 195 [CD-ROM]. Available from: Ocean Drilling Program, Texas A&M University, College Station TX 77845-9547, USA.

#### **CD-ROM chapter citation:**

Shipboard Scientific Party, 2002. Site 1200. *In* Salisbury, M.H., Shinohara, M., Richter, C., et al., *Proc. ODP, Init. Repts.,* 195, 1–173 [CD-ROM]. Available from: Ocean Drilling Program, Texas A&M University, College Station TX 77845-9547, USA.

This volume also appears on the World Wide Web. See **www-odp.tamu.edu/publications** for Web citation formats.

#### Effective publication dates of ODP Proceedings

According to the International Code of Zoological Nomenclature, the date of publication of a work and of a contained name or statement affecting nomenclature is the date on which the publication was mailed to subscribers, placed on sale, or when the whole edition is distributed free of charge, mailed to institutions and individuals to whom free copies are distributed. The mailing date, *not the printing date,* is the correct one.

The printing date of this volume: July 2002

The mailing dates of recent Proceedings of the Ocean Drilling Program:

Volume 193 (*Initial Reports*): January 2002 Volume 194 (*Initial Reports*): March 2002 Volume 196 (*Initial Reports*): May 2002 Volume 172 (*Scientific Results*): September 2001 Volume 173 (*Scientific Results*): August 2001 Volume 175 (*Scientific Results*): March 2002

Copies of this publication may be obtained from Publications Distribution Center, Ocean Drilling Program, Texas A&M University, 1000 Discovery Drive, College Station TX 77845-9547, USA. See the ODP publication list at www-odp.tamu.edu/publications or contact ODP for prices and ordering information. Orders for copies require advance payment.

#### ISSN

Book: 0884-5883; CD-ROM: 1096-2522; World Wide Web: 1096-2158 Library of Congress 87-642-462

# **PUBLISHER'S NOTES**

This volume also appears on the World Wide Web. Any scientific corrections, revisions, or additions will be noted in the chapter (see "Chapter Notes") at www-odp.tamu.edu/publications.

This publication was prepared by the Ocean Drilling Program, Texas A&M University, as an account of work performed under the international Ocean Drilling Program, which is managed by Joint Oceanographic Institutions, Inc., under contract with the National Science Foundation. Funding for the program was provided by the following agencies at the time of this cruise:

Australia/Canada/Chinese Taipei/Korea Consortium for Ocean Drilling: Department of Primary Industries and Energy (Australia), Natural Resources Canada, National Taiwan University in Taipei, and Korean Institute for Geology, Mining and Minerals

Deutsche Forschungsgemeinschaft (Federal Republic of Germany)

European Science Foundation Consortium for Ocean Drilling (Belgium, Denmark, Finland, Iceland, Ireland, Italy, The Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland)

Institut National des Sciences de l'Univers-Centre National de la Recherche Scientifique (INSU-CNRS) (France)

Marine High-Technology Bureau of the State Science and Technology Commission of the People's Republic of China

National Science Foundation (United States)

Natural Environment Research Council (United Kingdom)

University of Tokyo, Ocean Research Institute (Japan)

Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the National Science Foundation, the participating agencies, Joint Oceanographic Institutions, Inc., Texas A&M University, or Texas A&M Research Foundation.

Abbreviations for names of organizations and publications in ODP reference lists follow the style given in *Chemical Abstracts Service Source Index* (published by American Chemical Society).

The bulk of the shipboard-collected data from this leg is available on the World Wide Web and is accessible at **www-odp.tamu.edu/database**. If you cannot access this site or need additional data, please contact the ODP Data Librarian, Ocean Drilling Program, Texas A&M University, College Station TX 77845-9547, USA. E-mail: **database@odpemail.tamu.edu**.

A site map showing the drilling locations for this leg and maps showing the drilling locations of all Ocean Drilling Program (ODP) and Deep Sea Drilling Project (DSDP) drilling sites are available on the volume CD-ROM in PDF format. These maps were produced using Generic Mapping Tools (GMT) of Paul Wessel and Walter H.F. Smith (gmt.soest.hawaii.edu).

Cover photograph, by Co-Chief Scientist Masanao Shinohara, is of the battery platform that was installed at Site 1202.

# Foreword

### By JOINT OCEANOGRAPHIC INSTITUTIONS, INC.

This volume presents scientific and engineering results from the Ocean Drilling Program (ODP). These results address the scientific and technical goals of the program, which are focused on the study of the dynamics of Earth's interior and environment, the evolution of oceanic crust, and the fluctuations of climate. In addition, study of the Earth's deep biosphere is an emergent research objective.

ODP, an international partnership of scientists and research institutions from 22 countries, operates the drillship *JOIDES Resolution*. This state-of-the-art research vessel contains eight levels of laboratories and other scientific facilities required for carrying out the program's objectives.

The management of ODP involves a partnership of scientists and governments. International oversight and coordination are provided by the ODP Council, which is made up of representatives from the member countries. Overall scientific and management guidance is provided by representatives from the Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES).

Joint Oceanographic Institutions, Inc. (JOI), a nonprofit consortium of 16 U.S. oceanographic institutions, serves as the National Science Foundation's prime contractor for ODP. JOI implements scientific objectives, plans, and recommendations of the JOIDES committees through major subcontracts to Texas A&M University (TAMU) for science operations and to Lamont-Doherty Earth Observatory (LDEO) of Columbia University for geochemical and geophysical well-logging services.

JOI, TAMU, and LDEO have worked together successfully for many years to manage the Ocean Drilling Program. We look forward to many exciting discoveries and continued international collaboration as we further our scientific mission, especially the planning for the future of ocean drilling beyond 2003.

Steven R. Bohlen

President of the Joint Oceanographic Institutions and Executive Director of the Ocean Drilling Programs Washington, D.C.

# **OCEAN DRILLING PROGRAM\***

National Science Foundation 4201 Wilson Boulevard Arlington VA 22230, USA Tel: (703) 306-1581; Fax: (703) 306-0390 Web site: www.nsf.gov

### MEMBER ORGANIZATIONS OF THE JOINT OCEANOGRAPHIC INSTITUTIONS FOR DEEP EARTH SAMPLING (JOIDES)

Columbia University, Lamont-Doherty Earth Observatory	University of Florida	
	University of Hawaii, School of Ocean and Earth Science and Technology	
Florida State University		
Oregon State University, College of Oceanic and Atmospheric Sciences	University of Miami, Rosenstiel School of Marine and Atmospheric Science	
Rutgers, The State University of New Jersey, Institute of Marine and Coastal Sciences and	University of Michigan, College of Literature, Science, and the Arts	
Faculty of Arts and Sciences	University of Rhode Island, Graduate School of	
Stanford University, School of Earth Sciences	Oceanography	
Texas A&M University, College of Geosciences	University of Texas at Austin, Institute for	
University of California at San Diego, Scripps	Geophysics	
Institution of Oceanography	University of Washington, College of Ocean and	
University of California, Santa Cruz	Fishery Sciences	
, ,	Woods Hole Oceanographic Institution	

\*At time of publication. See **Publisher's Notes**, p. 6, for list of funding agencies at time of cruise. For an up-to-date list of current member organizations and office contact information, see the ODP Web site: www.oceandrilling.org.

- Australia/Canada/Chinese Taipei/Korea Consortium for Ocean Drilling: Department of Primary Industries and Energy (Australia), Natural Resources Canada, National Taiwan University in Taipei, and Korean Institute for Geology, Mining and Minerals
- European Science Foundation Consortium for Ocean Drilling (Belgium, Denmark, Finland, Iceland, Ireland, Italy, The Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland)
- Federal Republic of Germany, Bundesanstalt für Geowissenschaften und Rohstoffe
- France, Institut National des Sciences de l'Univers–Centre National de la Recherche Scientifique (INSU-CNRS)
- Japan, University of Tokyo, Ocean Research Institute
- People's Republic of China, Marine High-Technology Bureau of the State Science and Technology Commission of the People's Republic of China
- United Kingdom, Natural Environment Research Council

### OCEAN DRILLING PROGRAM (ODP)

Web site: www.oceandrilling.org

# ODP SCIENCE ADVISORY STRUCTURE (JOIDES)

JOIDES Office University of Miami—RSMAS 4600 Rickenbacker Causeway Miami FL 33149, USA Tel: (305) 361-4668; Fax: (305) 361-4632 E-mail: joides@rsmas.miami.edu Web site: joides.rsmas.miami.edu

#### **ODP PROGRAM MANAGER**

Joint Oceanographic Institutions, Inc. 1755 Massachusetts Avenue, NW, Suite 700 Washington DC 20036-2102, USA Tel: (202) 232-3900; Fax: (202) 462-8754 E-mail: joi@joiscience.org Web site: www.joiscience.org

### **ODP SCIENCE OPERATOR**

Ocean Drilling Program Texas A&M University 1000 Discovery Drive College Station TX 77845-9547, USA Tel: (979) 845-2673; Fax: (979) 845-4857 E-mail: odp@odpemail.tamu.edu Web site: www-odp.tamu.edu

#### **ODP LOGGING SERVICES OPERATOR**

Borehole Research Group Lamont-Doherty Earth Observatory Columbia University Route 9W Palisades NY 10964, USA Tel: (845) 365-8341; Fax: (845) 365-3182 E-mail: **borehole@ldeo.columbia.edu** Web site: **www.ldeo.columbia.edu/BRG/ODP** 

#### **ODP SITE SURVEY DATA BANK**

Lamont-Doherty Earth Observatory Columbia University Route 9W Palisades NY 10964, USA Tel: (845) 365-8542; Fax: (845) 365-8159 E-mail: odp@ldeo.columbia.edu Web site: www.ldeo.columbia.edu/databank

# LEG 195 PARTICIPANTS\*

#### SHIPBOARD SCIENTIFIC PARTY

Matthew H. Salisbury Co-Chief Scientist Geological Survey of Canada Bedford Institute of Oceanography PO Box 1006 Dartmouth NS B2Y 4A2 Canada

Department of Earth Sciences Dalhousie University Halifax NS B3H 3J5 Canada matts@agc.bio.ns.ca

Masanao Shinohara Co-Chief Scientist Earthquake Research Institute University of Tokyo Yayoi 1-1-1, Bunkyo-ku Tokyo 113-0032 Japan mshino@eri.u-tokyo.ac.jp

#### Carl Richter Staff Scientist/Paleomagnetist Ocean Drilling Program Texas A&M University 1000 Discovery Drive College Station TX 77845-9547 USA richter@odpemail.tamu.edu

Eiichiro Araki Seismologist Deep Sea Research Department Japan Marine Science and Technology Center 2-15 Natsushima-cho Yokosuka, Kanagawa 237-0061 Japan araki@jamstec.go.jp

\*Addresses at time of cruise, except where updated by the leg participants before publication.

#### Samantha R. Barr Logging Staff Scientist

Department of Geology University of Leicester University Road Leicester LE1 7RH United Kingdom srb7@le.ac.uk

#### Massimo D'Antonio Igneous Petrologist

Dipartimento di Scienze della Terra Università degli Studi di Napoli "Federico II" Largo S. Marcellino, 10 80138 Napoli Italy masdanto@unina.it

#### Simon M. Dean Physical Properties Specialist

School of Ocean and Earth Sciences Southampton Oceanography Centre University of Southampton Southampton SO14 3ZH United Kingdom smd9@soc.soton.ac.uk

### Bernhard Diekmann Sedimentologist Marine Geology Alfred Wegener Institute for Polar and Marine Research PO Box 12 01 61 27515 Bremerhaven Germany

Present address (9 April 2002): Alfred Wegener Institute for Polar and Marine Research Research Unit Potsdam Telegrafenberg A43 14473 Potsdam Germany bdiekmann@awi-potsdam.de

#### K. Michelle Edwards CORK Specialist Rosenstiel School of Marine and Atmospheric Science University of Miami Marine Geology and Geophysics 4600 Rickenbacker Causeway Miami FL 33149 USA kedwards@rsmas.miami.edu

Patricia B. Fryer Igneous Petrologist

Hawaii Institute of Geophysics and Planetology School of Ocean and Earth Science and Technology University of Hawaii at Manoa 2525 Correa Road Honolulu HI 96821 USA

pfryer@soest.hawaii.edu

#### Philippe J. Gaillot LDEO Logging Trainee

Laboratoire de Géophysique et Hydrodynamique en Forages, ISTEEM Laboratoire de Tectonophysique Centre National de la Recherche Scientifique UM2/UMR 5568 Montpellier, Place E. Bataillon CC056, 34095 Montpellier Cedex 5 France gaillot@dstu.univ-montp2.fr William S. Hammon III Undergraduate Student Trainee/Physical Properties Specialist Center for Lithospheric Studies University of Texas at Dallas PO Box 830688 Richardson TX 75083-0688 USA shammon@utdallas.edu

#### David Hart Physical Properties Specialist

Department of Geology and Geophysics University of Wisconsin–Madison 1215 West Dayton Street Madison WI 53706 USA

Present address (1 July 2001): Wisconsin Geological and Natural History Survey 3817 Mineral Point Road Madison WI 53705-5100 djhart@facstaff.wisc.edu Nicole Januszczak Sedimentologist Environmental Earth Sciences Geology Laboratory (S435) University of Toronto at Scarborough 1265 Military Trail Scarborough ON M1C 1A4 Canada janus@utsc.utoronto.ca

Stephen C. Komor Inorganic Geochemist

Water Resources Division U.S. Geological Survey 30 Brown Road Ithaca NY 14850 USA sckomor@usgs.gov

Mette B. Kristensen Undergraduate Student Trainee/Igneous Petrologist Department of Earth Sciences University of Aarhus CF Møllers Alle Building 110 Universitetsparken DK-8200 Århus C Denmark mette.bundgaard@geo.au.dk John P. Lockwood Igneous Petrologist PO Box 479 Volcano HI 96785 USA geohaz@aloha.net

Michael J. Mottl Inorganic Geochemist Department of Oceanography School of Ocean and Earth Science and Technology University of Hawaii at Manoa 1000 Pope Road Honolulu HI 96822 USA mmottl@soest.hawaii.edu

Craig L. Moyer Microbiologist Biology Department Western Washington University MS 9160 Bellingham WA 98225 USA cmoyer@hydro.biol.wwu.edu

### Kazuo Nakahigashi Seismologist

Earthquake Research Institute University of Tokyo Yayoi 1-1-1, Bunkyo-ku Tokyo 113-0032 Japan kazuo@eri.u-tokyo.ac.jp

Ivan P. Savov Igneous Petrologist Department of Geology, SCA 528 University of South Florida, Tampa 4202 East Fowler Avenue Tampa FL 33620 USA savovip@yahoo.com

Xin Su Paleontologist (nannofossils) Department of Geology China University of Geosciences Xueyuan Road 29 Beijing 100083 People's Republic of China xsu@cugb.edu.cn Kuo-Yen Wei Paleontologist (nannofossils) Department of Geosciences National Taiwan University 245 Choushan Road Taipei, Taiwan 10617 Republic of China weiky@ms.cc.ntu.edu.tw

#### Tomoaki Yamada Seismologist Earthquake Research Institute University of Tokyo 1-1-1 Yayoi, Bunkyo-ku Tokyo 113-0032 Japan yamada@eri.u-tokyo.ac.jp

### **TRANSOCEAN SEDCO FOREX OFFICIALS**

Thomas Hardy Master of the Drilling Vessel Overseas Drilling Ltd. 707 Texas Avenue South, Suite 213D College Station TX 77840-1917 USA Wayne Malone Drilling Superintendent Overseas Drilling Ltd. 707 Texas Avenue South, Suite 213D College Station TX 77840-1917 USA

#### **ODP SHIPBOARD PERSONNEL**

Roy Davis Laboratory Officer

Charlie Endris Marine Laboratory Specialist (Paleomagnetism)

Randy Gjesvold Marine Electronics Specialist

**Dennis Graham** Marine Laboratory Specialist (Chemistry)

Gus Gustafson Marine Laboratory Specialist (Downhole Tools/Thin Section)

Michiko Hitchcox Marine Laboratory Specialist (Yeoperson)

Jessica Huckemeyer Marine Laboratory Specialist (Curation)

Maniko Kamei Marine Laboratory Specialist (Core/X-Ray/Storekeeping)

Anastasia Ledwon Marine Laboratory Specialist (Physical Properties)

Mike Meiring Marine Electronics Technician David Morley Marine Computer Specialist

Bob Olivas Marine Laboratory Specialist (X-Ray)

Chieh Peng Marine Laboratory Specialist (Chemistry)

**Cyndi Prince** Marine Laboratory Specialist (Photography)

Darryl Schroeder Development Engineer

Mike Storms Operations Manager

Kerry Swain Schlumberger Logging Engineer

Steve Tran Marine Computer Specialist

Paula Weiss Marine Laboratory Specialist (Underway Geophysics Laboratory)

# **ODP PUBLICATIONS STAFF\***

Karen Benson Production Editor

Mary Chapman Editor

Janalyn G. Cichowski Assistant Editor

Gudelia ("Gigi") Delgado Senior Publications Coordinator

Patrick H. Edwards Production Editor III

Jaime A. Gracia Senior Production Editor

Ann Klaus Publication Services Manager

Kathryn M. Kozelsky Graphic Designer Jennie L. Lamb Graphic Designer II

Nancy H. Luedke Graphic Designer II

Krista L. May Editor

Amy McLeod Student Assistant

Angeline T. Miller Senior Editor

Mary Elizabeth Mitchell Publications Coordinator Assistant

Heather M. Nevill Editor

Deborah L. Partain Senior Graphic Designer Lorri L. Peters Associate Editor

Katerina E. Petronotis WWW Administrator

M. Kathleen Phillips Publications Specialist

Jennifer Pattison Rumford Electronic Publications Specialist

Kenneth Sherar Production Editor II

Ann Yeager Distribution Specialist

# ACKNOWLEDGMENTS

The scientific party of Ocean Drilling Program (ODP) Leg 195 would like to thank all those who gave invaluable help and support to make the drilling expedition and observatory installations in the western Pacific Ocean an outstanding success. We are particularly grateful to the crew of the *JOIDES Resolution*, under the supervision of Captain Tom Hardy and Drilling Superintendent Wayne Malone, and Laboratory Officer Roy Davis and his staff of marine technicians for their hard work.

The operations of Leg 195 were carefully planned and conducted with the expert guidance of ODP Operations Manager Mike Storms and Operations Engineer Derryl Schroeder. Their expertise and advice contributed enormously to the success of challenging instrument emplacement and coring operations in three very difficult settings: the throat of an active serpentinite mud volcano in the Mariana forearc, in extremely deep water in the middle of the Philippine Sea, and in very strong currents just hours out of port.

Site survey data were critical for a successful drilling operation in the Mariana forearc area. These data are based on the results of two expeditions with the research vessels *Thomas Thompson* and *Moana Wave*. The site survey cruises were supported by the National Science Foundation and a site augmentation grant from the United States Science Support Program. We are particularly indebted to the Oregon State University coring facility for its superb support in the cheerful person of Chris Moser, to Bruce Appelgate and the Hawaii Mapping Research Group personnel for their expert assistance in the mapping efforts, and to Greg Moore for supervision of the seismic data collection, processing, and interpretation.

We thank the Earthquake Research Institute, the University of Tokyo, the Deep Sea Research Department, and the Japan Marine Science and Technology Center for their support. The borehole seismometer installation is partly supported by the Ocean Hemisphere Network Project from the Ministry of Education, Culture, Sports, Science, and Technology of Japan and is conducted as part of the International Ocean Network project.

The Leg 195 science party expresses its gratitude to the JOIDES planning structure and all governmental and academic institutions that provided the financial and logistical support to plan and conduct this remarkable expedition. Finally, we appreciate the skills and cheerful cooperation of the ODP Publication Services staff in preparing this volume.

# **CD-ROM CONTENTS: CHAPTERS**

- 1. Leg 195 Summary Shipboard Scientific Party
- 2. Explanatory Notes Shipboard Scientific Party
- 3. Site 1200 Shipboard Scientific Party
- 4. Site 1201 Shipboard Scientific Party
- 5. Site 1202 Shipboard Scientific Party
- 6. Measurement of Hydraulic Conductivity and Specific Storage Using the Shipboard Manheim Squeezer

D.J. Hart and W.S. Hammon III

# **CD-ROM CONTENTS: CORE DESCRIPTIONS**

Visual core descriptions (VCDs); smear slide, thin section, and sedimentary thin section data tables; and digital core images are included in this section. ASCII versions of the smear slide and sedimentary thin section data tables are also available (see "ASCII Tables").

Site 1200

Visual Core Descriptions · Smear Slides · Thin Sections

Site 1201

Visual Core Descriptions · Smear Slides · Thin Sections

Site 1202

Visual Core Descriptions · Smear Slides

# **CD-ROM CONTENTS: ASCII TABLES**

This CD-ROM contains ASCII versions of the structural geology data table and of the **smear slide data tables** and **sedimentary thin section data table** presented under "Core Descriptions." A complete listing of the ASCII tables can be found listed below.

You can access these data directly from the PDF files. Depending on your computer platform, the following information applies.

### **PC** COMPUTERS

By default, double-clicking on a filename with a .TXT extension will launch the Notepad application. You can configure your computer's operating system so that files on this CD with .TXT extensions automatically open in other software, such as Microsoft Excel. Follow these steps from the pull-down menu: Windows 95 and NT operating systems: View > Options > File Types; and Windows 98, 2000, ME, and XP systems: View > Folder Options > File Types.

#### **MACINTOSH COMPUTERS**

All table files with .TXT extensions will automatically open into Excel. If you do not have Excel installed on your computer, you may view these files through other spreadsheet or text-editor programs. Open the application of your choice, select File > Open, and open the ASCII file.

### **UNIX** COMPUTERS

You can open files with .TXT extensions in any text editor or spreadsheet program, but not directly from PDF files.

Chapter 3

Smear slide data tables

Thin section data tables

### Chapter 3 Appendix: Dimensional Characteristics of Serpentine Clasts, Hole 1200A.

#### **Smear Slide Data Tables**

Site 1200 smear slide table. Site 1201 smear slide table. Site 1202 smear slide table.

Thin Section Data Tables Site 1201 sedimentary thin section table.

# **CD-ROM CONTENTS: DRILLING LOCATION MAPS**

A site map showing the drilling locations for this leg and maps showing the drilling locations of all Ocean Drilling Program (ODP) and Deep Sea Drilling Project (DSDP) drilling sites are available in PDF format.

**ODP Leg 195 Site Map** 

**ODP Map** (Legs 100–195)

DSDP Map (Legs 1-96)

# **R**ELATED LEG DATA

### **DOWNHOLE LOGGING AND CORE DATA**

A second CD-ROM is included with this volume. The "Log and Core Data" CD contains Leg 195 depth-shifted and processed downhole logging data and shipboard core logging data (color reflectance, gamma ray attenuation bulk density, magnetic susceptibility, moisture and density, and natural gamma radiation). The downhole logging data are provided by the Borehole Research Group at the Lamont-Doherty Earth Observatory, Wireline Logging Operator for ODP.

Most of the logging and core data included on this CD are available on the World Wide Web at www.ldeo.columbia.edu/BRG/ODP. If you cannot access this site or want to order the CD, please contact the ODP Logging Services Operator at the Lamont-Doherty Earth Observatory, Columbia University, Route 9W, Palisades NY 10964, USA; Tel: (845) 365-8341; Fax: (845) 365-3182; E-mail: borehole@ldeo.columbia.edu.

The majority of the core data on the CD are available on the Web at www-odp.tamu.edu/database. If you cannot access the ODP database or need additional data, please contact: ODP Data Librarian, Ocean Drilling Program, Texas A&M University, 1000 Discovery Drive, College Station TX 77845-9547, USA; Tel: (979) 845-8495; Fax: (979) 458-1617; E-mail: database@odpemail.tamu.edu.

# **COMPILED ELECTRONIC INDEX**

The Compiled Electronic Index of the *Proceedings of the Ocean Drilling Program* included on the volume CD-ROM contains individual indexes of Volumes 101–173, 174B, and 175. The indexes are contained in the directory titled ODPINDEX and are named ###NDX.PDF (### = the leg number). These indexes can be searched individually or collectively.

# **CD-ROM DIRECTORY STRUCTURE**

I95IR.PDF		
Preliminary pages and table of cor	itents)	
README.PDF		
		A CONTRACTOR OF THE OWNER
<b>README.TXT</b> Information about the volume CD	-ROM in ASCII format)	
ACROREAD	МАС	
(Acrobat Reader 4.0.5 installation software and instructions for different platforms)	WINDOWS	Carlo Carlo
	UNIX	100 100 100 100 100 100 100 100 100 100
	README.TXT	- 10 C. S.
MAPS (Drilling location maps)	<b>195_MAP.PDF</b> (Leg 195 site map)	ologie in
	<b>ODPMAP.PDF</b> (ODP map, Legs 100 through 195)	
	DSDPMAP.PDF (DSDP map, Legs 1 through 96)	
	CHADTEDS	
Leg 195 Initial Reports volume)	(Volume chapters)	IR195 02.PDF (Explanatory Notes)
		<b>IR195 03.PDF</b> (Site 1200)
		IR195_04.PDF (Site 1201)
		IR195_05.PDF (Site 1202)
		<b>IR195_06.PDF</b> (Measurement of Hydraulic Conductivity and Specific Storage)
	<b>CORES</b> (Visual core descriptions; smear slide, thin section, and sedimentary thin section data tables; and digital core images)	<b>COR_1200.PDF</b> (Site 1200)
		<b>COR_1201.PDF</b> (Site 1201)
		COR_1202.PDF (Site 1202)
		<b>IMAGES</b> (PDF files of core images)
	TABLES	<b>IR195 03</b> (Site 1200 file)
	(Data tables in ASCII format of	<b>S SLIDES</b> (Sites 1200 through 1202 files)
	structural geology and smear slide and sedimentary thin section data)	<b>T SECT</b> (Site 1201 file)
		README.TXT
	<b>INDEX.PDX</b> (Acrobat file used to enable Acrobat Search of the Leg 195 <i>Initial Reports</i> )	
<b>DDPINDEX</b> Compiled Electronic Index of the Proceedings of the Ocean Drilling	101NDX.PDF through 173ND 174BNDX.PDF, and 175NDX.P (Index files)	X.PDF, pDF