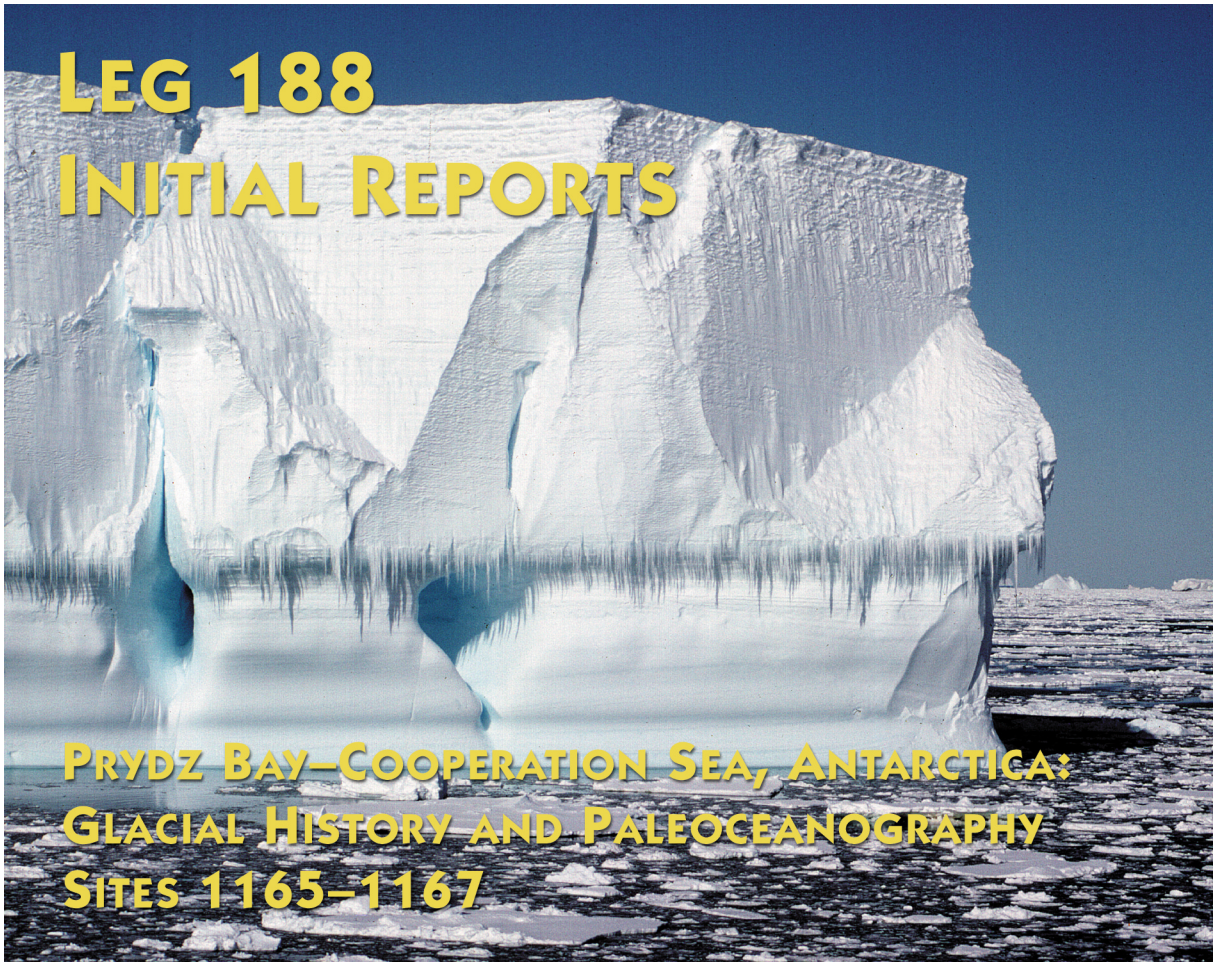

Leg 188
Initial Reports

Prydz Bay–Cooperation Sea, Antarctica: Glacial History and Paleoceanography
Sites 1165–1167

Proceedings of the Ocean Drilling Program

Prepared by the
OCEAN DRILLING PROGRAM, TEXAS A&M UNIVERSITY
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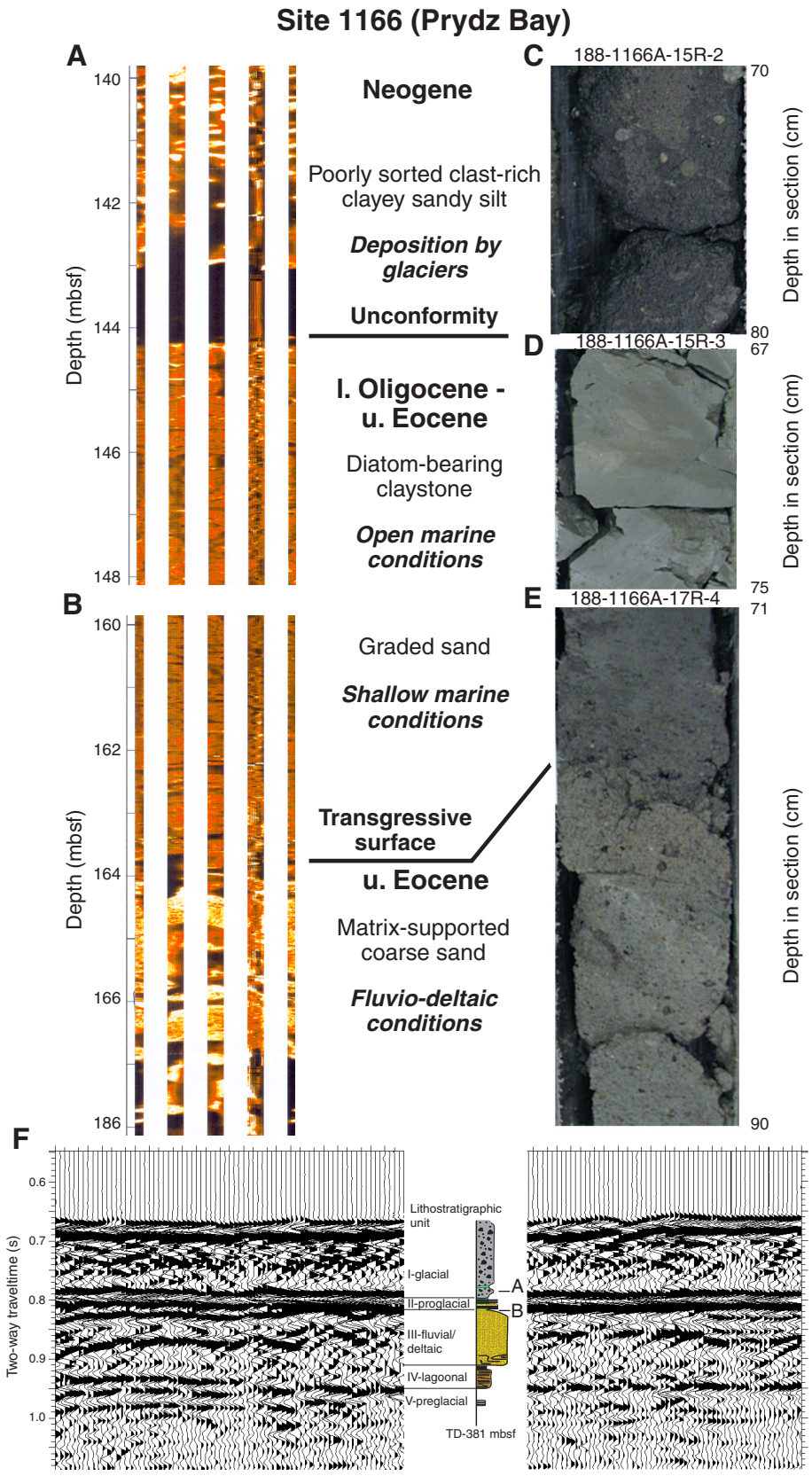

Frontispiece. Character of the early glacial to full glacial transition at Site 1166 in Prydz Bay (Antarctica). **A, B.** Formation MicroScanner images of two prominent lithologic changes. **C–E.** Core photos of rocks directly above and below the unconformity (A) and transgressive surface (B). **F.** Seismic section near Site 1166.

Proceedings of the Ocean Drilling Program

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Initial Reports
Prydz Bay–Cooperation Sea, Antarctica:
Glacial History and Paleoceanography

Covering Leg 188 of the cruises of the Drilling Vessel *JOIDES Resolution*
Fremantle, Australia, to Hobart, Tasmania
Sites 1165–1167
10 January–11 March 2000

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Publisher's Notes

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, 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)

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 this CD-ROM in PDF format. These maps were produced using Generic Mapping Tools (GMT) of Paul Wessel and Walter H.F. Smith (**imina.soest.hawaii.edu/gmt/**).

Cover photograph of an iceberg grounded on Storegg Bank, East Antarctica, is by Co-Chief Scientist Philip E. O'Brien.

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 14 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
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Texas A&M University, College of Geosciences

University of Texas at Austin, Institute for Geophysics

*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.**

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Woods Hole Oceanographic Institution

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Federal Republic of Germany, Bundesanstalt für Geowissenschaften und Rohstoffe

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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

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The operations of Leg 188 were carefully planned and conducted with the guidance of ODP Operations Manager Mike Storms. His expert knowledge and advice contributed tremendously to successful coring operations despite the many problems that afflicted Antarctic margin drilling.

The operations of Leg 188 were greatly dependent on weather forecasts and ice imaging. We would like to thank Jeff Andrews and Mary Keller from the National Ice Center (Washington, D.C.) for providing satellite ice observations and analysis, the Australian Bureau of Meteorology for regular and reliable weather forecasts, and the scientists and crew of the research vessel *Hakurei Maru* and the staff at Davis Station who advised us on ice conditions at various times during the leg.

The drilling plan was developed from the database of seismic reflection profiles compiled by the ANTOSTRAT Prydz Bay Regional Working Group. In particular, we appreciate the efforts of German Leitchenkov of VNIIOkeangeologia (St. Petersberg, Russia) and Takemai Ishihara and Manabu Tanahashi of the Geological Survey of Japan, who contributed data and advice on drill sites without which the leg could not have taken place.

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Philip O'Brien publishes with the permission of the Chief Executive Officer–Australian Geological Survey Organisation.

The Leg 188 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 expedition. Finally, we appreciate the skills and cheerful cooperation of the ODP Publication Services staff in preparing this volume.

CD-ROM Contents: Chapters

CD-ROM Contents: Core Descriptions

Visual core descriptions (VCDs), smear-slide data tables, thin sections, and digital core images are included in this section. VCDs, smear-slide data tables, and thin sections (when available) are combined into one PDF file for each site. ACSII versions of the smear-slide data tables, alteration logs, and vein logs are also available (see **"ASCII Tables"**).

Site 1165

Visual Core Descriptions · Smear Slides · Thin Sections

Site 1166

Visual Core Descriptions · Smear Slides

Site 1167

Visual Core Descriptions · Smear Slides · Thin Sections

CD-ROM Contents: ASCII Tables

This CD-ROM contains ASCII versions of physical properties **data tables** and coring summary tables presented in the volume chapters and **smear-slide data tables** presented under "Core Descriptions." A complete listing of the ASCII data tables can be found on the next two pages.

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

PC computers

By default, 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 systems: View > Folder Options > File Types.

MAC 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, Site 1165

Chapter 4, Site 1166

Chapter 5, Site 1167

Smear-Slide Data Tables

Site 1165 smear-slide table.
Site 1166 smear-slide table.
Site 1167 smear-slide table.

CD-ROM Contents: Drilling Locations 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 188 Site Map

ODP Map (Legs 100–188)

DSDP Map (Legs 1–96)

Related Leg Data

Downhole Logging and Core Data

A second CD-ROM is included with this volume. The "Log and Core Data" CD contains Leg 188 depth-shifted and processed downhole logging data and shipboard core logging data (gamma-ray attenuation bulk density, natural gamma radiation, magnetic susceptibility, *P*-wave velocity, and moisture and density). The downhole logging data are provided by the Borehole Research Group at the Lamont-Doherty Earth Observatory, Wireline Logging Operator for ODP.

The majority of the logging data included on the 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: ODP Logging Services Operator, Lamont-Doherty Earth Observatory, PO Box 1000, Route 9W, Palisades NY 10964, USA; Tel: (845) 365-8672; 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 *Initial Reports* CD-ROM contains individual indexes of Volumes 101–171A. 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