

TABLE OF CONTENTS

VOLUME 171B—INITIAL REPORTS

Acknowledgments	1
SECTION 1: INTRODUCTION	
1. Introduction	5
Shipboard Scientific Party	
2. Explanatory notes	11
Shipboard Scientific Party	
SECTION 2: SITE CHAPTERS	
3. Site 1049	47
Shipboard Scientific Party	
Site summary	47
Principal results.....	47
Background and objectives.....	48
Operations.....	49
Lithostratigraphy.....	50
Biostratigraphy	59
Paleomagnetism	70
Core-core integration	71
Organic geochemistry.....	73
Inorganic geochemistry.....	77
Physical properties	77
4. Site 1050	93
Shipboard Scientific Party	
Site summary	93
Principal results.....	93
Background and objectives.....	95
Operations.....	95
Lithostratigraphy.....	96
Biostratigraphy	118
Paleomagnetism	132
Core-core integration	134
Organic geochemistry.....	139
Inorganic geochemistry.....	141
Physical properties	145
Downhole logging.....	154

5. Site 1051.....	171
Shipboard Scientific Party	
Site summary	171
Principal results.....	171
Background and objectives.....	172
Operations.....	172
Lithostratigraphy.....	173
Biostratigraphy.....	188
Paleomagnetism	196
Core-core integration	203
Organic geochemistry.....	205
Inorganic geochemistry.....	206
Physical properties	210
Heat flow and in situ temperature measurements.....	216
Downhole logging.....	217
6. Site 1052.....	241
Shipboard Scientific Party	
Site summary	241
Principal results.....	242
Background and objectives.....	243
Operations.....	244
Lithostratigraphy.....	245
Biostratigraphy	263
Paleomagnetism	274
Core-core integration	282
Organic geochemistry.....	283
Inorganic geochemistry.....	285
Physical properties	287
Downhole logging.....	295
7. Site 1053.....	321
Shipboard Scientific Party	
Site summary	321
Principal results.....	321
Background and objectives.....	322
Operations.....	322
Lithostratigraphy.....	323
Biostratigraphy	325
Paleomagnetism	329
Core-core integration	330
Organic geochemistry.....	330

Inorganic geochemistry.....	333
Physical properties	334
Heat flow and in situ temperature measurements.....	339

SECTION 3: SYNTHESIS

8. Synthesis	351
Shipboard Scientific Party	
Introduction.....	351
Lithostratigraphy.....	351
Interstitial waters.....	353
Anoxic events	354
Mid-Maastrichtian deep-water reversal	355
K/T boundary	357
Paleocene/Eocene boundary.....	357
Geologic history of the Blake Nose	357

SECTION 4: CORES

Core-description forms and core photographs for:

Site 1049	363
Site 1050	401
Site 1051	489
Site 1052	613
Site 1053	711

SECTION 5: SMEAR SLIDES (CD-ROM)

Smear-slide data in both PDF and ASCII formats are on the “*Proceedings, Initial Reports*” CD-ROM (see back pocket) for:

Site 1049	750
Site 1050	753
Site 1051	756
Site 1052	762
Site 1053	767

SECTION 6: THIN SECTIONS (CD-ROM)

Thin-section data in both PDF and ASCII formats are on the “*Proceedings, Initial Reports*” CD-ROM (see back pocket) for:

Site 1050	768
Site 1052	768

SECTION 7: SHORE-BASED PROCESSED LOGS (CD-ROM)

Shore-based processed logging data and descriptions in PDF format are on the “*Proceedings, Initial Reports*” CD-ROM (see back pocket).

Site 1050	769
Site 1051	778
Site 1052	787

Note: The bulk of the shipboard-collected data from this leg is available on the World Wide Web, which is accessible at <<http://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, U.S.A. (e-mail: database@odp.tamu.edu).

BACK-POCKET MATERIALS

Oversized Figure

Chapter 1: Figure 3. **A.** Multichannel seismic (MCS) Line TD-5 showing locations and depths of penetration of Leg 171B sites. **B.** Seismic interpretation showing the major reflectors, their interpreted ages, and the locations of Leg 171B sites.

CD-ROM

Two CD-ROMs are located in the back of the volume. The “*Proceedings, Initial Reports*” CD-ROM includes electronic versions of the Leg 171A and Leg 171B *Initial Reports* volumes in Adobe Acrobat. The “Log and Core Data” CD-ROM contains depth-shifted and processed logging data provided by the Borehole Research Group at the Lamont-Doherty Earth Observatory, Wireline Logging Operator for ODP. It also includes the following from Leg 171B: shipboard GRAPE (gamma-ray attenuation porosity evaluator), index properties, magnetic susceptibility, *P*-wave, natural gamma, and color reflectance data.

PROCEEDINGS, INITIAL REPORTS CD

The *Initial Reports* volume is designed for Adobe Acrobat Reader 3 software. The software is supplied on the CD. All files with a .PDF extension should be viewed through Acrobat. Data tables in an ASCII format (files with a .TXT extension) on this CD should be opened through a spreadsheet or text-editing software application.

There are five starting points for this CD:

ACROREAD.TXT is an ASCII file that explains how to install Adobe Acrobat on any of the available platforms.

README.PDF is an Acrobat file that contains information about the CD, lists available files and how to use them, and describes how the core images were created.

README.TXT is an ASCII file that contains information about the CD, lists available files and how to use them, and describes how the core images were created.

17A_IR.PDF lists the table of contents for the Leg 171A volume. It also contains links to the volume chapters.

171B_IR.PDF lists the table of contents for the Leg 171B volume and ASCII tables (files with .TXT extensions). It also contains links to the volume chapters.

Directory Structure for 171B_IR:

ACROREAD.TXT (readme file for Acrobat Reader)
README.PDF (PDF readme file for Legs 171A and 171B *Initial Reports* volumes)
README.TXT (ASCII readme file for Legs 171A and 171B *Initial Reports* volumes)
NDX_READ.PDF (readme file for Compiled Electronic Index of the *Proceedings of the Ocean Drilling Program*)
171B_IR.PDF (volume table of contents)
ACROBAT (Acrobat software)
171B_IR
 PRELIM.PDF (volume preliminary pages)
 ACKNOWL.PDF (volume acknowledgments)
 CHAP_01.PDF
 CHAP_02.PDF
 CHAP_03.PDF
 CHAP_04.PDF
 CHAP_05.PDF
 CHAP_06.PDF
 CHAP_07.PDF
 CHAP_08.PDF
 BCKPKT.PDF (volume back-pocket figure)
 LOGGING.PDF. (shore-based processed logs)
 VCD####.PDF (core descriptions by site)
 SS####.PDF (smear-slides data tables in PDF format by site)

SS (smear-slide data tables in ASCII format by site)
 TS171B.PDF (thin-section data tables in PDF format for leg)
 TS171B (thin-section data tables in ASCII format for leg)
 TABLES (see below for list of files)
 INDEX (Acrobat catalog of this volume)
 LEG_DATA (see below for lists or descriptions of files)
 XRDDATA (X-ray diffraction data tables in ASCII format by site)
 INDEX (Compiled Electronic Index of the *Proceedings of the Ocean Drilling Program*)

List of TABLES files:

PALREAD.PDF ([PDF readme file for the paleomagnetics data tables with a .PDF extension](#))

CHAP_03 (Chapter 3, Site 1049):
 Tables with a .TXT extension are tab-delimited ASCII files; tables with a .PDF extension are PDF files.

- 03_01.TXT: Table 1. Detailed coring summary for Site 1049.
- 03_09.TXT: Table 9. Hole 1049A paleomagnetic results from discrete minicores.
- 03_10.PDF:** [Table 10. Hole 1049A paleomagnetic results from discrete minicores.](#)
- 03_11.TXT: Table 11. Complete reflectance data for Hole 1049A.
- 03_12.TXT: Table 12. Complete reflectance data for Hole 1049B.
- 03_13.TXT: Table 13. Complete reflectance data for Hole 1049C.
- 03_21.TXT: Table 21. GRAPE bulk density for Hole 1049A.
- 03_22.TXT: Table 22. GRAPE bulk density for Hole 1049B.
- 03_23.TXT: Table 23. GRAPE bulk density for Hole 1049C.
- 03_24.TXT: Table 24. Magnetic susceptibility for Hole 1049A.
- 03_25.TXT: Table 25. Magnetic susceptibility for Hole 1049B.
- 03_26.TXT: Table 26. Magnetic susceptibility for Hole 1049C.
- 03_27.TXT: Table 27. MST P-wave velocity for Hole 1049A.
- 03_28.TXT: Table 28. MST P-wave velocity for Hole 1049B.
- 03_29.TXT: Table 29. MST P-wave velocity for Hole 1049C.
- 03_30.TXT: Table 30. Natural gamma radiation for Hole 1049A.
- 03_31.TXT: Table 31. Natural gamma radiation for Hole 1049C.

CHAP_04 (Chapter 4, Site 1050):

- 04_01.TXT: Table 1. Detailed coring summary for Site 1050.
- 04_15.TXT: Table 15. Summary of Hole 1050A paleomagnetic results from discrete minicores.

04_16.PDF: [Table 16. Summary of Hole 1050A paleomagnetic results from discrete minicores.](#)
04_17.TXT: Table 17. Summary of Hole 1050C paleomagnetic results from discrete minicores.
04_18.PDF: [Table 18. Summary of Hole 1050C paleomagnetic results from discrete minicores.](#)
 04_19.TXT: Table 19. Complete reflectance data for Hole 1050A.
 04_20.TXT: Table 20. Complete reflectance data for Hole 1050B.
 04_21.TXT: Table 21. Complete reflectance data for Hole 1050C.
 04_28.TXT: Table 28. GRAPE bulk density for Hole 1050A.
 04_29.TXT: Table 29. GRAPE bulk density for Hole 1050B.
 04_30.TXT: Table 30. Magnetic susceptibility for Hole 1050A.
 04_31.TXT: Table 31. Magnetic susceptibility for Hole 1050B.
 04_32.TXT: Table 32. MST P-wave velocity for Hole 1050A.
 04_33.TXT: Table 33. Natural gamma radiation for Hole 1050A.
 04_39.TXT: Table 39. GRAPE bulk density for Hole 1050C.
 04_40.TXT: Table 40. Magnetic susceptibility for Hole 1050C.
 04_41.TXT: Table 41. Natural gamma radiation for Hole 1050C.
CHAP_05 (Chapter 5, Site 1051):
 05_01.TXT: Table 1. Detailed coring summary for Site 1051.
 05_09.TXT: Table 9. Summary of Hole 1051A paleomagnetic results from discrete minicores.
05_10.PDF: [Table 10. Summary of Hole 1051A paleomagnetic results from discrete minicores.](#)
 05_11.TXT: Table 11. Complete reflectance data for Hole 1051A.
 05_12.TXT: Table 12. Complete reflectance data for Hole 1051B.
 05_18.TXT: Table 18. GRAPE bulk density for Hole 1051A.
 05_19.TXT: Table 19. GRAPE bulk density for Hole 1051B.
 05_20.TXT: Table 20. Magnetic susceptibility for Hole 1051A.
 05_21.TXT: Table 21. Magnetic susceptibility for Hole 1051B.
 05_22.TXT: Table 22. MST P-wave velocity for Hole 1051A.
 05_23.TXT: Table 23. Natural gamma radiation for Hole 1051A.
 05_24.TXT: Table 24. Natural gamma radiation for Hole 1051B.

CHAP_06 (Chapter 6, Site 1052):

06_01.TXT: Table 1. Detailed coring summary for Site 1052.

06_11.TXT: Table 11. Summary of Hole 1052A paleomagnetic results from discrete minicores.

06_12.PDF: [Table 12. Summary of Hole 1052A paleomagnetic results from discrete minicores.](#)

06_13.TXT: Table 13. Summary of Hole 1052E paleomagnetic results from discrete minicores.

06_14.PDF: [Table 14. Summary of Hole 1052E paleomagnetic results from discrete minicores.](#)

06_15.TXT: Table 15. Complete reflectance data for Hole 1052A.

06_16.TXT: Table 16. Complete reflectance data for Hole 1052B.

06_17.TXT: Table 17. Complete reflectance data for Hole 1052C.

06_18.TXT: Table 18. Complete reflectance data for Hole 1052D.

06_19.TXT: Table 19. Complete reflectance data for Hole 1052E.

06_20.TXT: Table 20. Complete reflectance data for Hole 1052F.

06_27.TXT: Table 27. GRAPE bulk density for Hole 1052A.

06_28.TXT: Table 28. GRAPE bulk density for Hole 1052B.

06_29.TXT: Table 29. GRAPE bulk density for Hole 1052C.

06_30.TXT: Table 30. GRAPE bulk density for Hole 1052D.

06_31.TXT: Table 31: GRAPE bulk density for Hole 1052E.

06_32.TXT: Table 32: GRAPE bulk density for Hole 1052F.

06_33.TXT: Table 33. Magnetic susceptibility for Hole 1052A.

06_34.TXT: Table 34. Magnetic susceptibility for Hole 1052B.

06_35.TXT: Table 35. Magnetic susceptibility for Hole 1052C.

06_36.TXT: Table 36. Magnetic susceptibility for Hole 1052D.

06_37.TXT: Table 37. Magnetic susceptibility for Hole 1052E.

06_38.TXT: Table 38. Magnetic susceptibility for Hole 1052F.

06_39.TXT: Table 39. MST *P*-wave velocity for Hole 1052A.

06_40.TXT: Table 40. Natural gamma radiation for Hole 1052A.

06_41.TXT: Table 41. Natural gamma radiation for Hole 1052E.

CHAP_07 (Chapter 7, Site 1053):

07_01.TXT: Table 1. Detailed coring summary for Site 1053.

07_10.TXT: Table 10. Summary of Hole 1053A paleomagnetic results from discrete minicores.

07_11.PDF: [Table 11. Summary of Hole 1053A paleomagnetic results from discrete minicores.](#)

07_12.TXT: Table 12. Complete reflectance data for Hole 1053A.

07_13.TXT: Table 13. Complete reflectance data for Hole 1053B.

07_19.TXT: Table 19. GRAPE bulk density for Hole 1053A.

07_20.TXT: Table 20. GRAPE bulk density for Hole 1053B.

07_21.TXT: Table 21. Magnetic susceptibility for Hole 1053A.

07_22.TXT: Table 22. Magnetic susceptibility for Hole 1053B.

List of LEG_DATA files:**XRDDATA** (X-ray diffraction data tables):

Results from shipboard X-ray diffraction analyses are organized according to hole, type of analysis, and type of sample preparation. Codes for the directories are as follows: BULK = random bulk powders; CLAY = air-dried clay-sized separates; and GLYCOL = glycol-saturated clay-sized separates. Sample identification for individual files is based on core, section, and interval. For example, file 10-3-14 in the BULK subdirectory within the 1049A directory corresponds to bulk-powder analysis Sample 171B-1049A-10X-3, 14 cm. The raw digital data within each file are in ASCII PC exchange format and provide intensity values in step increments of 0.020 over a scanning range of 2.00 to 60.00 2 θ .

The XRD results are organized in the following directory structure:

```

1049A
    BULK
1049C
    BULK
1050A
    BULK
    CLAY
    GLYCOL
1051A
    BULK
1052E
    BULK

```

ODP LEG 171 LOG & CORE DATA

This “data-only” CD-ROM contains depth-shifted and processed logging data, provided by the Borehole Research Group at the Lamont-Doherty Earth Observatory, for Legs 171A and 171B. Also included on this

CD-ROM are shipboard GRAPE (gamma-ray attenuation porosity evaluator), index properties, magnetic susceptibility, *P*-wave, color reflectance data, and natural gamma data of cores collected on board the *JOIDES Resolution* during Leg 171B. No coring was done during Leg 171A. CD-ROM production was carried out by the Borehole Research Group at the Lamont-Doherty Earth Observatory, Wireline Logging Operator for ODP.

Directory Structure:

- COREDATA directory
 - README document
 - SITE number subdirectory
 - HOLE number subdirectory
 - GRAPE data file
 - INDEX data file
 - MAGSUS data file
 - NATGAM data file
 - PWAVE data file
 - REFLECTANCE data file
 - GRAPE documentation file
 - Index properties documentation file
 - Magnetic susceptibility documentation file
 - Natural gamma documentation file
 - P*-wave documentation file
 - Reflectance documentation file
- GEN_INFO directory
 - ACRONYMS.DOC (list of acronyms)
 - COMPRESS.DOC (data compression documentation)
 - FIGURES.DOC (log summary figure documentation)
 - FORMAT.DOC (CD-ROM format documentation)
 - INDEX.DOC (CD-ROM file summary)
 - README.DOC (information on whom to contact)
 - SOFTWARE.DOC (information for software packages, graphics software, and data compression)
- LOG_DATA directory
 - HOLE number subdirectory
 - BASICLOG
 - Standard logs subdirectory
 - Acronyms and units file
 - Log data subdirectories
 - Individual tool data files
 - Processing documentation
 - Log summary figures (postscript and portable document format files)
- FMS directory
 - FMS and dipmeter data subdirectory
 - Dipmeter in ASCII format file(s)
 - FMS images in PBM format (portable bit map—8-bit binary) subdirectory
 - 1:1 ratio images subdirectory
 - Data files (every 10 m)
 - Raster documentation file
 - 1:10 ratio image subdirectory
 - Data files (every 100 m)
 - Raster documentation file
- NIH IMAGE directory (Raster imaging software for Macintosh)

The above structure is identical in each site and/or hole. The INDEX.DOC file contains a summary of all the files loaded on the CD-ROM. The software documentation file in the GEN_INFO directory contains information on which software packages work best to import PBM (portable bit map—8-bit binary) raster files. It also includes network sources for the graphics software and data compression information. The README file gives information on whom to contact with any questions about the production of or data on the CD-ROM. All of the ASCII files (with the exception of the sonic waveform [SWF] files and log summary figures) are tab delimited for compatibility with most spreadsheet and database programs. Holes that have more than one logging pass with the same tools are labeled Main and Repeat for conventional logs, or Pass 1, Pass 2, etc., for FMS. If the files are not in separate directories they may just be annotated with "m" and "r" or "1" and "2" in the data file names when there is room for only one character. Holes that have long logging runs are often divided into UPPER, MIDDLE, and LOWER directories. The files may be annotated only with "u," "m," or "l" in the data file names where space permits. Check the documentation file for a given directory if it is not clear. The log summary figures were created on the UNIX and have been saved as postscript (.PS) files and are made available in portable document format (.PDF). For more information regarding the figures, please see FIGURES.DOC in the GEN_INFO directory.

In the FMS-PBM format directory, there are two subdirectories: 1:1 ratio with maximum 10-m-long image raster files and 1:10 ratio with maximum 100-m-long image raster files. The image raster files are named according to their depth interval. The raster documentation files contain image file parameter information necessary for use with most graphic software packages.

Summary of Log Data:

Leg 171B_IR

Hole 1050C:

- BASICLOG directory
- FMS data
- GHMT logs
- Log summary figures
- Sonic waveforms
- Standard logs
- Temperature data

Hole 1051A:

- BASICLOG directory
- FMS data
- GHMT logs
- Log summary figures
- Sonic waveforms
- Standard logs

Hole 1052E:

- BASICLOG directory
- FMS data
- GHMT logs
- Log summary figures
- Sonic waveforms

Standard logs
Temperature data

Summary of ODP Core Data:

Leg 171B_IR

Site 1049

Hole A:

GRAPE.DAT
INDEX.DAT
MAGSUS.DAT
NATGAM.DAT
PWAVE.DAT
REFLECT.DAT

Hole B:

GRAPE.DAT
MAGSUS.DAT
PWAVE.DAT
REFLECT.DAT

Hole C:

GRAPE.DAT
MAGSUS.DAT
NATGAM.DAT
PWAVE.DAT
REFLECT.DAT

Site 1050

Hole A:

GRAPE.DAT
INDEX.DAT
MAGSUS.DAT
NATGAM.DAT
PWAVE.DAT
REFLECT.DAT

Hole B:

GRAPE.DAT
MAGSUS.DAT
REFLECT.DAT

Hole C:

GRAPE.DAT
INDEX.DAT
MAGSUS.DAT
NATGAM.DAT

Site 1051

Hole A:

GRAPE.DAT

INDEX.DAT
MAGSUS.DAT
NATGAM.DAT
PWAVE.DAT
REFLECT.DAT

Hole B:

GRAPE.DAT
MAGSUS.DAT
NATGAM.DAT
REFLECT.DAT

Site 1052

Hole A:

GRAPE.DAT
INDEX.DAT
MAGSUS.DAT
NATGAM.DAT
PWAVE.DAT

Hole B:

GRAPE.DAT
MAGSUS.DAT

Hole C:

GRAPE.DAT
MAGSUS.DAT

Hole D:

GRAPE.DAT
MAGSUS.DAT

Hole E:

GRAPE.DAT
INDEX.DAT
MAGSUS.DAT
NATGAM.DAT

Hole F:

GRAPE.DAT
MAGSUS.DAT

Site 1053

Hole A:

GRAPE.DAT
INDEX.DAT
MAGSUS.DAT

Hole B:

GRAPE.DAT
MAGSUS.DAT