

**U.S. Geological Survey
Digital Data Series DDS-69-V**

National Oil and Gas Assessment Project:
**Petroleum Systems and Geologic Assessment of Oil and Gas in the Bighorn Basin
Province, Wyoming and Montana**

By U.S. Geological Survey Bighorn Basin Assessment Team

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Introduction

The purpose of the U.S. Geological Survey's National Oil and Gas Assessment is to develop geologically based hypotheses regarding the potential for additions to oil and gas reserves in priority areas of the United States. The U.S. Geological Survey (USGS) recently completed an assessment of the undiscovered oil and gas potential of the Bighorn Basin Province which encompasses about 6.7 million acres in Wyoming and Montana.

The assessment is based on the geologic elements of each total petroleum system (TPS) defined in the province, including hydrocarbon source rocks (source-rock maturation, hydrocarbon generation, and migration), reservoir rocks (sequence stratigraphy and petrophysical properties), and hydrocarbon traps (trap formation and timing). Using this geologic framework, the USGS defined two TPSs: (1) Phosphoria TPS, and (2) Cretaceous-Tertiary Composite TPS. Within these systems, eight Assessment Units (AU) were defined, and undiscovered oil and gas resources were quantitatively estimated for all AUs.

Contact Information

This volume is one of a series of products resulting from the National Oil and Gas Assessment project of the U.S. Geological Survey. Inquiries about this CD-ROM or the project should be addressed to:

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Using this CD

The descriptive and interpretive text chapters of this volume are in PDF format. Use Acrobat Reader 7.0 (installer for Mac and Windows provided on this CD-ROM) to access and bring up these chapters.

Contained on this CD-ROM are tabular data and graphical images in support of the assessment. The chapter text PDF contains links to the data and images. Data-table files are presented as tab-delimited text files (.tab files), usable in spreadsheet and database software. Graphical and summary-table files are presented as portable document format (.pdf) files.

The USGS Central Energy Resources Team has developed an Internet Map Service to deliver the GIS data to the public. The spatial data that formed the basis of the GIS are provided online at the USGS National Oil and Gas Assessment Web site (NOGA Online: <http://energy.cr.usgs.gov/oilgas/noga>) and are also contained on this CD-ROM in the spatial folder. GIS information is presented in the Spatial folder and its subdirectories that contain the spatial data, documentation, and export files. The Spatial/Doc folder contains metadata for the Bighorn Basin Province spatial data in .htm format. The Spatial/Export folder contains Arc/Info export files (.e00). The Spatial/Shape folder contains ArcView/ArcGIS shapefiles used in the GIS project. Most of the base cartographic data layers used in the GIS project were obtained from the U.S. Department of the Interior National Atlas Web site, www.nationalatlas.gov or the U.S. Geological Survey National Map, <http://nmviewogc.cr.usgs.gov/viewer.htm>.

Contents of this CD-ROM

When the CD-ROM is opened, the following folders appear on the screen:

ACROBAT—contains installer for Acrobat Reader 7.0.

OPEN_FIRST—from OPEN_FIRST.pdf in this folder, navigate to the ReadMe file, Executive Summary, and Assessment Reports.

READ_ME—you can access the ReadMe file from this folder also.

REPORTS—listing of, and links to, the chapters, plus the tabular data.

SPATIAL—folder containing files for the GIS data and metadata.

There are several routes to the information in this volume.

System Requirements

MAC OS X

Adobe Reader 7

- Power PC G3, G4, G5 processor
- Mac OS X v.10.2.8 or 10.3
- 128 MB of RAM
- 80 MB of available hard disk space (110 MB required for the full version)
- 800 x 600 screen resolution

WINDOWS

Adobe Reader 7.0 MS Windows

- Intel Pentium-class processor
- Windows XP Professional or Home Edition with SP1 or SP2, or Tablet

PC Edition

- Microsoft Windows 2000 with Service Pack 2 (SP2)
- 128 MB of RAM
- 90 MB of available hard-disk space for the full version
- 800 x 600 monitor resolution

Requirements for ArcReader 9.2 for Windows:

- 1.5 GHz Intel Pentium or Intel Zeon Processors
- Windows XP Home and Professional Editions
- 256 MB RAM Minimum, 512 MB recommended
- 410 MB Disk Space

Requirements for ArcView 8.x for Windows:

- 450 MHz Pentium minimum, 800 MHz recommended
- Microsoft Windows NT 4.0 with Service Pack 6a or Windows 2000 or Windows XP Home and Professional Editions
- 128 MB RAM, 256 Recommended

Note: Installers for Acrobat Reader 7.0 for Macintosh and Windows platforms are provided on this CD-ROM.

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