

NOGA Online: A USGS Resource for Energy GIS Data and Services

<http://energy.cr.usgs.gov/oilgas/noga/>

Laura R.H. Biewick
and
Gregory L. Gunther

Outline

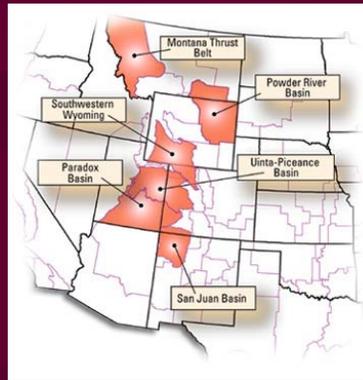
- Overview of Energy Program
- National Assessment Background Information
- National Assessment of Oil and Gas Website
 - The NOGA Home Page
 - Basin Results Page
 - Assessment Units Page
 - GIS Download Page
 - Interactive Map Application
 - 1995 Assessment Results
- Summary
 - Usage Statistics
 - Map Service Technology for Product Development
 - Technologic Details

USGS Energy Program :

- USGS Geologic Discipline (Dept. of the Interior)
- Reliable scientific information that aids in management of energy resources
- Assess energy resources of U.S. and world
- Central Energy Resources Team (CERT) - Evaluate and develop science-based assessment methodologies
- Produce assessments of domestic oil, gas, and coal resources

National Assessment Background Information:

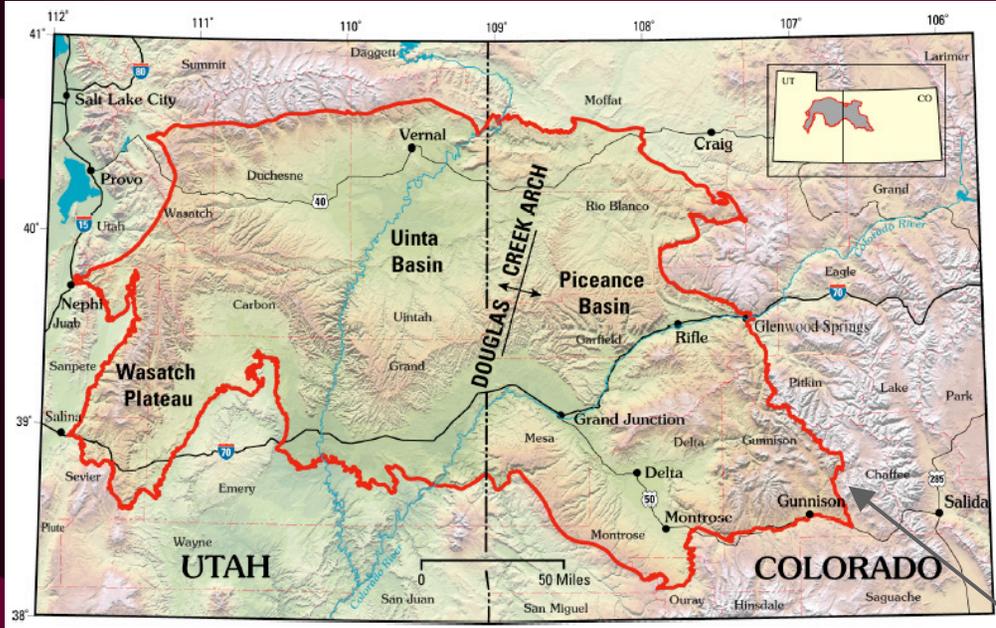
- First entirely digital comprehensive domestic oil and gas assessment completed in 1995
- The U.S. Geological Survey (USGS) recently completed an assessment of undiscovered oil and gas resources of five of six priority provinces to meet the requirements of the Energy Policy and Conservation Act of 2000 (EPCA 2000).



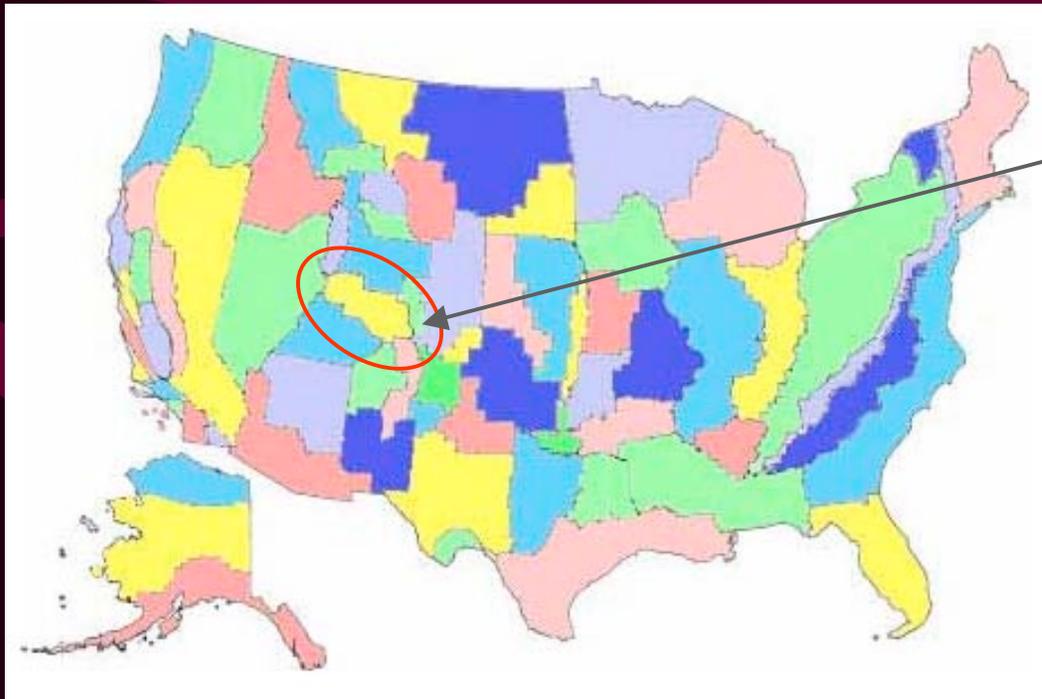
- Purpose:

To scientifically estimate oil and gas resources and potential reserve additions for onshore areas and beneath State waters

- Standard definitions are essential to understanding assessments and data at NOGA Online



- 71 provinces in the United States
- Hydrocarbon assessment units or plays are generally defined and assessed within provinces
- Province drawn on county lines that closely follow natural geologic boundaries



Uinta-Piceance Province

- Areas that are assessed include geologic structures generally considered to be in or to bound basins

Assessment Unit or Play -- a set of known or postulated oil and (or) gas accumulations sharing similar:

- Geologic
- Geographic
- Temporal properties

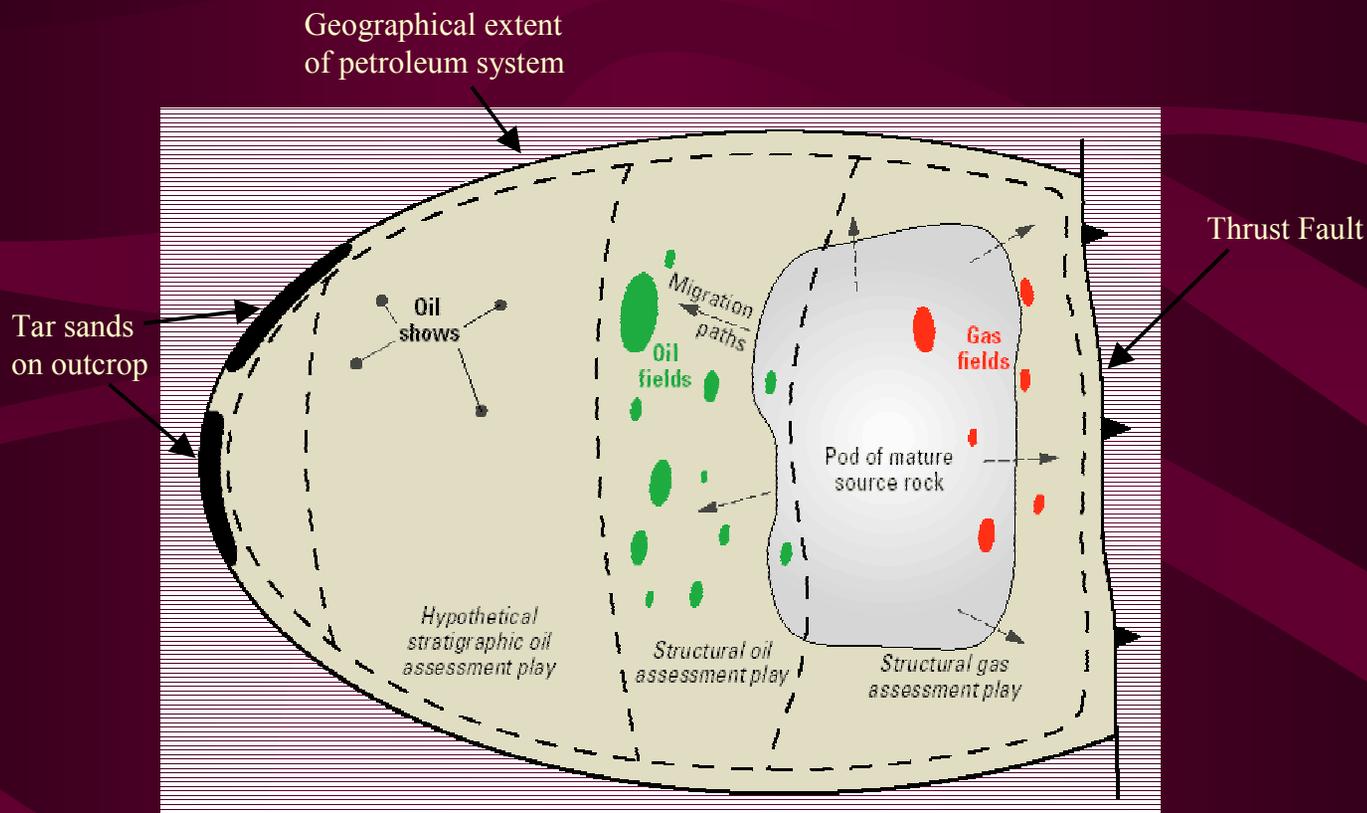


- ✓ Source rock
- ✓ Migration pathway
- ✓ Timing
- ✓ Trapping mechanism
- ✓ Hydrocarbon type

Limits of the geologic elements that define the assessment unit or play:

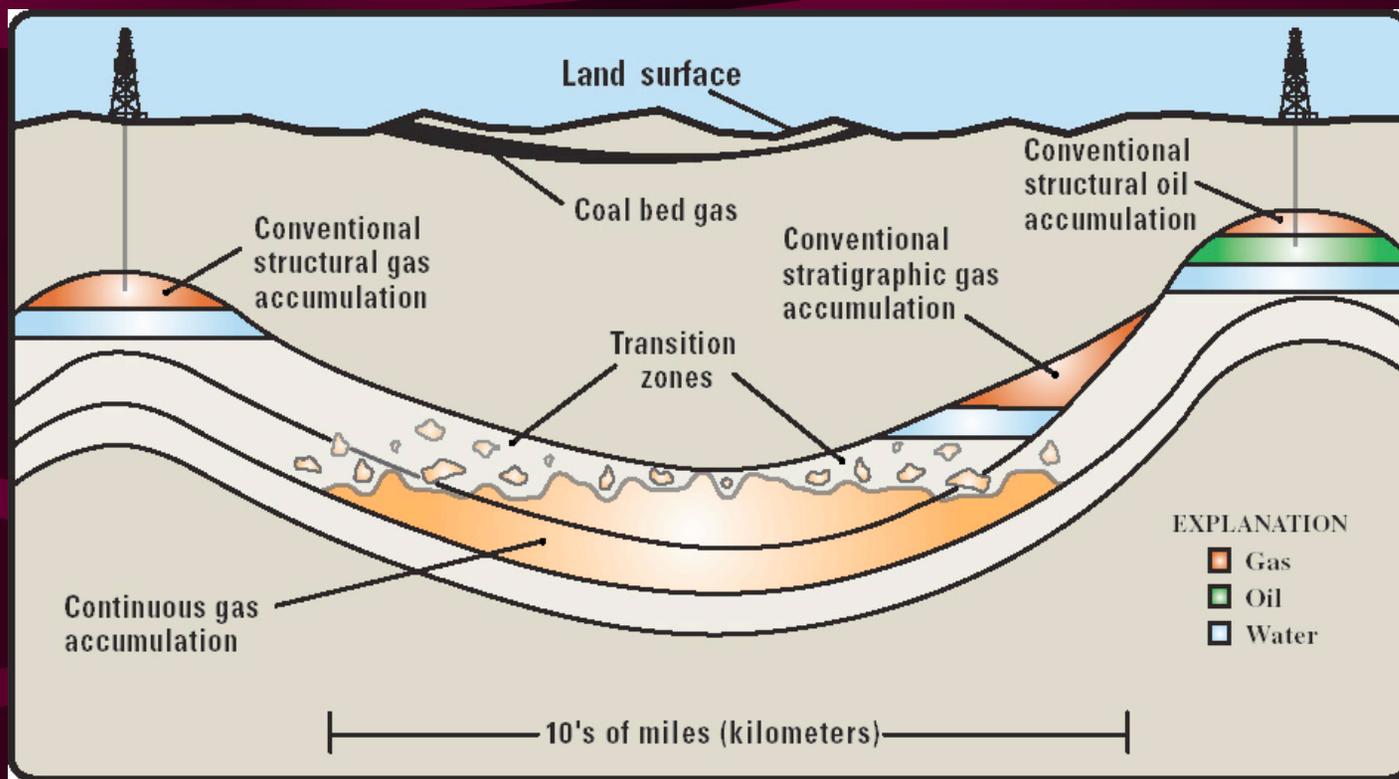
- Reservoir rock
- Geologic structures
- Source rock
- Seal lithologies

Total Petroleum System -- a mappable entity encompassing genetically related petroleum that occurs in seeps, shows, and accumulations (discovered or undiscovered) that have been generated by a pod or by closely related pods of mature source rock.



Schematic plan view of a total petroleum system, showing a pod of mature source rock, the distribution of known petroleum occurrences, and the boundaries of the assessment units (modified from USGS Uinta-Piceance Assessment Team, 2003).

Resources postulated to exist beyond know fields



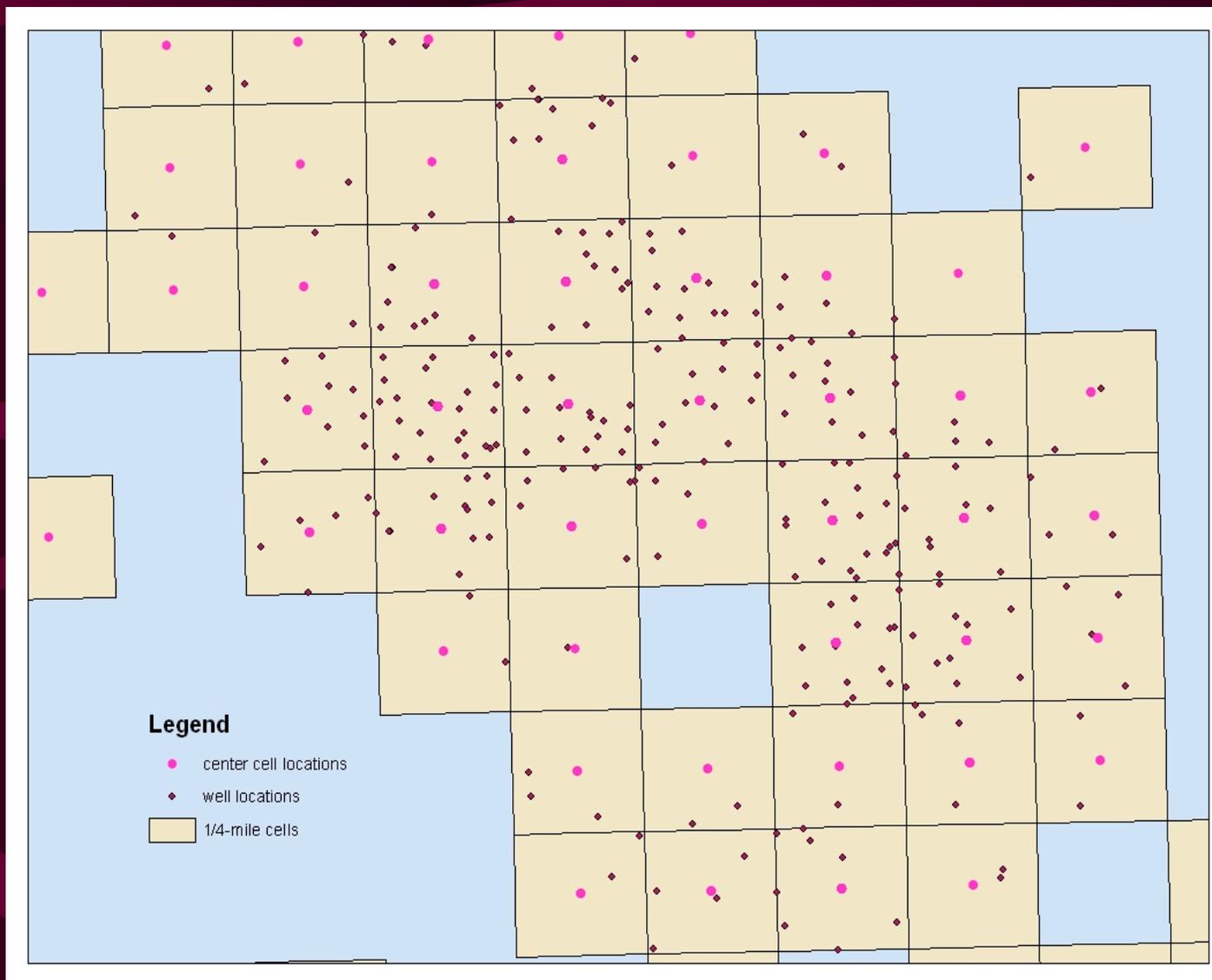
Schematic diagram of the types of oil and gas resources assessed in the priority provinces of the U. S. Both conventional and continuous accumulations are assessed. Coal-bed gas is considered to be a continuous-type accumulation.

Probability Distributions

Estimates of undiscovered resources:

- Probabilities of occurrence
- Uncertainty of unknown quantities
- Fractiles include
 - Low (F95)
 - High (F05)
 - Mean

Graphic Description of the Concept of Cells Representing Proprietary Wells



USGS
science for a changing world

Central Energy Team

Links Feedback Contact Search

Oil & Gas

Coal

Other Topics

Products

The Central Energy Team, in the USGS Energy Resources Program, provides the best-available assessments of Energy Resources (coal, oil, natural gas). These assessments are critical to the Nation's welfare and are based on:

- A comprehensive understanding of the Geologic Framework in which energy resources occur and
- A thorough understanding of the Geologic Processes that produce accumulations of energy resources and consider the economic, technical, and environmental factors affecting the availability and recoverability of those energy resources.

New Features

Latest EPCA Results

NOGA Online

Coalbed Methane Field Conference

Illinois Basin Coal

World Oil & Natural Gas Resources

More..

For further information please contact:
Vito Nuccio
Chief Scientist, Energy Resources Team

U.S. Geological Survey
Box 25046, MS 939,
Denver Federal Center, Denver, CO 80225
(303) 236-1647
vnuccio@usgs.gov

[View Site Map](#)
[Energy Resources Program](#)
[Energy Resources, Eastern Region](#)
[Energy Resources, Western Region](#)

U.S. Department of the Interior
U.S. Geological Survey
This page is: <http://energy.cr.usgs.gov/>
Maintained by: [Central Energy Data Management](#)
Last modified: 12:07:04 Thu 26 Dec 2002
[Privacy Statement](#) || [Disclaimer](#) || [FOIA](#) || [Accessibility](#)

FIRST GOV
Your First Click to the U.S. Government

National Oil & Gas Home

Project Overview

Staff

National Products

Products By Basin

The USGS Central Energy Team provides periodic assessments of the oil and natural gas endowment of the United States. New "prioritized" assessment results, as part of the Energy Policy and Conservation Act (EPCA) and the current National Assessment are shown below. Additional EPCA and priority basin assessment results will be posted as they become available.

Highlights:

[EPCA 2000 Factsheet \(FS149-02\)](#)

[1998 \(Most Current\) 1002 Area of ANWR estimates](#)

[EPCA Basin Factsheets](#)

[Interactive Maps \(1995\)](#)

[2003 Uinta Piceance Interactive Map](#)

Recently Featured In:

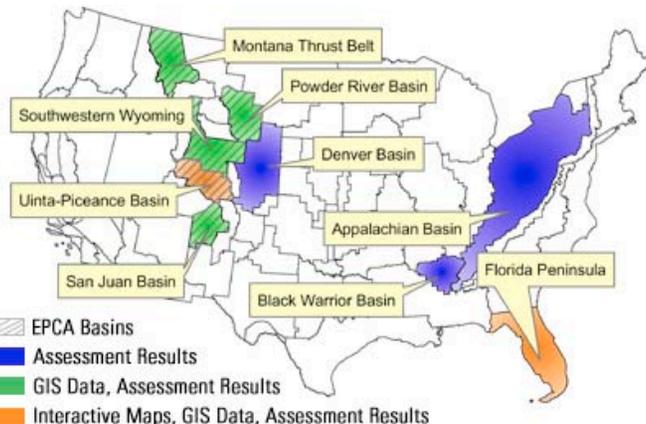
[Science Magazine](#)
[ArcUser Magazine](#)



1995 Assessment Results

Updated Assessment and EPCA Information:

-Choose a Basin-



-1995 Assessment Results-

For further information please contact:
Chris Schenk
Project Chief

U.S. Geological Survey
Box 25046, MS 939,
Denver Federal Center, Denver, CO 80225
303-236-5796
schenk@usgs.gov

- Assessment results available by province
- Map interface
- Pull-down menu

- NOGA Online provides nearly 6000 datasets for viewing, downloading and interactive analysis
- Updated assessments and EPCA basins

National Oil & Gas Home

Project Overview

Staff

National Products

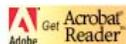
Products By Basin

Most Current Assessment Results



Uinta-Piceance Basin,
Province 5020
(Province 20)

The information provided requires Acrobat Reader. [Download Acrobat Reader Here.](#)



- [Uinta-Piceance Basin, Province 5020 Factsheet](#)
- [1995 Assessment Results](#)

[Basin Results](#) [Assessment Units](#) [GIS Download](#) [Interactive Map](#)

[Get Document Descriptions Here](#)
[View Download and File Format Information Here](#)

General Assessment Results

2003 Geologic Report

[View Report \(pdf\)](#)

2003 Conventional Assessment Input Data

[Download](#)

2003 Continuous Assessment Input Data

[Download](#)

2003 Estimation of Potential Additions to Reserves

[Download](#)

2003 Discovered Volumes

[Download](#)

2003 Allocations

General Land Ownership

[Download](#)

Federal Land Ownership

[Download](#)

State Ownership

[Download](#)

Ecosystems

[Download](#)

For further information please contact:
Chris Schenk
Project Chief

U.S. Geological Survey

Box 25046, MS 939,
Denver Federal Center, Denver, CO 80225
303-236-5796
schenk@usgs.gov

National Assessment of Oil and Gas Project:

Petroleum Systems and Geologic Assessment of Oil and Gas in the Uinta-Piceance Province, Utah and Colorado

Main Contents

Viewing PDF files require Adobe Acrobat or similar software, that can be downloaded [here](#) if needed.

[ReadMe File](#)

[View PDF file, 109KB](#)

[Executive Summary](#)

[View PDF file, 2.4MB](#)

[Assessment Reports](#)

[View PDF file, 243 KB](#)

[GIS Data/Metadata](#)

[National Oil & Gas Assessment Data Web Site \(NOGAD\)](#)

U.S. Department of the Interior
U.S. Geological Survey
This page is: <http://data.usgs.gov/central-energy/oil-gas/assessment/5020/index.html>
Maintained by: [Central Energy Data Management](#)
Last modified: 17:42:04 Fri 28 Mar 2003
[Privacy Statement](#) | [Sitemap](#) | [FOIA](#) | [Accessibility](#)



US Geological Survey Digital Data Series DDS 49B

File Download



Some files can harm your computer. If the file information below looks suspicious, or you do not fully trust the source, do not open or save this file.

File name: ins5020.tab

File type: TAB File

From: certmapper.cr.usgs.gov

Would you like to open the file or save it to your computer?

Open

Save

Cancel

More Info

Always ask before opening this type of file

USGS
science for a changing world

National Oil & Gas Assessment

Central Energy Team >> Oil & Gas >> National Oil & Gas

Links Feedback Contact Search

National Oil & Gas Home
Project Overview
Staff
National Products
Products By Basin

Most Current Assessment Unit Results

Uinta-Piceance Basin, Province 5020
(Province 20)

The information provided requires Acrobat Reader. Download Acrobat Reader Here.

Get Acrobat Reader

- Uinta-Piceance Basin, Province 5020 Factsheet
- 1995 Assessment Results Also Available

Basin Results Assessment Units GIS Download Interactive Map

Get Document Descriptions Here

For further information please contact:
Chris Schenk
Project Chief

U.S. Geological Survey
Box 25046, MS 939,
Denver Federal
Center, Denver, CO
80225
303-236-5796
schenk@usgs.gov

Green River Total Petroleum System:

Uinta Green River Conventional Oil and Gas Assessment Unit
***Choose a Report**

Deep Uinta Overpressured Continuous Oil Assessment Unit
***Choose a Report**

Piceance Green River Conventional Oil Assessment Unit
***Choose a Report**

Phosphoria Total Petroleum System:

Hanging Wall Assessment Unit
***Choose a Report**

Paleozoic/Mesozoic Assessment Unit
***Choose a Report**

Mancos/Mowry Total Petroleum System:

Piceance Basin Continuous Gas Assessment Unit
***Choose a Report**

Uinta Basin Continuous Gas Assessment Unit
***Choose a Report**

Uinta-Piceance Transitional and Migrated Gas Assessment Unit
***Choose a Report**

1. Assessment Results
2. Discovery Table
3. Undiscovered Conventional Resources, Detailed Output
4. Continuous Resources, Detailed Output
5. Exploration / Discovery History Graphs, Known Volumes
6. Exploration / Discovery History Graphs, Grown Volumes
7. Data Input Forms for Conventional Accumulations (Seventh Approximation Data)

Phosphoria Total Petroleum System:

Hanging Wall Assessment Unit

***Choose a Report**

***Choose a Report**

Assessment Results

Discovery Table

Undiscovered Conventional Resources, Detailed Output

Exploration/Discovery History Graphs, Known Volumes

Exploration/Discovery History Graphs, Grown Volumes

Data Input Forms for Conventional Accumulations (7th Approximation)

8. Data Input Forms for Continuous Accumulations (FORSPAN)

- [National Oil & Gas Home](#)
- [Project Overview](#)
- [Staff](#)
- [National Products](#)
- [Products By Basin](#)

Most Current Assessment Results



Uinta-Piceance Basin, Province 5020
(Province 20)

The information provided requires an Acrobat Reader. [Download Acrobat Reader Here.](#)



- [Uinta-Piceance Basin, Province 5020 Factsheet](#)
- [1995 Assessment Results](#)

- [Basin Results](#)
- [Assessment Units](#)
- [GIS Download](#)
- [Interactive Map](#)

Basinwide Data:
[Download GIS Here](#)

Green River Total Petroleum System:
[Download GIS Here](#)

Phosphoria Total Petroleum System:
[Download GIS Here](#)

Mancos/Mowry Total Petroleum System:
[Download GIS Here](#)

Mesaverde Total Petroleum System:
[Download GIS Here](#)

Ferron Coal/Wasatch Plateau Total Petroleum System:
[Download GIS Here](#)

For further information please contact:
Chris Schenk
Project Chief

U.S. Geological Survey

Box 25046, MS 939,
Denver Federal Center, Denver, CO 80225
303-236-5796
schenk@usgs.gov

This page can be found at:
<http://energy.cr.usgs.gov/oilgas/noga/index.htm>
Maintained by: **Central Energy Data Management**
Last modified: January 2003
[USGS Privacy Policy and Disclaimers](#)
[Accessibility](#)



Updated Assessment Data Download - Microsoft Internet Explorer

Uinta-Piceance Basin Province Boundary	Shape File	Export File	Metadata
Surface Ownership in Uinta-Piceance Basin Province	Shape File	Export File	Metadata



National Assessment of Oil and Gas Project - Uinta-Piceance Province (020) Assessment Units

Metadata also available as

Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

Identification Information:

Citation:

Citation Information:
Originator: United States Geological Survey (USGS)
Publication_Date: 2002
Title: National Assessment of Oil and Gas Project - Uinta-Piceance Province (020) Assessment Units
Geospatial_Data_Presentation_Form: vector digital data
Publication_Information:
Publication_Places: Denver, Colorado
Publisher: U. S. Geological Survey, Central Energy Resources Team
Online_Linkage:
<http://energy.cr.usgs.gov/arcswp/arcswp1/MapGIS.html?tblname=020&swp=020&swp=020>

Larger Work Citation:

Citation Information:
Originator: Karchowian, M. A.
Publication_Date: 2002
Title: Petroleum Systems and Geologic Assessment of Oil and Gas in the Uinta-Piceance Province, Utah and Colorado

Updated Assessment Data Download - Microsoft Internet Explorer

Mesaverde Total Petroleum System	Shape File	Export File	Metadata
Estimated Depth to the Base of the Mesaverde Total Petroleum System	Shape File	Export File	Metadata
Mesaverde Total Petroleum System Maturation Contours	Shape File	Export File	Metadata
Mesaverde Total Petroleum System Pod(s) of Mature Source Rock	Shape File	Export File	Metadata
Piceance Basin Transitional Gas Assessment Unit	Shape File	Export File	Metadata
Uinta Basin Blackhawk Coalbed Gas Assessment Unit	Shape File	Export File	Metadata
Uinta Basin Transitional Gas Assessment Unit	Shape File	Export File	Metadata
Mesaverde Group Coalbed Gas Assessment Unit	Shape File	Export File	Metadata
Uinta-Piceance Basin Conventional Gas Assessment Unit	Shape File	Export File	Metadata
Uinta Basin Continuous Gas Assessment Unit	Shape File	Export File	Metadata
Piceance Basin Continuous Gas Assessment Unit	Shape File	Export File	Metadata

ArcIMS Application

- Interactive Mapping
- A light-weight HTML Viewer
- Limited GIS Functionality (toggle layers, visibility, zoom, identify, etc.)
- Download GIS Data/Metadata
- View Assessment Results
- Share Geographic Data and Services Through a Global Network

National Oil & Gas Home

Project Overview

Staff

National Products

Products By Basin

Most Current Assessment Results



Uinta-Piceance Basin, Province 5020
(Province 20)

The information provided requires Acrobat Reader. [Download Acrobat Reader Here.](#)



- [Uinta-Piceance Basin, Province 5020 Factsheet](#)
- [1995 Assessment Results](#)

Basin Results Assessment Units GIS Download **Interactive Map**

[Get Document Descriptions Here](#)
[View Download and File Format Information Here](#)

General Assessment Results

2003 Geologic Report	View Report (pdf)
2003 Conventional Assessment Input Data	Download
2003 Continuous Assessment Input Data	Download
2003 Estimation of Potential Additions to Reserves	Download
2003 Discovered Volumes	Download

2003 Allocations

For further information please contact:

Chris Schenk
Project Chief

U.S. Geological Survey

Box 25046, MS 939,
Denver Federal Center, Denver, CO 80225
303-236-5796
schenk@usgs.gov

Zoom In

Data Management Project 303.236.5611 | Last modified: October 2002 | [Policy and Disclaimers](#) | [FirstGov.gov](#) | [Accessibility](#) | [Unlodge Burden](#)

NOGA Online - Microsoft Internet Explorer

USGS science for a changing world

Uinta-Piceance Province

Downloads

- Downloads
- GIS Data Download
- Results By Province
- Results By Assessment Unit

Additional Maps

Layer Legend

- Download Instructions
- Mesaverde USPTN Layers
- Mesaverde Depth
- Mesaverde TPS Label
- Mesaverde Total Petroleum System
- Mancos Total Petroleum System
- Phosphoria Total Petroleum System
- Green River Total Petroleum System
- Base Cartographic
- Uinta-Piceance Basin Boundary
- Counties
- County Names
- Colorado and Green Rivers
- Lakes
- Major Rivers and Streams
- Roads
- Road Labels
- Lat/Long Tics
- Lat/Long Labels
- Cities and Towns
- City and Town Names
- Public Land Survey System
- State Boundary
- State Labels
- Uinta-Piceance Ownership
- Color Relief
- Background

Help:

- A closed group, click to open.
- An open group, click to close.
- A layer contained within a group.
- A layer not contained within a group.
- A hidden group/layer, click to make visible.

Refresh Map

58 Miles

um System is now the Active Layer

ners | FirstGov.gov | Accessibility | Undue Burden

Documents... Microsoft PowerPoi... National Oil & Natu... NOGA Online - Mi... 2:51 PM

USGS science for a changing world

National Oil & Gas Assessment

Central Energy Team >> Oil & Gas >> National Oil & Gas

Most Current Assessment Results

Uinta-Piceance Basin, Province 5020 (Province 20)

The information provided requires Acrobat Reader. Download Acrobat Reader Here.

• Uinta-Piceance Basin, Province 5020 Factsheet

• 1995 Assessment Results

Basin Results Assessment Units Download Interactive Map

Get Document Descriptions Here

For further information please contact:
Chris Schenk
Project Chief

U.S. Geological Survey
Box 25046, MS 939,
Denver Federal
Center, Denver, CO
80225
303-236-6796
schenk@usgs.gov

This page can be found at:
<http://energy.usgs.gov/oilgas/assessment/>
Maintained by: Central Energy Data Management
Last modified: January 2009
USGS Privacy Policy and Data Access
Accessibility

FIRSTGOV

USGS science for a changing world

National Oil & Gas Assessment

Central Energy Team >> Oil & Gas >> National Oil & Gas

Most Current Assessment Results

Uinta-Piceance Basin, Province 5020 (Province 20)

The information provided requires Acrobat Reader. Download Acrobat Reader Here.

• Uinta-Piceance Basin, Province 5020 Factsheet

• 1995 Assessment Results

Basin Results Assessment Units Download Interactive Map

Get Document Descriptions Here
View Download and File Format Information Here

For further information please contact:
Chris Schenk
Project Chief

U.S. Geological Survey
Box 25046, MS 939,
Denver Federal
Center, Denver, CO
80225
303-236-6796
schenk@usgs.gov

General Assessment Results

2003 Geologic Report	View Report (pdf)
2003 Conventional Assessment Input Data	Download
2003 Continuous Assessment Input Data	Download
2003 Estimation of Potential Additions to Reserves	Download
2003 Discovered Volumes	Download

2003 Allocations

USGS science for a changing world

National Oil & Gas Assessment

Central Energy Team >> Oil & Gas >> National Oil & Gas

Most Current Assessment Unit Results

Uinta-Piceance Basin, Province 5020 (Province 20)

The information provided requires Acrobat Reader. Download Acrobat Reader Here.

• Uinta-Piceance Basin, Province 5020 Factsheet

• 1995 Assessment Results Also Available

Basin Results Assessment Units Download Interactive Map

Get Document Descriptions Here

For further information please contact:
Chris Schenk
Project Chief

U.S. Geological Survey
Box 25046, MS 939,
Denver Federal
Center, Denver, CO
80225
303-236-6796
schenk@usgs.gov

Green River Total Petroleum System:

Uinta Green River Conventional Oil and Gas Assessment Unit
[Choose a Report]

Deep Uinta Overpressured Continuous Oil Assessment Unit
[Choose a Report]

Piceance Green River Conventional Oil Assessment Unit
[Choose a Report]

Phosphoria Total Petroleum System:
Hanging Wall Assessment Unit

Access Related Information

National Oil and Gas Assessment Online (NOGA Online) - Microsoft Internet Explorer

USGS South Florida Basin
science for a changing world

Downloads

Additional Maps

- Additional Maps
- 2003 Uinta-Piceance (Province 20)
- 2001 South Florida Basin (Province 50)
- 1995 South Florida Basin (Province 50)
- 1995 Interactive Maps (Entire List)

General Tools

- Overview
- Zoom Full
- Set Units
- Print
- Zoom In
- Zoom Out
- Pan

Layer Specific Tools

- Identify
- Zoom Active

South Florida Basin Pre-Punta Gorda Total Petroleum System (505002)

- Base Cartographic
 - Study Area
 - Power Plants
 - Pipeline
 - Fault
 - Structural Uplift
 - Province 50 Cells
 - Province 50 Label
 - Province 50
 - State Names
 - States
 - County Names
 - Countries
 - Urban Area Names
 - Urban Areas
 - State Capital or County Seat Names
 - State Capitals or County Seats
 - Populated Place Names
 - Populated Places
 - Highways
 - Streams
 - Waterbodies
 - Bedrock Geology
 - Surface Ownership
 - Land Use
 - Shaded Relief

Help:

- Aclosed group, click to open.
- An open group, click to close.
- A layer contained within a group.
- A layer not contained within a group.
- A hidden group/layer, click to make visible.
- A visible group/layer, click to hide.
- A visible layer, but not at this scale.

Refresh Map

Zoom In

Data Management Project 303.236.3611 | Last modified: October 2002 | Policy and Disclaimers | FirstGov.Gov | Accessibility | Undue Burden

Start | G:\nogao... | Microsoft ... | Adobe Ph... | ArcCatalo... | Resource ... | National ... | P:\nat\sp... | 12:39 PM

National Oil and Gas Assessment Online (NOGA Online) - Microsoft Internet Explorer

USGS South Florida Basin
science for a changing world

Downloads Additional Maps

Layer Legend
 Download Instructions

- South Florida Basin
- Sunniland/Dollar Bay Total Petroleum System (505001)
- South Florida Basin Pre-Punta Gorda Total Petroleum System (505002)
 - 50500201 Assessment Unit
 - 505002 Pod(s) of Mature Source Rock
 - 505002 Total Petroleum System
- Base Cartographic
 - Study Area
 - Power Plants
 - Pipeline
 - Fault
 - Structural Uplift
 - Province 50 Cells
 - Province 50 Label
 - Province 50
 - State Names
 - States
 - County Names
 - Counties
 - Urban Area Names
 - Urban Areas
 - State Capital or County Seat Names
 - State Capitals or County Seats
 - Populated Place Names
 - Populated Places
 - Highways
 - Streams
 - Waterbodies
 - Beaches
 - Geology
 - Surface Ownership
 - Land Use
 - Shaded Relief

Help:

- A closed group, click to open.
- An open group, click to close.
- A layer contained within a group.

Refresh Map

General Tools
 Overview
 Zoom Full
 Set Units
 Print
 Zoom In
 Zoom Out
 Pan

Layer Specific Tools
 Identify
 Zoom Active

Alabama Georgia Florida
 North Atlantic Ocean
 Gulf of Mexico
 Florida Peninsula
 South Florida Bay

Layer Info Dialogue For 505002 Pod(s) ...
 Download Spatial Data
 Shape Export File Metadata

Layer Info Dialogue For Waterbodies - ...
 Data used in this application can be obtained from:
 National Atlas

Zoom In

Data Management Project 303.236.3611 | Last modified: October 2002 | Policy and Disclaimers | FirstGov.Gov | Accessibility | Undue Burden

Start | G:\noga0... | Microsoft ... | Adobe Ph... | ArcCatalo... | Resource ... | National ... | P:\nat\sp... | Layer Inf... | 12:53 PM

National Oil & Gas Home

Project Overview

Staff

National Products

Products By Basin

The USGS Central Energy Team provides periodic assessments of the oil and natural gas endowment of the United States. New "prioritized" assessment results, as part of the Energy Policy and Conservation Act (EPCA) and the current National Assessment are shown below. Additional EPCA and priority basin assessment results will be posted as they become available.

Recently Featured In:

Science Magazine
ArcUser Magazine



1995 Assessment Results

Highlights:

EPCA 2000 Factsheet (FS149-02)

1998 (Most Current) 1002 Area of ANWR estimates

EPCA Basin Factsheets

Interactive Maps (1995)

2003 Uinta Piceance Interactive Map

Updated Assessment and EPCA Information:

-Choose a Basin-



1995 Assessment Homepage

- Northern Alaska (Province 1)
- Central Alaska (Province 2)
- Southern Alaska (Province 3)
- Western Oregon-Washington (Province 4)
- Eastern Oregon-Washington (Province 5)
- Klamath-Sierra Nevada Basin (Province 6)
- Northern Coastal (Province 7)
- Sonoma-Livermore Basin (Province 8)
- Sacramento Basin (Province 9)
- 1995 Assessment Homepage

National Oil & Gas Home

Project Overview

Staff

National Products

Products By Basin

1995 National Oil and Gas Assessment

The USGS Central Energy Team provides periodic assessments of the oil and natural gas endowment of the United States. The most recent, completely digital assessment of the **entire** United States was completed in **1995** and has been archived for your use. For the latest assessment results, please visit the NOGA Online Homepage.

Most Requested

[1995 Assessment Results](#)

[1995 Economic Results](#)

[1995 Onshore Federal Lands Assessment](#)

[Interactive Maps](#)

[1995 Inferred Reserves](#)

Choose A Basin or Select From Below:

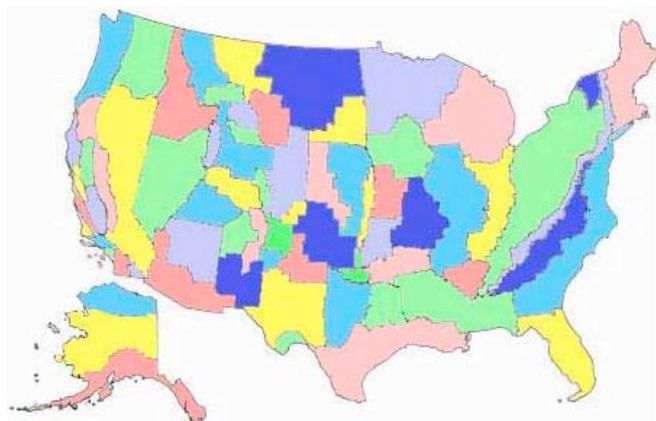
-Choose One-

For further information please contact:

Chris Schenk
Project Chief

U.S. Geological Survey

Box 25046, MS 939,
Denver Federal Center, Denver, CO 80225
303-236-5796
schenk@usgs.gov



This page can be found at

- National Oil & Gas Home
- Project Overview
- Staff
- National Products
- Products By Basin



Paradox Basin

(Province 21)

The information provided requires Acrobat Reader. Download Acrobat Reader Here.



- Basin Results
- Play Results
- GIS Download
- Interactive Map

"Download Instructions & Details"

- Tables
- PDF Format
- Text Format
- Tab Delimited

1995 Geologic Report

View (391 KB)

1995 Play Assessment Results

View

* 1995 Assessment Fractile Estimates

View Description

View (3 KB)

Download (3 KB)

* 1995 Assessment Output Data

View Description

View (2 KB)

Download (2 KB)

* 1995 Assessment Input Data

View Description

View (7 KB)

Download (7 KB)

* Data Applies To All Assessed Conventional Plays

This page can be found at:
<http://energy.cr.usgs.gov/oilgas/noga/index.htm>
 Maintained by: Central Energy Data Management
 Last modified: January 2002
[USGS Privacy Policy and Disclaimers](#)
[Accessibility](#)



PARADOX BASIN PROVINCE (021)

By A. Curtis Huffman, Jr.

INTRODUCTION

The Paradox Basin Province is in southeastern and south-central Utah and southwestern Colorado and encompasses much of the area from latitude 37° to 40° N. and from longitude 108° to 114° W. It includes almost all of the Paradox Basin, the Uncompahgre and San Juan uplifts, the San Rafael, Circle Cliffs, and Monument uplifts, the Kaiparowits and Henry Mountains basins, and the Wasatch and Panguagunt Plateaus. Maximum dimensions of the province area are approximately 280 mi long and 200 mi wide. It covers an area of about 33,000 sq mi. The maximum thickness of Phanerozoic sedimentary rocks ranges from 5,000-8,000 ft in the central part of the province to more than 15,000 ft in the Paradox Basin, Kaiparowits basin, and Wasatch Plateau.

Most of the production in the province has been from porous carbonate buildups (mainly algal mounds) around the southwestern shelf margin of the Paradox evaporite basin. The giant Aneth field, with more than 1 BBO in place accounts for as much as two-thirds of the proven resources in the province, and other fields in this primarily stratigraphic play (Porous Carbonate Buildup Play, 2102) account for much of the rest. Most of the other plays have a strong structural component, particularly the Buried Fault Blocks, Older Paleozoic (2101), Fractured Interbed (2103), and Salt Anticline Flank (2105) Plays. The Permian-Pennsylvanian Marginal Clastics Play (2104), Permian-Triassic Unconformity Play (2106), and Cretaceous Sandstone Play (2107), as well as the hypothetical Lower Paleozoic/Proterozoic Play (2103) which is described in Northern Arizona Province (024), are combinations of both structure and stratigraphy. The Fractured Interbed Play (2103) is an unconventional, continuous-type play.

ACKNOWLEDGMENTS

Scientists affiliated with the American Association of Petroleum Geologists and from various State geological surveys contributed significantly to play concepts and definitions. Their contributions are gratefully acknowledged.

includes only conventional accumulations >= 1MMBO or 6BCFG

play	commodity	F99	F95	F90	F75	F50	F25	F10	F5	F1	mean	standard_deviation
2101	oil	1.4	3.3	5.7	12.8	29.8	59.2	89.8	109.5	151.9	40.1	34.9
2101	gas	8	18	29.5	61.1	125	224.8	326.8	389	511.4	155.2	117.9
2102	oil	2.8	10	18.5	38.6	75.7	142.5	204.7	235.7	290.6	152	74.4
2102	gas	6.7	12.5	19.5	37.6	66.3	109.2	147.2	147.3	206.1	102.4	50.1
2104	oil	0	0	0	1	2.2	3.5	4.7	5.5	7.8	2.3	1.9
2104	gas	0	0	0	12.8	42.7	78	109.7	126.5	158.8	49.2	42.2
2105	oil	1.1	1.7	2.4	5.7	13.3	26.3	41	50.7	70.9	18.1	16.1
2105	gas	9.7	27.1	46.3	90.7	111	400	580.2	699	901.2	351.1	223.5
2106	oil	1.2	2.4	4.1	8.5	16.3	27.8	44.5	57.1	82	20.8	17.4
2106	gas	0	0	0	0	0	0	0	0	0	0	0
2107	oil	0	0	0	0	0	0	0	0	0	0	0
2107	gas	6.1	7	12.6	20.8	38.2	72.8	104	119.6	153.4	58.3	36.7

Fractile Estimates

includes only conventional accumulations >= 1MMBO or 6BCFG

play	num_oil_accume	oil_mean_size	oil	assoc_gas	assoc_gas_liquids	num_gas_accume	gas_mean_size	non-assoc_gas	non-assoc_gas_liquids
2101	5.5	7.3	40.1	136.5	17.7	5.1	70.7	155.2	4.3
2102	24.2	6.3	152	380	39.9	7.8	13.1	102.4	0.2
2104	1.8	1.3	2.3	7	0.2	5.5	9	49.2	0.5
2105	2.9	6.3	18.1	45.2	1.5	8.9	39.5	351.1	0.2
2106	5.2	4	20.8	2.1	0.1	0	0	0	0
2107	0	0	0	0	0	6.5	9	58.3	0.1

Output Data

includes only conventional accumulations >= 1MMBO or 6BCFG

region	province_num	province_name	play_num	play_name
3	21	Paradox Basin	2101	Buried Fault Blocks, Older Paleozoic
3	21	Paradox Basin	2102	Porous Carbonate Buildup
3	21	Paradox Basin	2104	Permian-Pennsylvanian Marginal Clastics
3	21	Paradox Basin	2105	Salt Anticline Flank
3	21	Paradox Basin	2106	Permian-Triassic Unconformity
3	21	Paradox Basin	2107	Cretaceous Sandstone

Input Data

- National Oil & Gas Home
- Project Overview
- Staff
- National Products
- Products By Basin

Paradox Basin
(Province 21)

The information provided requires Acrobat Reader. Download Acrobat Reader Here.

Basin Results | Play Results | GIS Download | Interactive Map

"Download Instructions & Details"

Tables | PDF Format | Text Format

1995 Geologic Report [View \(391 KB\)](#)

1995 Play Assessment Results

- 1995 Assessment Fracture Estimates** [View \(3 KB\)](#)
- 1995 Assessment Output Data** [View \(2 KB\)](#)
- 1995 Assessment Input Data** [View \(7 KB\)](#)

* Data Applies To All Assessed Conventional Plays

For further information please contact:
Chris Schenk
Project Chief
U.S. Geological Survey
Box 25046, MS 939,
Denver Federal Center, Denver, CO 80225
303-236-5796
schenk@usgs.gov

This page can be found at:
<http://energy.cr.usgs.gov/oilgas/hoga/index.htm>
Maintained by: Central Energy Data Management
Last modified: January 2002
USGS Privacy Policy and Disclaimers
Accessibility

USGS
science for a changing world
National Oil & Gas Assessment
Central Energy Team >> Oil & Gas >> National Oil & Gas

Paradox Basin
(Province 21)

The information provided requires Acrobat Reader. Download Acrobat Reader Here.

Basin Results | Play Results | GIS Download | Interactive Map

"Download Instructions & Details"

Play Number	Play Name	PDF Format
2101	Buried Fault Blocks, Older Paleozoic	View (69 KB)
2102	Porous Carbonate Buildup	View (68 KB)
2103	Fractured Interbed	View (11 KB)
2104	Permian-Pennsylvanian Marginal Clastics	View (69 KB)
2105	Salt Anticline Flank	View (68 KB)
2106	Permo-Triassic Unconformity	View (69 KB)
2107	Cretaceous Sandstone	View (68 KB)

For further information please contact:
Chris Schenk
Project Chief
U.S. Geological Survey
Box 25046, MS 939,
Denver Federal Center, Denver, CO 80225
303-236-5796
schenk@usgs.gov

This page can be found at:
<http://energy.cr.usgs.gov/oilgas/hoga/index.htm>
Maintained by: Central Energy Data Management
Last modified: January 2002
USGS Privacy Policy and Disclaimers
Accessibility

FIRSTGOV
Your First Click to the U.S. Government

Play:	2101	Buried Fault Blocks, Older Paleozoic	Status:	confirmed
Province:	21	Paradox Basin		
Geologist:	Huffman, A.C.			

Play Attributes:	Probability of Occurrence	
Charge	1.00	
Reservoir rock	1.00	
Traps	1.00	
Play Probability	1.00	

Size of Undiscovered Accumulations (>1 MMBOE) (Conditional):			
	Oil Accumulations	Gas Accumulations	
Median	4 MMBO	20 BCFG	
F5 of Largest Accumulation	40 MMBO	100 BCFG	
TSP Shape Factor	5	4	
Mean (calculated)	7.3 MMBO	30.7 BCFG	

Number of Undiscovered Accumulations (>1 MMBOE) (Conditional):			
	Oil Accumulations	Gas Accumulations	
Minimum	1	1	
Median	4	4	
Maximum	14	12	
Mean (calculated)	5.5	5.1	

Play:	2101	Buried Fault Blocks, Older Paleozoic	Status:	confirmed
Province:	21	Paradox Basin		
Geologist:	Huffman, A.C.			

Ratio of Associated-Dissolved Gas to Oil:	3,400 CFB/bbl
Ratio of NGL to Non-Associated Gas:	28 bbl/MMCF
Ratio of NGL to Associated-Dissolved Gas:	130 bbl/MMCF
API Gravity (degrees):	<u>minimum</u> <u>mean</u> <u>maximum</u> 43.0 48.0 54.0
Depth of Oil Accumulations (ft):	<u>minimum</u> <u>median</u> <u>maximum</u> 6,000 9,000 15,000
Depth of N-A Gas Accumulations (ft):	<u>minimum</u> <u>median</u> <u>maximum</u> 6,000 9,000 15,000

Play:	2101	Buried Fault Blocks, Older Paleozoic	Status:	confirmed
Province:	21	Paradox Basin		
Geologist:	Huffman, A.C.			

Estimated Resources:									
Oil (MMBO)									
F99	F95	F75	F50	F25	F5	F1	mean	s.d.	
1.40	3.30	12.80	29.80	59.20	109.50	151.90	40.10	34.90	
NGL (MMBNGL)									
F99	F95	F75	F50	F25	F5	F1	mean	s.d.	
0.84	1.96	7.37	16.67	32.46	59.29	81.46	22.00	18.73	
Associated-Dissolved Gas (BCFG)									
F99	F95	F75	F50	F25	F5	F1	mean	s.d.	
4.76	11.22	43.52	101.32	201.28	372.30	516.46	136.50	118.66	
Non-Associated Gas (BCFG)									
F99	F95	F75	F50	F25	F5	F1	mean	s.d.	
8.00	18.00	61.10	125.00	224.80	389.00	511.40	155.20	117.90	

USGS
science for a changing world

National Oil & Gas Assessment

Central Energy Team >> Oil & Gas >> National Oil & Gas

Links Feedback Contact Search

National Oil & Gas Home
Project Overview
Staff
National Products
Products By Basin

Paradox Basin
(Province 21)

The information provided requires Acrobat Reader. Download Acrobat Reader Here.

Basin Results Play Results GIS Download Interactive Map

"Download instructions & Details"

Dataset	Shapefile	Arc Export	Metadata
1/4-Mile Cells within the Paradox Basin Province	Download	Download	View
Province Boundary -- Paradox Basin	Download	Download	View
Buried Fault Blocks, Older Paleozoic Play 1/4-Mile Cells	Download	Download	View
Buried Fault Blocks, Older Paleozoic Play	Download	Download	View
Porous Carbonate Buildup Play 1/4-Mile Cells	Download	Download	View
Porous Carbonate Buildup Play	Download	Download	View
Fractured Interbed Play 1/4-Mile Cells	Download	Download	View
Fractured Interbed Play	Download	Download	View
Permian-Pennsylvanian Marginal Clastics Play 1/4-Mile Cells	Download	Download	View
Permian-Pennsylvanian Marginal Clastics Play	Download	Download	View
Salt Anticline Flank Play 1/4-Mile Cells	Download	Download	View

For further information please contact:
Chris Schenk
Project Chief

U.S. Geological Survey
Box 25046, MS 939,
Denver Federal Center, Denver, CO 80225
303-236-5796
schenk@usgs.gov

CERT Navigation Banner Oil & Gas Coal Other Topics Products

File Download

Getting File Information:
pr2100g.zip from certmapper.cr.usgs.gov

Estimated time left:
Download to:
Transfer rate:

Close this dialog box when download completes

Open Open Folder Cancel

File Download

You are downloading the file:
pr2101cg.e00 from certmapper.cr.usgs.gov

Would you like to open the file or save it to your computer?

Open Save Cancel More Info

Always ask before opening this type of file

USGS
science for a changing world

Additional USGS Geoscience data can be found by [geographic location](#) or by [publication series](#).

1995 National Oil and Gas Assessment Conventional Plays within the Paradox Basin Province

Metadata also available as - [\[Questions & Answers\]](#) - [\[Parseable text\]](#) - [\[XML\]](#) - [\[DIF\]](#)

Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entry and Archive Information](#)
- [Distributions Information](#)
- [Metadata Reference Information](#)

Identification Information:

Citation:

Citation Information:
Originator: United States Geological Survey (USGS)
Publication Date: 1996
Title:
1995 National Oil and Gas Assessment Conventional Plays within the Paradox Basin Province
Geospatial Data Presentation Form: vector digital data
Publication Information:
Publication Place: Denver, Colorado
Publisher: USGS Central Energy Team
Online Linkage: <http://energy.cr.usgs.gov/olga/olga/>

Description:

Abstract:
The fundamental geologic unit used in the 1995 National Oil and Gas Assessment was the play, which is defined as a set of known or postulated oil and/or gas accumulations sharing similar geologic, geographic, and temporal properties, such as source rock, migration pathways, timing, trapping mechanism, and hydrocarbon type. The geographic limit of each play was defined and mapped by the geologist responsible for each province. The play boundaries were defined geologically as the limits of the geologic elements that define the play, such as the limits of the reservoir rock, geologic structures, source rock, and seal lithologies. The only exceptions to this are plays that border the Federal-State water boundary. In these cases, the Federal-State water boundary forms part of the play boundary. The play boundaries were defined in the period 1993-1994.

Purpose:
The purpose of these files is to illustrate the geologic boundary of the play as defined for the 1995 U.S. National Assessment. The play was used as the fundamental assessment unit.

Supplemental Information:
Conventional oil and gas plays within province 21 (Paradox Basin) are listed here by play number and name:

Number	Name
2101	Buried Fault Blocks, Older Paleozoic
2102	Porous Carbonate Buildup
2104	Permian-Pennsylvanian Marginal Clastics
2105	Salt Anticline Flank

CERT Navigation Banner Oil & Gas Coal Other Topics Products

National Oil & Natural Gas Assessment - Microsoft Internet Explorer

Address: http://energy.cr.usgs.gov/oilgas/noga/index.htm

Salt Anticline Flank Play	Download	Download	View
Permo-Triassic Unconformity Play 1/4-Mile Cells	Download	Download	View
Permo-Triassic Unconformity Play	Download	Download	View
Cretaceous Sandstone Play 1/4-Mile Cells	Download	Download	View
Cretaceous Sandstone Play	Download	Download	View
Surface Ownership of Arizona portion of the Paradox Basin Province	Download	Download	View
Arizona ALRIS			

Base Cartographic Layers

Counties	National Atlas
Hydrology	National Atlas
Transportation	National Atlas
Cities	National Atlas

This page can be found at:
<http://energy.cr.usgs.gov/oilgas/noga/index.htm>
 Maintained by: Central Energy Data Management
 Last modified: January 2002
 USGS Privacy Policy and Disclaimers
 Accessibility

FIRSTGOV
Your First Choice for the U.S. Government

CERT Navigation Banner Oil & Gas Coal Other Topics Products

County Boundaries of the United States - Microsoft Internet Explorer

Address: http://www.nationalatlas.gov/countiesm.html

nationalatlas.gov™
where we are

USGS
science for a changing world

County Boundaries: Map Layer Description

File

This map layer portrays the county boundaries of the United States. County names and Federal Information Processing Standard (FIPS) codes are two significant pieces of information associated with every county polygon in this map layer. The County Boundaries map layer was compiled by the [U.S. Geological Survey](#) from a variety of sources.

[Download this map layer in Shapefile format.](#)

[Download this map layer in SDTS format.](#)

Metadata

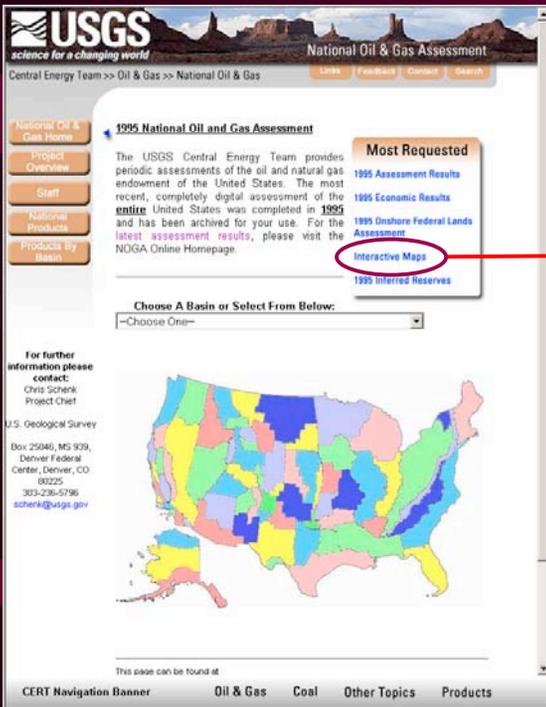
What follows is very detailed technical information about this map layer. This is often called metadata. Metadata (or "data about data") describe the content, quality, condition, and other characteristics of data. Metadata are used to organize and maintain investments in data, to provide information to data catalogs and clearinghouses, and to aid data transfers. The [Federal Geographic Data Committee](#) (FGDC) publishes the [Content Standard for Digital Geospatial Metadata](#). Many organizations within and outside of the federal government have adopted the FGDC metadata standard and are using automated indexing and serving mechanisms to provide access to their holdings through the Internet. Visit the [FGDC Clearinghouse](#) to learn more about how metadata is used in clearinghouses and to search for other data sets.

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)



Surface Ownership of Arizona portion of the Paradox Basin Province





USGS
science for a changing world
National Oil & Gas Assessment

Central Energy Team >> Oil & Gas >> National Oil & Gas

1995 National Oil and Gas Assessment

The USGS Central Energy Team provides periodic assessments of the oil and natural gas endowment of the United States. The most recent, completely digital assessment of the entire United States was completed in 1995 and has been archived for your use. For the latest assessment results, please visit the NOGA Online Homepage.

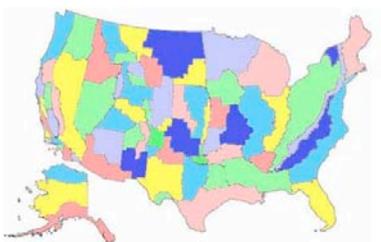
Most Requested

- 1995 Assessment Results
- 1995 Economic Results
- 1995 Onshore Federal Lands Assessment
- Interactive Maps**
- 1995 Inferred Reserves

Choose A Basin or Select From Below:
-Choose One-

For further information please contact:
Chris Schenk
Project Chief

U.S. Geological Survey
Box 25046, MS 939,
Denver Federal Center, Denver, CO 80225
303-226-5796
schenk@usgs.gov



This page can be found at

CERT Navigation Banner Oil & Gas Coal Other Topics Products

Noga Online--Choose a Map - Microsoft Internet Explorer

The Central Energy Team is continuing its work on assessing priority oil and natural gas resource basins in the United States. Due to high demand and the fact that the 1995 National Oil & Gas Assessment is the most comprehensive domestic assessment available, The Central Energy Team is developing an Internet Map Application to deliver data to the public. This site is the prototype. Although information we are currently serving is limited, we will continue to add to this site as the 1995 assessment data is converted and new assessments are completed. For feedback and additional information, please contact Chris Schenk.

This application requires Internet Explorer 4.0 and higher and Netscape 4.5 and higher. Netscape 6.0 or Macintosh Platforms are not fully supported for this application.

Select A Map: Map List

Data Management 303.236.3611 | Last modified: Jan. 10 2002 | Privacy and Disclaimers | FirstGov.Gov | Accessibility | Undue Burden | Alternative Text

Address: http://energy.cr.usgs.gov/noga/index.htm

USGS
science for a changing world
National Oil & Gas Assessment

Central Energy Team >> Oil & Gas >> National Oil & Gas

Appalachian Basin
By Ryder, R.T.
(Province 67)

The information provided requires Acrobat Reader. [Download Acrobat Reader Here.](#)

Interactive Map

Basin Results Play Results GIS Download

Download Instructions & Details

	Tables	PDF Format	Text Format	Tab Delimited
1995 Geologic Report		View (131 kB)		
1995 Play Assessment Results		View		
1995 Assessment Fractile Estimates	View Description	View (2 kB)	Download (2 kB)	
1995 Assessment Output Data	View Description	View (1 kB)	Download (1 kB)	
1995 Assessment Input Data	View Description	View (3 kB)	Download (3 kB)	

* Data Applies To All Assessed Conventional Plays

CERT Navigation Banner Oil & Gas Coal Other Topics Products

General Tools

- Overview
- Zoom Full
- Set Units
- Print

Active Tools

- Zoom In
- Zoom Out
- Pan

Layer Specific Tools

- Identify
- Zoom Active



- Additional Maps
- Northern Alaska (Province 1)
- Central Alaska (Province 2)
- Southern Alaska (Province 3)
- Western Oregon - Washington (Province 4)
- Eastern Oregon - Washington (Province 5)
- Northern Coastal (Province 7)
- Sonoma - Livermore Basin (Province 8)
- Sacramento Basin (Province 9)
- San Joaquin Basin (Province 10)
- Central Coastal (Province 11)

- States
- State Names
- Counties
- County Names
- State Capitals or County Seats
- State Capital or County Seat Names
- Urban Areas
- Urban Area Names
- Populated Places
- Populated Place Names
- Highways
- Rivers and Shorelines
- Waterbodies
- Surface Ownership
- Offshore State Waters
- US Shaded Relief

Help:

- A closed group, click to open.
- An open group, click to close.
- A layer contained within a group.
- A layer not contained within a group.
- A hidden group/layer, click to make visible.
- A visible group/layer, click to hide.
- A visible layer, but not at this scale.
- A partially visible group, click to make visible.
- An inactive layer, click to make active.
- The active layer.

By Central Energy Team, Data Management Project

0 245mi

Refresh Map

Zoom In

Data Management Project 303.236.3811 | Last modified: October 2002 | Policy and Disclaimers | FirstGov.gov | Accessibility | Undue Burden

NOGA Online - Microsoft Internet Explorer

Appalachian Basin

Layer Info Dialogue For Play 6701 - Mic...

Get Assessment Results

Additional Maps

General Tools

- Overview
- Zoom Full
- Set Units
- Print

Active Tools

- Zoom In
- Zoom Out
- Pan

Layer Specific Tools

- Identify
- Zoom Active

Play Assessment Results

[View \(65 KB\)](#)

Download Spatial Data

[Shape 45.8KB](#) [Export File 45.8KB](#) [Metadata](#)

USGS

Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, West Virginia, Ohio, Indiana, Illinois, Missouri, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi

Appalachian Basin

Layer Info Dialogue For Waterbodies - ...

Data used in this application can be obtained from:

[National Atlas](#)

Layer Legend

Download Instructions

- Plays
 - Play 6701
 - Play 6702
 - Play 6703
 - Play 6704
 - Play 6706
 - Play 6708
 - Play 6714
 - Play 6715
 - Play 6716
 - Play 6717
 - Play 6718
 - Play 6719
 - Play 6720
 - Play 6721
 - Play 6725
 - Play 6727
 - Play 6728
 - Play 6729
 - Play 6730
 - Play 6731
 - Play 6732
 - Play 6733
 - Play 6734
 - Play 6735
 - Play 6736
 - Play 6737
 - Play 6740
 - Play 6742
 - Play 6743
 - Play 6750
 - Play 6751
 - Play 6752
 - Play 6753
- Cells
 - Base Cartographic
 - Province 67
 - Province Label
 - States
 - State Names
 - Counties
 - County Names
 - State Capitals or County Seats

Refresh Map

By Central Energy Team, Data Management Project

0 245mi

Zoom In

Data Management Project 303.236.3811 | Last modified: October 2002 | Policy and Disclaimers | FirstGov.gov | Accessibility | Undue Burden

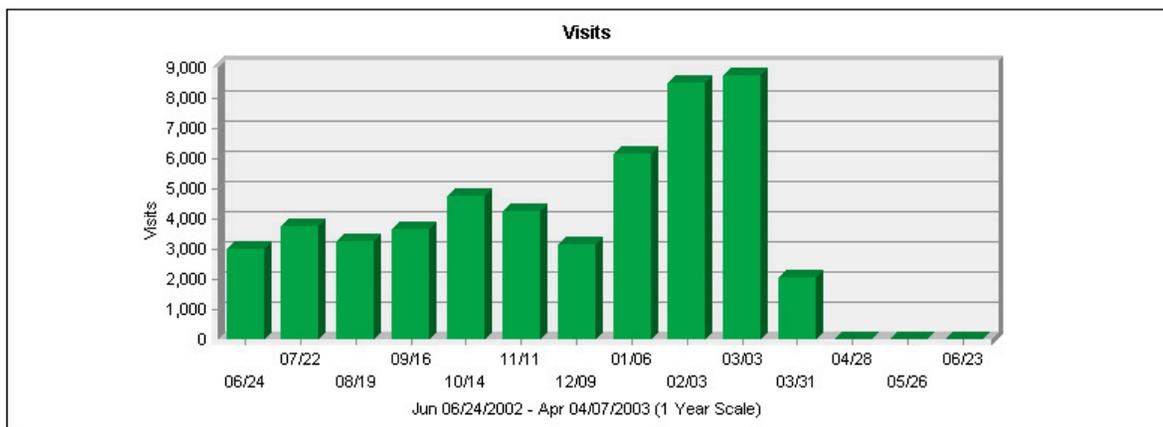
Start, Adobe Phot..., Resource M..., Default Rep..., blm2003.ppt, esri2002b.ppt, National Oil..., NOGA Onlin..., Layer Info...

2:58 PM

Usage Statistics June thru March

Top Geographic Regions: North America, Western Europe

The Visits graph displays the overall number of visits to your Web site. The General Statistics table provides an overview of the activity for your Web site during the specified time frame.



General Statistics		
Hits	Entire Site (Successful)	1,516,077
	Average per Day	5,264
	Home Page	N/A
Page Views	Page Views	565,387
	Average per Day	1,963
	Average per Unique Visitor	27
	Document Views	156,775
Visits	Visits	51,475
	Average per Day	178
	Average Visit Length	00:12:53
	Median Visit Length	00:00:15
	International Visits	17.24%
	Visits of Unknown Origin	0.60%
	Visits from United States	82.15%
	Visits Referred by Search Engines	0
	Visits from Spiders	0
	Visitors	Unique Visitors
Visitors Who Visited Once		16,581
Visitors Who Visited More Than Once		4,028

Basic stats since June

- 1.5 Million hits
- 51,000 visits
- 21,000 unique visitors
- 63% of the visits and hits are for map services
- Most downloaded files (43%) of total are the geologic reports associated with the assessments

Top Visitors

- US Navy (3700 Visits)
- Georgia Tech University (1800 Visits)
- Anadarko.Com (300 Visits)
- ESRI (300 Visits)
- Denver BLM (220 Visits)
- Cal State Hayward Library (220 Visits)
- Conoco (170 Visits)

Mapservice Description

- Not Just Internet Mapping
- “Map On Demand”
- Distributed
- Standards Based (OGC)
- Vendor Neutral



Mapservices

How They Influence Project Workflow

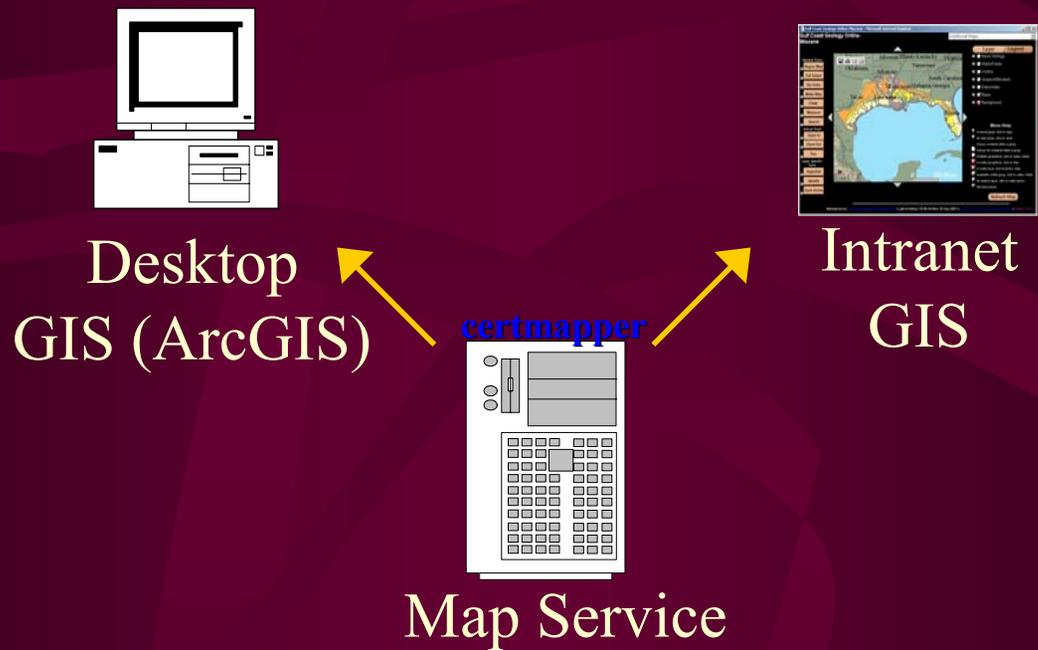
- “GIS Enabled” Projects
 - Promotes Use of GIS
 - Used By Novices and Experts
 - Variety of Applications
 - Separates GIS Use from GIS Management
- Streamline Product Development
 - Research Tool Becomes GIS Product

Mapservice Product Benefits

- Control Presentation, Access, Interpretation
- “Web-ready” GIS Products
 - ArcGIS MXD = MapService
- Scalable—Determined By Project
 - 10 Minutes “Out of The Box”
or
 - Custom Functionality
- Interoperable (Application and Platform)

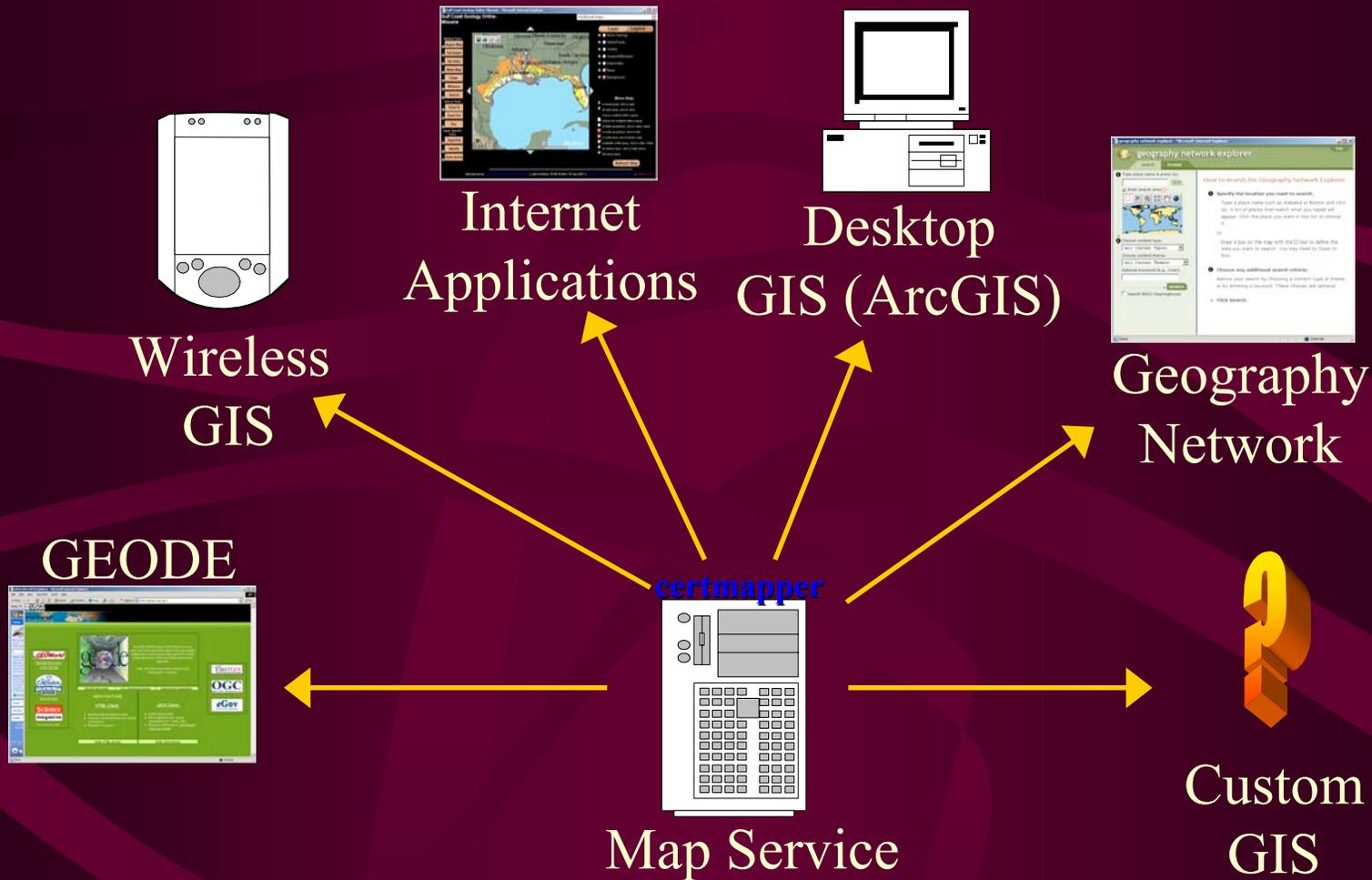
Interoperability

Research Tool (Internal)



Interoperability

Product (External Clients)



File Edit View Insert Selection Tools Window Help

Editor File Editor Editor Task: Create New Feature Target:

Layer Editor File Layer: prov27_2000

1:3,326,263

Spatial Adjustment

Georeferencing Layer:

Add Data

Look in: spatial

- axl
- cover
- doc
- export
- image
- shape

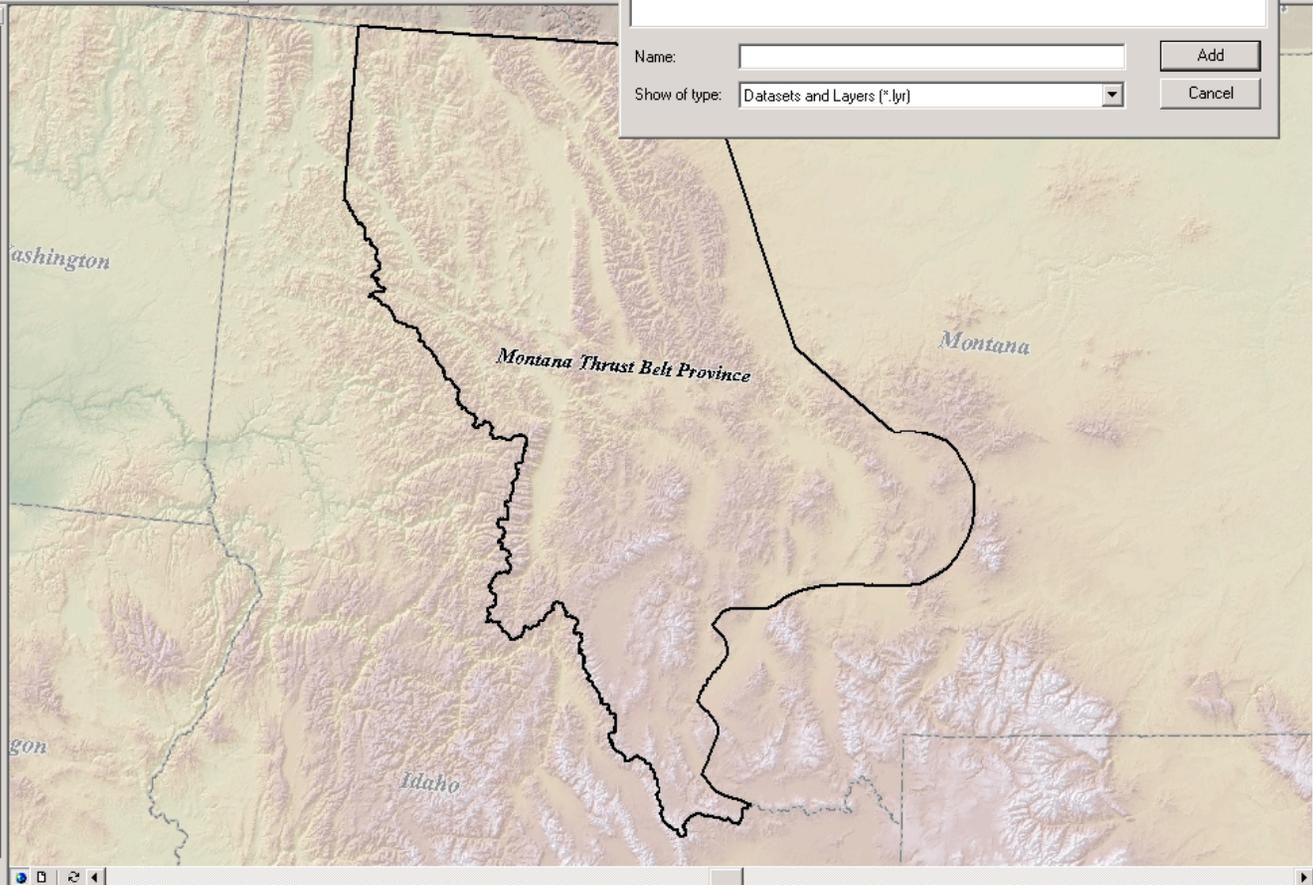
Name:

Show of type: Datasets and Layers (*.lyr)

Add Cancel

Georeferencing

- Gas
- Dry or Unknown
- 50270681 Assessment Unit
 - Jurassic-Cretaceous Coalbed Meth
- 50270681 Cells
 - CELLSYMB
 - Oil
 - Gas
 - Dry or Unknown
- 50270701 Assessment Unit
 - Tertiary Basins Oil and Gas Assess
- 50270701 Cells
 - CELLSYMB
 - Oil
 - Dry or Unknown
- Province 27
- States
- Canadian Provinces
- Counties
- Populated Places
- Urban Areas
- Highways - U.S.
 - FEATURE
 - Interstate Highway
 - Major Highway
 - Other Roads
- Highways - Canada
- Streams - U.S.
 - Streams
 - Apparent Limit



Display Source

Drawing

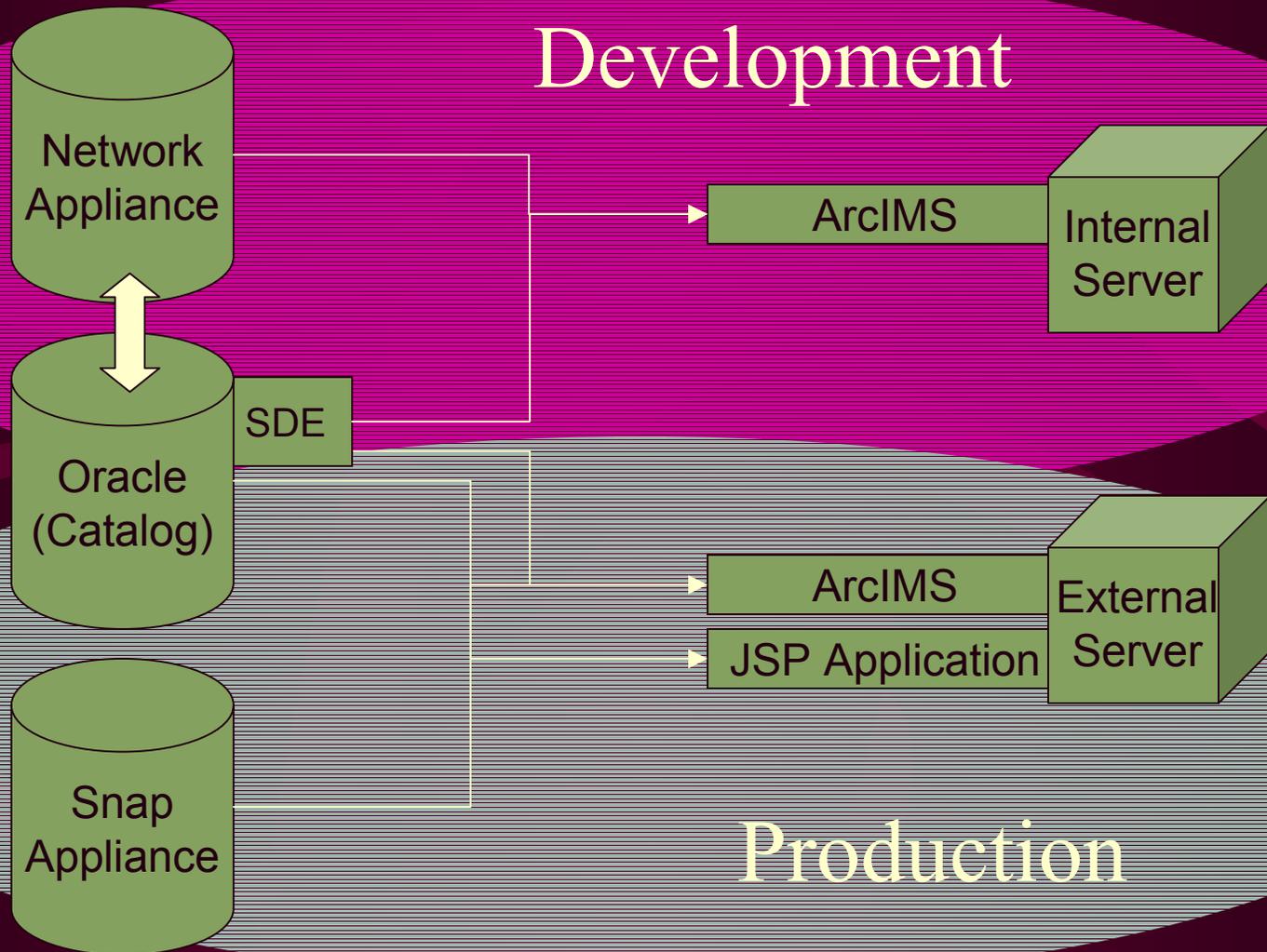
Display Source

Drawing

Display Source

Arial 10 B I U

System Architecture

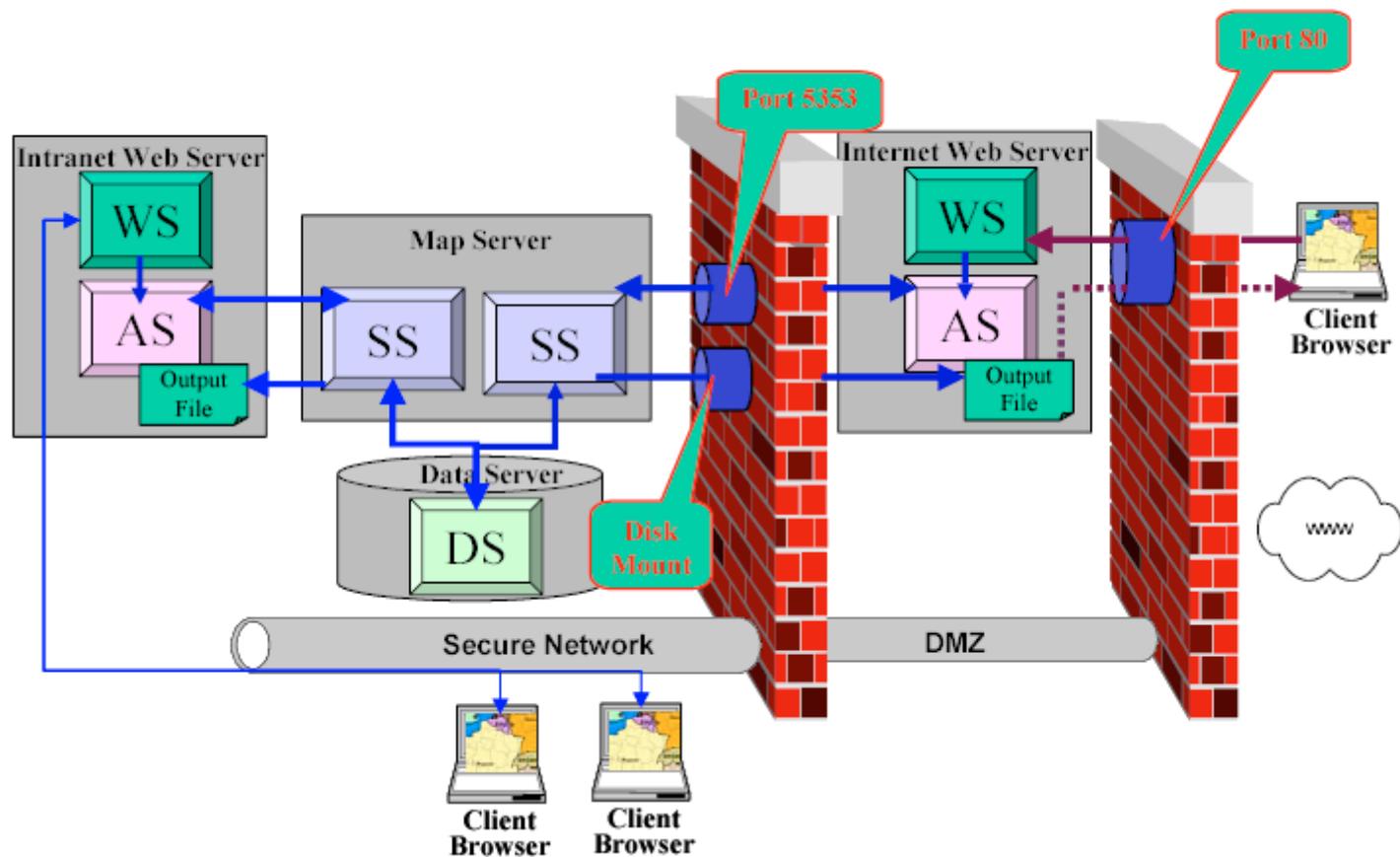


System Architecture

- Software
 - ArcSDE 8.2, Oracle 8i
 - ArcIMS 4.01
 - Tomcat 4.0
 - Same App and Spatial Server
 - JSP and Servlet Server Side Technology
- Hardware/Networking
 - Network Appliance File Server (Internal)
 - Snap Drive File Server (External)
 - Sun 3500 (3 CPU, 400 MHz, 2 GB RAM)
 - 1.4 GHz 1 GiG of RAM (External)
 - 10/100 Fast Ethernet

Internet Mapping Architecture

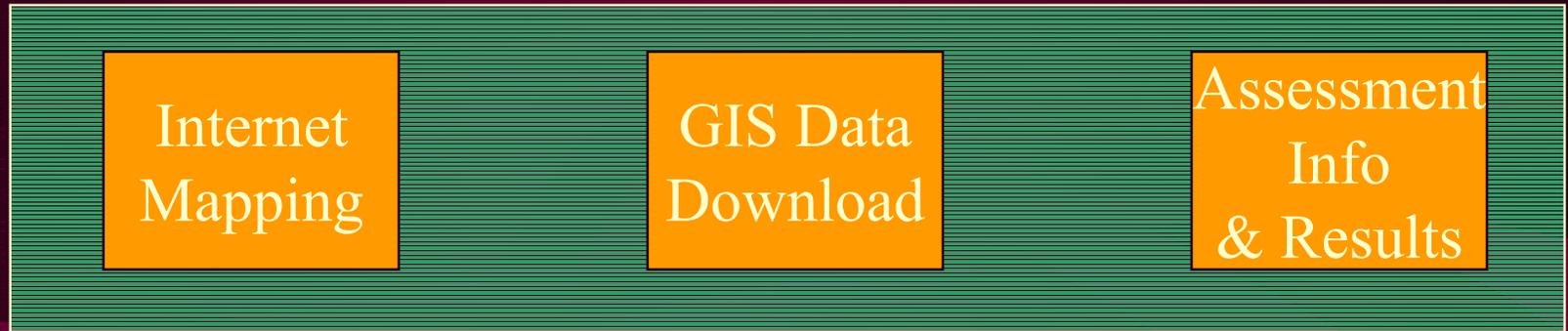
Multiple Web Server Configuration



*Source: ESRI System Design Paper

NOGA Online Components

Presentation Tier



Java Servlets, Beans, ArcXML



Data and Metadata Tier



Interactive Map Viewer

- Java Servlet Connector/Java Connector
- Java Servlets/JSP Dynamic Functionality
- ArcMap Server
- Easy Navigation

System Security

- Various Compartments
- Parallel System
- Internal/External Server and File Servers
- XML ArcIMS Based Authentication (Internally)
- Separate Subnet
- Oracle Roles

Future

- PDF Print Capability
- ArcIMS Metadata Server
 - Thematic “Geography Network” For Team
 - Include Other Projects
 - World Energy
 - National Coal Assessment
- OGC Map Services, OGC Compliant Viewer

Credits:

- The National Oil and Gas Resource Assessment Teams
- Christopher J. Schenk – National Assessment of Oil and Gas Project Chief
- David A. Ferderer – IS Group Leader

Contributors:

- Energy Team IS Group
- Cheryl W. Adkisson
- Larry Backe
- James D. Brewton
- Christa Lopez
- Raymond C. Obuch
- Christopher C. Skinner
- Sean Strickland
- Nick Zihlman
- Chris Anderson
- Ronald R. Charpentier
- Denise R. Dundon
- Steve M. Dunn
- Chris French
- Timothy R. Klett
- Sargent McDonald
- Peter N. Schweitzer
- Susan Weiler

NOGA Online: A USGS Resource for Energy GIS Data and Services

<http://energy.cr.usgs.gov/oilgas/noga/>

Laura R.H. Biewick

lbiewick@usgs.gov

303-236-7773

and

Gregory L. Gunther

ggunther@usgs.gov

303-236-5884