NATIONAL ENERGY TECHNOLOGY LABORATORY

Knowledge Management Database (KMD) Demonstration

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U.S. DEPARTMENT OF ENERGY

KMD Demonstration

Overview

- **The Federal Advisory Committee Recommended That ORD Develop A Knowledge Management Database That Would Be Used As A Repository for Research and Development Results Related to the Section 999 R&D Program Including:**
  - Program Status
    - **A list of projects goals, objectives, status, accomplishments, reports and key personnel contact information**
  - The RPSEA Consortium R&D Program
    - **57 project summaries currently available on the NETL Internet**
  - NETL Complimentary R&D Program
    - **Drilling under extreme conditions**
    - **Environmental impacts of oil and natural gas development**
    - **Enhanced and unconventional oil recovery**
    - **Resource assessment**
  - Ongoing DOE Oil And Gas Programs
  - Other Related Research Products Generated by the Traditional Oil and Gas Research Program At The NETL SCNGO (e.g. Gas Shale Research)

KMD Demonstration

Design

- **The KMD includes a simple entry URL: www.netl.doe.gov/KMD**
- **A branding logo is included to identify key KMD pages**
- **An entry portal to the site identifies four options for searching documents and data on oil and gas research**
  1. Document Database
     - **Provides SQL database search of content using document title and abstract**
     - **Includes content from the CD/DVD Database, NETL Web site, NETL ProMIS, NETL Morgantown Library, Tulsa Project Office, and OSTI (will include Laramie Project Office [LPO] content in near future)**
     - **Currently provides links to more than 9,000 files**
  2. CD/DVD Database
     - **Provides "Google" search of content for indexed files**
     - **Includes links to all CD/DVDs related to oil and gas research at NETL and content from the NETL site (i.e SCNGO , Section 999, etc.)**
     - **Currently provides links to more than 5,000 files**
  3. Section 999 Database - Includes links to EPAct 2005 project summaries
  4. Section 999 Tech Transfer Index - Includes index with links to Technology Transfer products (reports, publications, presentations, etc.)

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KMD Portal Page

Site Map GO>

the ENERGY lab

Where energy challenges converge and energy solutions emerge

- ABOUT NETL
- KEY ISSUES & MANDATES
- RESEARCH
- TECHNOLOGIES
- ENERGY ANALYSIS
- SOLICITATIONS & BUSINESS
- EDUCATION
- NEWSROOM
- CONTACT NETL

Knowledge Management Database (KMD) Portal

This portal provides four options for searching the variety of documents and data that NETL-managed oil and gas research has produced. The database of material includes R&D carried out under both historical and ongoing DOE oil and gas R&D programs funded through Congressional appropriations, as well as work that is currently underway as part of the Energy Policy Act of 2005, Title IX, Subtitle J, Section 999 R&D program.

Document Database: This search function allows the user to search all documents (e.g., final reports) from past and current R&D projects. This database includes oil and gas documents from the CD/DVD library, the NETL Internet site, the NETL Project Management Information System (ProMIS), the Tulsa Project Office, and links to hardcopy documents currently available from the NETL library. Links to relevant offsite documents from the Office of Science and Technical Information (OSTI) are also included. The search is conducted by author or key-word search of titles and document abstracts.

CD/DVD Database: This search function allows the user to search all of the CDs and DVDs of oil and gas research reports compiled from past R&D programs as well as currently available documents from the NETL Internet site (i.e. SCNGO and Section 999, etc.). The user can download individual reports or order an entire CD or DVD.

Section 999 Database : This search function allows the user to search only project summaries related to the Energy Policy Act of 2005, Title IX, Subtitle J, Section 999 R&D program. Each of these project summaries, which are updated regularly, contains links to all of the research products related to that specific project.

Section 999 Tech Transfer Index [XLS-115KB]: A variety of technology transfer products (reports, publications, presentations, etc.) will be produced for each of the individual research projects during and after the research performance period. This spreadsheet index allows the user to quickly see what tech transfer is planned (or has already occurred), and then link to the product of interest. The spreadsheet is updated regularly.

GIS and Data Visualization: This search function allows the user to access a variety of spatial data related to the research projects found in the databases listed above. These GIS datasets include information gleaned from USGS, MMS, EIA and EPCA data sets, as well as data produced by individual project performers.

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KMD Document DB Search Page

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KMD Portal > *Document Database*

Search the KMD Document Database

This search function allows the user to search all documents (e.g., final reports) from past and current R&D projects. This includes reports from the Office of Research and Development and those available via the Office of Science and Technical Information database. The search is conducted by author or key-word search of titles and document abstracts. See our instructions for additional information.

Knowledge Management Database

TITLE & ABSTRACT: And

AUTHOR:

Search Reset

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KMD Document DB Search Results

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TITLE & ABSTRACT: hydraulic fracturing And

AUTHOR:

Search Reset

Next >> Showing Items 1 to 10 of 29

Title: Review of Hydraulic Fracture Mapping Using Advanced Accelerometer-Based Receiver Systems(68962 bytes)

Author (Publisher): Norman R. Warpinski, James E. Uhlm, Bruce P. Engler

Abstract: Hydraulic fracturing is an important tool for natural gas and oil exploitation, but its optimization has been impeded by an inability to observe how the fracture propagates and what its overall dimensions are. The few experiments in which fractures have been exposed through coring1-3 or mineback4,5 have shown that hydraulic fractures are complicated multi-stranded structures that

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CD/DVD Database Search Page

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KMD Portal > *CD DVD Database*

Search the KMD CD/DVD Database

This search function allows the used to search all of the CDs and DVDs of research reports compiled from past R&D programs and currently available from the NETL Library. The user can download individual reports or order an entire CD or DVD. See our instructions for additional information.

Search KMD CD/DVD Database

TITLE: 3-D Seismic Exploration Project, Ute Indian Tribe, Uintah & Ouray Reservation, Uintah County, Utah [ZIP-543MB]
[*RIGHT CLICK TO DOWNLOAD*]

INFO: Four Disk Set

DATE: May 2005

TITLE: A Geologic Playbook for Trenton-Black River Appalachian Basin Exploration [PDF-112MB]
[*RIGHT CLICK TO DOWNLOAD*]

INFO: A playbook containing maps, integrated, multi-faceted, resource assessment model was developed for the origin of the Trenton-Black River reservoirs in New York, Ohio, Pennsylvania and West Virginia. This effort defined potential reservoir fairways for conducting detailed studies which could potentially lead to further exploration and discovery of gas fields.

DATE: July 1, 2006

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CD/DVD Database Search Results

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Marcellus shale drilling (site:ne Search Advanced Search Search Tips

Search Results **1** - **10** of about **81** for **Marcellus shale drilling (site:netl.doe.gov)**. Search took **10.04** seconds.

Next> Sort by date / Sort by relevance

[PDF] Technically Recoverable Devonian **Shale** Gas in Ohio, West Virginia ...
... This study represents the spacing; and, the **drilling** of a series of ... organically rich, deep **Marcellus shale**, which has had very little development to date. ...
www.netl.doe.gov/kmd/cds/disk7/disk1/EGS%5CTechnically%20Recoverable%20Devonian%20Shale%20Gas%20in%2... - 2005-01-10 - Text Version

[PDF] UGR_C220 - "Black **Shale** and Sandstone Facies of the Devonian ' ...
... long life spans. **Drilling** in the area continued throughout the 1800's and into ... of the **Marcellus shale** facies exhibits the pattern of southeastward thicken- ...
www.netl.doe.gov/kmd/cds/disk7/disk1/EGS%5CBlack%20Shale%20and%20Sandstone%20Facies%20of%20the%20Dev... - 2002-04-01 - Text Version

[PDF] UGR_022 - "Subsurface Stratigraphy and Gas Production of the ...
... be equivalent to parts of the **Marcellus**, Harrell, and ... of mapping areas of thick Brown **shale** and identifying ... primary **drilling** areas, the outline of Brown **shale** ...
www.netl.doe.gov/.../Subsurface%20Stratigraphy%20and%20Gas%20Production%20of%20the%20Devonian%20S.pdf - 2002-01-26 - Text Version

[PDF] UGR_061 - "Stratigraphic and Geographic Distribution of Core in ...
... 14 Reel **Drilling** Co ... 1482 DF; 'TD 12343 (**Marcellus**- Onondaaa) 27 California Conpany 4056-4066 Kipps ... 1 (Efillboro **Shale**) 1190 II of 37%'; Huntersville 3209 W of 80 ...
www.netl.doe.gov/.../D%20-%20Shales/Stratigraphic%20and%20Geographic%20Distribution%20of%20Core.pdf - 2002-02-04 - Text Version

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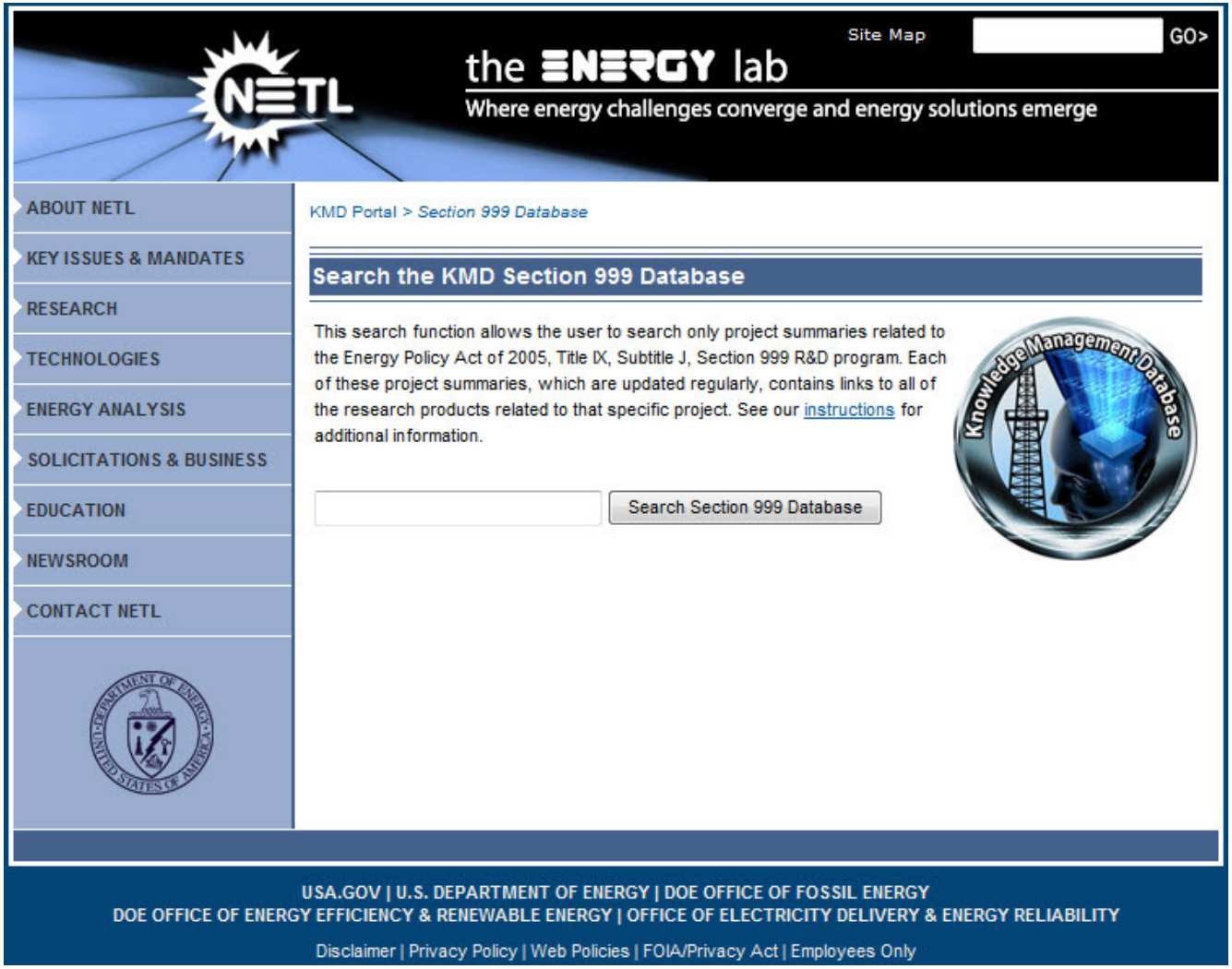
Section 999 Database Search Page



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Section 999 Database Search Results

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treatment of produced water (si Search Advanced Search Search Tips

Search Results **1** - **10** of about **15** for **treatment of produced water (site:netl.doe.gov)**. Search took **1.21** seconds.

Next> Sort by date / Sort by relevance

NETL: EPAct Projects: Cost-Effective **Treatment** Of **Produced Water** ...
... Project Information Cost-Effective **Treatment** Of **Produced Water** Using Co-**Produced** Energy Sources For Small Producers 07123-05. Goal ...
www.netl.doe.gov/technologies/oil-gas/EPAct2005/Projects/SPR/0712305-NewMexicoTech.html - 36k - 2009-09-01 - Cached

NETL: EPAct Projects: An Integrated Framework for the **Treatment** ...
... Goal This project seeks to develop an integrated decision framework that can be utilized in the management and **treatment** of **produced water**, resulting in a ...
www.netl.doe.gov/technologies/oil-gas/EPAct2005/Projects/UNC/0712212-CSM.html - 44k - 2009-09-01 - Cached

[PDF] 2008 Plan for the NETL Complementary Research and Development ...
... Identifying and exploiting opportunities to use passive **treatment** technologies as pretreatments for the membrane **treatment** of **produced water** or as a low ...
www.netl.doe.gov/technologies/oil-gas/EPAct2005/2008_Draft_NETL_Complementary_Plan.pdf - 2009-07-25 - Text Version

NETL: EPAct2005 - NETL Complementary Research
... may include fundamental studies related to domestic enhanced oil recovery (EOR), unconventional oil, **treatment** and beneficial use of **produced water**, and basic ...
www.netl.doe.gov/technologies/oil-gas/EPAct2005/CompResearch.html - 22k - 2009-08-13 - Cached

KMD

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Design

- **The site will include GIS and Data Visualization (e.g. Xcelsius) in the near future**
  - Currently working through NETL IT Security Policy Analysis for deployment
  - Utilize readily available GIS shapefiles from USGS, MMS, EIA, EPCA Phase III study and others
  - Three web map services are complete or will be complete in the near future:
    1. Gulf of Mexico Deepwater
    2. KMD – Oil and Gas Resources of the United States
    3. Allegheny National Forest
- **Future emphasis will focus on development of value-added products and incorporate commercial data from Ventyx (Velocity Suite), ARI (Big Oil Field Database), Nehring Associates (Significant Oil and Gas Fields of the United States Database), and others**
  - Continue to add documents and links to the Document Database (5,000+ additional NETL Library hard-copy reports, ~5,000 LPO microfiche, etc.)
  - Additional Web map services and Xcelsius dashboards
  - Potential incorporation of MS Silverlight

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Content Search Tools

- **CD/DVD Database online containing previous oil and gas research at NETL**
  - Compiles historical research
  - Converts the NETL publications page to a dynamic library for retrieving documents
  - Maintains the CD/DVD tree structure for searching
  - Contains 45 CDs and DVDs with 9,000+ PDFs, 186 Word DOCs, 61 spreadsheets, and 217 databases
- **Document Database to allow searching of historical oil and gas research that will contain**
  - ProMIS technical/topical reports
  - Key publications from the CD/DVD library
  - Key publications from the OSTI database
  - Key publications from the Tulsa Office (LPO documents in near future)
  - Additional documents from the NETL Morgantown library: 397 final reports in PDF format and references to 5,000+ additional hard-copy reports

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Web Map Services

- **ArcGIS Web Map Services to allow visualization of data related to oil and gas research**
  - Gulf of Mexico (GOM) Deepwater
    - **Data from the Minerals Management Service related to leases (i.e. 5- and 10-year lease lines, active leases, 8g line, coastline, state boundaries, and leases by water depth greater than 1,000 ft)**
    - **Infrastructure including platforms in water depth greater than 1,000 ft and gas pipelines**
    - **Location (area and block) and detailed bathymetry data for the GOM**
  - Oil and Gas Resources of the United States
    - **Data from the Energy Policy and Conservation Act (EPCA) Phase III assessment for onshore oil and gas resources and restrictions/impediments to their development**
      - **Study area boundaries, land status, and land access categorization**
      - **Total oil density and total gas density per study area**
      - **Boundary data including Federal Lands, county/state boundaries, lakes/rivers, highways, railroads, and major cities**
    - **Data from the Energy Information Administration**
      - **Boundary data for U.S. oil and gas field maps**
      - **Coalbed methane cumulative production, reserves and resources, and gassy coal mines**
      - **Shale gas basins and plays**

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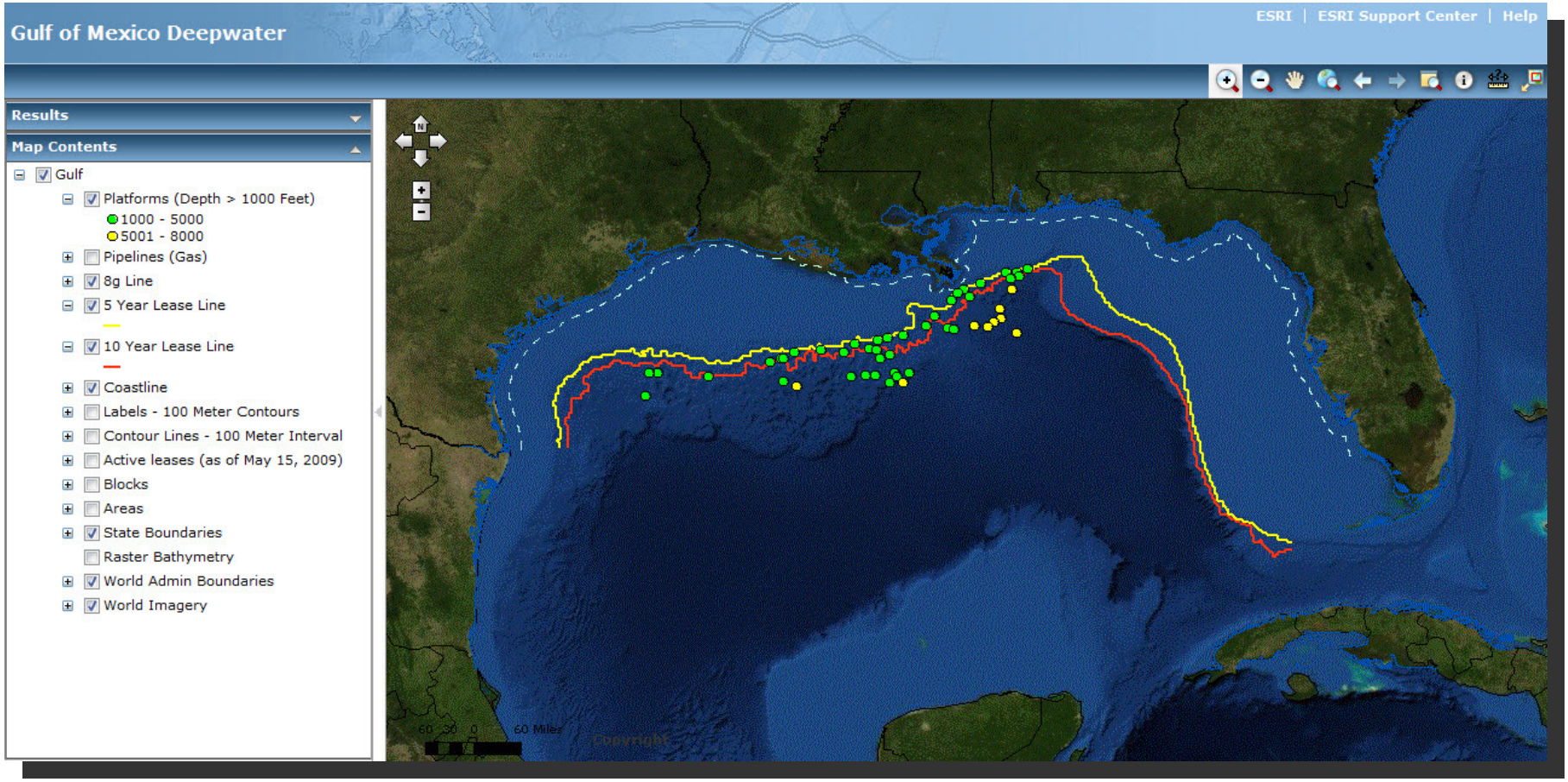
Gulf of Mexico Deepwater Prototype



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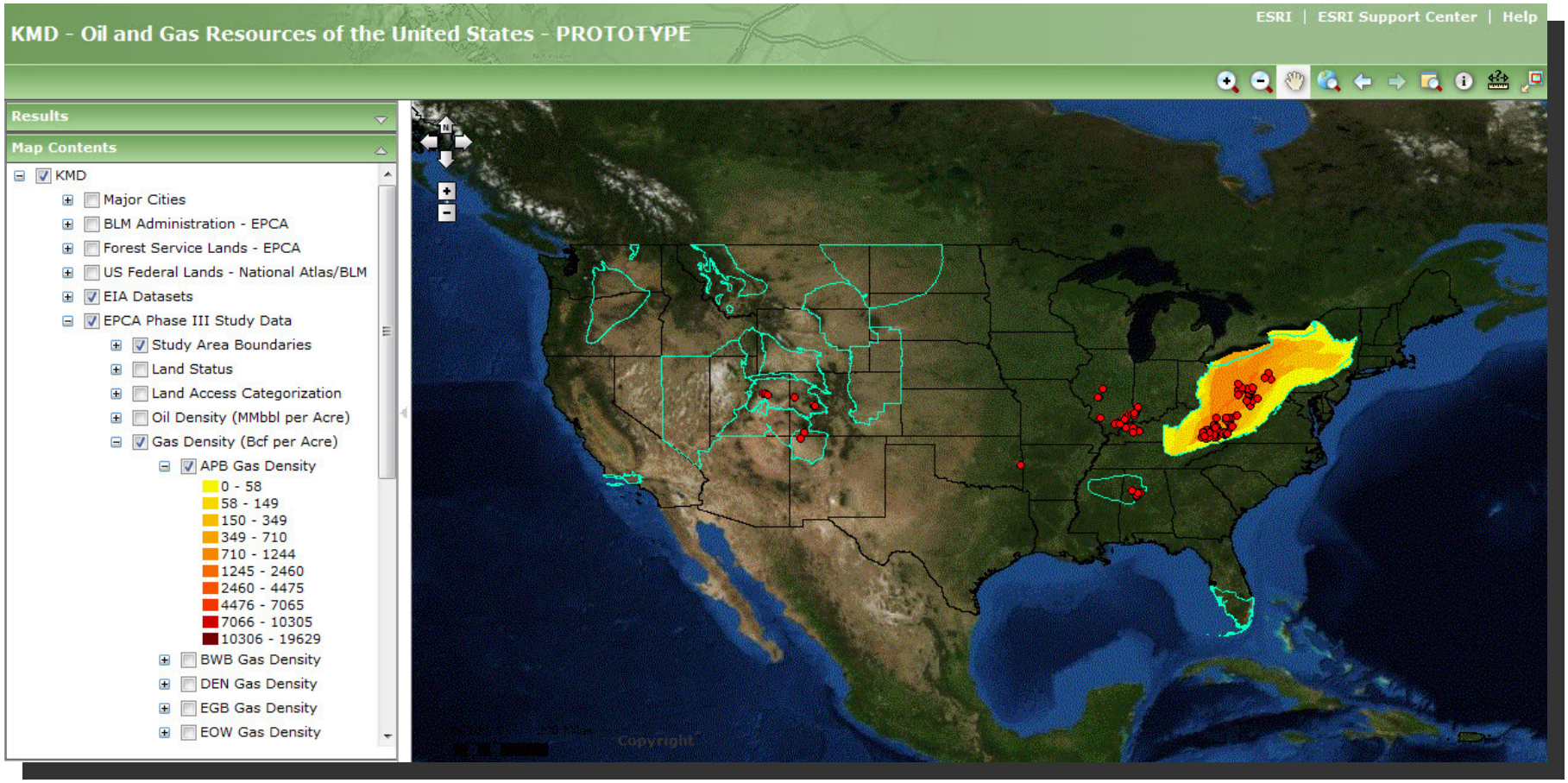
Oil and Gas Resources of the United States Prototype



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Other Visualizations

- **Xcelsius Models to provide a dashboard visualization of detailed oil and gas, and environmental data**
  - Outer Continental Shelf (OCS) Model
    - **Details information for the OCS Regions and Planning Areas**
    - **Provides undiscovered technically recoverable resources (UTRR) for gas and oil**
    - **Allows user control to select region or planning area display of resources**
    - **Indicates resources by water depth**
  - Allegheny National Forest Model
    - **Display environmental data related to drilling in the Allegheny National Forest including well density and watershed boundaries**
    - **Future enhancements may include relationship of data to the Marcellus Shale, along with trends of data for roads and chemical analysis within the National Forest**