



Member-Agency Case Study

## RBDMS Data Mining: Making Data Easily Available to Every User

# MANAGING RESOURCES WITH INNOVATION

### Overview

States: NE, MS, Osage Nation

### Business Situation

The NOGCC needed a cost-effective method of retrieving and analyzing source water protection information to target UIC Class II wells in high-risk areas for quarterly field inspections. Other agencies needed a way to make RBDMS data available to the public in an easy-to-use format.

### Solution

The GWPC developed the RBDMS Data Mining Web application with an ASP.NET interface that combines online GIS with full-text searching and reporting.

### Benefits

- Improved data retrieval, display, and analysis
- In NE, reduced costs and greater efficiency in its field inspection program
- Fewer public inquiries of agency staff as a result of Web data access

Accountability to industry operators and the public for regulatory decisions and maintaining up-to-date information streams in response to inquiries and complaints are two areas of agency responsibility that cannot be shorted as a result of funding and staffing pressures.

### Situation

As budgets shrink and grant amounts awarded to states from the EPA to implement the UIC program continue to decrease, the importance of using new technologies to maintain the same level of environmental protection and information transparency becomes paramount. The problem is that frequently these large amounts of data are difficult to search, organize, compare, review, and visualize when retrieved from paper files.

### Solution

The GWPC responded with an application designed to speed data delivery through a single interface that combines key-word full-text indexed searches with spatial analysis and a hyperlinked detail data grid display. The result allows users to take virtual tours of the data via a Web browser. The application, RBDMS Data Mining, has proved to have utility well beyond even this lofty goal, and several agencies are now using the application.

RBDMS Data Mining is a multi-tiered application developed with .NET, GIS and XML technologies. The user interface pairs a data view and full-text search with a GIS window, and includes a full-featured reporting component.

The Nebraska Oil and Gas Conservation Commission (NOGCC) in particular has used this application in an innovative approach to re-vamping its field inspection program to target Class II well inspections designated as being in “high-risk, environmentally sensitive” areas. The NOGCC combined GIS coverages of delineated wellhead protection areas from the Nebraska Department of Environmental Quality with oil, gas, and UIC well locations from the NOGCC’s RBDMS database.

The NOGCC is now using the resulting maps within RBDMS Data Mining to prioritize its field inspection activities to target wells located in these sensitive areas for quarterly inspections. Wells located outside these areas are inspected at less frequent intervals. This use of risk-based inspection saves money while increasing pro-active environmental protection. The

# PROVIDING DATA TRANSPARENCY

“Onsite field inspection is a crucial, but expensive part of our pollution prevention program. The RBDMS Data Mining application helps us target high-risk wells and cut cost.”

Stan Belieu, NOGCC  
UIC Director

NOGCC estimates that RBDMS Data Mining is saving approximately \$40,000 per year in agency operating expenses and has increased the efficiency of the underground injection program several fold.

The Osage Nation is now in the process of installing the Data Mining application on its intranet as an aid in various environmental inventory programs related to oil and gas wells.

The Mississippi State Oil and Gas Board recently released the RBDMS

Data Mining application to the public to replace numerous static data downloads that required daily and weekly updating. With replication of the RBDMS production database to their Web server, the RBDMS Data Mining Web provides a constant stream of up-to-date information to industry operators and to the public.

The Data Mining application also has reduced the number of information-seeking phone calls into the agency, so staff can focus on other pressing duties.

**Mississippi State Oil and Gas Board**

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McComb Field Unit

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The RBDMS.NET Data Mining Web application in Mississippi makes aerial photo, location construction, production, and a great deal of other well data available to industry operators and to the public with a few clicks.