Risk-Based Data Management System (RBDMS), FracFocus, Produced Water, and Related Initiatives

FE0032155

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Ground Water Protection Council

Agenda

- Who is Ground Water Protection Council (GWPC)
- What is RBDMS
- RBDMS Applications
- Current Project Highlights

Who is GWPC

The GWPC is

the national (U.S.) association of state ground water protection agencies including both water and oil and gas regulatory programs.

The GWPC Mission is

to promote the protection and conservation of groundwater resources for all beneficial uses, recognizing ground water as a critical component of the ecosystem. We provide an important forum for stakeholder communication and research in order to improve governments' role in the protection and conservation of groundwater.

The GWPC Board of Directors is

comprised of senior state agency managers including representatives of state regulatory agencies responsible for groundwater protection and underground injection activity.

The GWPC helps

states fulfill their ground water protection missions.


GWPC Board Representation
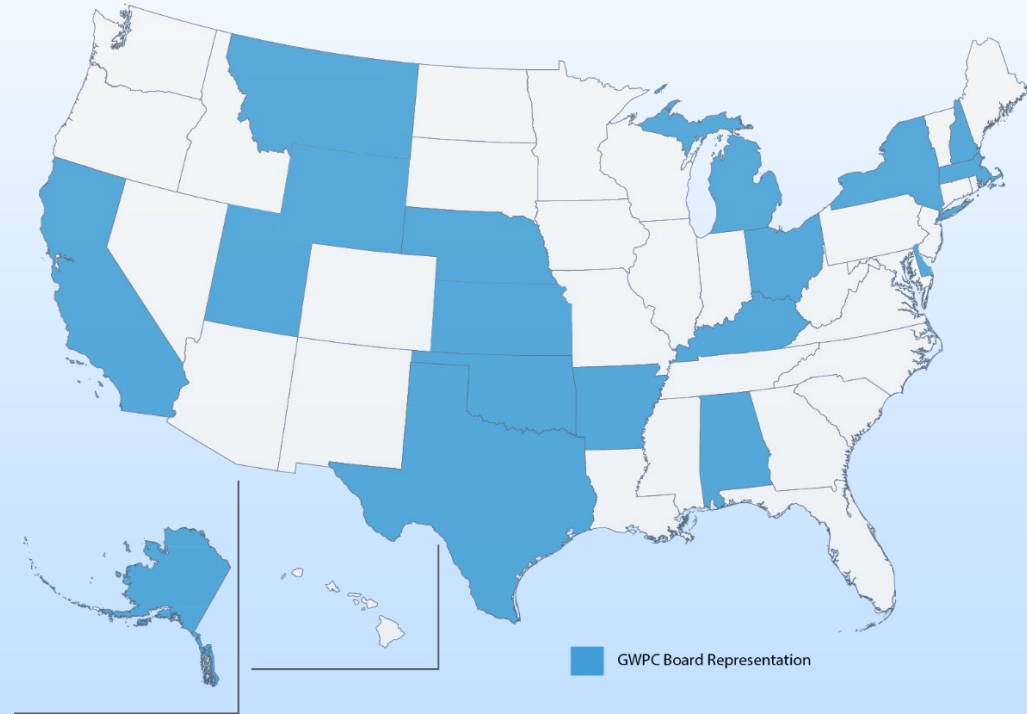
What is RBDMS

RBDMS

A suite of integrated modularized software products that assists regulatory agencies in the effective regulation, oversight and management of oil, natural gas and underground injection control (UIC), facilities, activities and related water quality/quantity data.

- Designed to meet the unique and evolving needs of regulators and industry
- Full well-life-cycle data management
- Public disclosure/transparency

RBDMS Partners
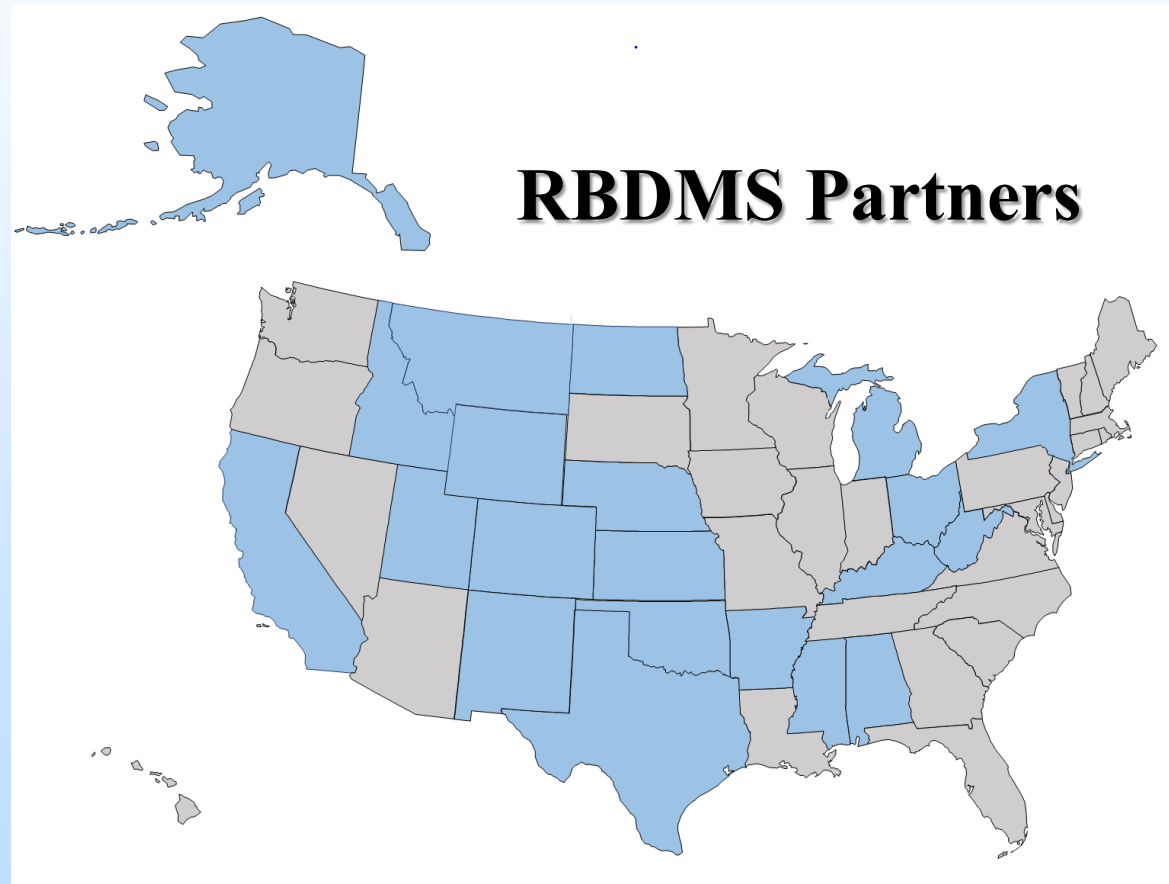
RBDMS - Products

Core
Primary information storage system for agency oil, gas & UIC data

WellFinder Application
Free, publicly-available mobile application (iOS & Android) displaying nearby oil, gas, and injection well information

eForms
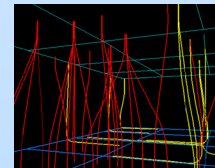eForm allows for electronic permitting and reporting between the industry and regulator

Data Explorer
Provides an interactive mapping interface and robust data exploration options for all stakeholders

WaterSTAR
Manages field observations, water sampling, and other matrix data

AOR: Calculates wells in AOR, displays directional in map interface

RBDMS – Products, con't

UIC Electronically tracks all aspects of UIC

Field Inspection
Allows agency field inspectors to make real-time critical decisions while performing a field inspection with industry representatives

Seismic Monitoring
Queries extensive data from multiple databases about specific underground injection wells and earthquakes

GIS Interface
Map interface with all RBDMS products

**Underground Gas Storage**
Tracks compliance of UGS

Class VI (under development)
Permitting, compliance, inspection, monitoring, data visualization

Additional RBDMS Applications

- RBDMS Dashboard
- RBDMS plugging/reclamation module (under development)
- Class VI/CCUS under development
- WellBore Schematic/ Diagram Tool
- Directional Survey Import Tool
- Laterals and 3D visualization
- Field Inspection Prioritization
- Compliance tracking
- Security

Related Products

- FracFocus
- WaterSTAR: stores and manages all state water quality and other matrix data
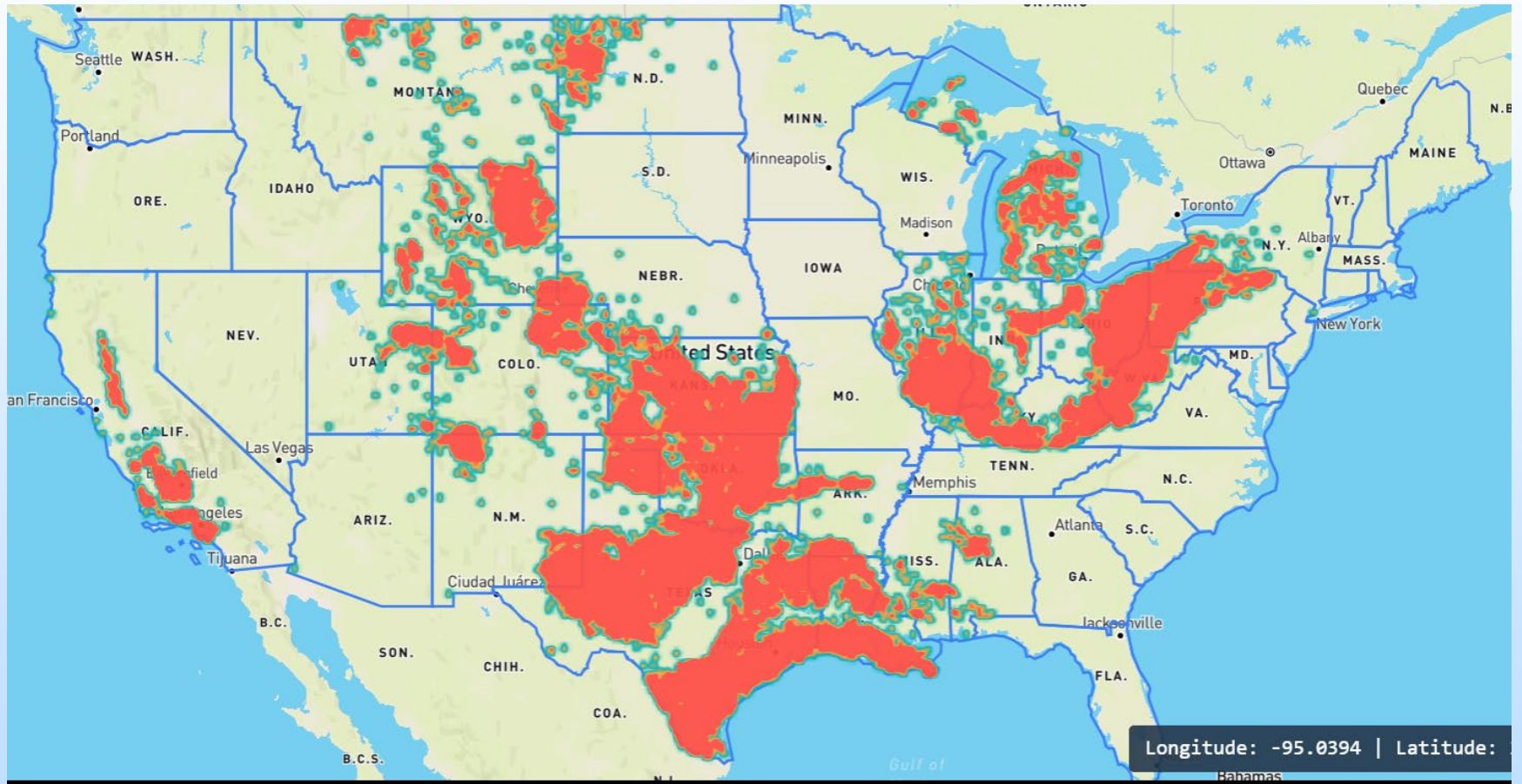- RBDMS Training/Webinar series
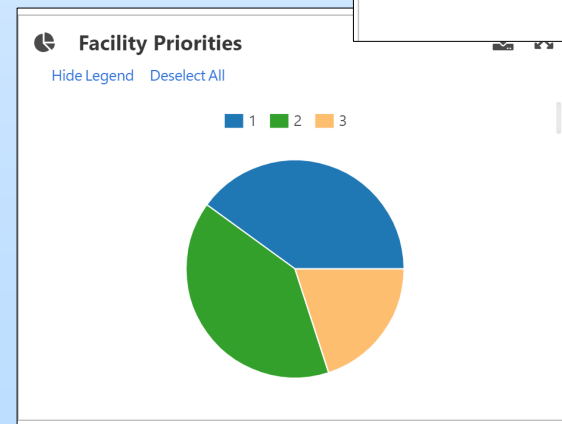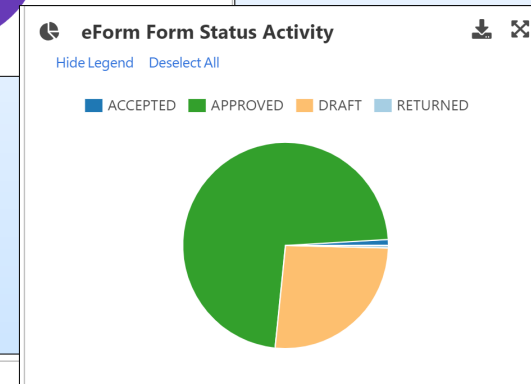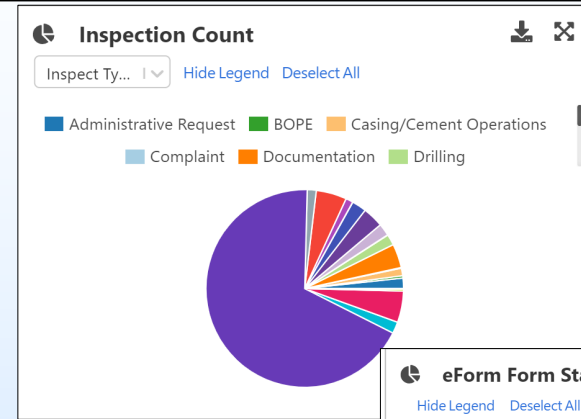
RBDMS WellFinder

- Mobile application available to Public, State agencies, and industry users

- Offline capability

- Links with State RBDMS system for more details

- Interfaces with FracFocus
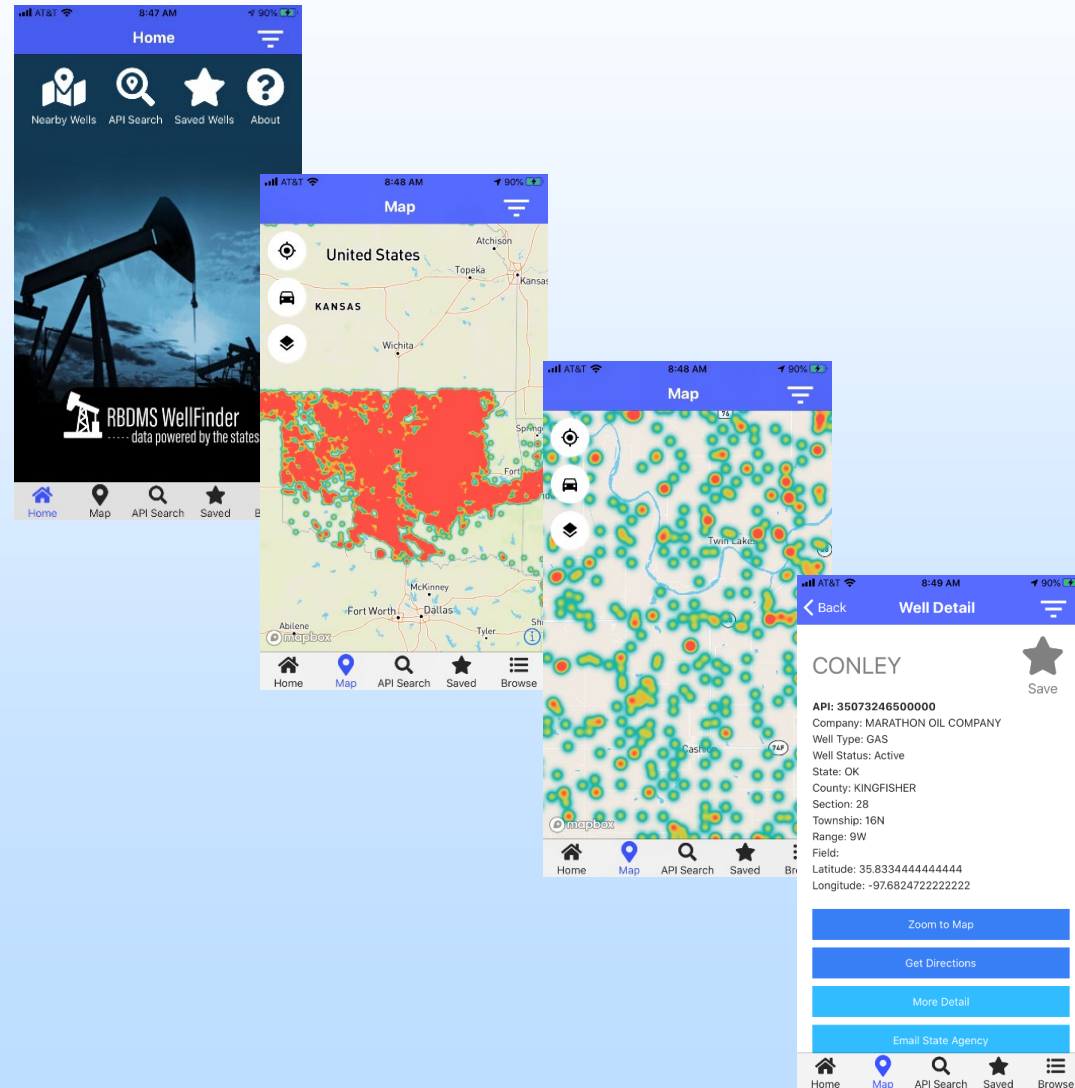
WellFinder.net

FracFocus

National Hydraulic Fracturing Chemical Disclosure Registry

- National Program managed through single application
- Regulatorily required by 25 State Oil & Gas Agencies
- Public Transparency of Chemical Data Used during Fracturing
- Approaching 200K submissions since 2011
- Proposed Development to track Water Source data
- Provides for tracking Federal & Indian Wells
- Integrating with WellFinder
- Full Data Download available

Frac Focus
Chemical Disclosure Registry

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WaterSTAR

Capabilities of WaterSTAR:

- Laboratory Information Management System
  - Track Pre- and Post-Clean up samples
  - Media: (Water, Soil, Air, +)
- Visualization Tool to Provide Transparency
  - GIS Interface
  - Dashboard Analysis of Data
  - Long-term monitoring as needed

Current Project Goals

Assist states to more effectively manage and utilize data to make timely and well-informed decisions

Improve agency and public access to state oil, gas, UIC, and carbon management data

Upgrade data management features providing for required regulatory functions such as; AoR, Production, Class II, and Class VI injection wells

Provide states, public, and operators with data visualization and data dashboard tools

Provide information and data exchange among and within state agencies

Upgrade and maintain FracFocus

Current Project Goals, con't

Update and expand WaterSTAR data management tools

Expand training for states and build state a capacity to implement, manage, and utilize RBDMS applications

Aid states to fulling manage their individual RBDMS applications

Convene and aid states to develop and implement policy and program goals

Help states address emerging challenges such as hydrogen and CO_2 storage, managing increased use of geothermal resources, and managing water and laboratory data

Current Project Objectives

Upgraded Forms Creation – help states with the tools and skills to create their own forms and reduce the cost of form development across states and programs

Build capacity within states through training

Maintain FracFocus and provide user training on the new release

Address data management needs for carbon storage/Class VI UIC

Facilitates state water data management that encourages data sharing for water and energy decision makers

RBDMS Core
Project Accomplishments & Active Development

Data management systems for agency oil, gas & UIC data

- RBDMS – Agency Data and Program Management System
  - Primary application for managing agency data
  - Enhancing & configuring for KEEC (KY); uses NOGCC (NE)'s version as the development base

- RBDMS Plugging Management – Orphan Well Management System
  - Ancillary application to manage the procedures associated plugging orphan wells and automatically generate the DOI report
  - Initially developed for KEEC (KY); enhanced & configured for WOGCC (WY) and ADEQ (AZ)

- RBDMS Editor – Agency Data Editing System

  - Expanded base application to include a separate module for editing well, operator, bond and other data which allows agency's to retire legacy Excel spreadsheets and GIS interface they have been using to date.

RBDMS Core, con't
Project Accomplishments & Active Development

Data management systems for agency oil, gas & UIC data

- RBDMS Workflow – Compliance Tracking System
  - Ancillary application to track and manage compliance matters, and prioritize the efforts related to compliance tasks
  - Enhancing for UDOGM (UT)
- RBDMS 3.0 – Agency Data Management System
  - Primary application for managing agency data
  - Enhancing & configuring for WOGCC (WY); uses DOGGR (CA)'s version as the development base
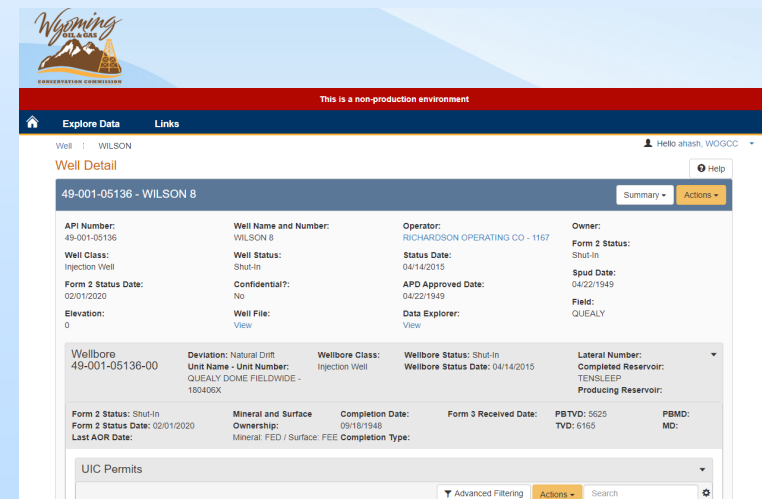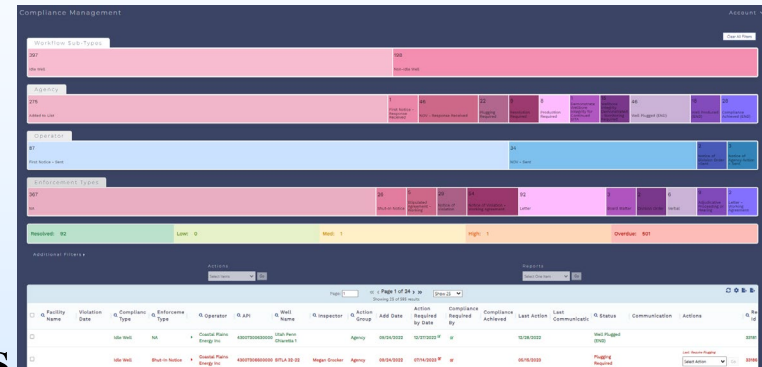
eForms
Project Accomplishments & Active Development

Electronic forms system for operator reporting and agency review

- eForm
  - Application Upgrade
  - WOGCC (WY): UIC Water Analysis Report & Enhanced APD

- Online Forms
  - MSOGB (MS): Production Report; uses AOGB (AL)'s Production Report as the development base
  - WOGCC (WY):
    - Updated Rig Schedule
    - Directional Survey; uses DOGGR (CA)'s UIC Permit as the development base
    - UIC Permit; uses DOGGR (CA)'s UIC Permit as the development base
    - Monthly Disposal Well Report; uses AOGB (AL)'s Disposal Report as the development base

Additional RBDMS Applications
Project Accomplishments & Active Development

- Field Inspection – Field Inspection Management System
  - Developed for KEEC (KY); uses DOGGR (CA)'s version as the development base

- Data Explorer – Data Viewing System with GIS Component
  - Configured for ADEQ (AZ), AOGCC (AK), and OCC (OK)

- Dashboard / AOR – Aggregate Data Viewing System with GIS Components
  - Configured for ADEQ (AZ), MIOGMD (MI), OCC (OK), and WOGCC (WY)
  - Initial development of CarbonSTAR (Class VI)

Viewing Data in RBDMS

WaterSTAR
Project Accomplishments & Active Development

Laboratory Information Management System

- NDEE (NE): updating to include QA enhancements and a new form for adding sites in bulk

- WYDEQ (WY) WaterSTAR: enhancing to include injection volume and pressure data

- ALGSA (AL): enhanced and configured to include water level measurements; uses NDEE (NE)'s version as the development base

- COECMC (CO) WaterSTAR: enhancing and configuring to include additional matrices and laboratory data; uses ALGSA (AL)'s version as the development base

- WaterSTAR National: enhanced and configured to display NWIS water measurements

- CarbonSTAR (Class VI): developed prototype for Class VI-related data

Viewing Data in WaterSTAR

Other Projects & Reports

- Modern Oil & Gas Development: 2023 Update

- Produced Water Report: Regulations & Practices Updates (2023)

- State Oil & Natural Gas Regulations Designed to Protect Water Resources (4th Edition)

- Produced Water Volumes and Management Practices

- Characterization of Elements of Interest in Subsurface Brines, Oilfield Produced Waters, and Waste

Thank You

Do you have any questions?

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