Orphan Wells and Distressed Operators

Energy and Environment Symposium
Dave Andrews, Program Lead
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Historical Perspective: Orphan Wells

Drilling on the West Slope began in the early 1900’s, after discovery of natural gas in Northwest Colorado in 1890.

COGCC Established in 1951: regulation of groundwater protection and plugging and abandonment began the same year.
Statutory Authority

Oil and Gas Conservation Act
Title 34, Article 60
(As Amended)

§ 34-60-124

Oil and gas conservation and environmental response fund

(4) The oil and gas conservation and environmental response fund may be expended:
(a) By the commission, or by the director at the commission’s direction, prior to, during, or after the conduct of oil and gas operations to:
   (i) Investigate, prevent, monitor, or mitigate conditions that threaten to cause, or that actually cause, a significant adverse environmental impact on any air, water, soil, or biological resource;
   (ii) Gather background or baseline data on any air, water, soil, or biological resource that the commission determines may be so impacted by the conduct of oil and gas operations; and
   (iii) Investigate alleged violations of any provision of this article, any rule or order of the commission, or any permit where the alleged violation threatens to cause or actually causes a significant adverse environmental impact;
Bonds and Budget Appropriations

Bonds and other surety claims have been used by COGCC to plug and abandon wells left by Distressed Operators since the late 20th Century.

The State Legislature first authorized a fund to plug and abandon wells with no available bonds in 1990.
Orphaned Well Plugging Initiative

COGCC 700-Series
Financial Assurance Rules

- Surface Owner Protection for Unreasonable Crop Loss and Land Damage
- Soil Protection and Plugging and Abandonment
- Excess Inactive Wells
Past Focus for Orphan Well Prioritization

- Leaking Wells
- Complaints
- Bond Claims (Distressed Operators)
Established Field Inspection Priority System for oil and gas locations

Field Inspection Priority Factors
- Population Density (10%)
- Environmental Risks (20%)
- # of Reportable Spills (13%)
- Years in Service (35%)
- Operator Performance History (10%)
- Time since last inspection (12%)
2016 Lean Process Improvement and Program Transition Goals for 2017:

New Program Lead, organization, and reporting structure for consistent internal and external communication

Shared responsibility with all team members to prioritize projects

Project Management Procedures and Work Specifications
Implementation Plan

- November 1, 2016 - Complete Lean Deliverables
- January 1, 2017 - Select Orphan Well Team
- March 1, 2017 - Secure project management software and project management training for core team
- April 1, 2017 - Orphan Well team review and cleanup/prioritization of existing projects
- April 1, 2017 - Start tracking new projects with Lean prioritization criteria
- July 1, 2017 - Fully Implement Process for next fiscal year
2017 Program Changes

Orphan and Distressed Operator Program Leadership Scaling based on Project Size

- Program Lead
- Unit Managers and Supervisors
- Enforcement, Safety, Procurement, Accounting, Database, and Staff Support Positions
- Engineering Unit Leader
- Reclamation Unit Leader
- Field Ops Unit Leader
- Environmental Unit Leader
- Project Leader: Large-Size Multiple Discipline or Distressed Operator Project
- Field Task Leader: Moderate-Size Unit-Specific Orphan Project (Unit Leader is Project Leader)
- Field Task Leader: Moderate-Size Unit-Specific Orphan Project (Unit Leader is Project Leader)
- Field Task Leader: Small-Size "Typical" Orphan Project (Unit Leader or delegate acts as Project Leader and Task Leader)

Field Task Leader: Specific Discipline
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Time Management Tools
Field Work: Plugging
Field Work: Salvage & Junk Disposal
Staff Qualifications

Well Work (36 responses)

Environmental Remediation (36 responses)

Reclamation (36 responses)
Surety ("Bond") Claims

Coverage (31 responses)

Bond Type (31 responses)

- Plugging: 48.4%
- Surface: 8.6%
- Gas Facility: 1.3%
- Bankruptcy Deposit: 0%

Total: 100%
Projects

Project Discovery (52 responses)

Project Type (52 responses)

- Orphan: 59.6%
- Distressed Operator: 40.4%
- Cease and Desist: 42.3%
Tasks

Task Type (153 responses)

- Engineering Design: 2 (1.3%)
- Site Security: 6 (3.9%)
- Equipment Integration: 9 (5.9%)
- Mitigation or Other Work: 17 (11.1%)
- Plug and Aban: 48 (31.4%)
- Flowline Abandonment: 20 (13.1%)
- Equipment Salvage: 4 (2.6%)
- Sampling and Analysis: 12 (7.8%)
- Spill or Remediation: 17 (11.1%)
- Reclamation: 42 (27.5%)
- Stormwater BMP: 0 (0%)
- Re-Seeding (m): 4 (2.6%)
- Weed Control: 10 (6.5%)
- Other: 36 (23.5%)
Priority - People and Environment

Population Density and Urbanization (85 responses)

Environmental Factors (85 responses)

Active Spills (94 responses)

- 53 (56.4%)
- 23 (24.5%)
- 4 (4.3%)
- 4 (4.3%)
- 2 (2.1%)
- 8 (8.5%)
Priority - Location Factors

**Stormwater (94 responses)**

- 42 (44%)

**Surface Equipment (94 responses)**

- 62 (66%)
- 24 (25.5%)
- 5 (5.3%)
- 3 (3.2%)
Priority - Well Factors

Mechanical Integrity Test (90 responses)

Venting or Leaking Well (90 responses)
Priority - Other Factors

Stop-Gap Measures (94 responses)

Task Complexity (94 responses)

- High: 8.5%
- Moderate: 25.5%
- Low: 66%
Project Access and Aging

**Access** (94 responses)

- Good
- Needs Work
- Not Adequate...
- Seasonal... 7 (7.4%)
- Needs Field... 1 (1.1%)

**Calendar Year added to Priority List** (94 responses)

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Field Work: Site Access