Ohio Department of Natural Resources
Division of Oil and Gas Resources Management
Orphan Well Program
What are Orphan Wells?

- “A well for which a bond has been forfeited or an abandoned well for which no money is available to plug...”
  - ORC 1509.01
- “...the proper and lawful plugging of historic oil and gas wells for which there is no responsible owner...”
  - ORC 1509.071
Where are Orphan Wells?

- Orphan wells have been found and plugged in or near:
  - A school gymnasium
  - Basements
  - Farm fields
  - Backyards
  - Waterways and wetlands
  - Lakes and shorelines
  - Forests
  - Roads and right-a-ways
Where are Orphan Wells?

2019 Project: Coshocton #1
Dittmar-Hostetter #1
Contractor: Altier Brothers Inc.
Project Status: Awarded

Well Location
Where are Orphan Wells?
Where are Orphan Wells?

2018 Project: Perry #2
Jonathan Bope #3
Contractor: Hydrocarbon Well Services
Project Status: Completed
Where are Orphan Wells?

2018 Project: Cuyahoga #5
Sara & David Reid #1
Contractor: GonzOil, Inc.
Project Status: Completed
Where are Orphan Wells?

2018 Project: Knox #1
Giffin #1
Contractor: Hydrocarbon Well Services
Project Status: Completed
Where are Orphan Wells?

2018 Project: Cuyahoga #4
Michael & Millie Kresovich #1
Contractor: GonzOil, Inc.
Project Status: Completed
Where are Orphan Wells?

Project: Pike #2
Wynn WA #1 Well
Project Status: Design
Orphan Well Program Highlights

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>$2,200,000</td>
</tr>
<tr>
<td>2014</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>2015</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>2016</td>
<td>$1,100,000</td>
</tr>
<tr>
<td>2017</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>2018</td>
<td>$5,997,116</td>
</tr>
<tr>
<td>2019</td>
<td>$13,657,98</td>
</tr>
<tr>
<td>2020</td>
<td>$24,979,36</td>
</tr>
<tr>
<td>2021</td>
<td>$28,177,21</td>
</tr>
</tbody>
</table>

Orphan Well Program Contract Awards

Ohio Department of NATURAL RESOURCES
Orphan Well Program Plugging

- Fiscal Year: 2013-2019
- Number of Wells Awarded by Contract
- Wells Plugged

- 2013: 10
- 2014: 22
- 2015: 22
- 2016: 13
- 2017: 15
- 2018: 83
- 2019: 153
- 2020 Goal: 200

Ohio Department of
NATURAL RESOURCES
How are Orphan Wells Plugged?

• Qualified contractors perform the work for ODNR

• Casing is removed

• Cement is pumped into the wellbore to isolate the oil and gas producing rock formations
How are Orphan Wells Plugged?

Multiple Award Contract
How are Orphan Wells Plugged?

Multiple Award Contract

• ODNR’s Division of Oil and Gas prequalifies contractors with DAS

• Contractors are evaluated based on proposals showing their ability to perform plugging operations, according to Ohio law and rule

• Upon approval, contractors submit offers for plugging projects
  • 2017: 28 contractors added
  • 2018: 6 contractors added
  • 2019: 6 contractors added

• Contractor Participation:
  • 13 contractors have plugged wells
  • 2 contractors have provided extensive subcontractor work to other companies
  • 11 others have attended site reviews and/or submitted offers on Scopes of Work
How are Orphan Wells plugged?

• The Division creates a Scope of Work including access plans, engineered drawings, plugging plans coupled with environmental, radiation, hydrogeological and safety assessments
• Mandatory on-site review of all wells for which a Scope of Work is released
• Certified contractors submit an offer to complete the work outlined in the Scope of Work
• Lowest and most responsive bid is accepted
• Contractor plugs the well at prices bid
How are Orphan Wells plugged?

- Construction access can be challenging (stream crossings, wetlands, timber cutting, urban areas, etc.)
- Weather conditions can dictate site access
- Federal permits and authorizations may be required, can lead to strict permit conditions and tight timeframes on completion dates
- Lack of historical records (drilling, casing, completion, production, plugging)
- Drilling, milling and/or fishing, logging are common requirements (most of the time unknown prior to beginning work)
Orphan Well versus Well with Owner

Obstructions = Milling, Drilling, Fishing, Logging = $$$$  

• Common orphan well obstructions
  • Parted and deteriorated pipe
  • Steel balls
  • Wood plugs – trees, fence posts, railroad ties,
  • Debris – rocks, railroad ballast, bowling pins, rope, rubber, steel cable
  • Lost tools
  • Upside down bits
  • Packers and field packers
  • Precast concrete plugs
  • Wellbore cave-ins and mud laden fluid
  • Sand pumping
  • Drill cuttings
  • Prepared Clay/Cement
Orphan Well versus Well with Owner Casing

Orphan Production
Orphan Well versus Well with Owner Access

Orphan Production
Orphan Well versus Well with Owner
Site Development

Orphan

Completion
Orphan Well versus Well with Owner Production Equipment

Orphan Production

Ohio Department of NATURAL RESOURCES
Orphan Well versus Well with Owner
Well Head

Orphan

Production
Orphan Well versus Well with Owner
Well Head

Orphan

Production
Orphan Well versus Well with Owner
Well Head

Orphan

Production
Orphan Well versus Well with Owner Records

Orphan

Production
- ODNR Permit
- Well Card
- Survey Plat
- Formation Depths & Thickness
- Stimulation Report
- Completion Report
- As-drilled Survey
- Record of Casing, Cementing, & Mudding Logs
- Production Reports
- Plug Report
Ohio Department of Natural Resources
Division of Oil and Gas Resources Management
Orphan Well Program