



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*

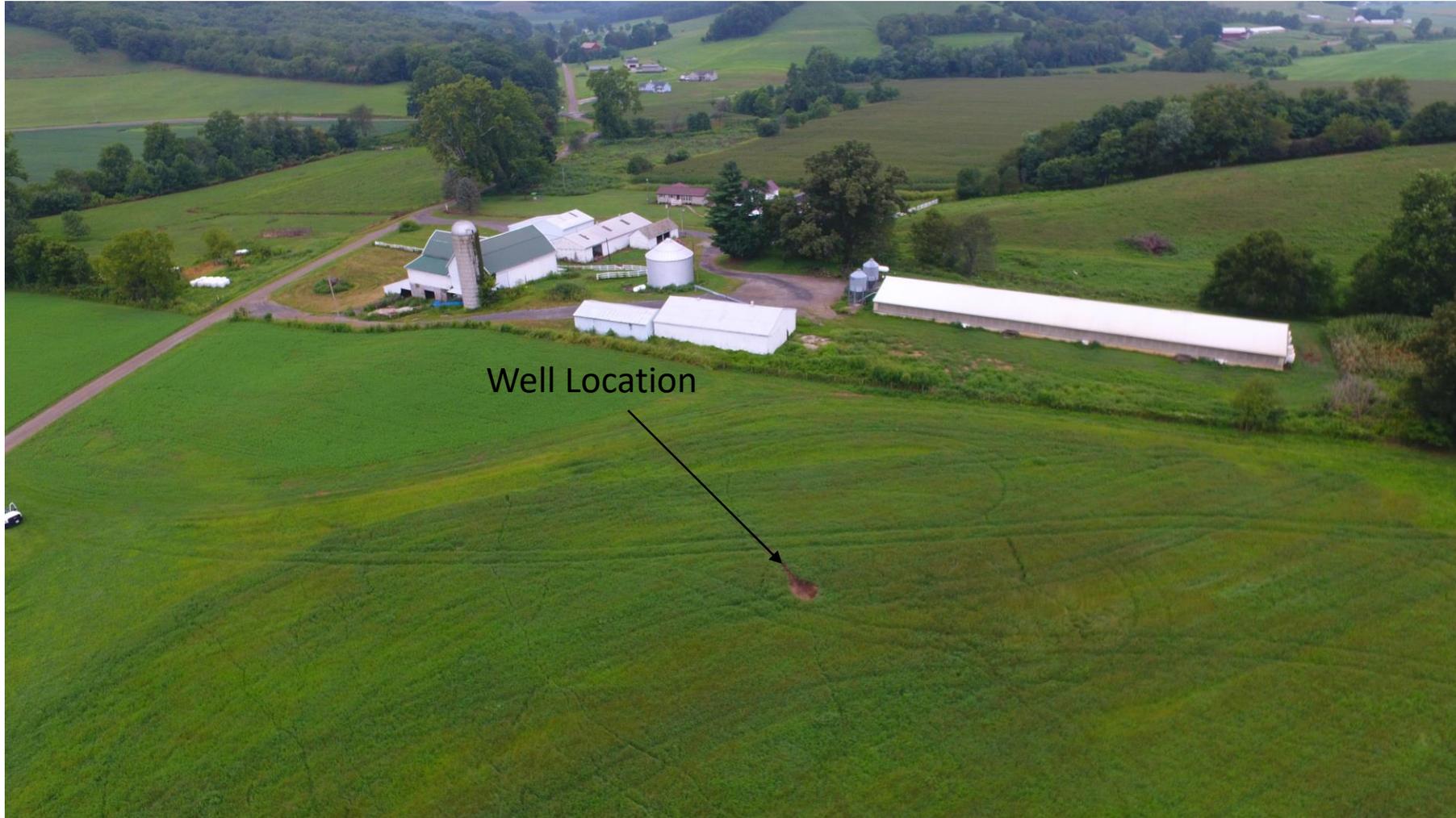


Where are Orphan Wells?

- 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

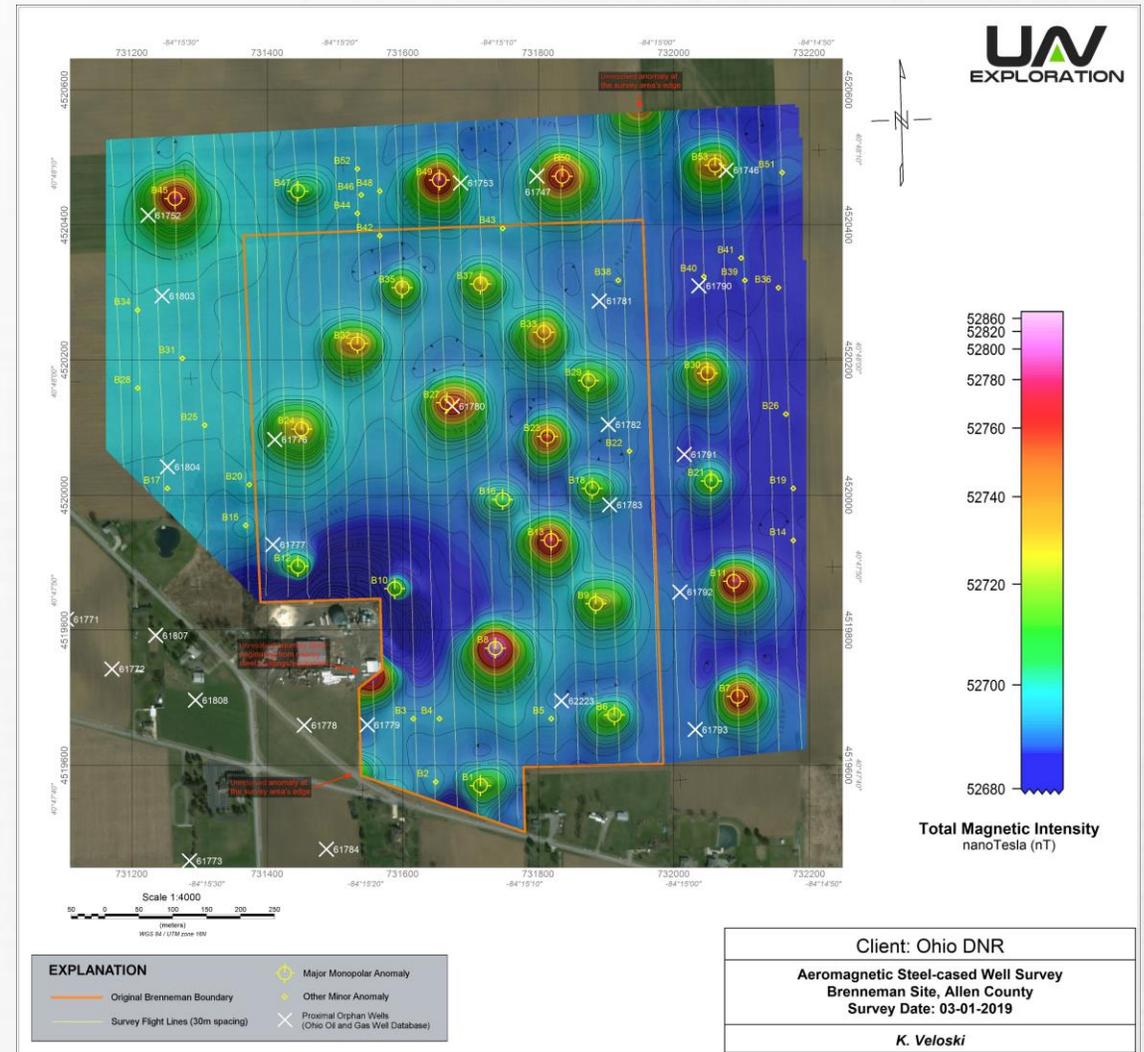


Where are Orphan Wells?



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

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 Kresevich #1
Contractor: GonzOil, Inc.
Project Status: Completed

Where are Orphan Wells?



2019 Project: Lorain #4
34750 Chardon Road #1
Contractor: R A Gibson & Associates
Project Status: Completed

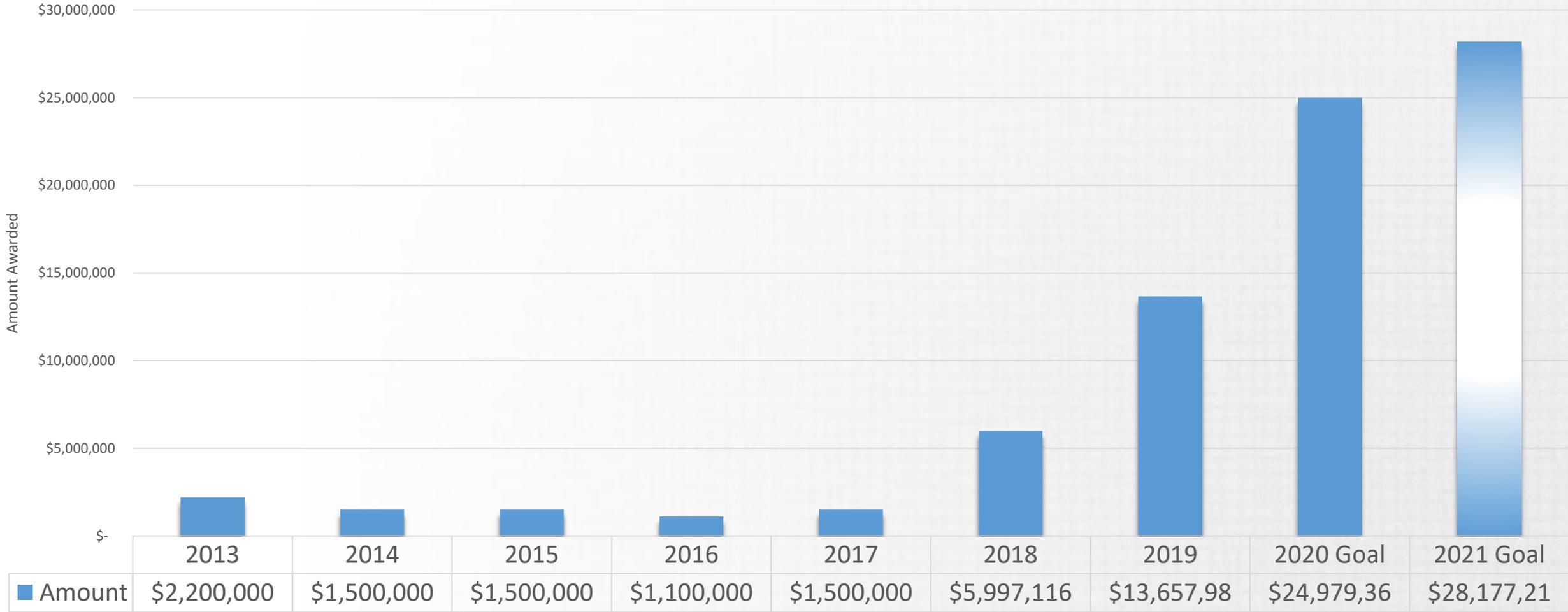
Where are Orphan Wells?



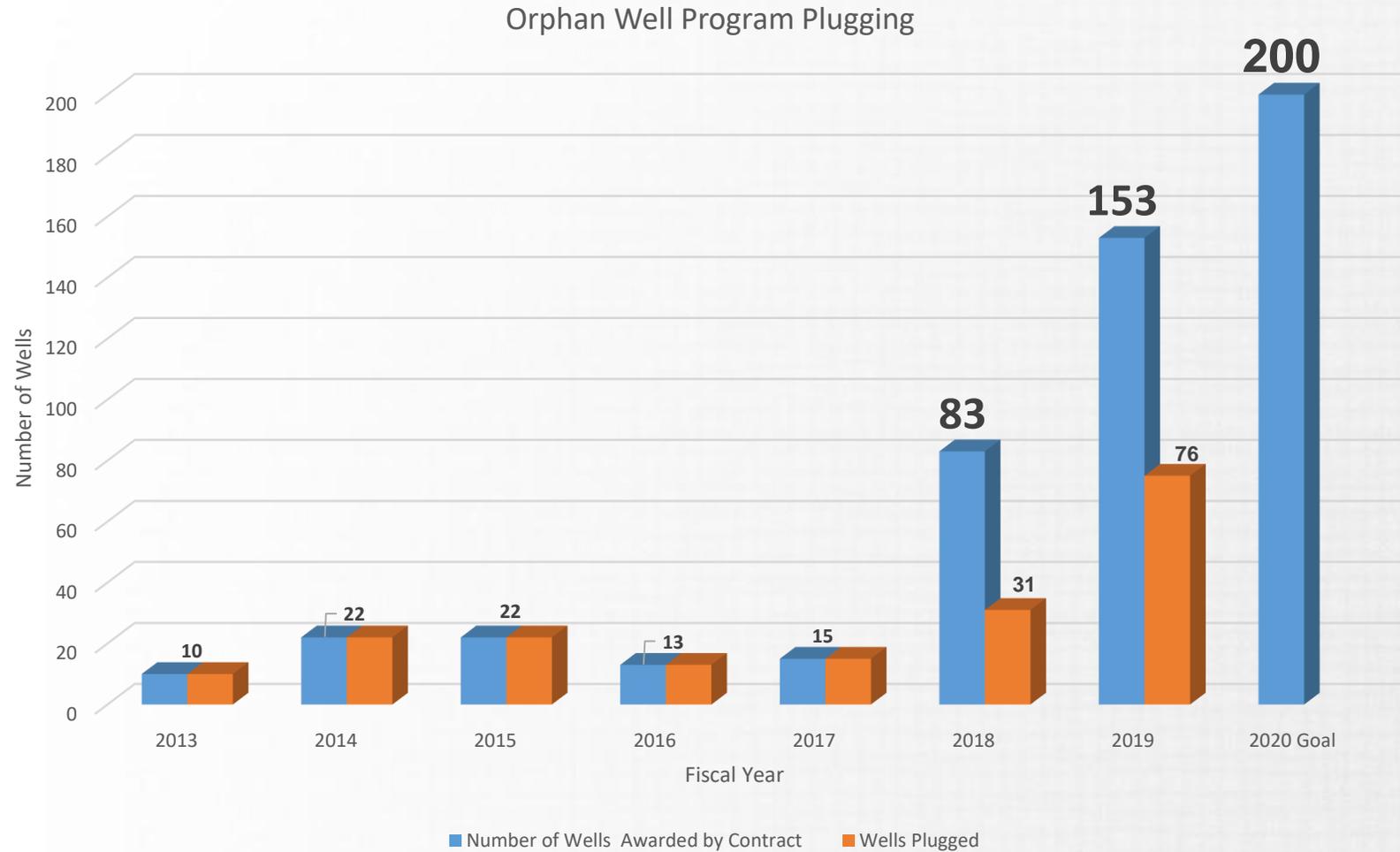
Project: Pike #2
Wynn WA #1 Well
Project Status: Design

Orphan Well Program Highlights

Orphan Well Program Contract Awards

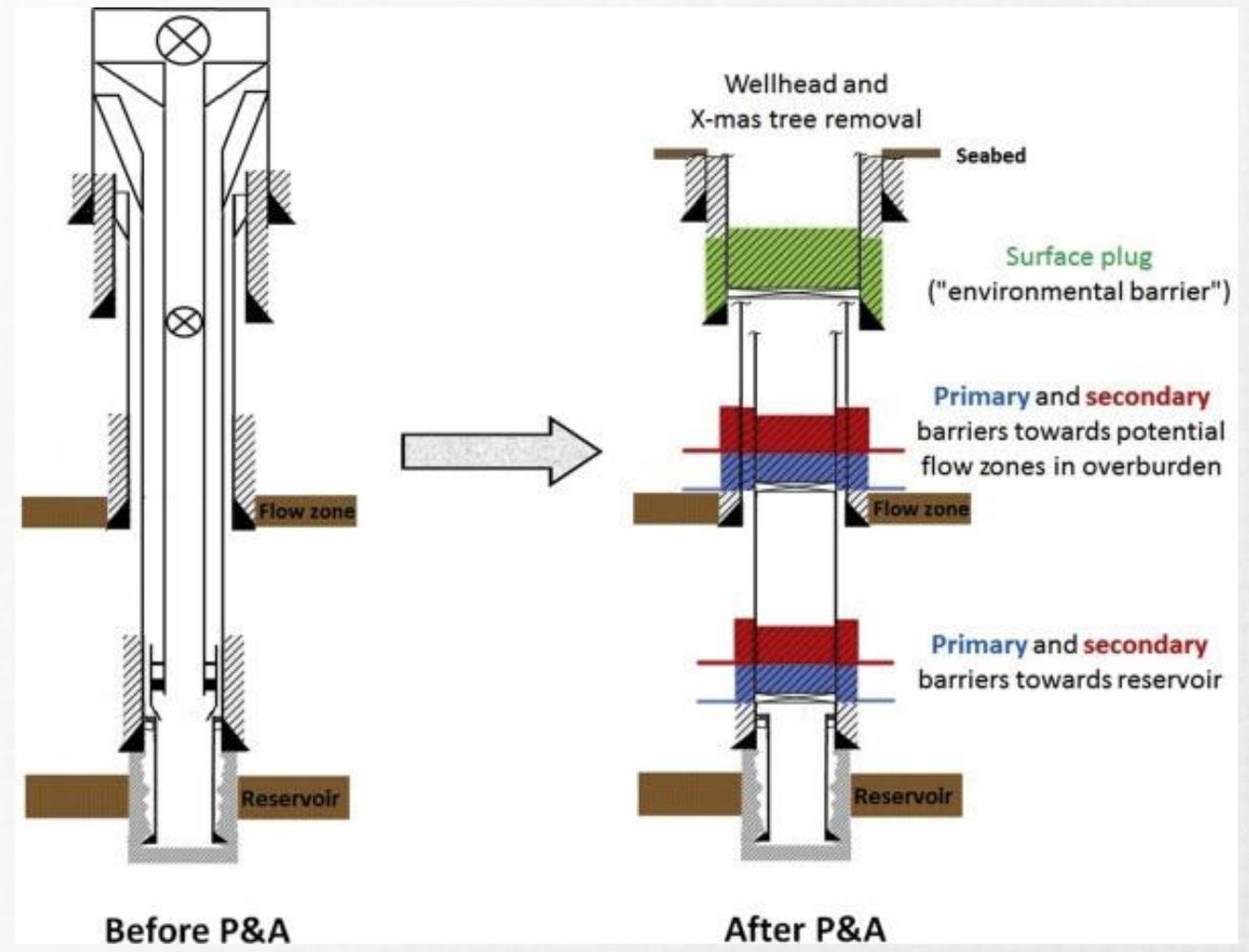


Orphan Well Program Highlights



How are Orphan Wells Plugged?

- Qualified contractors perform the work for ODNR
- Casing is removed
- Cement is pumped into the well bore to isolate the oil and gas producing rock formations



How are Orphan Wells Plugged? Multiple Award Contract

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REQUEST FOR PROPOSALS

RFP NUMBER: CSP906119
INDEX NUMBER: MAC110
UNSPSC CATEGORY: 71144100

The State of Ohio, through the Department of Administrative Services, Office of Procurement Services, for the Ohio Department of Natural Resources (ODNR), Division of Oil and Gas Resources Management (DOGRM), is requesting proposals for:

ORPHAN WELL – OIL AND GAS PROJECTS

RFP ISSUED: January 25th, 2019
INQUIRY PERIOD BEGINS: January 25th, 2019 at 8:00am
PRE-PROPOSAL CONFERENCE: February 8th, 2019 at 10:00am
INQUIRY PERIOD ENDS: February 15th, 2019 at 08:00am
PROPOSAL DUE DATE: February 22nd, 2019 by 1:00pm

Proposals received after the due date and time will not be evaluated.

OPENING LOCATION: Department of Administrative Services
Office of Procurement Services
ATTN: Bid Desk
4200 Surface Rd.
Columbus, OH 43228-1395

Offerors must note that all proposals and other material submitted will become the property of the state and may be returned only at the state's option. Proprietary information should not be included in a proposal or supporting materials because the state will have the right to use any materials or ideas submitted in any proposal without compensation to the offeror. Additionally, all proposals will be open to the public after the award of the contract has been posted on the State Procurement Web site. Refer to the Ohio Administrative Code, Section 123:5-1-08 (E).

This RFP consists of five (5) parts and ten (10) attachments, one (1) supplement, totaling 84 consecutively numbered pages. Please verify that you have a complete copy.

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ATTACHMENT TEN: HYPOTHEITICAL SITE SPECIFIC ORPHAN WELL SCOPE OF WORK

SCOPE OF WORK
Any County, Any Township
Well Name: John Smith #1
Permit Number: 34-000-0-0000

PROJECT DESCRIPTION Background:

A Division inspection was conducted in 1990, when a complaint of leaking natural gas was reported. The Division inspector found the John Smith #1 equipped with an unknown size, partially-removed wooden conductor casing. At that time, a ten (10) foot section of four (4) inch steel pipe was inserted into the top of the hole as a marker. In the original inspection, there was a visible flow path in the vegetation from the well to the creek. DOGRM inspections in 2015 and 2017 have found that the fluid leakage has stopped, and the vegetation has reestablished. A strong natural gas odor is present and audible gas is apparent in the wellbore.

There are no drilling, casing, cementing or completion records for the John Smith #1 in the Division database. However, the Ohio Fuel Gas (OFG) map for the Township shows a well in the same location and on the same property as the John Smith #1, which has this well identified as a "dry hole" in the "M-800". The "M-800" notation is assumed to be the Macksburg 800 Sandstone. There are drilling records available for offset wells to the south with some of these drilled to formations deeper than the Macksburg, such as to the Big Injun and Berea sands. Based on historical information, the Macksburg should be found at a depth between 800 and 900 feet. Therefore, the total depth of the John Smith #1 is assumed to be 900 feet with twelve (12) inch inside diameter wooden conductor casing.

Washington County lies within the Unglaciated Allegheny Plateau section of the Appalachian Plateau Province and is defined by high relief and rugged topography. The groundwater resources as glacial-alluvial aquifers and bedrock aquifers. The unconsolidated aquifers are limited to the main trunk of the Muskingum River Valley, areas along the Ohio River, and other major streams and tributaries. Yields from the sand and gravel outwash deposits are as high as 500 gallons per minute (gpm). Consolidated bedrock aquifers are poor and are less than 5 gpm across the entire county.

The deepest underground source of drinking water (USDW) is not mapped in Washington County. The well lies approximately 40 feet from a stream at a surveyed elevation of 695.26 feet. There are no lakes or ponds located within the area of review, and the work area does not fall within and source water protection zones. Surface drainage near the wellhead flows 40 feet to the east into an unnamed tributary to Pawpaw Creek, which then flows south into Duck Creek, which ultimately flows to the Ohio River.

Scope of Work: This project requires maintaining traffic, tree/vegetation removal and chipping, installation of sediment controls, plugging the orphan well, removal of contaminated onsite materials, and site restoration.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over the all roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Chief, of all road use notifications/approvals prior to mobilizing equipment to the site.

GENERAL SCOPE OF WORK

The Contractor, the Contractor's agents, representatives and subcontractors shall perform this Plugging Project in accordance with Ohio Revised Code 1506, Ohio Administrative Code Chap. 1501:9-11 and 1501:9-12, and in accordance with the following documents that are attached hereto and made a part hereof:

1. Project Description;
2. General Scope of Work;
3. General Conditions;
4. General Specifications;
5. Sequence of Work;
6. Plugging Plan;
7. Detailed Specifications;

Subject to the Contractor's compliance with this Scope of Work, Contractor is solely responsible for and has control over all plugging and reclamation construction means, methods, manners, techniques, sequences, and procedures, for safety precautions and programs in connection with the Plugging Project, and for coordinating all portions of the Plugging Project.

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)

2018 Project: Knox #2
Harstine #1 (1 of 1)
Contractor: Knox Energy Inc.
Project Status: Completed



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



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



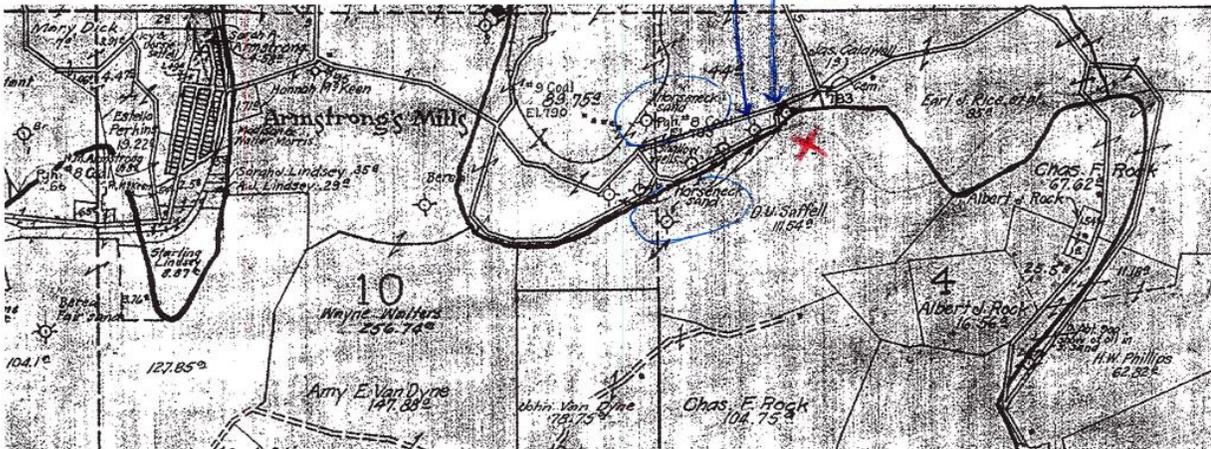
Production



Orphan Well versus Well with Owner Records

Orphan

Production



X Wells plot here

- 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



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