



# Ohio Department of Natural Resources Division of Oil and Gas Resources Management Orphan Well Program



Ohio Department of  
**NATURAL RESOURCES**

# Ohio Department of Natural Resources, Division of Oil and Gas Resources Management



ODNR’s mission is to ensure a balance between wise use and protection of our natural resources for the benefit of all



The Division of Oil and Gas Resources Management is responsible for regulating Ohio’s oil and natural gas industry for the protection of all Ohioans and our environment while ensuring the state’s abundant natural resources are managed properly

# Introduction

- Who: The Division and Ohio's Oil and Gas History
- What is an Orphan Well?
- Where are Orphan Wells?
- Why now? House Bill 225
- When will this Orphan Well be plugged?
- How are Orphan Wells plugged?
- Orphan Well Program Highlights



# Ohio's Oil and Gas History

- The Orphan Well Program was established in 1977
- Over 280,000 oil and natural gas wells have been drilled in Ohio

Unregulated  
plugging and  
abandonment  
practices,  
including  
plugging with  
cannonballs,  
trees, and used  
tools; pulled  
casing, etc.

Time Period	Oil Field	Location	Estimated Number of Wells
1880 - 1930	Trenton-Limestone	Northwest Ohio	70,000
1880 – 1910	Ohio Shale	Northeast Ohio	5,000
1880 – 1910	Shallow Sandstone	Southeast Ohio	3,000
1860 – 1910	Mecca Field	Trumbull County	2,500
1900 – present	Clinton Sandstone	Statewide	85,000
1800's; 1950's – present	Berea Sandstone	Statewide	13,000
1960's – present	Trempealeau	Morrow County	5,000
1980's – 1990's	Knox Group	NE to Central Ohio	2,500

Division Created

OWP Created

# What is an Orphan Well?

- ORC 1509.01 (CC): “‘Idle and orphaned well’ means a well for which a bond has been forfeited or an abandoned well for which no money is available to plug the well in accordance with this chapter and rules adopted under it.”
- ORC 1509.071 provides for the Orphan Well Program and charges the Chief with plugging idle and orphan wells, land surfaces, and correcting conditions that cause imminent health or safety risks at idle and orphan wells.

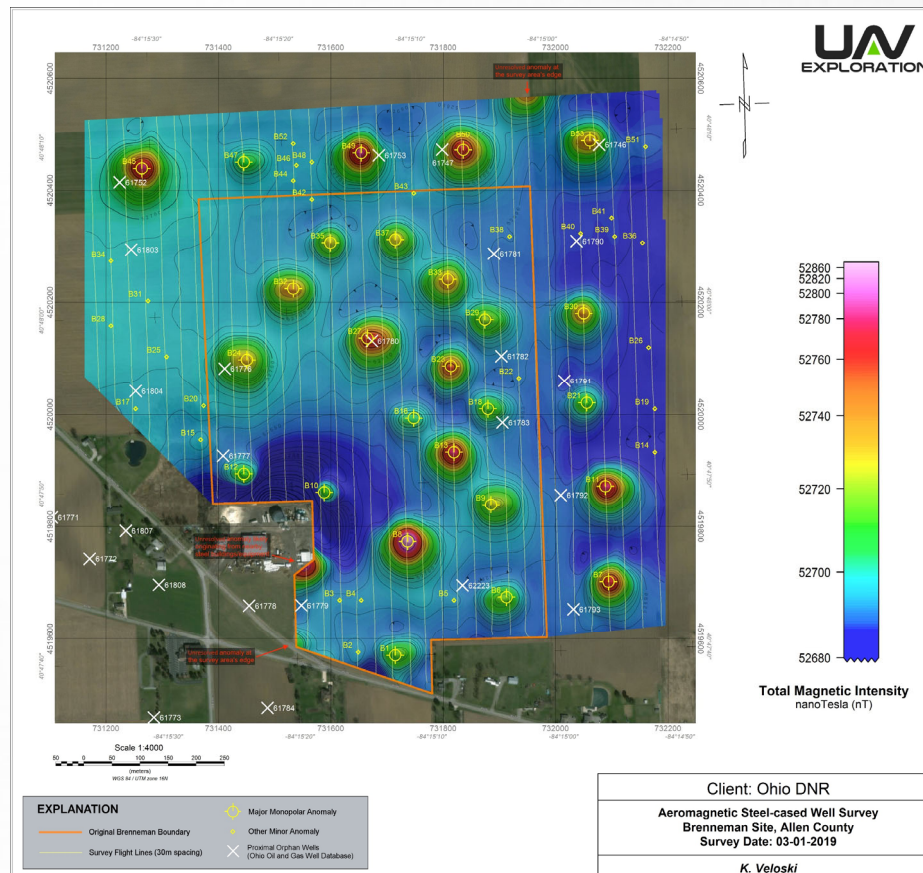


# Where are Orphan Wells?

- Orphan wells have been found and plugged in a school gymnasium, in building basements, amongst homes, in farm fields, in waterways and wetlands and along shorelines, and within forests.
- Construction access can be challenging and may require permits or approvals from federal, state, and/or local authorities



# Where are Orphan Wells?



2017 Project: Allen #1  
Brennenman #1 (1 of 1)  
Contractor: Hydrocarbon Well Services  
Project Status: Complete

# Where are Orphan Wells?



2019 Project: Coshocton #1  
Dittmar-Hostetter #1 (1 of 3)  
Contractor: Altier Brothers Inc.  
Project Status: Awarded



# Where are Orphan Wells?



2018 Project: Perry #2  
Jonathan Bope #3 (1 of 1)  
Contractor: Hydrocarbon Well Services  
Project Status: Completed

# Where are Orphan Wells?



2018 Project: Cuyahoga #5  
Sara & David Reid #1 (1 of 1)  
Contractor: GonzOil, Inc.  
Project Status: Completed



# Where are Orphan Wells?



2018 Project: Carroll #1  
DA Kean #2 (1 of 5)  
Contractor: Harley Oilfield Services  
Project Status: Completed



# Where are Orphan Wells?



2018 Project: Knox #1  
Giffin #1 (1 of 3)  
Contractor: Hydrocarbon Well Services  
Project Status: 1 of 3 Wells Completed



# Where are Orphan Wells?



2018 Project: Cuyahoga #4  
Michael & Millie Kresevich #1  
Contractor: GonzOil, Inc.  
Project Status: Completed



# Where are Orphan Wells?



2018 Project: Lake #1  
Lakeshore #1 (1 of 1)  
Contractor: R.A. Gibson & Associates  
Project Status: Completed

Why now? House Bill 225



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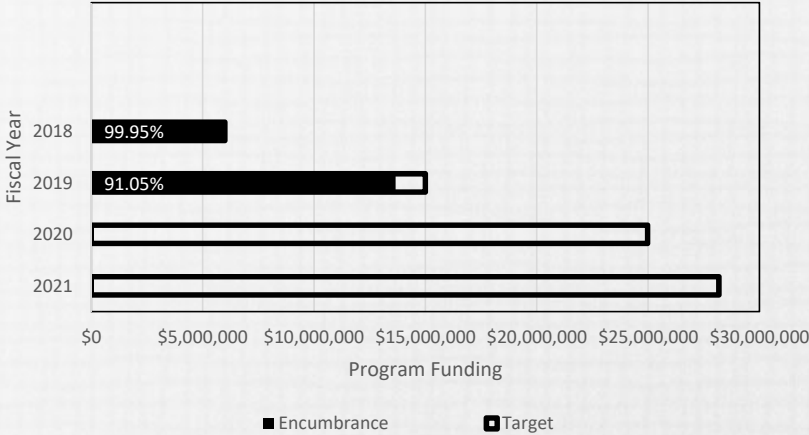


# Why now? House Bill 225

(B)(1) All moneys collected because of forfeitures of bonds as provided in this section shall be deposited in the state treasury to the credit of the oil and gas well fund created in section 1509.02 of the Revised Code.

~~The~~ For purposes of promoting the competent management and conservation of the state's oil and natural gas resources and the proper and lawful plugging of historic oil and gas wells for which there is no known responsible owner, the chief annually shall spend not less than ~~fourteen~~ thirty per cent of the revenue credited to the oil and gas well fund during the previous fiscal year for both of the following purposes:

Opportunities Within the Orphan Well Program



5180	725677	Oil and Gas Well	\$	24,979,365	\$	28,177,215	90965
		Plugging					



## Why now? House Bill 225

- Funding increase (from 14% to 30% of previous years take)
- Limits title review (40 years from when the well is determined orphan)
- Eliminates notice requirements to adjacent landowners
- Allows for direct payment to contractors under Landowner Passthrough Program
- Removes requirement for traditional program contractor bonding
- Funds mitigation expenditures, such as the installation of a vault and vent system
- Adds reporting requirements to the TAC and Legislature

# Why now? House Bill 225

- Division Traditional Program Response
  - Improving contracting process
  - Streamlining processes to incentivize contractor participation
  - Larger packages of wells
  - Unit Price Contract (UPC) developed and implemented to allow for preliminary investigations to be performed on orphan wells prior to plugging operations



2018 Project: Portage #1  
Dunlap #2 (1 of 3)  
Contractor: GonzOil, Inc.  
Project Status: Completed

# When will this Orphan Well be plugged?

- The Division endeavors to plug orphaned wells in a timely manner and on a risk-prioritized basis with a geographic distribution. **Emergency wells take precedence.**
- Site and well specific conditions, and associated survey or permit mandates can significantly increase the timeframes necessary to commence or complete plugging operations.
- Failure to complete critical evaluations and surveys or failure to obtain necessary permits and certifications could result in significant penalties, thereby diverting orphan well funds, or resulting in public safety hazards or damage sensitive environments.

# When will this Orphan Well be plugged?

- The Orphan Well Review process begins when the Division becomes aware of a suspected abandoned oil and gas well
  - Program staff inspect the well and conduct a detailed risk assessment of each well
  - Determine the risk the well poses on public health, human safety and the environment
- Some of the other factors which are considered, including proximity to:

**Public Health / Safety**

Public and/or private water wells  
Public surface water intakes  
Drinking water protection zones  
Presence of hydrogen sulfide gas  
Stray gas migration  
Radioactive material (TENORM)

**Environmental**

Surface waters  
Wetlands  
Streams and rivers  
Floodplains  
Bodies of water / shorelines

**Biological**

Habitat / Land Use  
State & Federal Threatened Species  
State & Federal Endangered Species  
Natural Heritage Database  
Mussel Stream Classifications

- The Division establishes an annual schedule for the Traditional Program



# When will this Orphan Well be plugged?

## Risk Evaluation Matrix (REM) Development

- HB225 requires wells be scored and prioritized by three risk categories – High, Moderate, and Low Risks
- DOGRM inspectors place the well into one of the four REM risk classes based on Division flow chart process. Risk scores are then calculated for each well.
- **Risk = Condition of Well (What is leaking and how much) + What has the potential to come in contact with what is leaking (public and environmental factors)**

REM Risk Classes	HB 225
Class 1 – Emergency (only declared by chief)	Distressed – High Priority
Class 2 - High Risk (Non-Emergency)	
Class 3 – Medium Risk	Moderate – Medium Priority
Class 4 - Low Risk	Maintenance – Low Priority

Scoring		Score	Score		
Dwelling		0	3	Total Equipment Leaking Score	
Landuse		5	1.4712	Time	
Public Health and Safety		0.42	4	Accessibility	
Environmental		17.88	3	Landowner Complaint	
		23.3			
	X		1	+	
			11.47	=	
					<b>Risk Score</b>
					<b>34.77</b>

Close-up of the Actual Math of the REM

# When will this Orphan Well be plugged?

- The Division has sole and exclusive authority to regulate oil and gas wells in Ohio.
- However, consideration of other regulatory authorities and their jurisdiction(s) is also required, as other federal, state and local requirements may apply.
- The Orphan Well Program regularly consults with a multitude of agencies.

## Federal

- U.S. Environmental Protection Agency
- U.S. Forest Service
- Occupational Safety & Health Administration
- USDA – National Resources Conservation Services
- U.S. Fish and Wildlife Service
- U.S. Geological Survey
- National Institute for Occupational Safety & Health
- Federal Emergency Management Agency

## State

- Ohio Environmental Protection Agency
- Ohio Department of Health
- ODNR, Division of Wildlife
- State Emergency Response Commission
- Ohio Utilities Protection Services
- Oil & Gas Producers Underground Protection Service
- Ohio Department of Transportation
- Ohio Dept. of Commerce, State Fire Marshal
- ODNR, Division of Minerals Resources Mgmt.
- Public Utilities Commission of Ohio
- Ohio State Historical Preservation Office
- State Board of Registration for Professional Engineers and Surveyors

## Local

- County Engineer
- Local Emergency Planning Committee
- Township Road Superintendent
- Local Fire Department

# 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





# How are Orphan Wells plugged?

- Traditional Program
  - The Division creates a Scope of Work including access plans, engineered drawings, plugging plans coupled with environmental, radiation, hydrogeological and safety assessments
  - Scope of Work posted to Division website
  - <http://oilandgas.ohiodnr.gov/regulatory-sections/orphan-well-program/scope-of-work>
  - Mandatory on-site review of all wells for which a Scope of Work (SOW) is released
  - Certified contractors submit an offer to complete the work outlined in the Scope of Work





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**DIVISION OF OIL & GAS  
RESOURCES MANAGEMENT  
IDLE & ORPHAN WELL PROGRAM  
<http://ollandga.s.ohiodnr.gov>**



**N. ESSEX #1  
UNDERDRAIN PLAN VIEW &  
SHEET PILING SECTION**

**PERRY #2  
ESSEX & BUTT  
ORPHAN WELL SITES**

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# How are Orphan Wells plugged?

## Traditional Program: Project Management

- The submitted Offer Sheet is the list of agreed upon pay items for the Project.

## How are field changes handled during plugging operations?

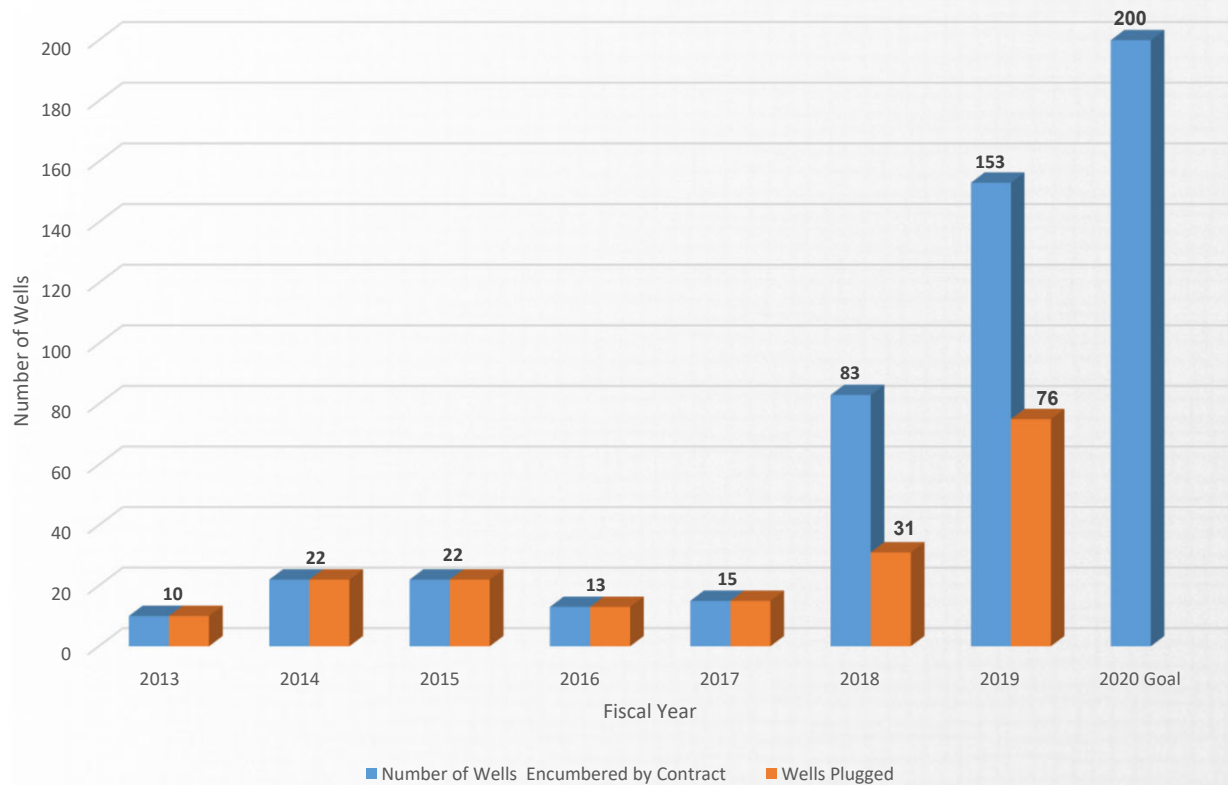
- Field Orders provide documentation of defective work or materials, as well as specific notice, instruction, clarification, explanations, and/or interpretations of the contract documents.
  - Contingency work is authorized via a Field Order
- Change Orders are written orders issued by the Orphan Well Program to the Contractor covering changes to the Contract within or beyond the scope of the Contract and establishing the basis of payment and any necessary time adjustments for the work affected by the changes.
  - Unforeseen work outside the original Scope of Work is added to the contract via a Change Order



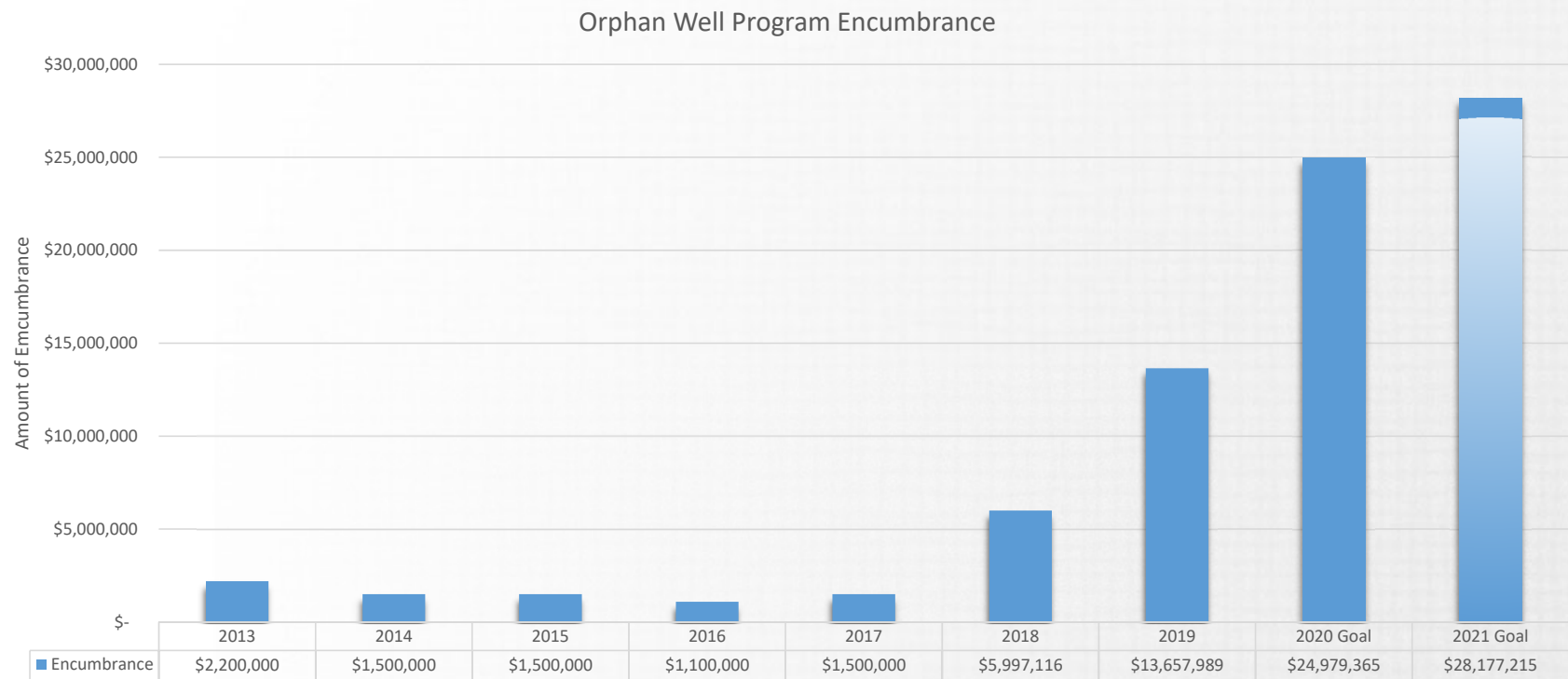
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# Orphan Well Program Highlights

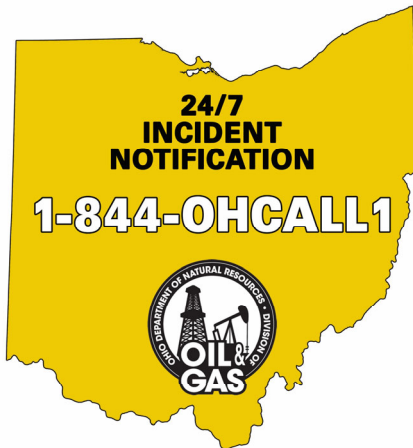
Orphan Well Program Plugging



# Orphan Well Program Highlights







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