



**House Energy and Natural Resource Committee
Interested Party Testimony on House Bill 225
Provided by ODNR Division of Oil and Gas Resource Management Chief Rick Simmers
January 16, 2018**

Good afternoon Chairman Landis, Vice-Chair Hagan, Ranking Member O'Brien and members of the House Energy and Natural Resource Committee. My name is Rick Simmers, and I am the Chief of the Ohio Department of Natural Resources (ODNR) Division of Oil and Gas Resource Management (DOGRM). I appreciate the opportunity to discuss the subject of orphan wells and look forward to answering your questions.

In my testimony, I will present a history of Ohio's oil and gas industry, background on ODNR's involvement in orphan well plugging efforts, how an orphan well is plugged, the regulatory and legal hurdles faced by the Division in this area, and the future of the Orphan Well Program. I will end by discussing the current version of HB 225 and its potential effects on the Division.

Regulatory History

The DOGRM Orphan Well Program was created in 1977 has been tasked with plugging oil and natural gas wells that have been improperly abandoned. Orphan wells that are not addressed may pose a significant threat to public health and safety, the environment, conservation of our natural resources and economic development. The Orphan Well Program currently maintains a listing of approximately 700 known orphan wells.

Ohio's Oil and Gas History

Ohio has an extensive history of oil and natural gas exploration and production. A few examples that illustrate this history begins in 1814, when oil was discovered in Noble County at what is now known as the Thorla-McKee well. The first commercial oil producing operation in Ohio began in 1860 in Washington County. Over this history an estimated 250,000 oil and natural gas wells have been drilled in Ohio. Several notable oil and natural gas plays across the state have included:

Time Period	Oil Field	Location	Estimated Number of Wells
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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

DOGRM created in 1965 in response to town-lot drilling during the Morrow County oil boom. Prior to the creation of the Division, historical abandonment practices did not consider groundwater protection or isolating production formations as oil and natural gas wells were plugged with cannonballs, used drilling tools, vegetation and garbage. In addition, during World War II and times of high scrap metal prices, well casing strings were pulled from wells without regard to protection of groundwater or isolation of production formations. However, modern day regulation requires setting cement plugs across producing formations and through underground sources of drinking water.

Locating and Evaluating Orphan Wells

Most orphan wells are referred to the Division by landowner complaint or are discovered by the Division’s field inspection staff. A visible pipe or wellhead or unused production equipment may indicate an orphaned well. Orphan wells have also been discovered through excavation because of evidence such as bare ground without vegetation, odors of crude oil or gas, or surface contamination of crude oil, gas, or brine suggested past production. Orphan wells have been found in every possible geographical setting across the state, from residential areas below buildings, streets and lawns; in rural areas in agricultural fields or wood areas; and within ecologically sensitive streams and along shorelines.

Each known orphan well is reviewed by a Division orphan well inspector using a comprehensive Risk Evaluation Matrix (REM) and assigned a Risk Score. The REM considers how the well is impacting public safety, the environment and natural resources. For example, the distance to drinking water protection zones and public and private water wells is considered. Additional factors that are considered include the presence of hydrogen sulfide, classification of the location as urban, discharge from the wellhead, presence of equipment and its integrity, distance to

nearest occupied structure, surrounding land use and accessibility to the well. Further consideration also is given to the length of time that a well is in the program. The Division uses the REM score to establish plugging priorities, so the Division can address wells with the greatest impact. Essentially, orphan wells can be anywhere, including under a school gymnasium, to an open corn field. Once the severity of the well is determined by the Risk Evaluation Matrix and given a Risk Score the plugging process can begin.

Plugging Process

The Orphan Well plugging process involves an extensive amount of time, effort, and the cooperation of various parties. Steps during the process cannot be simply overlooked to achieve everyone's ultimate goal. The Revised Code dictates the process under which an orphan well is to be plugged. First, a determination must be made of the current property ownership, the identity of the owner of the oil and gas well lease and/or owner(s) of interest within the lease, and the identities of any persons having legal title or lien upon any well equipment. Notice that the well is to be plugged is then mailed to the current landowner and any owner or operator, interest holder in the well, and to persons having legal title or lien upon the well equipment. If no response is received within 60 days from persons having a legal title or lien upon the well, all equipment is forfeited to the state to be used to defray the cost of plugging the well and restoring the land surface at the well site. If no responsible owner is found and no person lays claim to the well or its equipment, the well is then plugged under the Orphan Well Program.

Procurement Challenges

From the creation of the Orphan Well Program in 1977 until November 2016, orphan wells were plugged on an individual basis through a one-time contract with a plugging contractor. The Division contacted known well service companies for quotes and entered into service contracts with responsive service companies. Orphan wells were also plugged through Land-Owner-Pass-Through payments in which land owners would act as the project manager to plug an orphan well and present a plugging plan for the Division's approval and once plugged properly the statute authorized the Division to reimburse the cost to the land owner. These methods were appropriate for the funding levels available at that time but lacked the coordination, completeness and strategic planning necessary to plug complicated wells or a large number of wells per fiscal year. History shows that procurement involving orphan well plugging had a more simplistic approach. That naturally isn't the case anymore with the ever-growing list of known orphan wells.

Procurement Progress

In order to increase efficiencies and to ensure that orphan wells are plugged properly, the Division of Oil and Gas and the Department of Administrative Services (DAS) began discussions in the fall of 2015 to create a Multiple Award Contract to contractually certify contractors to plug orphan wells. The contract solicitation period was April 25, 2016 through June 20, 2016. The contract inception date was November 1, 2016. An amendment clarifying the contract became effective on November 1, 2017.

Twenty-nine contractors were certified and are eligible under the contract to submit Cost Proposals for orphan well projects. Of those 29 contractors, seven companies have submitted Cost Proposals and have been awarded projects. Three additional companies have submitted Cost Proposals but have not been awarded projects due to not having the lowest bid. Fourteen companies have attended mandatory site review visits. In response to less than half of the companies actively submitting Cost Proposals, the Division pursued a second amendment to the contract to give additional contractors the opportunity to become certified contractors. This second amendment was released on January 8, 2018.

Orphan wells are combined into project packages based on geography to increase contractor efficiencies by minimizing mobilization costs. Each project is proposed to contractors through a detailed Scope of Work that provides a project description; a general scope of work, conditions and specifications; a sequence of work; a well description; a plugging plan and detailed specifications; and a drawing plan set stamped by a registered engineer. Contractors are required to attend a site visit after the release of the Scope of Work in order to submit a proposal. Contractors may then submit a sealed Cost Proposal to the Division that is publicly opened. Cost Proposals are reviewed for responsiveness and then awarded via a Notice to Proceed letter to the most competitive contractor.

While it took a considerable amount of time and effort to establish this new procurement process, this has proved to be a game changer for the way we procure contractors to plug orphan wells. The Division is now planning to plug more orphan wells this fiscal year than ever before and on track to spend the \$6 million appropriated by the Legislature in the recent biennium budget. I should also mention that other agencies have adopted this method because it has proven to increase efficiency in their respective programs.

Regulatory and Legal Hurdles

The Division of Oil and Gas Resources Management has sole and exclusive authority to regulate oil and gas wells and production operations within the state, including the plugging of oil and gas wells. Consideration of other regulatory authority for plugging orphan wells and their jurisdiction is also required as other federal, state and local requirements may apply. The Orphan Well Program regularly consults with a multitude of federal, state, and local agencies and entities, including but not limited to:

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
- Federal Emergency Management Agency
- National Institute for Occupational Safety & Health

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
- 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

A summary of regulatory considerations is attached to this testimony and provides a broad explanation of the technical aspects that may be addressed when plugging an orphan well. The unknown and unpredictable location of many orphan wells lends to the consideration of many factors. Such factors include impacts to waterways, cultural resources, threatened and endangered species, floodplains, gas migration, ingress and egress, safety, construction and design, and ground and surface water protection.

Notably, the Division is required to gain access to private property to plug orphan wells. Oil and gas wells are drilled and produced on drilling units comprised of private property leased by an oil and gas company. These leases include surface

agreements to access the well and production equipment. When a well had been abandoned and no responsible operator can be found, often the lease agreement has expired and thus the landowner must grant the Division access to the well. Ingress and egress to orphan wells, especially in urban and unstable geological areas, poses a difficulty. In all cases, a Right of Entry must be negotiated – without compensation – and, in many cases, a surveyed and engineered access route must be established to access an orphan well.

When you combine all of these aspects, it is evident the amount hoops that are necessary to jump through make it very difficult for the program to plug wells as quickly as the Division aspires to. It could take months, if not years, for the all of the necessary boxes to be checked depending upon the placement of an orphan well. That being said, the Division continues to do everything in its ability to get through the necessary requirements in order to plug as many wells as possible knowing the importance of this issue to the Department, the Legislature and the citizens of the state.

Fiscal Year 2018 Overview

During the first two quarters of Fiscal Year 2018, the Division has encumbered \$2,847,263,95 in projects to plug forty orphan wells. This increase in program efficiency is due to the use of the Multiple Award Contract and the restructuring of program staff. Notably, the inclusion of professional engineers has lead to a sound project management structure and ultimately increases the safety and efficiency of the plugging process. The Orphan Well Program is on pace to encumber \$6 million dollars in plugging contracts this fiscal year, which projects to include 80 orphan wells. This represents an exponential increase in program efficiency. Because the most problematic orphan wells in the state are plugged as a priority, the Orphan Well Program will continue to address the numerous historical wells in the state that pose a threat to public safety, the environment, natural resource conservation and economic development.

House Bill 225

As you can tell from my testimony, there is a lot of work that goes in to plugging an orphan well. There has also been a lot of behind the scenes work that has gone in to revamping the Orphan Well Program in order to keep up with the unprecedented amount of revenue coming in to the Oil and Gas Well Fund due to the Utica and Marcellus shale development over the past 6 years.

That being said, the current version of the bill has many proposed changes the Division concludes will improve the program, such as reducing unnecessary costs and improving safety. For example, the bill limits the title review to 40 years so that expensive title review is limited for wells that have been abandoned many years ago. Similarly, the bill eliminates unnecessary notice requirements to landowners whose property is adjacent to the property of the well to be plugged. The bill also provides for direct payment to contractors rather than payment to landowners on the Pass-Through-Payment provision under the orphan well program statute and as a result may eliminate landowner tax consequences. A final example of the positive changes in the bill is that it would allow expenditures for vault and vent systems and restorations, which are important and maybe the only means of correcting a hazardous condition at an orphan well location. ODNR and the Division was happy to work with stakeholders on these changes.

However, the portion of the bill that increases the amount required to be spent out of the Oil and Gas Well Fund from 14% to 45% is problematic. To put this in to perspective, if this year's receipts continue at their current pace, the ODNR Division of Oil and Gas Resource Management would be required to spend \$37 million on plugging orphan wells next year alone if this bill becomes effective. If you consider the amounts appropriated in the recently passed budget, this is more than twice the amount given to the Division for operational purposes and it is six times more than what was appropriated for orphan well plugging.

Simply put, there is not enough time or manpower available to accomplish this spending mandate. If the current language were to go in to effect, you would be setting the program up for failure. Instead of picking an arbitrary percentage number, the Division agrees with Director Keen in that the amount set for orphan well plugging should be determined every two years in the biennial budget process. ODNR, OBM, and the Legislature should work together in the budget process to appropriate a figure that is suitable for the state of the industry, market dynamics, and legal forces at that time.

Again, thank you Chairman Landis and members of the committee for the opportunity to present testimony on this subject. I will be happy to answer any questions you may have at this time.

Attachment: Orphan Well Program Regulatory Considerations

Air monitoring standards for explosive and toxic gas	<ul style="list-style-type: none"> Plugging an orphan well requires placing a 4-gas monitor at the wellhead that monitors methane, oxygen, carbon monoxide, and hydrogen sulfide levels. Stop work protocol is followed if the levels rise above Occupational Safety and Health Administration and The National Institute for Occupational Safety and Health standards for worker safety.
Army Corp of Engineers Nationwide Permits	<ul style="list-style-type: none"> If an Army Corps of Engineering (ACOE), General 404 permit (Nationwide Permit) is required due to impacts to navigable waters of the state, DOGRM is required to complete a survey of existing conditions by a registered Surveyor and, in conjunction with a qualified environmental specialist, and a registered Engineer develop a detailed plan per the requirements of the ACOE Engineering Form 4345. If an Army Corps of Engineering (ACOE), Individual 404 permit is required due to impacts to navigable waters of the state, the extensive surveying, environmental assessments, engineering, and public notices are required to obtain a permit for the specific site.
Construction Safety (OSHA)	<ul style="list-style-type: none"> Orphan well contractors are required to follow the rules established by the Occupational Safety and Health Administration Basic Safety 29 CFR 1926 on all project operations.
Cultural Resources	<ul style="list-style-type: none"> Consultation is made to the State Historic Preservation Office regarding historical sites and districts, archaeological sites, and places on the National Register of Historic Places.
Emergency Notification	<ul style="list-style-type: none"> A release of hydrogen sulfide gas, natural gas, crude oil, condensate or brine that threatens human health, safety or the environment as described in OAC 1501:9-08-02, requires notification of the ODNR, local fire department, and the Local Emergency Planning Committee within thirty minutes. Reference: ORC 1509.23, ORC 1509.231, ORC 1509.22; OAC 1501:9-1 to 9-12; ORC 1501:9-8-02; ORC 3750.
Emergency Response Plan	<ul style="list-style-type: none"> Contractors are required to establish an emergency response plan in coordination with DOGRM's Emergency Response and Operations Section.
Engineering Design and Construction	<ul style="list-style-type: none"> Plans and construction specifications are required by Ohio law to be completed by a professional engineer.
Floodplains	<ul style="list-style-type: none"> If the well site is within a floodplain, the Federal Emergency

	<p>Management Agency must be contacted prior to disturbance.</p>
Gas Migration	<ul style="list-style-type: none"> Specialized air monitoring may be required due to the unknown construction of orphan wells and the potential for gas migration through structural voids during plugging operations.
Hydrogen Sulfide	<ul style="list-style-type: none"> The presence of Hydrogen Sulfide within an orphan well requires development of a comprehensive safety plan and continuous air monitoring to mitigate the potential hazard. Hydrogen Sulfide is very corrosive and toxic above certain concentrations; May further complicate plugging operations
Ingress and Egress	<ul style="list-style-type: none"> Access road development by a professional engineer may be required to avoid environmentally sensitive areas, account for site hydraulics, and design stable slopes.
Mining Operations	<ul style="list-style-type: none"> Notification to, and consideration of, surface and underground mining operations and the ODNR Division of Mineral Resources Management is required by law and crucial to effectively plug orphan wells. Reference: ORC 1509.151, OAC 1501-9-11-02-C
Right of Way Access	<ul style="list-style-type: none"> Road access permit in conjunction with the Ohio Department of Transportation, County Engineer, or Township road superintendent. Hauling permit and load size consideration for service rigs Consideration of aboveground and buried utilities
Safety Data Sheets	<ul style="list-style-type: none"> Utilized for chemical disclosure and reporting
Sediment & Erosion control measures	<ul style="list-style-type: none"> The oil and gas industry is exempted from obtaining a U.S. EPA National Pollutant Discharge Elimination System (NPDES) permit for the construction of production operations; however, this does not authorize off site pollution, thus sediment and erosion control measures are still required.
Soils	<ul style="list-style-type: none"> USDA – National Resources Conservation Services data is reviewed Disturbances to agricultural soils, such as excavation and compaction, must be mitigated or reimbursed with values set by the county agricultural extension office
Source Water Protection Areas and Drinking Water Protection Areas	<ul style="list-style-type: none"> These protection areas are scientifically delineated boundaries around public water wells and intakes that define one and five year time of travel zones. Orphan wells within these protection

	<p>areas are given priority and additional safety precautions to protect water supplies.</p>
Streams and Rivers	<ul style="list-style-type: none"> • Stream and river data is obtained from the United States Geological Survey to determine the location of streams, develop stream crossings and review special designations such as scenic or wild rivers, 100-year floodplains, or mussel stream classifications.
Surveying	<ul style="list-style-type: none"> • The precise location of an orphan well is determined by a professional surveyor • A registered professional surveyor is required to determine limits of construction, locate underground utilities and environmentally sensitive areas, and direct excavation that may be necessary to access or plug the orphan well. • Reference: ORC 4733.01
Threatened and Endangered Species	<ul style="list-style-type: none"> • Section 7 Endangered Species Consultation with the United States Fish and Wildlife Service • Consultation with the ODNR Division of Wildlife • Disturbances to federally and state listed threatened and endangered species and their habitats must be avoided, minimized or mitigated. • This may require surveys or identification of species such as the Indiana bat, Kirtland’s warbler, Eastern hellbender, and Massasauga and timber rattlesnakes among others.
TENORM	<ul style="list-style-type: none"> • Technical Enhanced Natural Occurring Radioactive Material (TENORM) wastes from oil and gas wells and production operations are exempt from the regulatory radiological requirements of the Ohio Department of Health and fall under DOGRM’s regulatory authority. • Orphan well sites across the state are currently being radiologically assessed for TENORM or TENORM waste levels. • Reference: ORC 1509.022, ORC 3748.01(X), OAC 3701-1:43-02(A)
Underground Sources of Drinking Water (USDWs)	<ul style="list-style-type: none"> • Orphan wells may not have steel casing in them or the casing is insufficient to isolate the well from potable water aquifers. • OAC 1501:9-01-08(M)(4) requires that a surface casing string be set to protect groundwater at least 50 feet below the deepest USDW or at least 50 feet into competent bedrock, whichever is deeper. Additional depth requirements are invoked where

	USDWs are not defined.
Water Quality Certification	<ul style="list-style-type: none">• Section 401 Permit, acquired from the OEPA.• Required for projects that discharge into waters of the United States and ensures that they do not violate state water quality standards. Required for federal permits, including ACOE Section 404 permits.
Wetland surveys and delineations	<ul style="list-style-type: none">• Section 404 of The Clean Water Act of 1972 regulates the discharge of dredged or fill materials into waters of the states, including wetlands.• Wetlands are surveyed and avoided or require additional permits through the Army Corps of Engineers and/or the Ohio EPA to disturb.