

2018

The Division of Oil and Gas Resources Management 2018 Idle and Orphan Well Report



Ohio Department of Natural Resources
Division of Oil and Gas Resources Management
2045 Morse Road, F-2 Columbus, OH 43229

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Introduction

With the enactment of House Bill 225 (H.B. 225) on September 28, 2018, the Division of Oil and Gas Resources Management (Division) began quarterly reporting to the Technical Advisory Council (TAC) summarizing the efforts for plugging idle and orphaned wells as now required under Revised Code (RC) 1509.071(J). Revised Code 1509.071(J) further requires the Division, in conjunction with the TAC, to submit a written report summarizing the previous calendar year efforts of the Division for plugging idle and orphaned wells. This annual report encompasses data and expenditures from Calendar Year 2018 Quarter 3 and Quarter 4 (July 1, 2018 to December 31, 2018). Beginning January 1, 2019, the annual report will be an aggregate of the calendar quarters from the previous year. Prior idle and orphan expenditure data has also been provided in this report for reference. The prior expenditure data shows the Orphan Well Program's significant growth in fiscal year 2018 (July 1, 2017 to June 30, 2018) and in fiscal year 2019 (July 1, 2018 – present).

Idle and Orphaned Wells Approved for Plugging

As summarized in Table 1 below, the Division encumbered \$3,863,961.27 towards plugging projects in Quarter 3 and Quarter 4 of Calendar Year 2018. The Division spent \$2,957,369.05 to plug 53 orphan wells with an average cost of \$55,799.42 per well.

Table 1: Idle and Orphaned Well Approved for Plugging for Quarter 3 and Quarter 4 of Calendar Year 2018

Project Name/ County	Number of Wells	Amount Encumbered	Contractor Name
Lake #2	1	\$123,293.00	Nick's Well Service
Hocking #1	3	\$313,944.00	Hydrocarbon Well Service
Washington #2	9	\$198,170.00	Altier Brothers
Washington #3	2	\$87,900.00	Altier Brothers
Washington #4	5	\$326,500.00	Altier Brothers
Lake #1	2	\$137,680.00	Ron Gibson
Summit #1	5	\$377,196.40	Plants & Goodwin, Inc.
Emergency Mitigation ²	n/a	\$10,520.00	Multiple
Sandusky #1	2	\$143,642.00	Keystone Wireline
Sandusky #2	2	\$213,710.20	Keystone Wireline
Lake #3 Change Orders ³	n/a	\$78,945.00	Keystone Wireline
Noble #1	2	\$164,472.00	Keystone Wireline
Noble #2	1	\$122,124.00	Keystone Wireline
Washington #5	1	\$77,975.00	Keystone Wireline
UPC NE ¹	n/a	\$200,000.00	Second Oil
UPC NW ¹	n/a	\$200,000.00	Second Oil
UPC SE ¹	n/a	\$200,000.00	MH Oilfield
Wyandot #1	1	\$59,930.00	Huwer Drilling
Ottawa #1	9	\$251,246.76	Second Oil
Seneca #1	2	\$133,549.25	Second Oil
Seneca #2	6	\$226,036.44	Second Oil
Meigs #1 Change Orders ³	n/a	\$81,200.22	MH Oilfield
Portage #1 Change Orders ³	n/a	\$135,927.00	Gonzoil
Total	53	\$3,863,961.27	

¹ The Division encumbered \$600,000 in three (3) regional Unit Price Contracts (UPC) in which the Division utilized contractors to complete exploratory work to better evaluate equipment, materials and conditions of orphan wells.

A unit price contract is a type of contract based on estimated quantities of items and unit prices (rates: hourly rates, rate per unit work volume, etc.). In general, the contractor's overhead and profit is included in the rate. The final price of the project is depending on the total quantities needed to carry out and complete the work.

² The Division encumbered \$10,520.00 to mitigate environmental contamination associated with two orphan wells.

³ The Division encumbered \$296,072.22 to accommodate Change Orders associated with projects encumbered during fiscal year 2018. The Meigs #1, Lake #3, and Portage #1 projects include 3 wells per project. Actual plugging of these wells occurred during this reporting period. Each project experienced at least one well in which unanticipated circumstances were encountered during plugging of the wells. Examples include additional casings being found in the wellbores or annular gas being encountered due to casing failure of an offsite producing well. These circumstances required the encumbrance of the additional funds during this reporting period. Due to these wells being encumbered in a previous fiscal year, they do not increase the number of wells in Table 1. However, their plugging is included in Table 3, Wells Plugged Calendar Year 2018 Quarter 3 & 4.

Notable Projects

The following paragraphs provide a brief description of several notable projects addressed by the Division's Orphan Well Program to illustrate the diversity of projects addressed in the previous year. Each paragraph lists the project name, the number wells in the project, the amount of money encumbered, and a synopsis of the project. Additional information related to each project encumbered during the reporting period can be found on the Division's website at <http://oilandgas.ohiodnr.gov/regulatory-sections/orphan-well-program/scope-of-work>.

Project: Hocking #1

Well Count: 3

Encumbrance Total: \$313,944.00

The Hocking #1 project addresses three orphan wells: the KLC #1, KLC #2 and R. Green #1. The KLC #1 and KLC #2 are located in the creek bed of Queer Creek, an Exceptional Cold-Water Habitat/Warm Water Habitat stream. A permit from the Army Corps of Engineers was required to access the wells. The KLC #1 well has no records and is estimated to be 2,300 feet in depth to the Clinton Sandstone. The KLC #2 well has no records and is estimated to be 2,300 feet in depth to the Clinton Sandstone. The R. Green #1 well has no records and is believed to be a lost hole at an estimated depth of 320 feet. Had the well been completed it would have extended to the Clinton Sandstone at an estimated at a depth of 2,100 feet.

Project: Washington #2

Well Count: 9

Encumbrance Total: \$198,170.00

The Washington #2 project includes the plugging of nine orphan wells of varying age and depth. Notably, several wells in the project are within 100-year floodplains and three wells required two permits from the Army Corps of Engineers to access.

Project: Washington #4

Well Count: 5

Encumbrance Total: \$326,500.00

The Washington #4 project addresses five orphan wells. The Cook #1 is located in the creek bed of Archer's Fork Creek, 120 feet from the Wayne National Forest, and required an Army Corps of Engineers permit. Additional wells in the package are located near homes and in agricultural fields and resolve complaints referred to the Division.

Project: Lake #1

Well Count: 2

Encumbrance Total: \$137,680.00

The first well in the Lake #1 package is the Lakeshore #1, located in a backyard, approximately 30 feet from the Lake Erie shoreline. There are no known records for the Lakeshore #1. The project also includes the C.E.I #1 located 70 feet from Lake Erie on the side of a 25-degree slope and is approximately twenty feet from the top of the embankment. The C.E.I #1 is located directly adjacent to the Perry Nuclear Plant. Mobilization of equipment to the C.E.I. #1 requires access through the nuclear plant's secure areas. Special security clearances are required.

Project: Summit #1

Well Count: 5

Encumbrance Total: \$377,196.40

The Summit #1 package addresses five orphan wells located in Boston Township, Summit County. The Cabbage #3 is located on a private, residential parcel and was drilled in 1950 to a depth of 2,005 feet. The Bender #3 and Bender #4 are located on a parcel owned by Metro Parks Serving Summit County and were drilled in 1949 to depths of 2,032 feet and 2,040 feet, respectively. The Summit Metro Park #3 is located in a heavily wooded area on a parcel owned by the Metro Parks Serving Summit County and has no records. The Bigelow #2 is located on Metro Parks Serving Summit County property and was drilled in 1951 to a depth of 2,082 feet. Access to each well in this package requires clearing of potential roost trees of the Indiana bat during dates approved by the US Fish and Wildlife Services and a permit from the Army Corps of Engineers to access the Bigelow #2.

Project: Sandusky #2

Well Count: 2

Encumbrance Total: \$213,710.20

The Sandusky #2 project includes the Black Swamp Holdings, LLC. #1 and #2 wells. Both wells are believed to have been drilled between 1900 and 1930 to the Trenton Formation at a depth of approximately 1,500 feet. No historical records are available for either well. The Black Swamp Holdings, LLC. #2 is located three feet inside the west bank of Sugar Creek, which flows approximately 7.25 miles to the Portage River. The well is visibly leaking oil. This project required a permit from the Army Corps of Engineers.

Project: Noble #2

Well Count: 1

Encumbrance Total: \$122,124.00

The Noble #2 project included the plugging of the Smith, Love, et al #1 well, drilled between 1930 and 1950 to a depth of approximately 1500 feet into the Berea Sandstone. The well is located under a newly constructed high-voltage powerline owned by American Electric Power, which was energized on December 14, 2018 and was put in place due to a proposed natural gas generating power plant. Plugging of the well was prioritized and expedited for safety and economic considerations

Project: Wyandot #1

Well Count: 1

Encumbrance Total: \$59,930.00

The Wyandot #1 project includes the plugging of the Heck Paul Et Al #2, located on a parcel under development for a new medical center near the Village of Carey. This well is located within the Five-Year Time of Travel for the Source Water Protection Area for the Village of Carey. The well was completed in 1963 to a total depth of 1394, with a record of production of sour gas.

Project: UPC #1

Well Count: n/a

Encumbrance Total: \$600,000.00

The Unit Price Contract (UPC) was established to provide the Division with contractors by region who could respond to orphan wells to complete emergency mitigations along with exploratory work to better evaluate the equipment, materials, and conditions of the well prior to completing the Scope of Work and plugging of the wells. This contract was established in October 2018, has a current expiration date of one year, but can be extended if funds remain available on the contract. The Division executed 12 Work Orders during the reporting period to explore wells on the fiscal year's Orphan Well Project Schedule. Examples of this work include excavating to expose casings, removing contaminated soils, extending casing, installing swages and valves, and installing temporary vaults and vents. The Division executed one Work Order during the reporting period to mitigate an emergency circumstance in which the main building at the Fairport Harbor Exempted Village School District was experiencing methane gas in the building due to a known orphan well located beneath the building. The Division contractor was able to respond during Christmas break and modify the existing vault and vent system to relieve gas from the school. The Division intends to work with the school to plug the well upon planned demolition of the school in the future.

Orphan Well Program Costs

For the Calendar Year 2018, the Division incurred the costs shown below in Table 2 associated with the Orphan Well Program. The table lists a description of each cost, the amount of money encumbered for a cost, and the expenditure total for a cost.

Table 2: Summary of Costs for Quarter 3 and Quarter 4 Calendar Year 2018

Description of the Costs	Encumbered Total ²	Expenditure Total ²
Plugging	\$3,863,961.27	\$2,255,198.06
Title Work	\$11,502.10	\$21,728.89
Public Notice	\$33,603.03	\$31,777.23
Environmental Service Contract(s)	\$4,041.84	\$846.81
Indirect Costs ¹	\$983,338.78	\$983,338.78
<i>Total</i>	\$4,896,447.02	3,292,889.77

¹ The funds allocated to the Orphan Well Program (ALI 725677) each fiscal year are based on thirty percent of the revenue credited to the oil and gas well fund during the previous fiscal year (RC1509.071(B)(1)).

Indirect Costs are not expensed from the Orphan Well Program (ALI 725677). All Wage & Fringe, General Operating, & Equipment expenses are taken out of the General Operating Budget for the Division (ALI 725643).

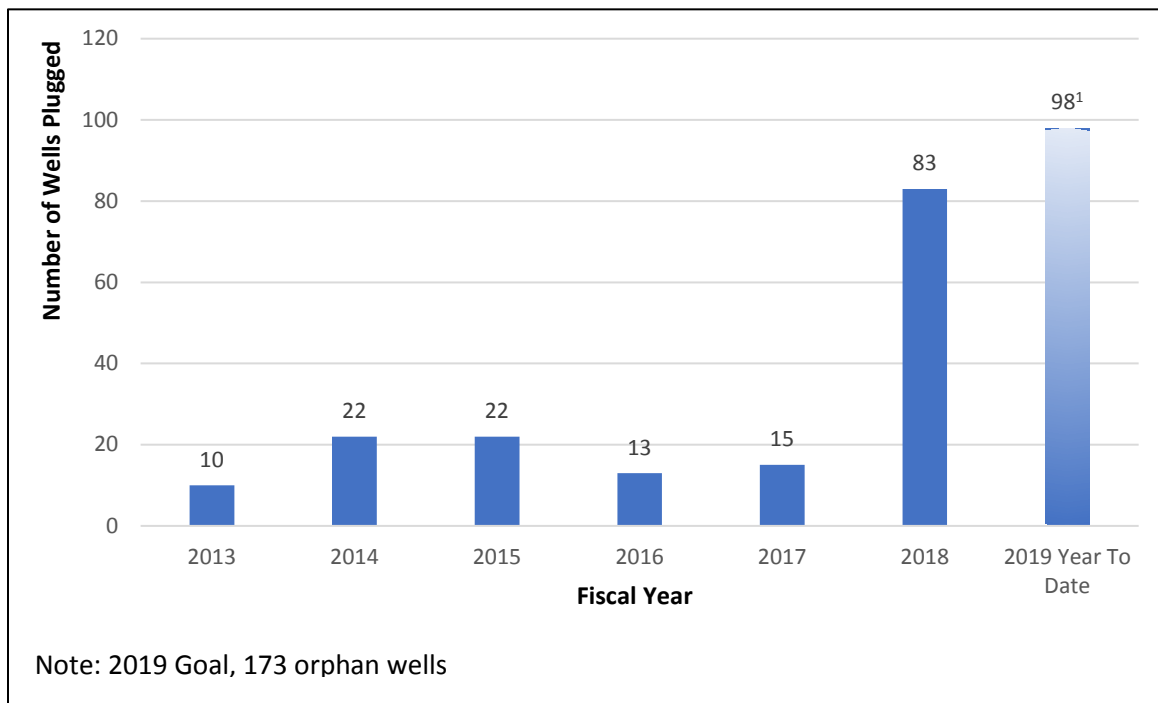
- a. Wage & Fringe – there were 3 pay periods in July and 3 pay periods in December (all other periods had 2)
- b. General Operating – expenses include items such as office supplies, certified mailings, postage, phones, copy meter usage, janitorial services, Voyager fuel and non-fuel, business cards, soil analysis, OIT charges, field supplies & equipment, FR gear, training/conference registration fees, travel, etc.

² Orphan Well Program Contracts typically have a 6 month or 1 year completion period to allow contractors to complete the encumbered projects. Orphan Well Program Contractors are saturated with contracts and many times do not complete this work within the allotted contract timeframe. The Division regularly extends contract completion deadlines to allow for project completion. This factor along with the continued growth of the Orphan Well Program creates a lag in the Encumbered Totals versus Expenditure Totals. Expenditures from each quarter are typically resultant of a combination of projects encumbered both this quarter and previous quarters.

Orphan Well Program Growth

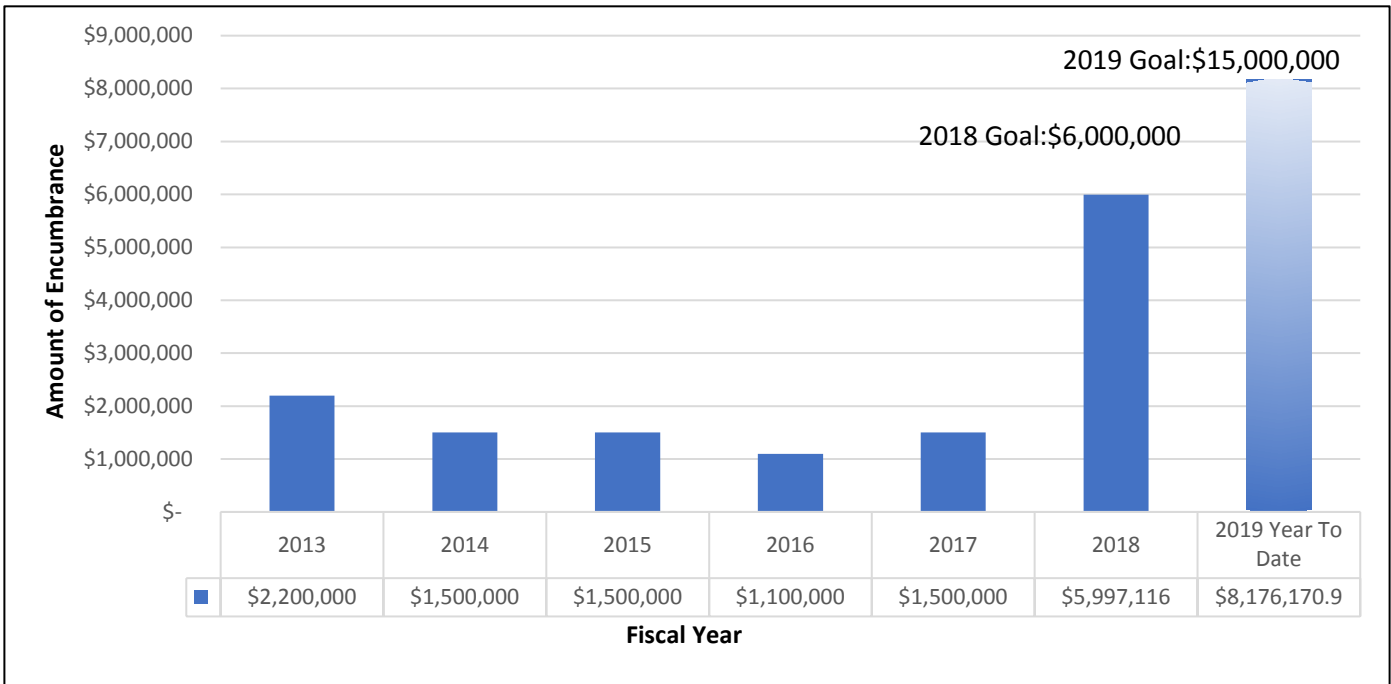
All of the data presented above is based on the H.B. 225 required TAC reporting that includes Calendar Quarter 3 and Calendar Quarter 4 for 2018. To illustrate the overall growth of the Division’s Orphan Well Program, prior and current program expenditure data is provided below. **Please note that all figures shown represent fiscal year encumbrances and do not include indirect costs.** “To date” amounts listed are current as of 3/21/2019 fiscal years for the Division begin on July 1 each year.

Figure 1. Orphan Wells Plugged.



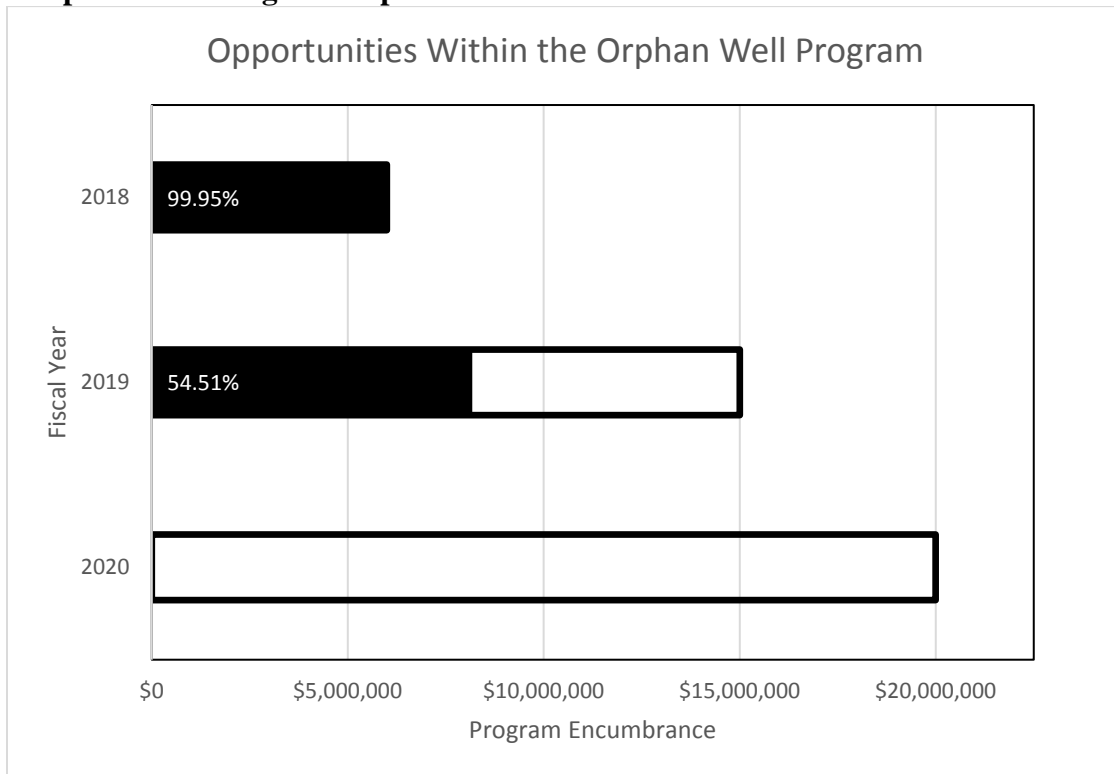
¹ Fiscal Year 2019: Combination of Orphan Wells plugged and contracts awarded for wells to be plugged

Figure 2. Orphan Well Program Encumbrance¹



¹ All years on the figure represent the money that was encumbered in that year. To illustrate the growth of the program the amount of expenditure was not included because of the delay between contract execution and project completion.

Figure 3. Orphan Well Program Expenditure



Contractor Participation

With the passing of H.B. 225 The Orphan Well Program has seen significant growth. The program has been able to achieve a very identifiable growth over the last two years and is forecasted to continue this trend in the future. One significant challenge faced by the program in the future is contractor participation. The Division has established a Multiple Award Contract with the Department of Administrative Services to identify and qualify interested contractors. The Division has completed multiple outreaches at Division held meeting and industry meetings to create interest. Each of the thirty-four qualified contractors receive notice of each project that is offered, giving them the opportunity to submit a competitive bid. Each project cost is reflective of the lowest responsive and responsible bid as submitted by the qualified contractors.

The Division is in the process of qualifying an additional nine contractors. During the reporting period the Division has only received bids from 13 contractors with the average project receiving less than four bids and some projects receiving as low as one bid. The Division continues to work with the industry to increase interest from the current contractors in order to complete these challenging projects and continue to grow the program.

Idle and Orphaned Well Inventory

As shown in Table 3 below, the inventory of idle and orphaned wells is 766¹ for Calendar Year 2018². Table 3 lists each county, the number of orphan wells in a county in calendar year 2017 and 2018, the number of wells added in calendar quarters three and four, the number of wells plugged in quarters three and four, and the number of wells approved for plugging in quarters three and four.

Table 3: Idle and Orphaned Well Inventory for Calendar Year 2018

County	Well Count 2017	Well Count 2018	Wells Added Calendar Year 2018 Q3 & Q4	Wells Plugged Calendar Year 2018 Q3 & Q4	Wells Approved for Plugging Calendar Year 2018 Q3 & Q4
Adams	0	0	0	0	0
Allen	13	13	0	0	0
Ashland	32	32	0	0	0
Ashtabula	23	22	0	1	0
Athens	7	11	5	1	0
Auglaize	6	6	0	0	0
Belmont	0	0	0	0	0
Brown	0	0	0	0	0
Butler	0	0	0	0	0
Carroll	6	4	2	4	0
Champaign	0	0	0	0	0
Clark	1	2	1	0	0
Clermont	0	0	0	0	0
Clinton	0	0	0	0	0
Columbiana	0	2	2	0	0
Coshocton	7	7	0	0	0
Crawford	0	0	0	0	0
Cuyahoga	54	60	7	1	0
Darke	9	9	0	0	0
Defiance	2	2	0	0	0
Delaware	0	0	0	0	0
Erie	4	4	0	0	0
Fairfield	3	4	1	0	0
Fayette	0	0	0	0	0
Franklin	1	1	0	0	0
Fulton	6	6	0	0	0
Gallia	1	4	3	0	0
Geauga	5	5	0	0	0
Greene	0	0	0	0	0
Guernsey	8	8	0	0	0
Hamilton	0	0	0	0	0
Hancock	43	55	12	0	0
Hardin	3	3	0	0	0

Harrison	1	1	0	0	0
Henry	0	0	0	0	0
County	Well Count 2017	Well Count 2018	Wells Added Calendar Year 2018 Q3 & Q4	Wells Plugged Calendar Year 2018 Q3 & Q4	Wells Approved for Plugging Calendar Year 2018 Q3 & Q4
Highland	0	0	0	0	0
Hocking	6	7	1	0	3
Holmes	36	36	0	0	0
Huron	8	8	0	0	0
Jackson	5	5	0	0	0
Jefferson	2	2	0	0	0
Knox	13	14	1	0	0
Lake	17	14	1	4	3
Lawrence	3	3	0	0	0
Licking	13	17	4	0	0
Logan	0	0	0	0	0
Lorain	42	43	3	2	0
Lucas	1	1	0	0	0
Madison	0	0	0	0	0
Mahoning	12	12	0	0	0
Marion	0	0	0	0	0
Medina	40	43	3	0	0
Meigs	5	2	0	3	0
Mercer	20	20	0	0	0
Miami	1	1	0	0	0
Monroe	7	8	1	0	0
Montgomery	0	0	0	0	0
Morgan	10	10	0	0	0
Morrow	8	3	0	5	0
Muskingum	1	4	3	0	0
Noble	16	17	2	1	3
Ottawa	10	10	0	0	9
Paulding	0	0	0	0	0
Perry	7	7	0	0	0
Pickaway	0	0	0	0	0
Pike	2	2	0	0	0
Portage	4	2	0	2	0
Preble	0	0	0	0	0
Putnam	1	1	0	0	0
Richland	3	3	0	0	0
Ross	0	0	0	0	0

Sandusky	17	17	0	0	4
Scioto	0	0	0	0	0
County	Well Count 2017	Well Count 2018	Wells Added Calendar Year 2018 Q3 & Q4	Wells Plugged Calendar Year 2018 Q3 & Q4	Wells Approved for Plugging Calendar Year 2018 Q3 & Q4
Seneca	27	27	0	0	8
Shelby	0	0	0	0	0
Stark	3	3	0	0	0
Summit	11	11	0	0	5
Trumbull	1	1	0	0	0
Tuscarawas	2	2	0	0	0
Union	0	0	0	0	0
Van Wert	5	5	0	0	0
Vinton	3	3	0	0	0
Warren	0	0	0	0	0
Washington	54	50	6	10	17
Wayne	7	7	0	0	0
Williams	0	0	0	0	0
Wood	80	74	0	6	0
Wyandot	10	10	0	0	1
Totals	748	766	58	40	53

¹ Methodology: RBDMS Status of “Orphan Ready” and “Orphan Pending”

² Calendar Year 2018 data reports from 7/1/18-12/31/18 per enactment of H.B.225 on 9/28/18



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