# The PIOGA Press

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## Producers seek solutions to legacy well issues

One of the issues vexing conventional and unconventional oil and gas well operators, along with state regulators, is well plugging. The Department of Environmental Protection is concerned about possibly hundreds of thousands of old wells—some dating back to the industry's beginnings more than 150 years ago—and how to pay to plug those wells causing public safety or environmental problems, let alone all of them. Operators are upset about what they consider unrealistic and inconsistent plugging requirements that result in exorbitant costs, as well as confusing and conflicting directives. They also disagree with DEP's produce-or-plug policy for many mechanically sound wells that are inactive due to poor market conditions.

PIOGA, along with the Pennsylvania Grade Crude Oil Coalition and the Pennsylvania Independent Petroleum Producers, hosted a producers' workshop on February 27 at Clarion University to share insights and experiences and to try come to a consensus about addressing plugging and other legacy well issues as part of a dialogue that has already begun with DEP. More than 80 people attended the session, in which PIOGA President and Executive Director Dan Weaver facilitated much of the day's discussions.

The nearly 5-hour-long workshop began with four presentations:

• Dave Ochs of the Kriebel Companies explained the function of the Pennsylvania Grade Crude Development Advisory Council (CDAC) and its Legacy/Well Plugging Committee. He noted there are more than 8,000 wells in DEP's Orphan and Abandoned Well database, and studies suggest at least 200,000 additional legacy wells have yet to be identified. DEP's plugging program is underfunded and as a result primarily is aimed at addressing

*Continues on page 3*


*Dave Ochs of Kriebel Companies describes what the Pennsylvania Grade Crude Development Council is doing to address well-plugging issues across the Commonwealth.*

## Legacy wells *Continued from page 1*

wells that are immediate threats to public safety.

Ochs provided information on funding for plugging projects under the Act 13 Marcellus Legacy Fund, as well as other concepts under discussion by CDAC that would require legislative action or regulatory, such as permit fee credits for plugging wells and compliance resolution via well plugging. CDAC also is exploring new technologies, techniques and materials to make plugging more affordable.

• A PIOGA member operator reported on research that he has been conducting that addresses abandoned wells and just what threat they might pose to the environment. Databases maintained by DEP and the Department of Conservation and Natural Resources put the number of conventional wells at 202,000 and 161,000, respectively, while a 2016 study estimates between 360,000 and 760,000 oil and gas wells have been drilled in Pennsylvania since the inception of the industry. Estimated plugging costs for the projected well numbers could cost between $3 billion and $9 billion.

In addition, a summary was provided on the different ways abandoned wells can impact water and air resources, arguing that all abandoned wells do not have the same risk of future pollution. Most unplugged wells are loaded with fluid, unable to flow, minimizing safety and environmental risk. Recommendations included partnering with industry to locate abandoned wells actively causing pollution; educating the public about the nature and risk of abandoned wells; and considering practical approaches to simplifying plugging regulations.

• Another PIOGA member operator provided an overview of his company's experiences regarding a DEP consent order agreement negotiations to plug wells, which created significant discussion and feedback from the audience.

• Arthur Stewart of Cameron Energy Company, who also serves as CDAC chairman, explained the council serves to screen new regulations and also to advocate for new ideas to help the conventional industry. CDAC is trying to foster a new relationship with DEP, to convince them that a robust conventional industry is a benefit to the department and the Commonwealth. There is a thawing of the relationship, he indicated.

Stewart described his company's experience with voluntarily cleaning up and plugging a problem abandoned well and said CDAC issued a call to action taken up by all three trade associations entitled "Get Caught Doing Good" as an extension of volunteer efforts to address problem wells *(January PIOGA Press, page 4).* CDAC also is involved in drafting legislation updating the Oil and Gas Act for conventional operations and will likely proactively engage with DEP on future Chapter 78 rulemaking.

### Producer issues and next steps

The balance of the workshop was taken up with cataloging producer concerns on plugging-related issues such as road-building requirements, achieving attainable bottom in plugging efforts, alternate plugging methods, modification of inactive well status and obligation to pull well casing during plugging efforts, among others. The group will continue to refine these topics and gather again in the April/May timeframe for further discussions and strategizing.

In the meantime, many of these issues will be addressed during PIOGA's March 21 Spring Meeting in Pittsburgh, and we encourage conventional and unconventional operators to review the agenda and take part in the event.

If you are a producer member of PIOGA interested in becoming a part of this initiative, please contact Deana McMahan at deana@pioga.org to be placed on the notification list. ■

# DEP proposes 250% permit fee increase for unconventional wells

The Department of Environmental Protection is proposing an increase in the permit fee for unconventional wells to $12,500, arguing that the current fee of $5,000 is not bringing in enough revenue for the Office of Oil and Gas Management to meet an increased workload and without more money the department may have to furlough 70 staff.

DEP is not seeking a change in the sliding-scale fee for conventional wells, which ranges from $250 to $1,950 depending on well bore length.

The Office of Oil and Gas Management receives no appropriations from the state's general fund. Instead, the program is funded entirely by permit fees, fines and penalties, and $6 million from the Act 13 unconventional well impact fee. Under Chapter 78/78a, every three years DEP is to provide the Environmental Quality Board with an evaluation of well permit fees to ensure they bear "a reasonable relationship to the cost of administering" the mandates of the Oil and Gas Act.

For nearly a quarter-century, the fee remained $100. In 2009, in response to the boom in unconventional gas drilling, a fee structure based on well bore length was established. The average permit for an unconventional well cost $3,200 under that system. The next change was finalized in 2014, setting the current fee of $5,000 for horizontal unconventional wells and $4,200 for vertical unconventional wells.

In an analysis to be presented this month to the EQB, DEP stated that although permitting and drilling numbers have declined since the latest permit fee change, and permit fee revenue dropped as well, the department's workload has increased. Moreover, DEP argues that the drilling of a well sets in motion a host of activities and support facilities—ranging from access roads to water impoundments—that require their own authorizations and inspections, not to mention ongoing inspections throughout the life of the well. "The initial permit fee provides no ongoing revenue to the Oil and Gas Program for work conducted in future years," the analysis states.

Over the past three years, DEP reduced the program's operating costs by 39 percent and implemented a number of cost-saving measures, but personnel represent 90 percent of operating costs. "These personnel are necessary to review permit applications and inspect facilities, in service to the oil and gas industry and the health and safety of Pennsylvania's citizens," the analysis says.

The report concludes: "Given the low number of permits received over the past two fiscal years and all indications that permit volumes are not expected to rebound in the near term, the current well permit fee is no longer sufficient to fund DEP's Oil and Gas Program; even with substantial cost-saving measures that have been implemented.... While revenues are declining, the Oil and Gas Program's responsibility to inspect and monitor existing wells continues to increase as the inventory of active oil and gas wells grows in addition to the other workload requirements and policy initiatives."

DEP intends to present a final rule at the May meeting of the EQB, setting in motion the rulemaking and public-comment process. The last well permit fee increase regulation took 14 months to finalize. Many in industry object to the size of the proposed increase, so it's uncertain how long the process may take this time or what the outcome may be. ■

**Meeting with EPA Secretary Pruitt**


Several PIOGA members and staff participated earlier this month in the Independent Petroleum Association of America annual Congressional Call Up in Washington, D.C., and they also had the opportunity to meet with Environmental Protection Agency Secretary Scott Pruitt. Ben Wallace of Penneco Oil Company (shown here) and Shane Kriebel of Kriebel Companies were able to ask questions of the secretary. Pruitt emphasized that industry must be good stewards, that use of resources and environmental protection go hand in hand. Watch for a full report of the IPAA Call Up next issue.

Join us for PIOGA's

# 2018 Spring Meeting

## "We Are All In"

A new year brings new opportunities for growth in our industry. It's time to go all in! As commodity prices, rig counts, and well permits continue to trend upward, and as much-needed pipeline projects are beginning to come to fruition, many are feeling the impacts of this new growth and renewal of the industry.

Join us at our 2018 Spring Meeting on March 21 at Rivers Casino on Pittsburgh's North Shore to gain the knowledge you need to succeed in these changing times for the oil and natural gas industry. We are excited to present an array of distinguished speakers on topics such as economics, regulatory and legislative matters, industry opportunities, and more. We will have our exclusive Exhibitors' Row again, and as always there will be plenty of time for networking. Make plans to attend today!

## Wednesday, March 21
## Rivers Casino, Pittsburgh

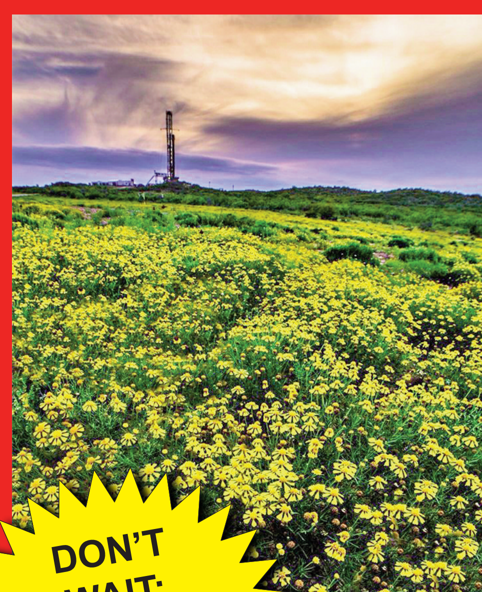
**Registration: 8 a.m.**

**Program: 9:15 a.m. - 5:15 p.m.**

**Networking Reception & Casino Time: 5:15 - 7 p.m.**

### Speakers & Topics

- **Forge the Future Initiative,** Morgan O'Brien, Peoples Natural Gas
- **Appalachian Basin Energy Forecasting and Economic Outlook,** Mason Ender, BTU Analytics
- **Underground Injection Program in Pennsylvania,** David Rectenwald, U.S. Environmental Protection Agency
- **Inconvenient Facts,** Gregory Wrighstone, Geologist and Author
- **Keynote Luncheon Address — Steven Winberg, Assistant Secretary for Fossil Energy, U.S. Department of Energy**
- **Legacy Wells Overview and Management,** Dr. Terry Engelder, Professor Emeritus, Penn State University; and Lindsay Byron and Harry Wise, PA Department of Environmental Protection
- **Where the Leasehold Ends...Legal Issues with the Held By Production (HBP) Lease,** Britt Freund,Steptoe and Johnson, PLLC
- **Burner Tip Opportunities, Expanding Midstream Panel:** Erika Young, Enbridge; Brandon Martin, Dominion Energy Transmission, Inc.; Keefe Long, UGI Energy Services, Inc.
- **Pennsylvania Legislative Update,** PA House Speaker Mike Turzai



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# Coming April 26: Water and waste management training

PIOGA® Pennsylvania Independent Oil & Gas Association **PIOGATech** PIOGA's Technical Seminar Series

The next opportunity to take part in PIOGA's Technical Seminar Series comes on April 26 when the Environmental Committee offers training in management of water, wastewater and solids in both the conventional and unconventional oil and gas industry.

The PIOGATech event takes place from 9 a.m. to 3:30 p.m. at the Aquatech International Corporation offices in Canonsburg and is being held in conjunction with event partners Aquatech, Fluid Recovery Services, Babst Calland and TD Connections.

Requirements for management of water and solid waste are changing in the oil and gas industry. Whether it is drill cuttings or produced water, all waste streams have approved and proven processes. Attend this PIOGATech and hear from oil and gas industry experts to learn about the techniques for management of water and waste from the well site. Obtain a comprehensive overview of industry protocols for documenting, transporting, treating, recycling, reusing, processing and disposing of wastes.

The class will cover the following topics:

- Water management trends and industry practices
- Water treatment and disposal technologies and services associated with oil and gas exploration and production
- Current requirements and best management practices
- Solid waste management
- Regulatory framework and legal review
- Operator panel

For the full agenda and registration, visit the PIOGA Events section at www.pioga.org. The registration deadline is April 20. ■


*If you are headed east on the Pennsylvania Turnpike near the New Stanton exit, keep an eye out for this billboard. Clicking on the billboard image on our homepage opens a printable document that helps to educate about the importance of natural gas in everyone's lives and the positive impacts to the economy and the air we all breathe. We encourage you to share the information with friends, family and associates.*

## First PIOGA PoWER webinar set for March 29


*Jennifer Vieweg*

The PIOGA Board of Directors is pleased to announce PIOGA PoWER, a series of interactive presentations focused on providing tools, tips, and discussions for betterment and personal growth.

The PIOGA Women's Energy Roundtable (PoWER) series was launched in June 2017. Last year through face to face meetings, we offered up professional and motivational topics that spoke to our members on the challenges of owning your own business, how to avoid burnout, and interactions where unconscious bias influences judgment and actions.

Recognizing everyone's busy schedules we have added remote webinars to the lineup. As a member benefit, PIOGA is hosting this roundtable series on a quarterly basis throughout 2018 and decided to incorporate lunchtime webinars as a way for our members to gain knowledge of a subject or skill while at their desks. At other times throughout the year, we will pair a topic with an already scheduled PIOGA event such as the Fall Octoberfest.

Kicking us off on March 29, Jennifer Vieweg, corporate affairs manager for Greylock Energy, will present "Letting Go of Control and Embracing Chaos." Registration is free, but open only to PIOGA members. Check the Events or Members Only sections of the website.

Grab last night's leftovers or today's ham sandwich and join us via your desk. ■

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# Developments to watch: Shale Appalachian Basin


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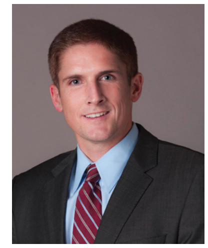

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Driven by demand growth in the industrial and electric generation sectors as well as expanding pipeline and liquefied natural gas export volumes, U.S. natural gas consumption is expected to reach record levels this year. However, production also is forecast to soar to new heights, partly as a result of increasing associated natural gas production in tight oil resource plays.

According to U.S. Energy Information Administration projections, dry natural gas production will increase by 6.7 Bcf a day in 2018, outpacing estimated year-over-year demand growth. Expecting surging supplies to likely translate into relatively low dry natural gas prices for some time, Appalachian Basin natural gas producers continue to work to reduce costs and improve efficiency, while taking advantage of attractive opportunities.

From a business perspective, oil field services remain a primary point of focus for Marcellus and Utica operators in their efforts to reduce costs and improve efficiency, with service providers delivering innovative products to make more productive wells at a lower cost per unit of production. Furthermore, shale gas producers remain focused on consolidating their activities geographically, including selling noncore assets to smaller (often largely debt-financed) operators looking for particular assets less attractive to larger operators (including shallow oil and, in certain circumstances, liquids from shale).

Consolidation continues apace in the shallow conventional natural gas production industry as well. Apart from joint ventures, acreage swaps and other traditional transactions, shale gas producers in the Appalachian region are also pursuing more novel operational strategies to reduce costs and increase profits despite relatively steady natural gas prices. These strategies include new makeup water delivery systems, pad sharing, colocation of facilities and other efforts to reduce duplication of operational outlay.

At the same time, there continue to be significant legal developments in the courts and governmental agencies regarding environmental regulations of the industry. The changing regulatory landscape potentially not only impacts drilling, completion and production activity, but also the development of the midstream and transportation infrastructure that is critical to Appalachian producers' ability to market their gas production.

## Landmark court ruling

In a landmark June 2017 decision, the Pennsylvania Supreme Court rejected a long-standing test for analyzing claims brought under the Environmental Rights Amendment (ERA) of the Pennsylvania Constitution (Article I, Section 27).

In *Pennsylvania Environmental Defense Foundation v. Commonwealth*, 161 A.3d 911 (Pa. 2017) *(PEDF)*, the Pennsylvania Supreme Court set aside the test from *Payne v. Kassab* that had been used since 1973, and held that the commonwealth's oil and gas rights are "public natural resources" under the ERA and that any revenues derived from the sale of those resources must be held in trust and may only be expended to conserve and maintain public natural resources. Essentially, the court replaced a test that had been used for more than 40 years regarding constitutional challenges arising under the ERA with a standard based on the text of the ERA and underlying principles of Pennsylvania trust law.

The court's decision in *PEDF* dealt with governmental owned assets, but did not provide a definitive test regarding how the ERA is to be applied in the permitting context. The Environmental Hearing Board subsequently issued two opinions involving the ERA as it applies to environmental permits that examine the record to evaluate whether the Department of Environmental Protection considered the actual or potential adverse effects of the permitted activity on public the environment.

The *PEDF* case will have significant implications for natural gas exploration and production and pipeline construction in Pennsylvania for the foreseeable future.

## Emissions rules

In November 2017, DEP announced the details of highly anticipated changes to its air permitting program for the oil and gas industry. DEP released in final draft form two air program general permits: GP-5 and GP-5A, as well as a permit exemption known as Exemption 38.

Plans to revise the air permitting framework were first announced in January 2016 as part of Governor Tom Wolf's Methane Reduction Strategy for Pennsylvania.

The recently updated permits and exemption are not yet in effect or legally binding. DEP intends to finalize the permits and exemption in the first quarter of 2018. Also under discussion is a forthcoming rulemaking to reduce volatile organic compound emissions from existing oil and gas industry sources. DEP has until October 2018 to submit regulations to the U.S. Environmental Protection Agency for approval to meet EPA's 2016 "control techniques guidelines" that recommend reductions of VOC emissions from equipment and processes used by the oil and gas industry. DEP also is proposing to increase air permit and program fees to address a funding deficit, which is likely to increase the cost of air permitting in the commonwealth.

Government agencies that review energy projects may take a harder look at anticipated greenhouse gas emissions following recent federal court decisions that call for a broader scope of environmental review. In one case from August 2017, a panel of the U.S. Court of Appeals for the District of Columbia circuit vacated a decision by the Federal Energy Regulatory Commission to approve a major interstate pipeline project, holding that FERC did not adequately consider greenhouse gas emissions emitted by burning the natural gas in downstream power plants. In *Sierra Club v. FERC*, 867 F.3d 1357 (D.C. Cir. 2017), the D.C. circuit faulted FERC's failure to consider, under the National Environmental Policy Act, what the agency referred to as "speculative analyses" concerning the "relationship between the proposed project and upstream development or downstream end-use."

The court held that FERC should have either quantified the downstream greenhouse emissions that will result from burning the natural gas being carried by the pipelines, or explained in more detail why it could not be done. This case and others like it present the challenge regarding the question as to what extent climate change should be incorporated into environmental reviews for energy sector projects.

**Environmental regulations**

The Marcellus Shale Coalition's challenge to DEP's unconventional gas environmental regulations of 2016 (Chapter 78a) is still pending before the Commonwealth Court (*MSC v. DEP and Environmental Quality Board*, Dkt. No. 573 M.D. 2016). A hearing may be held this summer.

In Ohio, the Ohio Division of Oil & Gas Resources plans to develop draft rules on well spacing, and on oil and gas waste management facilities. The agency is evaluating whether to revise existing well spacing minimum acreage requirements for conventional wells to establish new setback distances for a new horizontal shale well from drilling unit boundaries and other horizontal wells.

For oil and gas waste management facilities, the agency is considering new rules for permitting and operating a facility that stores, recycles, treats, and/or processes brine and other waste associated with oil and gas exploration and production operations, but that is not part of otherwise permitted well operations. These facilities are currently granted temporary authorization by an administrative order.

**Local government regulation**

The parameters of local government regulation of the oil and gas industry in Pennsylvania continue to be refined and left uncertain by the ongoing judicial fallout from the Pennsylvania Supreme Court's 2013 decision in *Robinson Township v. Commonwealth,* 83 A.3d 901 (2013). In *Robinson Township*, the Supreme Court invalidated two sections of Pennsylvania's updated Oil & Gas Act (Act 13) that limited the authority of local governments to regulate oil and gas operations. The three-justice plurality decision was based on a reinvigorated interpretation and application of the ERA.

In September 2016, the Supreme Court ruled that the portions of Act 13 giving the Pennsylvania Public Utility Commission and the Commonwealth Court jurisdiction to review local zoning ordinances, withhold impact fee payments and award attorneys' fees against municipalities were not "severable" from the previously invalidated sections of Act 13, and therefore also were invalid. The implications of *Robinson Township* in the municipal regulatory arena are currently being considered by the Supreme Court.

In *Gorsline v. Board of Supervisors of Fairfield Township,* 123 A.3d 1142 (Pa. Commw. Ct. 2015), *petition for allowance of appeal granted,* 139 A.3d 178 (Pa. 2016), the Commonwealth Court upheld a township's conditional use approval for an oil and gas well in a residential agriculture (RA) district pursuant to a zoning ordinance's "savings" or "catch-all" provision. In doing so, the court found that the proposed well was similar to and compatible with other uses permitted in that district, and it rejected *Robinson Township*-ERA based arguments to the contrary. Although there is no appeal by right, the Supreme Court agreed to take the case. The court heard oral argument in March and a decision is still pending.

While the issues on appeal in *Gorsline* include case-specific questions concerning the ordinance language and applicable facts, of significance is the Supreme Court's consideration of whether permitting a shale gas well in a RA district conflicts with *Robinson Township.* In particular, the question posed is whether natural gas development is an industrial activity that can be permitted only in industrial zoning districts, and therefore, is *per se* incompatible with agricultural and residential activities.

Although the court's decision in *Robinson Township* was viewed as a victory for those advocating local control of oil and gas operations, industry opponents quickly sought to use that plurality decision as a sword to attack the validity of local ordinances permitting industry activity. They argue that these local ordinances violate the ERA because they do not regulate oil and gas development stringently enough, that ordinances can-

not permit oil and gas uses in agricultural or residential districts, and that municipalities must engage in extensive environmental assessments when enacting regulations.

These *Robinson Township* arguments are now being supplemented with references to the Supreme Court's previously discussed 2017 decision in *PEDF*. To date, zoning hearing boards in a number of municipalities have consistently rejected these types of challenges, as have several county common pleas courts. In June 2017, the Commonwealth Court, in an unpublished opinion, affirmed the validity of one of the challenged ordinances in *Delaware Riverkeeper v. Middlesex Township Zoning Hearing* Board, 172 A.3d 142 (Pa. Commw. Ct. 2017). The Supreme Court ordered that its consideration of the objectors' appeal be placed on hold pending its decision in *Gorsline*.

A case raising similar issues was argued before a three-judge panel of the Commonwealth Court in November 2016. After more than a year of inactivity, the court in January 2018 ordered briefing and oral argument before the full court, directing the parties to address the implication of the *PEDF* decision (*Frederick v. Allegheny Twp. Zoning H'rg Bd*., No. 2295 CD 2015 [Pa. Commw. Ct. Jan. 3, 2018]).



**Pipeline safety regulations**

Having recently filled the two most important political appointments at the U.S. Department of Transportation's Pipeline & Hazardous Materials Safety Administration (PHMSA), the Trump administration appears ready to take further action on two rulemaking proceedings that could reshape the nation's federal safety standards for hazardous liquid and natural gas pipelines.

On October 30, Howard R. Elliott was officially sworn in as PHMSA's administrator. Elliot brings more than four decades of experience in the freight rail industry to his new position, including expertise in the areas of hazardous material safety and security.

A few months earlier, on August 7, Drue Pearce became PHMSA's deputy administrator. Pearce previously served as an official in the George W. Bush administration and as a state legislator in Alaska. As the core of the agency's new leadership team, Elliot and Pearce will play an important part in deciding the fate of a significant gas pipeline safety rulemaking proceeding that PHMSA initiated during the previous administration.

In April 2016, PHMSA issued a notice of proposed rulemaking (NPRM) proposing extensive changes to the safety standards and reporting requirements for gas transmission and gathering lines. To address certain mandates in the 2011 reauthorization of the Pipeline Safety Act and related National Transportation Safety Board safety recommendations, PHMSA proposed new requirements, including:

Verifying the maximum allowable operating pressure and documenting the materials in onshore steel gas transmission lines;

New requirements for conducting integrity assessments of certain transmission lines in moderate consequence areas; and

New corrosion control, pipeline repair and recordkeeping requirements, as well as changes to the integrity management requirements for gas transmission lines.

In addition to the proposals for gas transmission lines, PHMSA proposed significant changes to the regulations for onshore gas gathering lines, primarily to address the growth of new pipeline infrastructure in the nation's shale plays. The proposed changes included new definitions for determining what qualifies as an onshore gas gathering line, new safety standards for regulated onshore gas gathering lines (which would apply to certain historically exempt onshore gas gathering lines in rural locations), and new reporting requirements for all gas gathering lines, whether regulated or not.

The pipeline industry responded by expressing significant concerns with many of the proposals in the NPRM. For example, the American Petroleum Institute submitted an economic analysis showing that PHMSA made numerous errors in developing the preliminary regulatory impact analysis for the NPRM.

API's economic analysis also showed that PHMSA overestimated the benefits of the proposed rules by \$2.9 billion to \$3.1 billion and underestimated the potential costs by \$32.8 billion. Despite the pipeline industry's concerns, PHMSA held an initial meeting of the Gas Pipeline Advisory Committee (GPAC), the federal advisory committee that reviews its gas pipeline rulemaking proposals, to begin considering the NPRM's proposals in January 2017. PHMSA held two subsequent GPAC meetings in June and December 2017 and has scheduled a series of additional meeting for March and June 2018.

According to the Department of Transportation's latest significant rulemaking report, PHMSA expects to issue a final rule in August 2018. That schedule assumes PHMSA will present the final rule to the secretary's office for consideration in March, a development that seems highly unlikely given the current pace of the GPAC's review of the NPRM. ■

*Reproduced and adapted from* The American Oil and Gas Reporter, *March 2018 issue*

# Silica limits for oil and gas operations



**By Gary Slagel**
**Steptoe & Johnson PLLC**

New standards will come into play on June 23 for the producers of our nation's oil and gas resources, particularly the unconventional operations utilizing hydraulic fracturing. The long-expected regulations on exposure to crystalline silica are scheduled to become effective on that date. These rules by the federal Occupational Health and Safety Administration (OSHA) require workers to be protected from exposure to respirable crystalline silica.

These rules establish a new permissible exposure limit (PEL) of 50 micrograms of respirable crystalline silica per cubic meter of air averaged over an eight-hour period. The large amounts of sand and associated silica dust in hydraulic fracturing are targeted by these new standards. While many operators and service providers already have adopted measures to monitor and reduce silica exposure, the remaining operators and their service providers will be required to adopt these measures to stay ahead of eventual inspections and potential enforcement actions by OSHA.

Respirable silica particles are typically 100 times smaller than the sand found on beaches and playgrounds. According to OSHA, there is strong scientific evidence that exposure to respirable silica can increase a person's risk of developing lung cancer. The World Health Organization, the National Institute of Health and the American Cancer Society all have designated crystalline silica a known human carcinogen. Once fully implemented for all covered industrial activities, OSHA expects to prevent 600 deaths a year from silica-related diseases.

While the exposure limitations become effective on June 23 for the oil and gas industry, the industry will have until June 23, 2021, to implement on-site engineering controls to comply with the exposure limits. Until then, employees can continue to wear respirators if their exposure exceeds the limitations. Additionally, industry employers are required to offer medical examinations to employees exposed above the PEL for 30 or more days beginning on June 23, 2018, and medical examinations to employees exposed at or above the PEL for 30 or more days beginning on June 23, 2020.

At this time it is uncertain what level of enforcement the oil and gas industry will see from OSHA, but it is best to be prepared to demonstrate a high level of compliance and understanding as these requirements move forward.

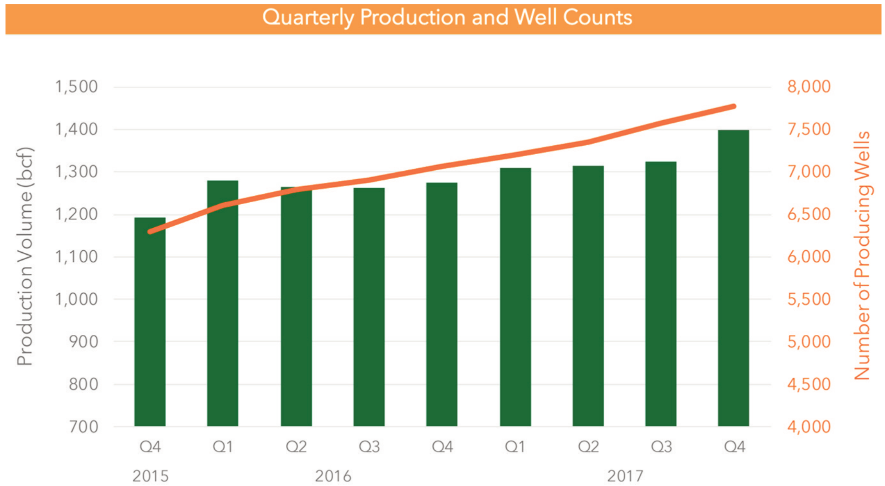
For more information, visit www.osha.gov/dsg/topics/silicacrystalline. ■

# Natural gas production tops 1,400 Bcf in 4Q17

Pennsylvania's natural gas production in the fourth quarter of last year was 9.8 percent higher than the same period in 2016, according to a report issued early this month by the state's Independent Fiscal Office (IFO).

The state produced 1,401.8 Bcf of natural gas in the final three months of 2017, an increase of 125 Bcf over the same period in 2016. This was Pennsylvania's highest-producing quarter tracked by the IFO.

The number of wells producing gas increased by 9.2 percent to 8,268 by the end of the year. For the calendar year, that was an increase of 9.1 percent. The number of non-producing wells increased by 4.5 percent for the quarter.




According to the report, about two-thirds of the state's natural gas production comes from four counties: Susquehanna (1,210.8 Bcf for the year), Washington (838.7 Bcf), Bradford (709.3 Bcf) and Greene (691.4 Bcf). Six of the top 10 counties (Susquehanna, Washington, Wyoming, Tioga, Butler and Sullivan) registered production gains, while four counties (Bradford, Greene, Lycoming and Fayette) registered declines.

Quarterly and calendar year production gains were driven by wells spud in 2015 and 2016. These wells comprised 33.2 percent of production for the quarter and 29.3 percent of production for the calendar year. Wells spud in 2014 or earlier recorded production declines for the quarter and calendar year.

There were 810 new horizontal wells spud in 2017, up 307 (61 percent) compared to the prior year. ■

## PGMD Alert: Alternative fuel credits

Two natural gas incentives for alternative fuel excise tax and alternative fuel infrastructure have been retroactively extended for calendar year 2017 thanks to H.R. 1892.

The tax incentive for alternative fuel is a tax credit in the amount of $0.50 per gasoline gallon equivalent (GGE). For taxation purposes, one GGE is equal to 5.75 pounds of propane and 5.66 pounds of compressed natural gas. One diesel gallon equivalent is equal to 6.06 pounds of liquefied natural gas. The incentive must first be taken as a credit against the entity's alternative fuel tax liability; any excess over this fuel tax liability may be claimed as a direct payment from the IRS.

Fueling equipment installations are eligible during the same period and are eligible for a tax credit of 30 percent of the cost, with a cap of $30,000. Fueling station owners who install qualified equipment at multiple sites can use the credit towards each location. Consumers who purchased qualified home installation equipment are also eligible for a credit up to $1,000.

For more on which alternative fuels are eligible and information on the Resolution as well as IRS forms and publications, reference House Resolution 1892, 2018, Public Law 114-113, 26 U.S. Code 30C and 38, and IRS Notice 2007-43. ■

***Thanks to all who participated in and sponsored our February Cigar Dinner networking event in Oakmont. A great time was had by all!***

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## PIOGA Member News

### PIOGA members win at Oil & Gas Awards

Oil & Gas Awards held the gala for its Northeast 2018 awards on March 1 in Pittsburgh, with these PIOGA members earning the recognition of their industry peers:

- Award for Excellence in Corporate Social Responsibility—Chevron
- Industry Supplier of the Year—Equipment & Controls, Inc.
- Manufacturer of the Year—Environmental Tank and Container
- E&P Company of the Year—Antero Resources
- Industry Leader—Alan Laurita, Hodgson Russ

Congratulations to all!

### 'O'Ring CNG merges with InsightFuel

"O"Ring CNG Fuel Systems, a developer and operator of CNG fueling stations in western and central Pennsylvania, is merging with InsightFuel, a manufacturer and specialty contractor serving the clean fuel transportation market in the United States and Canada.

Bob Beatty, owner of "O"Ring, and Jeff King, majority owner of InsightFuel, have been partners and confidants in each other's' businesses for over five years. "There is so much more for me to accomplish creating energy independence for our country using indigenous, clean-burning fuels," says Beatty, "and I believe after working so well with the team at InsightFuel, that this is the best platform for "O"Ring and me to realize my vision."

### Freund joins Steptoe & Johnson energy team

Britt Freund has joined the Energy & Natural Resources Department of Steptoe & Johnson. His practice will focus on financial transactions for energy companies, private equity firms, and financial institutions working from the firm's Southpointe office.

Freund represents energy producers and financial institutions in all aspects of real property acquisition, development, mineral production, and sales and finance transactions.

He earned his law degree from Duquesne University and his bachelor's degree from Ithaca College. He is recognized as a Super Lawyers Rising Star in Pennsylvania and serves as a trustee-at-large for the Energy & Mineral Law Foundation.

## SWCA Environmental Consultants appoints Joseph Fluder to CEO

SWCA Environmental Consultants has named Joseph J. Fluder III its new Chief Executive Officer. Fluder joined SWCA in 2003 as a water resources and GIS specialist. Since that time, he's held a variety of technical and leadership positions, most recently serving as the Chief Operating Officer for the past four years.

In addition to his extensive experience in project management and business development, Fluder has a strong background in human-induced environmental change, particularly in riparian, grassland, and forested areas. He also is an expert in the National Environmental Policy Act, Endangered Species Act, Clean Water Act, watershed management, and habitat restoration. ■

## New/returninfg members
### *Welcome, and welcome back!*

**Dallas Energy,LLC**
103 S. Kendall Avenue, Bradford, PA 16701
814-362-6493
*Oil & Gas Producer*

**Penn Power Group**
499 Weber Lane, Bedford, PA 15522
814-977-3748 • www.pennpowergroup.com
*Service Provider— servicing the on- and off-highway equipment, transport refrigeration and power generation markets, a major distributor and dealer for some of the most advanced green products in the world*

**Unifirst Corporation**
1150 2nd Avenue, New Kensington, PA 15068
724-339-1077 • www.unifirst.com
*Service Provider—uniforms and workwear, industrial laundering*

## PIOGA Member Profile

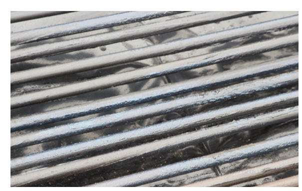
**Locus Bio-Energy SOLUTIONS™**

Locus Bio-Energy Solutions™ is an Ohio-based R&D company that's changing the future of the oil business by developing new and innovative approaches to common industry challenges—with solutions that are gaining international attention. World-class scientists at the company have created a series of unique microbial-based products that substantially increase oil reserves and reduce LOE. The products, which are both cost-effective and non-toxic, are evolving oil well operators' approaches to maintenance–leading Darcy Partners to name Locus Bio-Energy a Top 10 Emerging Tech Company in the World in the production chemicals space.

For years, the oil industry has been plagued with many common challenges—paraffin, asphaltenes, biofilms, poor wettability and viscosity buildup—all resulting in the gradual loss of oil recovery. Current solutions typically include hazardous, toxic chemicals which are expensive and have not produced lasting results. The patent-pending microbial blends discovered by Locus Bio-Energy have proven to be a safer alternative from an HSE perspective for operators, and improve overall well health and protect wellbore equipment—with longer lasting, better results.

"Microbials have been tried in the past, but never with the proper approach to confirm efficacy and survivability," said Gary West, senior vice president of business development at Locus Bio-Energy. "Our products are fermented locally resulting in up to 1000x the potency at injection, and have been shown consistently to have a strong impact on production and recoverable reserves—meaning these treatments pay for themselves. The approach does not cause corrosive bio-films and actually dissolves them, while reducing sulfate reducing bacteria colonies. The outcome is safer solutions that are redefining the approach to oil well maintenance."

*Untreated and treated rods*



Locus Bio-Energy currently offers two 100-percent environmentally safe product lines, with treatments customized specifically to the conditions of the wells being treated:

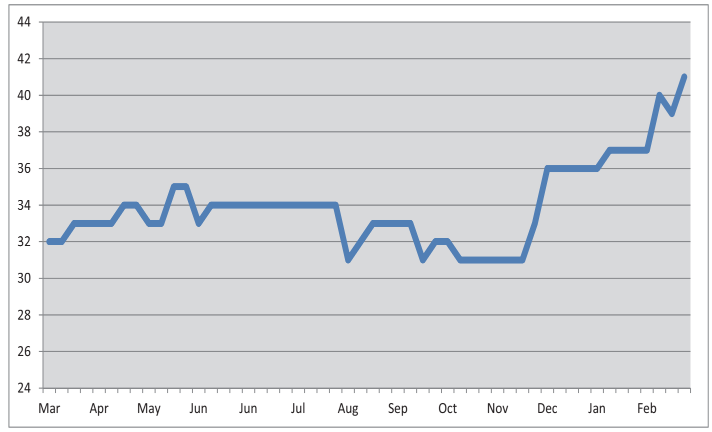
- **AssurEOR FLOW™,** a paraffin dispersal product with the added benefit of an "EOR effect."
- **AssurEOR STIM™,** a highly potent enhanced recovery application designed to stimulate reservoirs.

In hundreds of well applications in Western Pennsylvania there was an increase in recoverable reserves, a more than 50 percent average increase in oil sales and zero well failures during the treatment period of more than a year with AssurEOR FLOW. There was an up to 500 percent increase in production over extended periods with AssurEOR STIM. The results are gaining attention and momentum across the industry, with new wells being treated daily.

For more information on Locus Bio-Energy and the new trend of using microbial-based solutions for upstream oil applications, visit locusbioenergy.com, email oilinfo@locusbio.com or call 855-503-0080.

# Oil & Gas Dashboard

## Pennsylvania Rig Count




## Penn Grade Crude Oil Prices


## Natural Gas Futures Closing Prices

| Month | Price |
|---|---|
| April | $2.786 |
| May | 2.813 |
| June | 2.851 |
| July | 2.899 |
| August | 2.904 |
| September | 2.883 |
| October | 2.894 |
| November | 2.930 |
| December | 3.053 |
| January 2019 | 3.134 |
| February | 3.098 |
| March | 2.994 |

*Prices as of March 7*

**Sources**
American Refining Group: www.amref.com/Crude-Prices-New.aspx
Ergon Oil Purchasing: www.ergon.com/prices.php
Gas futures: quotes.ino.com/exchanges/?r=NYMEX_NG
Baker Hughes rig count: phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-reportsother
NYMEX strip chart: Emkey Energy LLC, emkeyenergy.com

# Northeast Pricing Report — March 2018

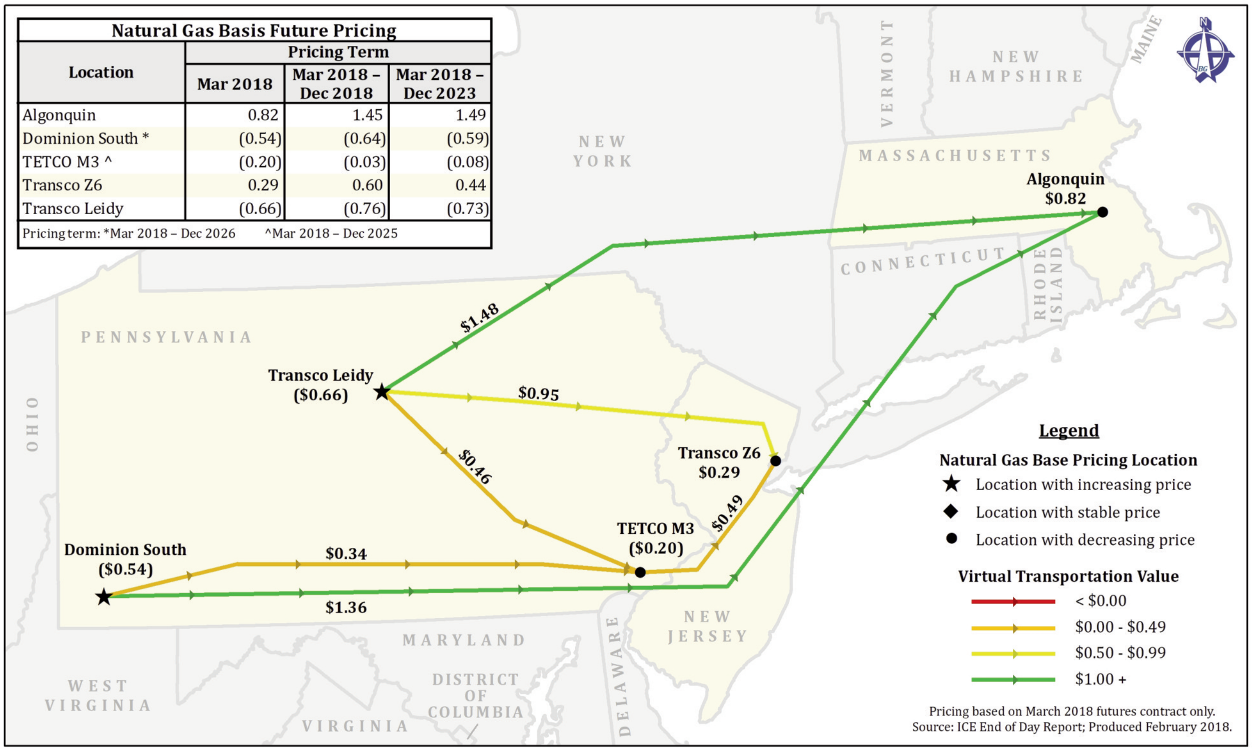
Transportation Value Market Indicator

***Provided by Bertison-George, LLC***
*www.bertison-george.com*

Algonquin, Transco Z6, and TETCO M3 all saw dramatic decreases in pricing from last month. The front month for those locations had the greatest decreases of $8.90, $7.49, and $4.92 per MMBtu respectively. All three decreased for each trading period, but not as of an order of magnitude. Dominion South and Transco Leidy had mild increases in pricing over all three trading periods. The front month had the greatest increases of $0.20 and $0.18 per MMBtu respectively. Interesting to note that the length of trading term pricing increased $0.07 per MMBtu for both trading points.

After three months of transportation pricing increases, March has brought dramatic declines. Dominion to Algonquin and Leidy to Algonquin saw the greatest declines of $9.10 and $9.08 per MMBtu respectively. Dominion to TETCO M3 and Leidy to TETCO M3 had similar declines of $5.12 and $5.10 per MMBtu respectively. TETCO M3 to Transco Z6 had the smallest decline of $2.57 per MMBtu.

Overall, it's still a little early for the market to reflect spring pricing. We would expect to see increases, especially in the daily market during the month.

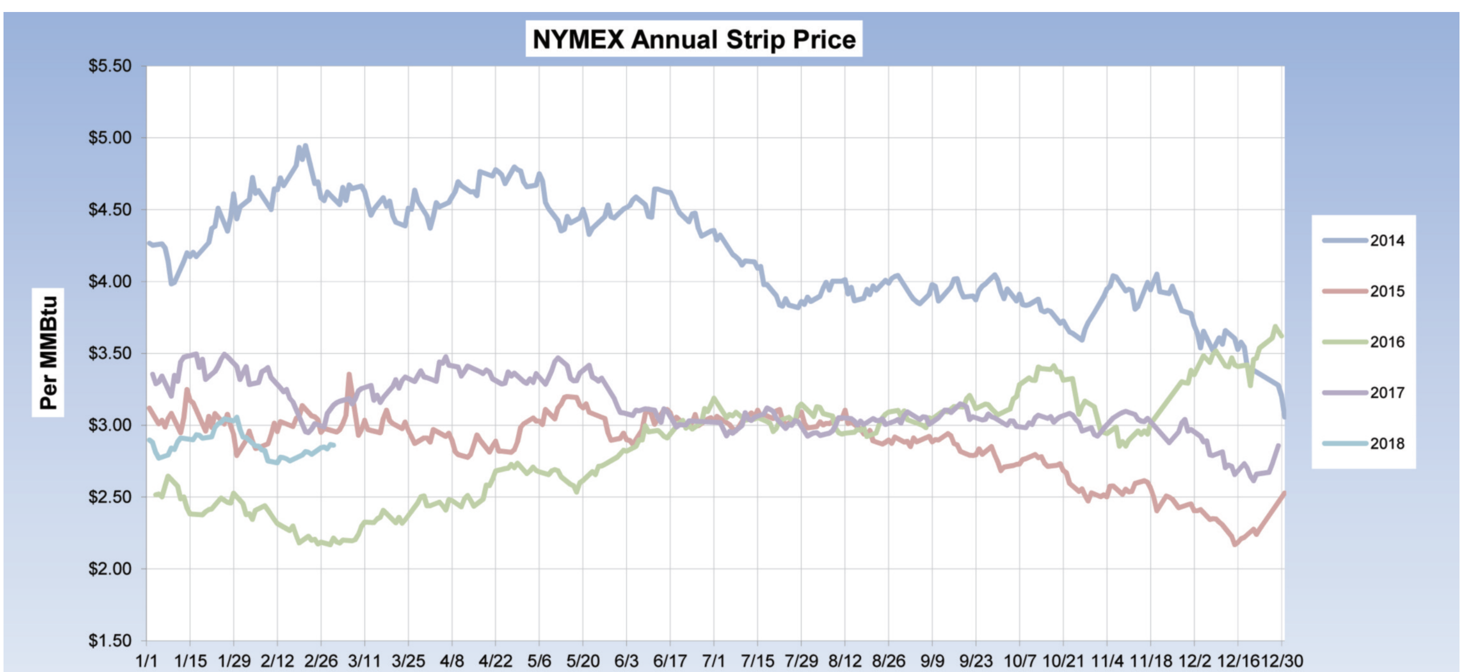


**Natural Gas Basis Future Pricing**

| Location | Pricing Term: Mar 2018 | Mar 2018 – Dec 2018 | Mar 2018 – Dec 2023 |
|---|---|---|---|
| Algonquin | 0.82 | 1.45 | 1.49 |
| Dominion South * | (0.54) | (0.64) | (0.59) |
| TETCO M3 ^ | (0.20) | (0.03) | (0.08) |
| Transco Z6 | 0.29 | 0.60 | 0.44 |
| Transco Leidy | (0.66) | (0.76) | (0.73) |

Pricing term: *Mar 2018 – Dec 2026 ^Mar 2018 – Dec 2025





# Spud Report: February

The data show below comes from the Department of Environmental Protection. A variety of interactive reports are available at www.dep.pa.gov/DataandTools/Reports/Oil and Gas Reports.

The table is sorted by operator and lists the total wells reported as drilled last month. **Spud** is the date drilling began at a well site. The **API number** is the drilling permit number issued to the well operator. An asterisk (*) after the API number indicates a conventional well.

| OPERATOR | WELLS | SPUD | API # | COUNTY | MUNICIPALITY |
|---|---|---|---|---|---|
| Apex Energy (PA) LLC | 2 | 2/28/2018 | 129-28946 | Westmoreland | Hempfield Twp |
| | | 2/28/2018 | 129-28947 | Westmoreland | Hempfield Twp |
| Cameron Energy Co | 1 | 2/19/2018 | 123-48084* | Warren | Sheffield Twp |
| Chevron Appalachia LLC | 1 | 2/26/2018 | 051-24639 | Fayette | Luzerne Twp |
| Chief Oil & Gas LLC | 2 | 3/2/2018 | 015-23372 | Bradford | Overton Twp |
| | | 3/2/2018 | 015-23373 | Bradford | Overton Twp |
| CNX Gas Co LLC | 6 | 2/9/2018 | 125-28405 | Washington | East Finley Twp |
| | | 2/9/2018 | 125-28406 | Washington | East Finley Twp |
| | | 2/9/2018 | 125-28407 | Washington | East Finley Twp |
| | | 2/9/2018 | 125-28408 | Washington | East Finley Twp |
| | | 2/9/2018 | 125-28415 | Washington | East Finley Twp |
| | | 2/9/2018 | 125-28416 | Washington | East Finley Twp |
| Curtis Oil Inc | 2 | 2/5/2018 | 053-30834* | Forest | Howe Twp |
| | | 2/15/2018 | 053-30836* | Forest | Howe Twp |
| Eclipse Resources PA LP | 1 | 2/28/2018 | 117-21907 | Tioga | Westfield Twp |
| EQT Production Co | 5 | 2/7/2018 | 059-27615 | Greene | Washington Twp |
| | | 2/7/2018 | 059-27617 | Greene | Washington Twp |
| | | 2/7/2018 | 059-27618 | Greene | Washington Twp |
| | | 2/7/2018 | 059-27619 | Greene | Washington Twp |
| | | 2/7/2018 | 059-27614 | Greene | Washington Twp |
| PennEnergy Resources LLC | 12 | 3/3/2018 | 007-20462 | Beaver | Marion Twp |
| | | 3/3/2018 | 007-20536 | Beaver | Marion Twp |
| | | 3/3/2018 | 007-20537 | Beaver | Marion Twp |
| | | 3/3/2018 | 007-20538 | Beaver | Marion Twp |
| | | 3/3/2018 | 007-20539 | Beaver | Marion Twp |
| | | 3/4/2018 | 007-20540 | Beaver | Marion Twp |
| | | 2/7/2018 | 019-22632 | Butler | Jefferson Twp |
| | | 2/7/2018 | 019-22656 | Butler | Jefferson Twp |
| | | 2/7/2018 | 019-22657 | Butler | Jefferson Twp |
| | | 2/8/2018 | 019-22658 | Butler | Jefferson Twp |
| | | 2/8/2018 | 019-22659 | Butler | Jefferson Twp |
| | | 2/8/2018 | 019-22660 | Butler | Jefferson Twp |
| PVE Oil Corp Inc | 4 | 2/5/2018 | 083-56968* | McKean | Sergeant Twp |
| | | 2/8/2018 | 083-56966* | McKean | Sergeant Twp |
| | | 2/13/2018 | 083-56964* | McKean | Sergeant Twp |
| | | 2/19/2018 | 083-56963* | McKean | Sergeant Twp |
| Range Resources Appalachia | 8 | 2/1/2018 | 003-22427 | Allegheny | Findlay Twp |
| | | 2/1/2018 | 003-22432 | Allegheny | Findlay Twp |
| | | 2/1/2018 | 003-22431 | Allegheny | Findlay Twp |
| | | 2/22/2018 | 007-20565 | Beaver | Independence Tw |
| | | 2/22/2018 | 007-20563 | Beaver | Independence Tw |
| | | 2/23/2018 | 007-20561 | Beaver | Independence Tw |
| | | 2/23/2018 | 007-20562 | Beaver | Independence wp |
| | | 2/23/2018 | 007-20564 | Beaver | Independence Tw |
| RE Gas Dev LLC | 2 | 3/2/2018 | 019-22293 | Butler | Connoquenessing |
| | | 3/2/2018 | 019-22294 | Butler | Connoquenessing |
| Repsol Oil & Gas USA LLC | 3 | 3/5/2018 | 115-22450 | Susquehanna | Apolacon Twp |
| | | 3/5/2018 | 115-22451 | Susquehanna | Apolacon Twp |
| | | 3/5/2018 | 115-22452 | Susquehanna | Apolacon Twp |
| Rice Drilling B LLC | 6 | 3/1/2018 | 059-27370 | Greene | Springhill Twp |
| | | 3/1/2018 | 059-27373 | Greene | Springhill Twp |
| | | 3/1/2018 | 059-27371 | Greene | Springhill Twp |
| | | 3/1/2018 | 059-27372 | Greene | Springhill Twp |
| | | 3/1/2018 | 059-27368 | Greene | Springhill Twp |
| | | 3/1/2018 | 059-27369 | Greene | Springhill Twp |
| Seneca Resources Corp | 2 | 3/5/2018 | 047-25013 | Elk | Jones Twp |
| | | 3/5/2018 | 047-25014 | Elk | Jones Twp |
| SWN Production Co LLC | 2 | 3/1/2018 | 115-22140 | Susquehanna | Great Bend Twp |
| | | 3/1/2018 | 115-22141 | Susquehanna | Great Bend Twp |

| | February | January | December | November | October | September |
|---|---|---|---|---|---|---|
| **Total wells** | **59** | **71** | **67** | **79** | **114** | **84** |
| Unconventional Gas | 52 | 63 | 63 | 70 | 91 | 78 |
| Conventional Gas | 0 | 0 | 0 | 0 | 0 | 1 |
| Oil | 7 | 8 | 4 | 9 | 23 | 58 |
| Combination Oil/Gas | 0 | 0 | 0 | 0 | 0 | 0 |

# Calendar of Events

## PIOGA events

**Info: www.pioga.org/events**

**Spring Meeting**
March 21, Rivers Casino, Pittsburgh

**PIOGA Power of Women in Energy Roundtable, "Letting Go of Control and Embracing Chaos"**
March 29. Webinar

**PIOGATech: Water & Waste Management Training**
April 26, Aquatech International Corp., Canonsburg

**Ted Cranmer Memorial Golf Outing & Steak Fry**
June 4, Wanango Golf Club, Reno

**21st Annual Divot Diggers Golf Outing**
August 23, Tam O'Shanter Golf Club, Hermitage

**Fall Oktoberfest and Annual Meeting**
October 17-18, Seven Springs Mountain Resort, Champion

## Other association & industry events

**IPAA Midyear Meeting**
June 25-27, Austin, TX
Info: www.ipaa.org/events

**IOGANY Summer Meeting**
July 11-12, Peek n' Peak, Clymer NY

**IOGAWV Summer Meeting**
August 5-7, The Greenbrier, White Sulphur Springs, WV

**Find more events at www.pioga.org >>**



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