

Shale Gas Roundup



Potter County, Pa.

4th Quarter

2015

Questions linger after chemical release



More than two months have passed since an energy company used prohibited chemicals to retrieve broken equipment in a shallow section of shale gas well being drilled in Sweden Township.

The JKLM Energy LLC well is being plugged and the company is abandoning the site, but the legacy of groundwater pollution is still being assessed and will continue to be monitored.

The Potter County Commissioners have called on the Pa. Dept. of Environmental Protection (DEP) and JKLM officials to hold a public meeting for an explanation of the incident, their respective responses, and the numerous unresolved issues that have generated significant public concern.



Scott Blauvelt, director of environmental compliance, health and safety for JKLM Energy LLC, shared details on the chemical release and related topics a week after the incident during a meeting in Coudersport.

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DEP officials issued a notice of violation to JKLM for using chemicals too close to groundwater resources. Two public water suppliers who draw from sources downgradient from the spill site off North Hollow Road -- Coudersport Borough and Cole Memorial Hospital -- have switched to alternative sources as a safety precaution. JKLM has been providing alternative water supplies to property owners whose wells may have been affected. Both the company and DEP have conducted multiple tests of water sources in the region.



Geologist Brian Oram was one of the guest speakers as area citizens concerned about the environmental impact of the JKLM Energy chemical spill in Sweden Township gathered at the Gunzburger Building. They developed a list of questions they would like to have answered by JKLM and the Pa. Dept. of Environmental Protection.

JKLM opened a local office on North West Street in Coudersport and launched a website, northhollowresponse.com. Those with questions for the company are also encouraged to contact Dean Boorum at 814-598-3960.

DEP is also welcoming inquiries and reports at 570-327-3636. The department's violation cited the illegal use of a surfactant which has since been detected, along with "several components and breakdown products of drilling additives," in local water supplies. DEP confirmed that at least five private water supplies have been affected. JKLM was cited for failure to prevent pollution of fresh groundwater, using unapproved materials for drilling activities in a groundwater conveyance area, and violating Pennsylvania's Clean Streams Law. Penalties have not yet been announced.

'Profound' impact of shale gas on farming

A State Agriculture Department spokesman presented an eye-opening report on the impact of shale gas production on one of the state's foundational industries during a recent session of the County Commissioners Assn. of Pa. (CCAP) Natural Gas Task Force in Hershey. Michael Smith, the department's executive deputy secretary, said the impact will likely be "profound," in both economic and environmental perspectives.



Michael Smith

"The development of shale gas is bringing a transformative change to Pennsylvania, and that includes significant changes in agriculture," Smith said. He pointed out that Pennsylvania has climbed from 12th in gas production to third, trailing only Texas and Louisiana, and has experienced a 1,200 percent increase in production since 2008. Some 38 percent of electricity generation in Pennsylvania comes from natural gas. The figure was 3 percent in 2008. There have been about 7,200 shale gas wells drilled statewide since 2008. Economists forecast the number will approach 30,000 over the next 15 years.



Pipeline construction, such as this structure being laid off Rt. 44 and the Billy Lewis Road in Potter County, require the clearing of timber and other vegetation, which can affect farming and forest management.

Curt Weinhold photo

Smith said some farmers have already received significant lease payments and royalties for mineral rights and many more will benefit in the coming years. This has helped some of them stay in business and acquire new equipment. At the same time, he pointed out, some farmers have opted to leave the business because they can now afford to.

Shale gas is also affecting the workforce, Smith pointed out. "We're seeing young people in particular leaving the farm for more lucrative jobs in the natural gas industry." He said the Agriculture Department is studying options to address the outmigration of young farmers, including development of educational programs on career opportunities in farming.

One gas-related activity that could have a significant impact on agriculture is the development of pipelines crisscrossing many fields and forests of rural Pennsylvania. Smith said steps should be taken to steer this development in ways that diminish impact on soil quality and fragmentation. With trees and other vegetation being cleared from pipeline rights-of-way, he noted, it's important for the acreage to be replanted with plant species that are beneficial to agriculture — pollinating plants, as an example.

Lastly, Smith said that Pennsylvania is now third nationally in organic farming sales. A high proportion of start-ups are organic farms, he added, but shale gas-related development could jeopardize organic certification. Smith is a member of a Pipeline Infrastructure Task Force appointed by Governor Tom Wolf. He is heading a subcommittee that is calling for a state-sponsored educational campaign about pipeline development issues for landowners, as well as a geographic information system (GIS) database of all Pennsylvania farms.

Counties feel the heat of shale gas issues



Veteran Tioga County Commissioner Erick Coolidge (second from left) described the important role that county officials can play as the shale gas boom intensifies. Also shown, from left, are Task Force members Tony Mussare (Lycoming County), Judy Mead (Sullivan County) and Albert Abramovic (Venango County).

County governments are feeling the heat that's generated by natural gas.

Increasingly, citizens are turning to their county leaders for guidance, protection, and reliable information as Pennsylvania braces for a shale gas rush that is now underway and is expected to intensify over the next decade.

Members of the County Commissioners Assn. of Pa. (CCAP) Natural Gas Task Force sat down just before Thanksgiving to plot their strategy for meeting constituent expectations. Among task force members from the local area are Commissioners Paul Heimel (Potter), Erick Coolidge (Tioga), Phil Jones (Cameron), Cliff Lane (McKean), and Pete Smeltz (Clinton).

Many citizens are not aware that county governments have limited authority when it comes to regulating the gas and oil industry, but commissioners

are in a position to advocate for their constituents in communications with state lawmakers, regulatory agencies and energy companies. Recognizing this "bully pulpit" potential, Commissioner Coolidge, chairman of the task force, polled members on whether the group should continue its work and received strong affirmation.

Activities of Governor Tom Wolf's Pipeline Infrastructure Task Force, a flurry of legislation now before the state legislature, and an analysis of shale gas drilling's impact on agriculture (see story on page 2) were on the CCAP group's November agenda.

Energy companies have announced ambitious plans to build a series of pipelines ushering natural gas to markets that could extend around the world, and Pennsylvania is at the epicenter of the development area.

Chester County Commissioner Kathi Cozzone, a member of the governor's task force, detailed the complex issues on the table. In the coming weeks, a list of 184 recommendations must be boiled down to a more concise report on best practices related to safety, pipeline integrity, siting and many other issues.



Kathi Cozzone

Among issues with which the legislature is grappling are decisions on shale gas drilling impact fee/severance tax issues; revisions to Chapter 78 regulations covering environmental and operational rules for the gas and oil industry; a lifting of the moratorium on non-surface horizontal drilling to produce more natural gas from under state forest land, and others.



An interesting trip through the evolution of shale gas development issues can be found on the Potter County website. The "Shale Gas Roundup" box on the website's landing page at pottercountypa.net provides access to a six-year library of newsletters (2010-16).

Solar, wind energy projects announced

Some promoters of shale gas refer to it as a “bridge fuel” that allows time for the nation to shift to a renewable energy future. Government policies and market forces will dictate the pace. In the meantime, one renewable energy project is underway in Olean, N.Y., while a second is on the drawing board in Potter County.

Work is continuing on the site of a future \$15 million solar energy plant in Olean. Preparations are complete at two of three parcels that make up the Olean Gateway project. The lots, which make up approximately 33 acres of the 60-acre property off Buffalo Street, are where BQ Energy plans will build its “Solean” power plant.

Krog Corp., an Orchard Park commercial real estate firm, acquired the land at no cost from Exxon Mobil Corp. It sat unused for decades due to environmental contamination. Crews hauled away nearly 12,000 tons of soil contaminated by arsenic, lead, petroleum and mercury. They also took away 16.1 miles of subsurface piping and 57 drums of petroleum products and sludge.



A series of turbines would be built in northeastern Potter County to generate electricity from wind, under a proposal being developed by Big Level Wind LLC.

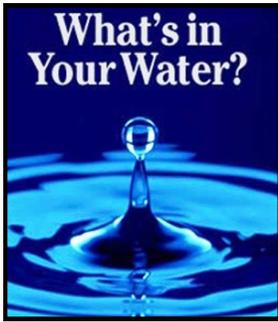
BQ Energy expects to start construction before the end of the year and will install upward of 23,900 solar panels, expected to generate 7.75 megawatts of power. St. Bonaventure University will be the primary recipient of energy and will receive around \$100,000 in annual power credits from National Grid. Other elements of the Olean Gateway project include a hotel, restaurant and commercial retail space.

Meanwhile, Big Level Wind LLC, incorporated in Delaware, is working with the Hector Township Board of Supervisors on a plan to build a string of 400-foot-tall turbines on leased land at Big Level Ridge for electricity generation. The company is a small, family-owned enterprise that was created specifically to carry

out this project. Big Level has installed test towers to check wind velocity. Approximately 25 turbines are targeted for the area. Should the company decide to move forward with the project, public meetings will be scheduled.

Previous promoters have faced obstacles that include regulations, changes in economic and political trends, reduced government incentives, and resistance from neighboring residents concerned about noise and shadow flicker. Potter County Planning Commission adopted an ordinance that restricted the amount of high- and low-frequency noise the wind turbines could emit to neighboring residences. To circumvent the county’s regulations, some townships – Hector among them -- enacted regulations that are more accommodating to the industry.

Groundbreaking water study proposed



Water, water everywhere . . . but where does it come from, and what are its components? Those timeless questions will be answered across much of Potter County if an ambitious partnership between the Potter County Board of Commissioners and the U.S. Geological Survey (USGS) moves forward.

A state grant application is pending approval to launch the study. USGS supervisory hydrologist Jeff Chaplin said the “baseline groundwater quality monitoring project” would provide valuable data for public policymakers. About 75 well owners would benefit by receiving a detailed analysis of their water – which would cost upwards of \$4,000 if they contracted for it – at no charge.

Most importantly, USGS and others would learn more about the characteristics of groundwater on a broader scale. “We are scientists, not regulators,” Chaplin said. “We provide the data and the information that help people make informed decisions.” Information collected by USGS would be a critical component in the ongoing effort to better understand groundwater movement patterns and create maps that depict them.

“That would be an extremely valuable tool for protecting our water when we’re choosing sites for certain types of development,” said John McLaughlin, a retired state water specialist who chairs both the Potter County Planning Commission and the Triple Divide Watershed Coalition. “Many people don’t realize that there is much we simply do not know about our ground water supplies, movements, and other characteristics.”

Chaplin explained that the well data would be assembled and analyzed in a cumulative fashion, with the identity of individual well owners protected. According to the USGS project summary, purpose of the study is to characterize the quality of groundwater from freshwater aquifers used by private domestic supply wells. Water can contain a variety of suspended and dissolved substances such as minerals, gases, and even bacteria. These elements are often naturally occurring, but can also be influenced by activities on the land surface. A comprehensive list of water quality parameters will be analyzed for each well as part of the study.



Jeff Chaplin

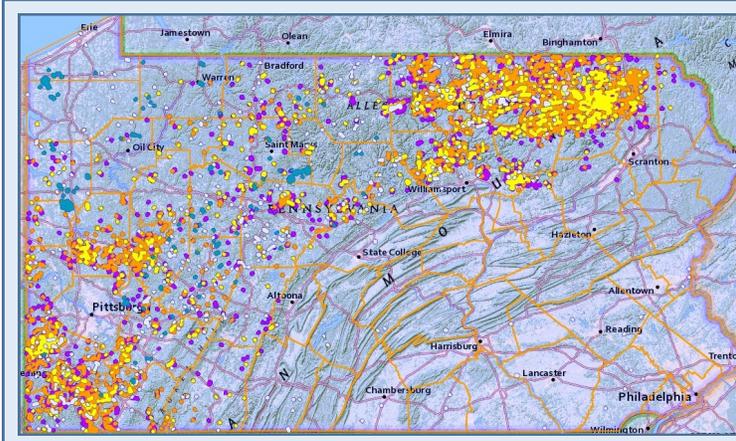
Other partners would be recruited, including Charles Cole Memorial Hospital. USGS recently launched a similar study in Lycoming County. Among partners are Geisinger Health Systems and Susquehanna Health.

Impact fees decline

County and local governments are being advised to prepare for a reduction in revenue from Pennsylvania’s “impact fee” on shale gas drilling. Last year, energy companies paid about \$223.5 million that was distributed to counties, municipalities and a state-controlled “legacy fund” that’s doled out for housing, conservation district activities, environmental projects and other uses. A recent report from the Independent Fiscal Office estimates the 2016 payments to be between \$189 million and \$208 million.

Potter County earlier this year applied for a \$250,000 grant to help cover the costs of the study. USGS would provide an additional \$100,000 and oversee the field work and water sampling.

'Sweet Six' counties center of gas activity



Northeastern Pennsylvania was initially the hotbed for shale gas drilling from 2008 to 2010. Since that time, the action frenzy has shifted to the state's southwestern region. Once the gas prices rise and pipelines are laid, much more activity is expected statewide.

Where does Potter County stand in the shale gas drilling rush across much of Pennsylvania? The answer may come as a surprise to many. A state report shows that there are 40 "active wells," in Potter County, ranking 21st among all counties. The definition does not necessarily mean they are producing natural gas – just that they have been drilled and are capable of delivering gas to the marketplace.

Reflecting rapid industry growth in southwestern Pennsylvania, Washington County now has the most active wells with 1,146. Rounding out what are often referred to as the "Sweet Six" counties are Bradford, 1,097; Susquehanna, 1,079; Greene, 870; Lycoming, 832; and Tioga, 661.

In the second tier are Butler, 321; Fayette, 257; Westmoreland, 251; Wyoming, 228; and Armstrong, 202. They are trailed by Clearfield, 102; Sullivan 98; Clinton, 70; McKean, 65; Allegheny, 63; Elk, 60; Lawrence, 52; Jefferson, 49; Cameron, 43; Potter, 40; and Mercer, 38.

Utica bounty forecasted by USGS

For all of the excitement of the natural gas reserves held in Marcellus shale formations some 7,000 feet below the surface in much of Pennsylvania, there is just as much or more hope for a deeper shale layer, known as Utica.

U.S. Geological Survey scientists believe the Utica in Pennsylvania, Ohio and parts of other states holds an estimated 38 trillion cubic feet of recoverable natural gas. The Utica also holds 940 million barrels of oil and 9 million barrels of gas liquids like ethane and propane, USGS reported.



This publication is produced by the Natural Gas Resource Center in Coudersport, Pennsylvania. Previous editions are available in the website, pottercountypa.net. Anyone with story ideas or comments should contact Paul Heimel (pheimel@pottercountypa.net).