

Marcellus Shale/Natural Gas: Monthly Roundup/February 2010

Updated Gas Drilling Statistics for Potter County

DEP Bureau of Oil and Gas Management issued 79 drilling permits in Potter County in 2009; 22 wells were drilled. Of those, there were 31 Marcellus Shale gas drilling permits issued and 8 Marcellus wells drilled. One Marcellus Shale drilling permit was issued in January 2010; five shallow wells (zero Marcellus) were drilled. Marcellus wells drilled in other area counties during January included: Tioga, 10; McKean, 3; Cameron, 2; Bradford, 9; Clinton, 1; Lycoming, 4.

'Roughneck Camp' in Galeton

Westfield Free Press Courier reports: "Roughneck" is a term often applied to crew members of a drilling rig. Today, a number of them have taken up temporary residence at a "man-camp" in Galeton for Ultra Resources. The camp includes four attached modular units, each 16 feet wide and 50 feet long. The units house bunkrooms, a recreation room, bath and laundry facilities, a kitchen (or galley), dining room and pantry and storage rooms. So far, seven or eight workers are staying at the camp, but Ultra expects that there will be 20 to 25 workers there soon.

Landowners: Everyone Into The Pool?

Property owners who are considering leasing mineral rights are being advised to consider pooling their acreage to get a better return. The phenomenon is growing in Potter County. Many energy companies prefer the "drilling units," since they allow access to contiguous acreage and create economies of scale. Mineral rights owners can potentially receive higher per-acre lease payments and royalties. George Sharpe from Hammer Back LLC made the case for landowner coalitions during a presentation in Emporium. Hammer Back is seeking annual lease payments of \$3,000 per acre, along with a royalty rate of 20 percent. Some property owners may not be aware of the fact that they do not own the mineral rights on their land. Determining ownership stakes has resulted in steady work for area title searchers, lawyers and land agents.

State To Consider Severance/Production/Wellhead Tax

State lawmakers will be taking up a controversial proposal to impose a tax on natural gas production in Pennsylvania during legislative sessions this year. Some believe that the tax has a chance to pass in 2010, after being defeated in 2009. Debate over how it should be distributed is not likely to be settled any time soon. One version would steer 60 percent of the revenue to the state, while smaller shares would be distributed to counties and municipalities that are home to the drilling operations, as well as state environmental programs.

County Improves Natural Gas Website

Potter County's new website, pottercountypa.net, includes a Marcellus Shale/Natural Gas section, which includes a complete record of the Natural Gas Task Force and links to numerous information sources. It is updated regularly.

Penn State team monitoring Potter County Natural Gas Task Force

Matt Filteau, Penn State graduate student, has been monitoring our Task Force activities and interviewing members to gain a better appreciation of the industry's impact and potential, as well as public expectations and opportunities. We're also joined tonight Chuck Corcoran, executive director of the Olean City Housing Authority, and by Bill Dressel from Ultra Resources.

Gas leases signed for more state forest land

Natural gas drilling will go forward on 11,000 more acres of state forest land in Potter County. Seneca Resources of Houston, Texas, was high bidder at \$23.3 million to lease 7,440 acres between Denton Hill and Fox Hill. Lease on a separate tract of 3,640 acres in Eulalia and Roulette townships went to Penn Virginia Corp. of Radnor for \$13.9 million. The state will limit development to 29 well pads and 145 disturbed acres in the Denton Hill/Fox Hill parcel, and 14 well pads with about 70 acres in the Eulalia/Roulette leases (acreage does not include road

access and pipelines). Private interests own all or parts of the mineral rights on other sections of state forest land, so additional drilling is inevitable. Successful bidders will pay the state \$128 million and 18 percent in royalties for the rights to drill on nearly 32,000 acres statewide.

Bill Calls For Moratorium On State Land Leases For Drilling

State Rep. Greg Vitali has introduced a bill that would put a five-year moratorium on leasing additional state forest land for natural gas drilling. Vitali said House Bill 2235 is a response to the revelation of an agreement between budget negotiators to raise another \$180 million for the 2010-11 budget by leasing additional state forest land for gas drilling. Vitali's legislation would give DCNR sole discretion after 2015 to determine if state forests can withstand additional natural gas exploration. The act also would require DCNR to issue a report every year about the effect of natural gas exploration on water, soil and air quality, plants and wildlife, tourism, fishing and hunting. DCNR says several thousand wells could be drilled in state forests. About 1.5 million acres of state forest is above the Marcellus Shale. About 692,000 acres of state forest have already been leased for natural gas drilling.

Local Governments Cashing In On Gas Rush

City of DuBois will make more than \$1 million in the first year alone from leasing property for production of natural gas. The city is leasing 2,000 acres for about \$500 per acre plus 15 percent in royalties. Additionally, the city will sell Carrizo water at \$10 per 1,000 gallons, up to 400,000 gallons per day. Meanwhile, Mt. Jewett Borough Water Authority is selling water near Hutchins -- up to 20,000 gallons per day at four cents per gallon.

Environmental group addresses County Commissioners Gas Task Force

An organization that is lobbying Harrisburg on environmental issues surrounding the gas industry's possible impact on water and land presented its case to a group of county commissioners from across Pennsylvania. Details on the study can be found on the PennEnvironment website, available at <http://www.pennenvironment.org/>

The report calls on Pennsylvania's elected officials to pass drilling protections that:

- Improve the public's right to know and access to information about drilling;
- Make areas that supply drinking water, critical habitats, and public lands off-limits;
- Impose penalties for polluters who violate laws or destroy the environment;
- Increase funding to DEP to allow for expanded enforcement, permit review and on-site review of drilling;
- Strengthen existing clean water laws to deal with the rapid expansion of drilling.

AP Story Spotlights Marcellus/Water Issues

Associated Press reported on water disposal challenges:

"This water can be five times saltier than seawater and laden with dissolved solids such as sulfates and chlorides, which conventional treatment plants aren't equipped to remove . . . Many doubt the hard Appalachian geology is porous enough to absorb all the wastewater, and the climate is too humid for evaporating ponds. That leaves recycling as the most obvious option.

"Entrepreneurs are marketing portable systems that distill frack water at the well site.

In southwestern Pa., Range Resources pipes wastewater into a central holding pond, dilutes it with fresh water and reuses it for fracking. Range says the practice saves about \$200,000 per well . . . A \$15 million treatment plant that distills frack water is opening in Fairmont, W.Va. The 200,000 gallons it can treat each day can then be trucked back for use at a new drilling site."

Coalition comments on 'flowback' water

The Marcellus Shale Coalition has issued a statement about regarding water use and "flowback" water management in the development of natural gas from the Marcellus formation:

“Regulations in Pennsylvania are among the most stringent in the nation . . . The industry currently treats or recycles all of its flowback water. Recycling accounts for approximately 60 percent of the water used to complete Marcellus Shale wells, with greater percentages predicted for the future. There are more than a dozen approved water treatment facilities available to treat flowback water, with plans for additional capacity in the future.

"Companies are working with international water quality experts and are funding research and development projects to develop mobile and permanent treatment technologies such as evaporation and crystallization . . . We're also researching and developing deep underground injection well technology.

Flowback fluids pose long-term challenge

Pennsylvania has its work cut out for it in regulating the handling of flowback fluids, it was revealed during a summit Friday at Lycoming College, "The Science of the Marcellus Shale."

--Tim Keister, founder and chief chemist of Brockway-based ProChem Tech, a company that makes chemicals for wastewater treatment, said the problematic ingredient is a biocide used to prevent micro-organisms from growing in the well. Technologies include pretreatment so conventional wastewater treatment processes can efficiently treat the waste; chemical precipitation, which involves adding chemicals to the wastewater to form particles that settle and remove contaminants; and evaporation.

--Flowback water contains high levels of salt, which can't be removed through normal wastewater treatment, said Prof. Kevin Gilmore/Bucknell University. He discussed a process in which the water is pushed through a non-porous membrane. A similar process, reverse osmosis, is energy intensive and does not get water to the point at which it can be discharged.

--Richard Adams, Chief Oil and Gas (who worked for more than 30 years for the Pa. Dept. of Environmental Protection) said wastewater can be pre-treated, treated at a high-tech centralized facility, treated on-site by a mobile treatment facility or, in the case of solids removed from the water, buried in an approved landfill.

--Companies are looking more to recycling and reusing the water, the least expensive method. There are concerns that using recycled frac water to stimulate a well may adversely impact production capabilities. Even with recycling, there still will be a need to treat and dispose of frac water and materials removed from the water.

--Injection wells do not have the capacity for the large volume of flowback fluids, said Karen Johnson from EPA, which oversees the underground injection well program in Pennsylvania.

--Bryan Swistock of Cooperative Extension said homeowners should have their water tested, at least for total dissolved solids, pH content, chloride and methane.

--Deb Nardone/Trout Unlimited said TU is recommending seasonal restrictions on water consumption, technologies and methods to reduce consumption, mandatory flow monitoring, water pumps designed to prevent stream disturbance and fish mortality, and disinfection protocols to prevent the spread of disease and invasive species.

Impact On Rental/Home Prices Cited

Lock Haven Express reports: "Most rents (in areas with substantial Marcellus activity) have basically tripled. Concerns have been expressed about the higher rents pricing some people out of the market. In some cases, a house renting for \$880/\$1,000 a month, now is going for \$1,200/\$1,500."

Federal Law Would Require Frac Compounds Disclosure

A bill before Congress would require gas drilling companies to disclose the formulas they use to stimulate well production. The "Fracturing Responsibility and Awareness of Chemicals Act," introduced by Sen. Bob Casey, would repeal an industry exemption from the Clean Drinking Water Act granted in 2005. The exemption allows companies to withhold the formulas of solutions used to break apart rock and release natural gas. Industry officials counter that the process is safe and the exemption is necessary to protect trade secrets.

DEP Adds Inspectors, Rewriting Construction Standards

DEP will begin hiring 68 new personnel who will make sure that drilling companies obey state laws and act responsibly to protect water supplies. DEP also will strengthen well construction standards. The state hired 37 additional inspectors and permitting staff in 2009. DEP performed 14,544 drilling site inspections in 2009 and took 678 enforcement actions against drillers for violations. The 68 additional personnel will be funded from money generated by higher permitting fees.

Amended oil and gas regulations will strengthen well construction standards and define a drilling company's responsibility for responding to gas migration issues, such as when gas escapes a well or rock formation and seeps into homes or water wells:

- Require the casings of Marcellus Shale and other high-pressure wells to be tested and constructed with specific, oilfield-grade cement;
- Clarify the drilling industry's responsibility to restore or replace affected water supplies;
- Establish procedures for operators to identify and correct gas migration problems without waiting for direction from DEP;
- Require drilling operators to notify DEP and local emergency responders immediately of gas migration problems;
- Require well operators to inspect every existing well quarterly to ensure it is structurally sound;
- Require well operators to notify DEP immediately if problems such as over-pressurized wells and defective casings are found during inspections.

New DEP Oil/Gas Office In Scranton

DEP will open a new Oil and Gas Management office in Scranton, Lackawanna County, to oversee increased natural gas drilling in the region. On Jan. 28, Gov. Rendell announced DEP will hire 68 permitting and inspection staff, including 10 for the new Scranton office, in response to expectations that the industry will apply for 5,200 new Marcellus Shale drilling permits in 2010 -- three times the number of permits issued during 2009. The governor also announced that DEP will strengthen oil and gas regulations to improve well construction standards.

EPA Establishes 'Eye on Drilling' Tipline

U.S. Environmental Protection Agency has created an "Eyes on Drilling" tipline for citizens to report suspicious activities related to natural gas and oil development. Citizens are asked to call, toll-free, 1-877-919-4372, if they observe what appears to be illegal disposal of wastes of other suspicious activity. Reports can also be submitted by email to eyesondrilling@epa.gov.

Commissioners Association Takes Stand On Tax Issues

County commissioners from across the state are calling on the legislature to restore counties' ability to assess oil and gas holdings as real estate. This would generate revenue for school districts, townships and counties. A 2002 Pennsylvania Supreme Court decision declared gas and oil rights to be tax-exempt. CCAP also supports Senate Bill 298, which would clarify the roll-back tax penalties which would have to be paid if property enrolled in the "Clean and Green" program for reduced taxes is converted to energy production, including gas wells.

Cooperative Extension Starts Water Quality Newsletter

Penn State Cooperative Extension has launched a quarterly water quality newsletter, *Water Currents*. Cooperative Extension encourages those who would like to see the newsletter to access it on the internet or to sign up to receive it by email. The agency's water management/issues website is at water.cas.psu.edu. To sign up for the newsletter by email, send a note to Jim Clark at jac20@psu.edu.