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Water Gets Cloudier: Pitt Professor Says Fracking Safe, Decades-Old Process

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WHEELING - If you ask Radisav Vidic, he will tell you there is no evidence that hydraulic fracturing of Marcellus Shale natural gas wells causes water pollution.

Some federal legislators, however, do not want to take chances, as U.S. Sen. Robert Casey, D-Pa., is sponsoring legislation to allow the U.S. Environmental Protection Agency to oversee the activity.

The process of how companies drill and "frack" wells in the Marcellus Shale formation, located more than a mile beneath the Earth's surface, has come under scrutiny for the past several months. Drilling problems in towns such as Dimock, Pa., where Cabot Oil and Gas is accused of contaminating well water with methane due to insufficient casing during the drilling process, is only adding to the call for more regulation of the industry.

The issue of Marcellus drilling as it pertains to West Virginia's water supply will be discussed this week during the West Virginia Water Conference in Morgantown. Dave McMahon, an attorney representing the West Virginia Surface Rights Organization, is among those slated to speak on the potential environmental impacts of Marcellus drilling.

Hydraulic fracturing, commonly referred to as "fracking," takes place after drillers bore horizontal shafts deep into the earth. Millions of gallons of water, sand and chemicals are then forced down the hole at high pressure, which breaks apart the Marcellus Shale and releases the trillions of cubic feet of natural gas trapped in the formation.

The process is currently exempt from the federal Safe Drinking Water Act, enforced by the EPA. Some have called into question the chemicals used in fracking, raising concern that they could, either now or in the future, find their way into underground water tables and contaminate water sources.

However, Vidic, professor of environmental engineering at the University of Pittsburgh, said this form of rock fracturing has been used for decades to extract minerals - and with no direct side effects.

"I have not seen any evidence that fracturing itself poses a danger to the environment," he said. "The process has been around since the 1950s. If everything is followed correctly and done by the book, the impact should be minimal."

Currently, the Pennsylvania Department of Environmental Protection is investigating six Chesapeake Energy wells that may have leaked drilling methane into the Susquehanna River. Also, there are many other unconfirmed reports of Marcellus drilling activity causing methane to leak into drinking water supplies, such as what is taking place in Dimock.

Information provided by the Canonsburg, Pa.-based Marcellus Shale Coalition shows that 99.5 percent of the fracking solution consists of water and sand. The remaining compounds, according to the coalition, include: acids, glutaraldehyde, sodium chloride, dimethylformamide, borate salts, polyacrylamide, petroleum distillates, guar gum, citric acid, potassium chloride, ammonium bisulfite, sodium or potassium carbonate, ethylene glycol and isopropanol.

Ethylene glycol is a compound found in antifreeze, while dimethylformamide is used to manufacture plastics. Most of the other chemicals can be found in common household products such as swimming pool cleaner and table salt.

Vidic said because the fracturing process involves rock so deep within the earth, it is unlikely that any of the chemicals - or methane- would seep into water supplies.

"People may indeed have methane in their water," Vidic said. "But there is no evidence that this would come from the Marcellus Shale."

A June 7 explosion at an AB Resources drilling site in Marshall County provides a good example of how problems with methane can come about during the drilling process. While drilling through an abandoned coal mine, drillers there hit a pocket of methane gas about 1,200 feet into the earth, which ignited and caused an explosion, injuring seven workers. The West Virginia Department of Environmental Protection cited AB Resources for "failure for inaccurately reporting coal seam depth in well work application permit."

Casey's bill, the "Fracturing Responsibility and Awareness of Chemicals Act" - more commonly known as the FRAC Act - would "repeal the exemption from restrictions on underground injection of fluids near drinking waters sources granted to hydraulic fracturing operations" and "require oil and gas companies to

Article Photos



About 1,200 people recently packed a conference room at Canonsburg, Pa.'s Hilton Garden Inn to express their views about Marcellus Shale drilling to U.S. Environmental Protection Agency officials.

(Photo by Casey Junkins)

disclose the chemicals used in hydraulic fracturing operations."

Vidic said he was not familiar enough with the provisions of the FRAC Act to discuss its merits. However, Kathryn Klaber, president and executive director of the Marcellus Shale Coalition, believes the drilling and fracturing process should remain exempt from EPA oversight.

Upon introducing the bill to the 111th Congress, Casey said he believes there is great risk of contamination for residents who depend on drinking water wells if those folks live near fracking sites. He later said, "Hydraulic fracturing involves the use of sometimes toxic chemicals that are injected underground, often in close proximity to underground sources of drinking water."

Currently, Casey's bill - along with its companion in the House of Representatives, sponsored by U.S. Rep. Diana DeGette, D-Colo. - remains in committee. No votes on the bills are expected anytime soon, though some provisions of the legislation may be inserted into other bills.

Klaber, however, believes Casey and DeGette are greatly exaggerating the threats fracking poses to the environment.

"The energy IQ in this country is very low," Klaber said. "We readily share with the public the chemicals we use for fracking."

"There is so much misinformation out there," Klaber added. "These people are trying to draw a connection between Marcellus drilling and water pollution."

Klaber also said the states "have done a good job of regulating."

"This would create a whole new line of inspectors and permitting, asking the industry to work with new requirements," she said.

Matt Sheppard, Chesapeake Energy spokesman, said his company aligns itself with the coalition's views of the FRAC Act.

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