Report -- fracking chemicals in NE Pa. water wells

Michael Rubinkam, Associated Press, 9-18-10

DIMOCK, Pa. — A private consulting firm says it found toxic chemicals in the drinking water of a Pennsylvania community already dealing with methane contamination from natural gas drilling.

Environmental engineer Daniel Farnham said Thursday that his tests, which were verified by three laboratories, found industrial solvents such as toluene and ethylbenzene in "virtually every sample" taken from water wells in Dimock Township, Susquehanna County.

Farnham, who has tested water for both gas interests and for local residents, said it would be impossible to say that the chemicals he found were caused by gas drilling.

The chemicals, at least one of which, ethylbenzene, may cause cancer, are among dozens used to hydraulically fracture shale deposits to unlock natural gas trapped thousands of feet underground. The chemicals are also used in an array of products ranging from paint thinner to gasoline.

The contaminated Dimock wells are in the gas-rich Marcellus Shale, where a rush to tap the vast stores has set off intense debate over the environmental and public health impact of the drilling process. Millions of gallons of water mixed with numerous chemicals and sand are blasted deep into the earth to free gas from the shale rock. As much as 90 percent of the mixture is left underground.

Dimock residents sued Houston-based Cabot Oil & Gas Corp. last year, alleging the drilling company polluted their wells with methane gas and other contaminants. Pennsylvania's Department of Environmental Protection said defective casings on at least three of Cabot's wells allowed gas to pollute groundwater. Cabot was fined more than $240,000 and ordered to clean up the pollution.

On Thursday, DEP said it would spend about $10.5 million to provide safe water for the affected Dimock residents, connecting their homes to a municipal water supply in Montrose, about six miles away. The residents balked at an earlier fix that would have placed large, whole-house water treatment systems in each of the 14 affected homes.

DEP chief John Hanger told The Associated Press that the connection to public water is "the best, and really only, solution" and that if Cabot balks at paying the tab, the state will pay for the work itself — then go after Cabot for the money.

Officials and residents had discussed another option — drilling a well or wells and piping that water to the homes — but Hanger said it was dropped because "we don't believe that will ensure a permanent, safe supply of water."

A person who took part in the discussions said Hanger told residents the entire aquifer might be polluted by gas drilling operations.

"He said, 'I cannot guarantee that there is any water in the aquifer that is clean today, that will be clean next week, that will be clean six months after the whole system is put in, because of the drilling activity and the damage to the aquifer.' It was repeated twice," said the person, who spoke on condition of anonymity to discuss a private meeting.

Later Tuesday, Hanger denied through a spokeswoman making the statement. DEP spokeswoman Helen Humphries said Hanger believes the threat of stray gas migration is the chief problem with drilling new water wells.

"We want to ensure there's not a chance for methane gas to migrate into the water wells. The best way of doing that is to install a water line to provide public water," she said.

On Tuesday, 13 families in Lenox Township, about eight miles from Dimock, sued another Houston driller, Southwestern Energy Co., claiming their wells were contaminated with fracking fluids. Southwestern denied any problems with its well.

In Dimock, Farnham said the water samples were tested independently by three labs, all of which showed the same results.

But Farnham said it's impossible to tell where the chemicals came from.

"Can anybody say that this came from fracking, or from frack flowback? There's no way a true scientist would be able to make that determination based on the data that we have," he told The Associated Press on Thursday. "Until and unless we are able to put a die or marker in the frack liquid, it's going to be awfully difficult to prove irrefutably that it's coming from frack."

Cabot spokesman George Stark said the chemicals existed in some wells before drilling began.

"We have asked for samples of the affected well water so we can do an independent analysis," he said.

Dimock residents have claimed their wells were contaminated shortly after Cabot started drilling near their homes, saying the water that came out of their faucets suddenly became cloudy, foamy and discolored, and smelled and tasted foul.

One resident's well exploded on New Year's Day 2009, prompting a state investigation that found Cabot had allowed combustible gas to escape into the region's groundwater supplies.

Cabot says the methane in the residents' wells might be naturally occurring.

Farnham — hired by Cabot in 2008 to perform pre-drill testing of residential water wells in Dimock — said those tests did not turn up any problems, adding he did not even test for the chemicals that Cabot claims existed prior to drilling.

After the drilling began, Farnham was asked by residents to test their water, and was later hired by plaintiffs' attorneys.

"It doesn't take me or any scientist to see some of the impacts on the drinking water," he said. "Your drinking water goes from clear and fine, to a week later being yellow-colored, sediment on the bottom, foam on the top and an oily smell to it. It's not a figment of anybody's imagination."

The Dimock test results were first reported by The Times-Tribune of Scranton.