To: Schmit, Ayn[Schmit.Ayn@epa.gov]
Cc: Bloom, Judy[Bloom.Judy@epa.gov]; Garcia, Bert[Garcia.Bert@epa.gov]
From: Minter, Douglas
Sent: Tue 3/29/2016 9:03:19 PM
Subject: FW: Former EPA sleuth links fracking to tainted drinking water

Ayn: I am guessing you have seen this, but just in case….

Douglas

From: Graves, Brian
Sent: Tuesday, March 29, 2016 1:58 PM
To: Wiser, Nathan <Wiser.Nathan@epa.gov>; Minter, Douglas <Minter.Douglas@epa.gov>; Cheung, Wendy <Cheung.Wendy@epa.gov>; Lawrence, Rob <Lawrence.Rob@epa.gov>; Overbay, Michael <overbay.michael@epa.gov>; Jollie, Jeff <Jollie.Jeff@epa.gov>; Bates, William <bates.william@epa.gov>; Kobelski, Bruce <Kobelski.Bruce@epa.gov>; Dellinger, Philip <dellinger.philip@epa.gov>; Johnson, Ken-E <Johnson.Ken-E@epa.gov>
Subject: Former EPA sleuth links fracking to tainted drinking water

Former EPA sleuth links fracking to tainted drinking water

Pamela King, E&E reporter

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A team of Stanford University scientists led by a former U.S. EPA investigator has linked hydraulic fracturing in Pavillion, Wyo., to underground drinking water contamination.

Lead author Dominic DiGiulio, who wrote the 2011 EPA draft report on Pavillion's water, is now a visiting scholar at the Stanford School of Earth, Energy & Environmental Sciences.

The team's conclusions, published today in the journal *Environmental Science & Technology*, are based on an analysis of public records and documents obtained through the Freedom of Information Act.

"This is a wake-up call," DiGiulio said in a statement.

Oil and gas activity in the Pavillion field has been documented by U.S. EPA, but its potential impact remains uncertain, the Stanford researchers said. In 2008, Pavillion residents reported an unpleasant taste and odor in their drinking water. Three years later, EPA issued a preliminary report connecting fracking to the occurrence of toxins in Wyoming wells (*Greenwire*, Nov. 18, 2011).

"Hydraulic fracturing in the United States is legal," DiGiulio said. "That can translate into impact of water resources. It's not clear whether impact is legal. Certainly the process itself is legal."

Encana Corp., a Pavillion operator, criticized EPA's findings, saying the chemicals were not found in residential water wells (*Greenwire*, Dec. 21, 2011). The company later provided a grant to the state of Wyoming to continue the groundwater contamination investigation after it was abandoned by EPA (*EnergyWire*, June 21, 2013).

The Wyoming Department of Environmental Quality determined last year that it was "unlikely" frack fluids had reached water wells.

For the Stanford report, "the researchers didn't take any samples, but just reinterpreted EPA's old data," Katie Brown, spokeswoman for the industry group Energy in Depth, wrote in an email. "These are the same data that the U.S. Geological Survey, the Bureau of Land Management and Wyoming regulators said were faulty, because EPA's own flawed monitoring could have introduced 'bias in the samples.' ... This new study is just the same tired refrain we've heard over and over from drilling critics, whose claims have been repeatedly debunked."

An official from the Wyoming DEQ declined to comment on the report.

Food & Water Watch Executive Director Wenonah Hauter wrote in an email that the Stanford researchers are demonstrating the need for the federal government to revive its probe.

"This study reaffirms that contamination has happened in Pavillion, and it has reached the level of groundwater," Hauter wrote. "This review of available science is welcome, but the EPA needs to reopen an official investigation into the contamination in Pavillion -- as well as in Dimock, Pa., and Parker County, Texas -- and revisit the findings of its controversial drinking water study that there have been no 'widespread, systemic' effects from fracking, as its own science advisory board has asked it to do."

Unlike a tight shale formation, Pavillion's environment was shaped by the flow of a river, and it lacks the confining layers that can protect underground drinking water sources from contamination, DiGiulio said. But it's not a special case.

"Geologic and groundwater conditions at Pavillion are not unique in the Rocky Mountain region," he said. "This suggests there may be widespread impact to underground sources of drinking water as a result of unconventional oil and gas extraction."

To address regional concerns, DiGiulio and his colleagues recommended further investigation and tighter state-level regulations over fracking and protective well casings.