
Another Voice / Environment

Scott Cline: Article about hydrofracking ignores crucial facts

By **Scott Cline**

Published: February 24, 2011, 12:00 AM

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Updated: February 24, 2011, 9:45 AM

The recent Another Voice titled, “Hydrofracking too risky without an enforcement tool,” exemplifies the lack of understanding of geology, shale gas development technology, New York’s regulatory environment and even where gas exploration is likely to occur. In reality, there isn’t even going to be any Marcellus or Utica shale drilling in far Western New York, so these worries and calls for moratoriums in places like Buffalo are irrelevant.

And contrary to the author’s other speculations, there is no danger of contaminating shallow fresh water aquifers from the hydraulic fracturing that is carried out more than a mile beneath the earth. No fracture fluid is being injected into ground water sources, either, as suggested by the author. All fresh water sources are confined to the shallow strata less than approximately 1,000 feet deep while the target shales and hydraulic fracturing occur nearly a mile or more deep. The saline water in rock thousands of feet deep is disconnected from shallow aquifers, and hydraulic fracturing cannot break through these thousands of feet of rock.

Wild speculation of communication pathways between shale formations a mile or more deep and the shallow ground water by the most outrageous hypothetical mechanisms is simply nonsense. The fracturing pressures that could potentially drive fluid from the target shale formation toward the aquifer are applied for short periods of time (days), while the required travel time for fluid to flow from the shale to the aquifer under continual injection pressure is measured in years.

Once the very short duration fracture pressure is released, all fluid flow is reversed toward the well bore, which acts as a pressure sink. Any water left behind at the end of production is sealed for geologic time with no pressure mechanism remaining to move fluid. Even if the water could move, which it can’t, the dilution factor of the hundreds of billions of gallons of saline water contained in the overlying pore space separating deeply buried shales from the ground water would make frac fluid undetectable. I refer

readers to Appendix 11 of the draft Supplemental Generic Environmental Impact Statement for technical details that are also confirmed by micro-seismic mapping and the experience of all state regulatory agencies that have testified that they have never seen an instance of ground water contamination from hydraulic fracturing.

In reality, shale gas exploration boils down to a temporary traffic nuisance, working with local communities to minimize short-term inconveniences and making sure that the water that returns to the surface through the well bore is properly stored, transported and either recycled or treated. The fracture stimulation process in the deep subsurface that the author speaks about is not a concern. It won't be happening in far Western New York and proposed DEC regulations are peerless in stringency.

Scott Cline holds a bachelor's degree in geological science and a doctorate in petroleum engineering.

Comments

SORT: NEWEST FIRST | OLDEST FIRST

How do you reconcile this editorial with the article at this link:

<http://www.nytimes.com/interactive/2011/02/27/us/natural-gas-map.html?ref=us>

MICHAEL ZIOLKOWSKI, GRAND ISLAND, NY on Sat Feb 26, 2011 at 08:04 PM

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A funny anecdote about this. At a meeting between landowners and industry representatives an industry spokesman tried to placate the group by explaining that with all the perceived problems any contamination in the water was less than one half of one percent. One farmer asked then your would drink a glass of water that had less than one half of one percent toxins? The spokesman didn't reply.

HAP KLEIN, TONAWANDA, NY on Fri Feb 25, 2011 at 12:01 PM

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Somehow Fracking for Oil got left out of Pure Waters Act, by the oil lobbyists intervention. (See PBS Sunday Program "Need To Know.") A former worker stated that at the beginning of the Fracking industry a lot of care for the environment was taken. Chemicals were added. Drilling is now done haphazardly as if there was a gold rush. We are also using Diesel fuel to break the shale. Nothing on the EPA books yet. The Fracking industry says so many parts per million of toxic

contaminants are used in their process. If they use thousands of gallons of water to break through the rock then the toxic amounts become hundreds of gallons. This is where the problem is. Fracking may be a short term fix for our energy problems but it could result in long time damages to already short fresh ground water supply.

PHILIP JAMES JAROSZ, BUFFALO, NY on Fri Feb 25, 2011 at 09:19 AM

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In the past three years I have noticed that about every ten days another article appears in support of gas drilling and especially hydro fracking. Most of the articles are by Industry Representatives. Mr. Cline must be different since he submits academic credentials only. It would be extremely disingenuous if not dishonest to represent the industry in this context of a supposedly honest appraisal of the controversy. But what makes me comment on this article is the assertion: In reality, shale gas exploration boils down to a temporary traffic nuisance, working with local communities to minimize short-term inconveniences and making sure that the water that returns to the surface through the well bore is properly stored, transported and either recycled or treated. The fracture stimulation process in the deep subsurface that the author speaks about is not a concern. It wont be happening in far Western New York and proposed DEC regulations are peerless in stringency. This is a ridiculous. Just travel a couple hundred miles to Dimmick, Pennsylvania and talk to some of the residents who for more than five years have suffered a crushing loss of quality of life with the terrible traffic of heavy equipment and trucks. Lawsuits fill the courts by people who after generations of clean water from their wells now depend on bottled water. A 9000-gallon drill wastewater spill two years ago destroyed one stream forever. Every time the Department of Environmental Protection (DEP) files a violation the gas industry responds with a counter suit. This entire hydro fracking hoax threatens the fresh water of Eastern US. Period.

HAP KLEIN, TONAWANDA, NY on Thu Feb 24, 2011 at 09:11 AM

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