

## Comments to the EPA Scientific Advisory Board

I was dismayed last year to read the EPA's assessment that there is no widespread groundwater pollution from fracking. I can just imagine the jigs performed by drilling apologists whose mantra has for years been "there has never been any water pollution caused by fracking". Yet private individuals have for years reported contamination of their wells and their observations have been confirmed by a mounting number of independent scientific reports. I do not understand why the EPA is failing to protect our nation's aquifers.

<http://clear.uta.edu/research/publications.php>

Eight states plus three Canadian provinces have reported water contamination from fracking operations. A University of Waterloo report warns that natural gas seeping from 500,000 Canadian well bores represents "a threat to environment and public safety" due to groundwater contamination, greenhouse gas emissions and explosion risks. Ten per cent of all active and suspended gas wells in British Columbia leak methane. In Saskatchewan, 20 per cent of all wells leak, and in Alberta, regulators report chronic seepage from 27,000 wells.

<http://www.frackcheckwv.net/impacts/the-human-story/>

[http://geofirma.com/wp-content/uploads/2015/05/lwp-final-report\\_compressed.pdf](http://geofirma.com/wp-content/uploads/2015/05/lwp-final-report_compressed.pdf)

My friends Steve Lipsky and Shelley Perdue and twenty of their neighbors in southern Parker County Texas had good well water until fracking began in their neighborhood. Shortly afterwards, their water turned brown. They haven't been able to drink it for six years. It contains explosive levels of methane. Those who still try to use their well water for bathing have to open their windows when they shower, for safety. A driller told them they don't have water wells, they have gas wells. I guess the EPA report redefined these as gas wells rather than polluted water wells.

The initial study by CLEAR of drinking water wells in the Barnett Shale found excessive arsenic and selenium levels in water within three km of natural gas wells, but not in water beyond 3 km of natural gas wells. That organization has expanded its studies of water wells in the Barnett Shale and has found BTEX compounds, which do not occur naturally, in groundwater "throughout the region." That sounds pretty widespread.

<http://pubs.acs.org/doi/abs/10.1021/es4011724>

<http://pubs.acs.org/doi/abs/10.1021/acs.est.5b01526>

Last year, I walked through a limestone cavern in Texas and saw pools of water everywhere. The pools were all connected. Lots of drilling is done in limestone regions. It's easy to see how one contaminated water well will eventually contaminate an entire aquifer. The Trinity Aquifer under Steve Lipsky's property extends from Oklahoma to San Antonio. How long will it take to contaminate this entire aquifer? Experts tell us that ground water contamination travels about a mile every year. That means we have the potential to contaminate the entire length of that aquifer in about 100 years, but as more wells become contaminated it might take only 25 years.

The EPA report described faulty cement casings as one cause of groundwater contamination. In 2011 alone, sixty-five Marcellus Shale gas wells were cited for faulty cement casings. Sixty-five

sounds like a small number compared to the thousands of active wells in that play, but violations are self-reported.

[http://www.nytimes.com/2011/11/20/magazine/fracking-amwell-township.html?\\_r=0](http://www.nytimes.com/2011/11/20/magazine/fracking-amwell-township.html?_r=0)

The literature is full of images illustrating how gas wells leak. I refer you to images in my written comments.

<http://www.sciencedirect.com/science/article/pii/S0264817214000609#fig4>

State Regulators whose campaign contributions come from oil and gas have little incentive to effectively regulate the fracking industry. The Texas Railroad Commission revised Rule 13 to require cementing all layers of rock that might contain oil and gas, but the Commission allows Texas drillers to ignore the revised rule.

<http://www.wfaa.com/news/local/investigates/rules-ignored-water-fouled-in-barnett-shale/38337835>

Leaking wellbores are only one potential violation that can contaminate groundwater. I again refer to the Marcellus Shale, where over half the active wells reported violations.

<http://stateimpact.npr.org/pennsylvania/drilling/violations/>

Carelessness and fraud are encouraged when the EPA says there is no evidence of widespread pollution of ground water. Self-regulation has never been a good idea. Bridges and roads have strong federal controls on the use of concrete. Why can't the oil and gas industry?

Are eight states reporting groundwater contamination not sufficient to count as widespread? Does the EPA discount all the possible sources of the pollution associated with a fracking well's operations and, as the industry loves to do, only count the explosive fracturing of rock at the bottom of the hole? The EPA has a responsibility to rise above such flimsy defenses of a dirty industry and protect our nation's water.

In conclusion, the EPA used to work for public good, but now it is a shill for the fracking industry. It shouldn't take a reprimand by your Scientific Advisory Board for the EPA to tell the truth.

**Chris Guldi 6/8/2016**