

EPA Scientific Advisory Board Public Meeting:
Quality Review of the June 2015 draft Assessment of Potential Impacts to Drinking Water Resources from Hydraulic Fracturing for Oil and Natural Gas

I've spent the past two years traveling the nation researching water contamination cases related to the US fracking boom. My experience on the ground talking directly to victims gives me a perspective I hope is helpful to the EPA and the Fracking Advisory board as they consider the Draft Assessment.

Not possible to know how 'widespread' and 'systemic' water contamination is.

Because it's standard for operators who have polluted water wells to require contamination victims to sign a silence agreement before they receive restitution, it's not possible to know how many such cases have occurred. In response to my inquiries, Pennsylvania's DEP confirms that families who wish to, can leave the state regulator out of the process entirely, or nearly entirely.

These cases have not been quantified and included in your report, making it impossible to accurately count the number of cases of that have occurred due to gas extraction activities. The claim that the number of contamination cases is low when compared to the number of wells drilled is spurious because it is not based on an accurate accounting of water contamination cases.

In addition to cases settled directly with the operator, many contamination victims don't report the event at all for fear of being labeled anti-fracking. If they work for the gas industry, they often fear losing their jobs. One family I met, whose water was polluted after fracking (not drilling) occurred nearby, spoke to me off the record and stated that if they took their story to the public, the operator (Cabot Oil & Gas) would stop bringing them water.

DEP does publicly confirm it sent 243 determination letters alerting homeowners to drilling-related water contamination, yet that number certainly understates the number of actual contamination cases. Unless we document how many cases have actually occurred there is no way to know if water contamination is 'widespread' and/or 'systemic'.

Claims that contamination occurs in only small percentage of cases are unfounded.

"In the absence of documented drinking water contamination events" Lee Fuller

The gas industry's long history of claiming that there has never been a single case of water contamination related to hydrofracturing also pollutes the conversation. Even recent industry

comments submitted to the EPA regarding this report and its review, deny any water contamination from fracking. This is due in part to industry's definition of 'fracking' as only what occurs in the horizontal part of the well thousands of feet underground—thus excluding almost everything involved in drilling and fracking a well. But the industry position also a continuation of a longstanding denial going back to before the EPA did their 2004 report on fracking's effects on national water supplies. Known cases of fracking-related contamination were ignored for that report also.

<http://www.nytimes.com/gwire/2011/05/20/20greenwire-frack-studys-safety-findings-exaggerated-bush-65374.html>

http://www.nytimes.com/interactive/us/drilling-down-documents-7.html?_r=0

Fracking as US Energy Policy

The US Congress is about to pass an enormous new energy bill that will be the de facto energy policy for the nation. A central but little-discussed component of this bill will fast-track natural gas infrastructure like LNG export terminals and pipelines. No one has calculated how many wells would be necessary to satisfy demand for a full-scale export market. The best guesses from experts I've talked to is around 3 million wells. The Energy Information Administration estimates 300,000 shale gas and oil wells have been fracked as of 2015. This means a ten-fold increase in an industrial process that has already created an enormous impact on communities and environmental resources.

Our national conversation on energy policy makes little mention of this enormous scaling up of fracking and the still unquantified problems associated with it. Industry representatives still claim there has never been a case of water contamination caused by fracking. As long as we take clearly spurious claims like this seriously, we can't have a valid conversation about how investments in energy infrastructure will be made for decades to come.

Industry uses a sleight of hand in order to make the no-case-of-water-contamination claim. They define 'fracking' is only what happens thousands of feet underground and claim that there has never been a proven case of water contamination related to this part of the process. But then they go on to argue that the entire industrial process of fracking is should be deemed environmentally safe. It's EPA's job to sort through methodological card tricks like this and provide the public with accurate information about the entire process of fracking—not just water contamination but its impact on communities, worker health, air quality and climate.

We aren't estimating the true effects of 3 million planned fracked gas and oil wells will have on our water sources because aren't even counting known cases.

No known cases of water contamination included in our Federal report on Fracking's effect on drinking water.

We know there have been hundreds of water wells contaminated by shale gas extraction. No one is actually counting the total cases that have occurred across the nation since the shale boom began. The three large cases where EPA stepped in and then abandoned people with serious water contamination, have been represented in hearings by those whose lives have been turned upside down. Their testimonies were compelling, heart-breaking and honest. How is it that shale gas industry representatives can sit through these testimonies and still claim in written and live testimony that no cases of water contamination have occurred?

The shale gas industry has a set of talking points about these cases which summarily dismisses them all. Lee Fuller's description in the Independent Petroleum Association of America's letter to the SAB dated December 15, 2015 covers these talking points well on page 11. In each case they cherry-pick, ignoring overwhelming evidence of serious and long term real water contamination.

In Pavilion, Wyoming a recent study by Stanford's Rob Jackson again showed dangerous levels of water contamination and illuminated deep flaws in the state's study released earlier in 2016. Health effects expected from the kind of contamination the recent study found have been reported by residents of Pavilion for years. John Fenton has come to DC many times to plead for help for himself and his neighbors, while the shale gas industry continues to claim their activities were entirely unrelated and caused no damage to water supplies;

Impact to Underground Sources of Drinking Water and Domestic Wells from Production Well Stimulation and Completion Practices in the Pavilion, Wyoming, Field

Dominic C. DiGiulio and Robert B. Jackson

"A comprehensive analysis of all publicly available data and reports was conducted to evaluate impact to Underground Sources of Drinking Water (USDWs) as a result of acid stimulation and hydraulic fracturing in the Pavilion, WY, Field. Although injection of stimulation fluids into USDWs in the Pavilion Field was documented by EPA, potential impact to USDWs at the depths of stimulation as a result of this activity was not previously evaluated. Concentrations of major ions in produced water samples outside expected levels in the Wind River Formation, leakoff of stimulation fluids into formation media, and likely loss of zonal isolation during stimulation at several production wells, indicates that impact to USDWs has occurred. Detection of organic compounds used for well stimulation in samples from two monitoring wells installed by EPA, plus anomalies in major ion concentrations in water from one of these monitoring wells, provide additional evidence of impact to USDWs and indicate upward solute migration to

depths of current groundwater use. Detections of diesel range organics and other organic compounds in domestic wells <600 m from unlined pits used prior to the mid-1990s to dispose diesel-fuel based drilling mud and production fluids suggest impact to domestic wells as a result of legacy pit disposal practices.” <http://pubs.acs.org/doi/abs/10.1021%2Facs.est.5b04970>

In Dimock, Pa industry says the EPA found no toxins in the water that warranted concern. Yet we know the ban on drilling and fracking in a 9 mile square area around Carter rd remains in place because methane levels have not yet stabilized. New cases occur in and near the area, including the Marcom case which occurred in 2012 after limited fracking was allowed inside the 9 mile moratorium. Fracking wells that had been drilled in 2008 led to 6 new cases of water contamination. DEP’s Collen Connolly told me in a media inquiry that DEP did not test these cases, but that pollution can’t be from fracking because according to DEP fracking can never pollute water, so there is no need to test.

Finally – after these residents have lived in this toxic zone for another four years, the federal Agency for Toxic Substances and Disease Registry released their Dimock findings last month;

“ATSDR found some of the chemicals in the private water wells at this site at levels high enough to affect health (27 private water wells), pose a physical hazard (17 private water wells), or make the water unsuitable for drinking. Dimock residents who participated in EPA’s 2012 sampling may want to review Appendix B of this document to understand what chemicals were identified by ATSDR as of potential health concern in their specific private water well.”

http://www.atsdr.cdc.gov/hac/pha/DimockGroundwaterSite/Dimock_Groundwater_Site_HC_05-24-2016_508.pdf

Arsenic, lead lithium and other toxins were found at unsafe levels in Dimock water wells. The state regulator, DEP determined in 2009 that the pollution was due to extraction activities by Cabot Oil and Gas. More than 5 years later industry and its supporters still call victims like Ray Kemble frauds.

In the Parker County case, Fuller and IPAA go so far as to call the family frauds outright. They repeat the claim of the operator, Range Resources, that Steve Lipsky polluted his own water well and/or made a fake video of water contamination. The Texas Supreme court threw out this accusation in April of 2015. The claim was part of a lawsuit Range Resources filed against their own water contamination victims for \$3 million. In the Parker country case, the EPA’s Office of Inspector General’s report from 2013 upheld the EPA’s isotopic testing and the EPA’s

jurisdiction is the matter. <https://www.epa.gov/sites/production/files/2015-09/documents/20131220-14-p-0044.pdf>

As of today the Lipsky family is told by the EPA and the Texas Railroad Commission to use their water well, which has 95% gas in the headspace .. and has BTEX compounds and other toxic substances in dangerous quantities. Yet regulators have told Mr. Lipsky it's safe to bathe his children in it. You can see Dr. Hildenbrand doing live testing on this water well here:

Dangerous Fracking Related Water Contamination: Parker County Texas
<https://www.youtube.com/watch?v=qf9blbgnYes>

Lipsky family's water well. Like this for 6 years.



A national cover-up of known cases of water contamination related to the fracking boom, by politicians, industry, industry supporters and their PR firms/films, has been successful for years. You've seen the results as family after family reports water impacts related to gas and oil extraction activities and can get no help from regulators.

Industry is asking you to perpetuate the cover-up.

I hope the EPA will finally just say no.

Cover up