



April 5, 2011

## Energy In Depth Responds to NRDC's Running List of Conjectures & Distortions

### *Targets Safety, Performance of Hydraulic Fracturing*

Over the last year, our friends at the Natural Resources Defense Council (NRDC) started up a running tally on their blog identifying “incidents where drinking water has been contaminated and hydraulic fracturing is a suspected cause.”

So we've decided to start our own running blog just like NRDC. The only difference? On theirs you'll find rumor on top of speculation on top of conjecture on top of supposition on top of outright fantasy. On ours you'll find facts.

The NRDC blog currently lists 34 incidents that it believes are associated with hydraulic fracturing. We address all 34.

But first, we thought the following quotations from NRDC's Energy Program Co-Director may also be of interest:

- "I personally, and this is perhaps significant from the constituent that I represent, am both convinced by the case for more abundant domestic supply than previously thought ... and I am convinced that this, fundamentally from both economic and environmental perspectives, is good news. By any reasonable measure, the availability of more domestic natural gas supply at, from a long-term perspective, lower costs than accustomed to recently is something that environmental advocates, state utility regulators and a whole host of other constituencies can rejoice in." – **Ralph Cavanagh, Co-Director, Natural Resources Defense Council's energy program** (SNL Energy, [2/15/11](#))
- "If the industry can meet high standards of environmental performance for extracting and delivering the fuel, we are looking here at very good news for America's economy and industrial competitiveness, the environment and our nation's energy security." – **NRDC's Cavanagh** (The Oklahoman, [3/23/11](#))

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#### CLAIMS:

**Arkansas:** In 2008, Charlene Parish of Bee Branch reported contamination of drinking water during hydraulic fracturing of a nearby natural gas well owned by Southwestern Energy Company. Her water smelled bad, turned yellow, and filled with silt.

**Arkansas:** In 2009, a family in Bee Branch, who wishes to remain anonymous, reported changes in water pressure and drinking water that turned gray and cloudy and had noxious odors after hydraulic fracturing of a nearby natural gas well owned by Southwestern Energy Company.

**Arkansas:** *In 2007, a family in Center Ridge reported changes in water pressure and water that turned red or orange and looked like it had clay in it after hydraulic fracturing of nearby wells owned by Southwestern Energy Company. They told their story on YouTube.*

**Arkansas:** *In 2008, a homeowner in Center Ridge reported changes in water pressure and water that turned brown, smelled bad, and had sediment in it after hydraulic fracturing of a nearby well owned by Southwestern Energy Company. He also told his story on YouTube.*

**REALITY:** “Tests on complainants’ water found no traces of the chemicals used in the drilling fluids, officials said. Dick Cassat, chief lab supervisor at the Arkansas Department of Environmental Quality, said that water he’s tested after residents complained about nearby gas drilling was simply higher in iron and manganese, two naturally occurring substances in Arkansas groundwater sources.” (Northwest Arkansas Newspapers, [7/09](#))

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**CLAIM: Arkansas:** *In 2007, the Graetz family in Pangburn reported contamination of drinking water during hydraulic fracturing of a nearby natural gas well owned by Southwestern Energy Company. The water turned muddy and contained particles that were “very light and kind of slick” and resembled pieces of leather.*

**REALITY:** “Representatives of the Arkansas Oil and Gas Commission and the Department of Environmental Quality told [Jeff Graetz] not to drink the water after they tested it, but they said Southwestern wasn’t responsible.” (Arkansas Democrat Gazette, [7/5/09](#))

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**CLAIM: Colorado:** *In 2001, two families in Silt reported a water well blow-out and contamination of their drinking water during hydraulic fracturing of four nearby natural gas wells owned by Ballard Petroleum, now Encana Corporation. Their drinking water turned gray, had strong smells, bubbled, and lost pressure. One family reported health symptoms they believe are linked to the groundwater contamination.*

**REALITY:** “The Amos/Walker water well has been sampled numerous times since [the Colorado Oil & Gas Conservation Commission] staff received the initial complaints in 2001. Benzene, toluene, ethylbenzene, and xylenes (BTEX), frac fluid constituents, or other oil and gas related contaminants **have never been detected in any of the water samples collected** from the Amos/Walker water well to date.” ([7/05](#))

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**CLAIM: Colorado:** *In 2007, the Bounds family in Huerfano County reported a pump house exploded and contamination of drinking water during hydraulic fracturing of nearby wells owned by Petroglyph Energy.*

**REALITY:** “Impossible to prove that fracing created pathways for methane to collect in Bounds’s domestic water system.” (Christina Science Monitor, [2/5/09](#))



"It's not clear the drilling caused the methane leaks...Despite the methane mystery, [Petroglyph is] trucking water to 14 area homes and has supplied 15 homes with methane alarm systems." (USA Today, [11/3/09](#))

**CLAIM: Colorado:** *In June, 2010, the day hydraulic fracturing began on a nearby gas well in Las Animas County, landowner Tracy Dahl checked his cistern and found approximately 500 gallons of grayish brown murky water where water had previously run clear for years. The Dahls have extensive water testing documentation going back many years, verifying that their water has always been clean and clear. They were told by Colorado Oil and Gas Conservation Commission ("COGCC") staff that the water could not be tested for chemicals in the hydraulic fracturing fluid because there is insufficient information about the chemicals used. Three monitor wells on the ranch are now producing methane at an escalating rate.*

**REALITY:** "Our environmental staff has investigated hundreds of groundwater complaints over the years, to date we have found no verified instances of hydraulic fracturing harming groundwater," [Colorado Oil and Gas Conservation Commission Director Dave Neslin] said." (Trinidad Times, [7/16/10](#))

"Pioneer has funded hydrologic experts to conduct scientific investigations of domestic water wells in the vicinity of our natural gas wells,' [Pioneer Natural Resource's environmental advisor Gerald] Jacob said. 'These investigations have discovered not impacts from hydraulic fracturing but problems from the ways in which domestic water wells have been drilled, constructed and produced. For example, we have found uncased, uncemented domestic water wells drilled into methane producing formations that provide a direct conduit for methane gas to reach the surface or to connect with shallow groundwater. We have found unsterilized bacteria breach the domestic water wells and produce biogenic methane gas, colonies of bacteria that clog these wells and prevent them from producing water.'" (Trinidad Times, [7/16/10](#))

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**CLAIM: New Mexico:** *A 2004 investigation by the U.S. Environmental Protection Agency found two residents who reported that the quality of their water was affected by hydraulic fracturing.*

**REALITY:** Interestingly, the source of this "2004 investigation" is none other than the [2004 EPA report on hydraulic fracturing](#) – the one that found "no evidence" indicating a link between the use of hydraulic fracturing and the contamination of underground sources of drinking water.

As part of the agency's due diligence in compiling that report, EPA stated in its concluding chapters that some residents with whom it had communicated postulated that hydraulic fracturing may have been the cause of problems with their wells. Although EPA included that testimony as part of its study, as per its charge, it concluded that "no confirmed cases" of water contamination related to hydraulic fracturing could be found.

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**CLAIM: New York:** *In 2007, the Lytle family in Seneca County reported contamination of drinking water the morning after hydraulic fracturing of a nearby natural gas well owned by Chesapeake Energy Corporation. The water turned gray and was full of sediment.*

**REALITY:** "[Dept. of Environmental Conservation] Spokesman Yancey Roy said the DEC has a record of the Chesapeake well near Lytle's house -- but no record of a complaint, spill, or problem with Lytle's well.

'It is likely that if any turbidity was experienced in a nearby water well, it occurred when the well was being drilled -- **not when it was hydraulically fractured**. Also, turbidity essentially is stirred up sediment -- and problems with turbidity do not involve toxicity,' Roy said by e-mail." (Press & Connects, [12/8/09](#))

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**CLAIM:** *New York: In 2009, the Eddy family in Allegany County reported contamination of drinking water during hydraulic fracturing of a nearby well owned by U.S. Energy Development Corporation. The water turned "foamy, chocolate-brown."*

**REALITY:** "The commissioner of the state Department of Environmental Conservation has asserted that reports of accidents related to natural gas drilling in New York have been overblown and taken out of context." (Ithaca Journal, [1/11/10](#))

"[In a letter](#) to Assemblyman William Parment, D-150th, a member of the Environmental Conservation committee, DEC Commissioner Pete Grannis said that of the 270 incidents highlighted by an Ithaca researcher, more than half have nothing to do with natural gas drilling — and they occurred while the DEC was overseeing 10,400 wells." (Ithaca Journal, [1/11/10](#))

"Requirements in place since the 1980s have successfully rendered drilling associated methane migration so rare that there has not been a reported incident since 1996." (DEC Comm. Pete Grannis letter to Assemblyman Parment, [12/30/09](#))

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**CLAIM:** *North Dakota: The North Dakota non-profit organization Bakken Watch reports very serious health symptoms in humans, livestock, and pets after nearby hydraulic fracturing. Their website has photos of sick animals, pit leaks, and corroded tanks. North Dakota state legislators admit they are "understaffed and overwhelmed" and "struggling to provide adequate oversight amid an explosion of activity in North Dakota's oil patch."*

**REALITY:** "Lynn Helms of the North Dakota Department of Mineral Resources says that there has never been a case of fracturing causing groundwater contamination. Helms says that in every instance that fracturing has been blamed for contamination has been found to have been caused by other sources like bacteria occurring in the water or poor well construction procedures." (Plains Daily, [12/1/10](#))

"Much of our entire regulatory framework, from drilling to completion, production, and finally plugging and abandonment, is centered around measures to prevent any contamination of the water resource. ...Regulations alone don't begin to provide the full measure of a regulatory program. The North Dakota Oil and Gas Division of the Department of Mineral Resources utilizes 8 performance measures to monitor our activity in the areas of drilling permitting, UIC permitting, wellbore construction, well bore mechanical integrity testing, spill containment and clean up, fluid measurement, oil and gas conservation, and customer satisfaction. At least five of these measures are directly related to protection of water resources. These performance measures are backed up by a staff of field inspectors who visit the wells every day from when the drilling rig moves in until the permanent wellhead is installed and at least quarterly after that." (Lynn Helms, Director, North Dakota Dept. of Mineral Resources, congressional testimony, [6/4/09](#))



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**CLAIM: Ohio:** *"In 2007, there was an explosion of a water well and contamination of at least 22 other drinking water wells in Bainbridge Township after hydraulic fracturing of a nearby natural gas well owned by Ohio Valley Energy Systems. More than two years later, over forty families are still without clean drinking water and are waiting to be connected to a town water system."*

**REALITY:** On December 15, 2007, an explosion occurred in the basement of a home in Bainbridge, Ohio. Neither the house nor its furnishings suffered any kind of fire or smoke damage. Subsequent to the event, the Ohio Division of Mineral Resources Management (DMRM) conducted an extensive, year-long investigation of the incident – at the end, publishing [a report summarizing its findings](#) and describing what it believed caused the incident. DMRM concluded **the explosion was not caused by hydraulic fracturing**. Moreover: *"DMRM has concluded that it is highly unlikely that fluids used in the hydraulic fracturing process, or flow back fluids escaped from the borehole or entered into local aquifers."*

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**CLAIM: Pennsylvania:** *In September, 2010, a lawsuit was filed by 13 families who say they have been and continue to be exposed to contaminated drinking water linked to hydraulic fracturing. Eight different properties in Susquehanna County are said to have contaminated drinking water. One child has neurological symptoms consistent with exposure to toxic substances. Southwestern Energy, the company operating the well near these families, responded that it promptly investigated all complaints and that both the company and the Pennsylvania Department of the Environment independently tested the water and found no link between gas operations and the water quality and no problems with the integrity of the gas well.*

**REALITY:** "A cover letter from a DEP water quality specialist on one of the tests indicates that although he found elevated manganese, **the department could not determine that the gas exploration activity contributed to the degradation of your water supply.**" (Times-Tribune, [9/15/10](#))

**"The data that we had from our samples did not allow us to conclude that the well had been contaminated by gas well drilling,"** DEP spokeswoman Helen Humphries said." (Times-Tribune, [9/15/10](#))

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**CLAIM: Pennsylvania:** *In 2009, the Zimmerman family of Washington County reported contamination of drinking water after hydraulic fracturing of nearby natural gas wells owned by Atlas Energy. Water testing on their farm found arsenic at 2,600 times acceptable levels, benzene at 44 times above limits, naphthalene at five times the federal standard, and mercury and selenium levels above official limits.*

**REALITY:** "A recent blog from an environmentalist points to four cases in Pennsylvania...The Washington County case involved the appearance of arsenic at 2,600 times the EPA levels for safe drinking water. Arsenic is not an additive in fracture stimulation....there is no physical link to deep hydraulic fracturing." ([Terry Engelder](#), Professor of Geosciences, Pennsylvania State University)

*"Cleason Smith, a consultant with Hydrosystems Management, which tested the soil and water...said further tests are needed to confirm the source of contamination."* (Reuters, [11/9/09](#))



"George Zimmerman filed suit against Atlas Energy Inc., alleging that Atlas' hydraulic fracturing methods had caused property damage to Zimmerman's land...Causation will continue to prove a significant obstacle to plaintiffs' claims of property damage and groundwater impact, especially since available information concerning the composition of frac chemicals does not generally support allegations of material concentrations of carcinogenic or otherwise toxic compounds." ([11/17/09](#))

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**CLAIM: Pennsylvania:** *In 2008, two families in Gibbs Hill [McKean County] reported contamination of drinking water after hydraulic fracturing of a nearby natural gas well owned by Seneca Resources Corporation. Their water had strong fumes, caused burning in lungs and sinuses after showering, and caused burning in the mouth immediately upon drinking. The state found that the company had not managed the pressure in the well properly and had spilled used hydraulic fracturing fluids that contaminated the drinking water supply.*

**REALITY:** "A recent blog from an environmentalist points to four cases in Pennsylvania but the McKean County case was a clear case of methane migrations from shallow pockets, not deep hydraulic fracturing...there is no physical link to deep hydraulic fracturing." ([Terry Engelder](#), Professor of Geosciences, Pennsylvania State University)

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**CLAIM: Pennsylvania:** *In 2009, families in Bradford Township reported contamination of drinking water after hydraulic fracturing of nearby natural gas wells owned by Schreiner Oil & Gas. The drinking water of at least seven families has been contaminated.*

**REALITY:** To be clear, hydraulic fracturing was not to blame in this instance; but rather, the failure was associated with well design and construction:

"The department suspects the stray gas occurrence is a result of 26 recently drilled wells, four of which had excessive pressure at the surface casing seat and others that had no cement returns." ([Bradford Era, 5/4/09](#))

While the operator was cited under Pennsylvania state law, hydraulic fracturing had nothing to do with these violations. If well design and construction guidelines in place at the time of the incident had been followed, the incident would not have occurred. Nonetheless, Pennsylvania has taken this issue head on, recently enacting new standards for well design and construction.

"We strengthened the rules governing the design and construction of gas wells and this rule became effective in January 2011... The standards are much stronger than the pre-existing rules and are now state of the art. The new gas drilling rules are essential to public safety, and they must be rigorously followed and enforced." ([Former Pennsylvania Secretary of Environmental Protection, John Hanger, Business Journal, 1/14/11](#))

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**CLAIM: Pennsylvania:** *"In 2009, the Smitsky family in Hickory reported contamination of their drinking water after hydraulic fracturing of nearby natural gas wells owned by Range Resources. Their water became cloudy and foul-smelling. Testing found acrylonitrile, a chemical that may be used in hydraulic fracturing. The EPA is now investigating this incident."*

**REALITY:** A review of the MSDS information on-file with the PA Department of Environmental Protection (DEP) reveals that no acrylonitrile was used in the process of fracturing this well. According to reports, Ms. Smitsky expressed her concerns with the well a full five years after the drilling procedure had been completed.

Questions also remain about the quality of the well's water prior to the operations taking place. According to the [Center for Rural Pennsylvania](#), an agency of the PA General Assembly, "approximately 41 percent of the [private water] wells tested [in PA] failed to meet at least one of the health-based drinking water standards." Although a final report from DEP has yet to be released, initial drafts from the agency suggest that the company's activities were performed safely with no impacts to groundwater.

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**CLAIM: Pennsylvania:** *A family in Bradford County reports that its water turned black and became flammable from methane contamination in 2009 after hydraulic fracturing of a nearby well operated by Chesapeake Energy. The water cleared for a while but turned black again in 2010. Relatives living down the road also report their water turning black in 2010.*

**REALITY:** "Many wells were never tested before Marcellus Shale drilling began and may have had 'pre-existing' problems such as methane contamination, making it difficult to know if the methane in them is the result of methane gas migration from nearby fracking operations, [Bruce Swistock, Ph.D., professor with Penn State University's Water Resources Extension] said." ([3/21/01](#))

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**CLAIM: Texas:** *Larry Bisidas is an expert in drilling wells and in groundwater. He is the owner of Bisidas Water Well Drilling in Wise County, and has been drilling water wells for 40 years. Two water wells on his property became contaminated in 2010. When his state regulator stated that there has been no groundwater contamination in Texas related to hydraulic fracturing, Mr. Bisidas replied: "All they've gotta do is come out to my place, and I'll prove it to them."*

**REALITY:** "Casing seals wellbores. It prevents contamination of a fresh-water aquifer from non-potable aquifers or chemicals used by the oil and gas industry. The Texas Railroad Commission (TRC) has casing requirements set in place before fracking can occur. Ramona Nye, spokesperson for the commission, said failure to properly cement or case gas wells has not been a serious problem in Texas. Nye said there are '**no documented cases of groundwater pollution**' in the **Barnett Shale due to fracking.**" (Wise County Messenger, [10/4/10](#))

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**CLAIM: Texas:** *In Wise County, Catherine and Brett Bledsoe report that their drinking water became contaminated in 2010 soon after hydraulic fracturing began on two natural gas wells bordering their property. The water stung their eyes during showers, and their animals refused to drink the water. Without any assistance from regulators, the Bledsoes paid for their own water testing. The testing found benzene, a known carcinogen, at double the safe levels.*

**REALITY:** "Government and third-party regulators of the natural gas industry take chemical testing and safety seriously. After all, they live and work in the area too. Air testing continues to go on near every drilling location—all over the Barnett Shale area. The Texas Commission on Environmental Quality ([TCEQ](#)) and individual energy companies have each completed [studies](#) searching for benzene and all



groups are committed to continued, regular testing. The Barnett Shale Energy Education Council plans to conduct its own study as well. Factual research and unbiased studies demonstrate that **residents can be certain that unsafe levels of benzene are not being released into the North Texas environment.**" ([Barnett Shale Energy Education Council](#))

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**CLAIM: Texas:** *In 2007, three families who share an aquifer in Grandview reported contamination of drinking water after hydraulic fracturing of a nearby well owned by Williams. They experienced strong odors in their water, changes in water pressure, skin irritation, and dead livestock. Water testing found toluene and other contaminants.*

**REALITY:** Toluene is a chemical widely used as an industrial feedstock and as a solvent in common products such as paint thinners; as well as a gasoline additive and a component of dynamite. Private consultants hired to test the water well in question found toluene levels to be within federal government standards:

- “Dr. Judy Reaves, a hydrogeologist with almost 20 years’ experience, said **the level of toluene ‘doesn’t exceed the Environmental Protection Agency’s level of risk.’**” ([Ft. Worth Weekly, 4/30/08](#))
  - “Richard S. Record, a geologist and Cirrus’ Dallas operations manager, also noted that **toluene in the sample from Sayers’ well falls below the level that the EPA labels as unsafe.**” ([Ft. Worth Weekly, 4/30/08](#))
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**CLAIM: Texas:** *The Scoma family in Johnson County is suing Chesapeake Energy, claiming the company contaminated their drinking water with benzene and petroleum by-products after hydraulic fracturing of natural gas wells near the Scoma home. The family reports that its drinking water sometimes runs an orange-yellow color, tastes bad and gives off a foul odor.*

**REALITY:** “Based on his role as special projects director for the Ground Water Protection Council, Mike Nickolaus says he doesn’t believe that fracking poses a serious threat to groundwater. **‘Groundwater contamination from other sources is a far greater risk to human health and the environment,’** said Nickolaus, a Granbury resident who has a geology degree and was director of the oil and gas division of the Indiana Department of Natural Resources from 2000 to 2005. Among those other sources, he cites storm water runoff, large septic systems that don’t operate properly and the improper disposal of industrial waste by injecting it into zones above or within underground sources of drinking water. ([Star-Telegram, 10/4/10](#))

Nickolaus said the **risk of groundwater contamination from fracking is exceptionally remote** in areas like the Barnett Shale and the Marcellus Shale, where more than a mile of dense rock typically separates shallow freshwater aquifers from petroleum deposits.” ([Star-Telegram, 10/4/10](#))

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**CLAIM: Texas:** *Tarrant County Commissioner J.D. Johnson, who lives in the Barnett shale area, reported groundwater contamination immediately after two gas wells on his property were hydraulically fractured. His water turned a dark gold color and had sand in it.*



**REALITY:** “The Texas Railroad Commission, which regulates the oil and gas industry, investigated but did not find any problems that appeared to be related to drilling and hydraulic fracturing of the gas wells, according to Michael O’Quinn, a commission district director. By the time the commission re-inspected it 40 days later, Johnson told the agency that he had his water tested and that it was drinkable, O’Quinn said. The specific cause of Johnson’s well problem has not been conclusively determined. ...the Barnett drilling boom also has provided ‘lots of pluses,’ [Johnson] said, including jobs, tax revenue and extra income for many thousands of mineral owners.” (Star-Telegram, [9/4/10](#))

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**CLAIM: Texas:** Carol Grosser, in south Texas, noticed changes in her water after a neighbor told her a nearby well was being hydraulically fractured. Carol noticed changes in her water pressure and rust-colored residue in her stock tanks. The fish in her tanks died, and some of her goats had abnormal milk production and produced kids with unusual birth defects.

**REALITY:** Many similar allegations have been made in Texas, often producing an outcome such as this: “Texas Railroad Commissioners found that Range Resources’ natural gas wells be allowed to continue to produce as the wells are not causing or contributing to contamination of any Parker County domestic water wells.” (Texas Railroad Commission, [3/22/11](#))

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**CLAIM: Texas:** The Executive Director of the Upper Trinity River Groundwater Conservation District in north Texas stated that the District “gets ‘regular reports’ from property owners who said that ‘since a particular [gas] well had been fracked, they’ve had problems’ with their water wells, such as sand in them, saltier water or reduced water output.”

**REALITY:** “Bob Patterson, executive director of the Upper Trinity River Groundwater Conservation District, which encompasses Parker, Wise, Hood and Montague counties, said hydraulic fracturing has never been confirmed as the cause for contamination of any of the 40,000-plus private water wells within the district.” (Star-Telegram, [10/4/10](#))

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**CLAIM: Texas:** Susan Knoll in the Barnett shale reports that last year her drinking water became foamy right after hydraulic fracturing of a well adjacent to her property. Since that time, additional gas wells have been fractured near her home and her drinking water has continually gotten worse. It sometimes foams, becomes oily, and has strong odors that burn Susan’s nose when she smells her water. Susan has a lot of videos and more information on her blog.

**REALITY:** “[The Texas Railroad Commission and the Texas Commission on Environmental Quality] have visited [Knoll’s] property but have found no violations. ... The agency found nothing wrong.” (Denton Record-Chronicle, [3/30/11](#))

A separate charge in Denton Co. proved unfounded: “At Smith’s well, though, testing by the Texas Railroad Commission, which regulates drilling, found no high levels of toxic materials. Contaminants detected in the water were not at a level that would violate state or federal water quality standards, officials said. ‘Therefore, we would not expect any adverse health effects after ingestion of water with these concentrations,’ RRC spokeswoman Stacie Fowler said.” (Star-Telegram, [7/01/10](#))

**CLAIM: Texas:** Grace Mitchell, a resident of Johnson County, Texas, is suing Encana and Chesapeake.



According to her lawsuit, soon after drilling and hydraulic fracturing took place near her home in 2010, her water became contaminated, feeling slick to the touch and giving off an oily, gasoline-like odor. Testing results performed on her well water confirmed it was contaminated with various chemicals, including C-12-C28 hydrocarbons, similar to diesel fuel.

**REALITY:** "Although the lawsuit states that Mitchell is a resident of Johnson County and that the property in question is in Johnson County, a map sent to the Times-Review along with a copy of the suit shows that the property is north of Farm-to-Market Road 1187 and west of Crowley in Tarrant County. 'We have no record of her ever attempting to contact us with concerns about her water quality, so we have no information to assess her claims at this time,' [Julie H. Wilson, Chesapeake's vice president for urban development] said. 'The lawsuit states her property is in Johnson County, but the map attached to her pleading shows property in Tarrant County, so even the most basic facts contained in this suit are inconsistent.'" (Cleburne Times Review, [12/21/10](#))

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**CLAIM: Texas:** The Harris family of Denton County, Texas, is suing Devon Energy. They say that their water became contaminated soon after Devon commenced drilling and hydraulic fracturing near their home in 2008, and that their water became polluted with a gray sediment. Testing results performed on the well water found contamination with high levels of metals: aluminum, arsenic, barium, beryllium, calcium, chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, nickel, potassium, sodium, strontium, titanium, vanadium, and zinc.

**REALITY:** "The Texas Railroad Commission had the Harris' water tested for chlorides and a variety of minerals associated with oil and natural gas production, but the test came back negative, according to railroad commission correspondence to Devon provided by Devon spokeswoman Alesha Leemaster. 'While we cannot comment directly on pending litigation, it is important to note the Harris well was reported and the family's concerns were investigated by the Texas Railroad Commission in 2009,' Leemaster said in an e-mail. 'That investigation found no evidence linking the Harris water well to natural gas drilling operations.' The Texas Railroad Commission investigation found 'no past or current oilfield related source' of contamination in the Harris water..." (Journal Record, [12/17/10](#))

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**CLAIM: Virginia:** Citizens reported drinking water contamination after hydraulic fracturing. Water was murky and had oily films, black sediments, methane, and diesel odors. Individuals experienced rashes from showering. The Buchanan Citizens Action Group reported over 100 documented complaints of adverse effects of hydraulic fracturing and the Dickenson County Citizens Committee reported ground water quality deteriorated throughout the county as a result of the large number of hydraulic fracturing events.

**REALITY:** It's tough to know where to begin here, simply due to the astounding dearth of facts, evidence and science to support the accusation. It turns out you have to begin in 2000 and 2001 when the aforementioned Buchanan Citizens Action Group and the Dickenson County Citizens Committee provided public comment to EPA during their previous study of hydraulic fracturing. In 2002 the NRDC prepared and submitted a report to the U.S. Senate while incorporating the Virginia groups' claims as supposed evidence of fracturing's liabilities. But in 2004 upon submitting their final report, EPA "determined that fracturing posed 'little or no threat' to groundwater." (E&E News, [2/24/11](#))

To summarize: this formless claim relies upon decade-old assertions fed into the very 2004 EPA report concluding that fracturing posed "little or no threat" to groundwater.

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**CLAIM:** *West Virginia:* The Hagy family in Jackson County, West Virginia, is suing four oil and gas companies for contaminating their drinking water. They say their water had "a peculiar smell and taste" and the parents as well as their two children are suffering from neurological symptoms. A news article reports that the lawsuit makes the connection between the drinking water contamination and the hydraulic fracturing process.

**REALITY:** "As far as issues with groundwater contamination and some other problems raised by others, [secretary of the West Virginia Department of Environmental Protection Randy] Huffman said horizontal drilling and hydraulic fracturing is 'not new' and has been done for some time. 'We just haven't seen the kind of problems that people are raising as issues,' Huffman said. 'This fracking is taking place at such depths, we don't really have a concern or evidence of reason to be concerned over groundwater at a couple hundred feet being impacted by hydraulic fracturing taking place at eight or nine thousand feet.'" (Register-Herald, [2/24/11](#))

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**CLAIM:** *West Virginia:* In Marshall County, Jeremiah Majers reported in October, 2010, that "As soon as they 'fracked' those gas wells, that's when my water well started getting gas in it." He also lost all the water in his well.

**REALITY:** "'We have been to [Majers'] residence. Comparisons were made between different water samples,' [West Virginia Department of Environmental Protection's Office of Oil and Gas Chief James] Martin said, noting he cannot yet pinpoint the cause of the methane release.' (The Intelligencer, [10/17/10](#))

"Our test results, from a third-party lab, indicated that the methane present [in] the water sample did not match the gas from our oil and gas operations." - Chesapeake Director of Corporate Development Stacey Brodak (The Intelligencer, [10/17/10](#))

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**CLAIM:** *West Virginia:* In Wetzel County, Marilyn Hunt reported to the EPA in 2010 that: "frac drilling is contaminating the drinking water here." Residents report health symptoms, such as rashes and mouth sores, as well as illness in their lambs and goats, which they suspect is linked to drinking water contamination.

**REALITY:** "People complain a lot about gas in their wells and stuff like that, but in West Virginia that is a fairly common thing," said Tim Carr, West Virginia University geology professor. Carr said that before a nearby gas well can be blamed, the contamination needs to be investigated. Thermogenic natural gas is often found in wells and septic systems." (Register-Herald, [2/24/11](#))

**CLAIM:** *Wyoming:* Families in the small town of Pavillion have been reporting contamination of their drinking water for at least ten years. Hydraulic fracturing has been used in the many wells in the



*area owned by Encana Corporation. Drinking water has turned black, smelled bad, and tasted bad. Individuals report medical symptoms they believe are related to water contamination. The U.S. Environmental Protection Agency is investigating and has found contamination in 11 water wells, including toxic chemicals that may be from hydraulic fracturing fluids. Further tests are needed to determine the source of contamination.*

**REALITY:** “Lind said the [Powder River Basin Resource Council], **unlike some nationally based environmental groups, does not allege that fracking fluids are the cause of groundwater contamination anywhere in Wyoming**. … [T]he Wyoming-based group is not trying to draw a link between fracking and incidents of groundwater contamination in the small town of a Pavilion, Wyoming … ‘We don’t want to accuse them of something they cannot prove. We’re their neighbors,’ he said.” (Platts’ Gas Daily, 4/20/10)