

Fact or Fiction behind Fracking

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Our family has a ranch operation west of Ponoka. We've often said that farmers were environmentalists before the term became popular. We've looked after the land, water and wildlife all our lives. Living on the land, you get a sense of when things are out of balance. It may mean that you have to add something to the soil, or change your crop rotation, or adopt some new farming practices. That's being a good steward- caring for the land, water, animals and the people who depend on it for life. We have learned, though, that we have no control over the subsurface and are losing our rights to surface management.

We have always had land with oil and gas wells on it, thinking that it would be good to have additional revenue when farm prices were low. Our view started to change after a new round of drilling riddled our land like Swiss cheese and pipelines crisscrossed it going to numerous compressors. Even *all that* we accepted until we began to notice something was wrong with our water. One well dropped significantly in production and a second began burping gas. We started to look for reasons for these changes.

Our area (Ferrybank) has been explored and developed by several energy companies. It produces oil and both shallow and deep gas, and most of it is sweet (not registered as sour). In the 1980's much of the oil in the area was recovered by a process that used potable water from the aquifers to force the oil to surface. The wells were fractured but with less water pressure than what's used today. The waste water was pipelined and injected down energy wells which had already been depleted or were chose for this purpose. Today these same injection wells are still connected to many more wells and waste fluids are filling the formations below our land.¹

In 2005 when gas began burping from our water taps. It was collected and identified by isotopic comparison with energy gas samples and found to be thermogenic in nature, meaning coming from a deep geological formation. In 2007 Alberta Environment tested our water, as did energy companies, and the University of Alberta. Dr Muehlenbachs, Canada's isotope expert, identified some possible energy wells as the source of the contamination.² In 2008 our case was turned over to the energy regulator (ERCB), because of the presence of these gases (methane, ethane, propane, butane and sour gas). The ERCB investigated only nine of over 50 possible energy wells and allowed the companies to co-mingle the gas zones in 2009, making the gas more difficult to link to a particular energy well.

Often when gas is identified in water, it is assumed that the source is biogenic, or from natural decay, but not in our case. The next plan was to look for a natural fault that may have caused gas to migrate from deep down to surface. The study looked at the natural flow of subsurface water in our area, and concluded that the gas was likely a combination of deep gas from fracture at depth mixing with shallow gas from the aquifer.

When we started to connect the dots in this investigation, we came to the conclusion that fracturing has played a major role in the damage to our water. Since 2005 our life has been a nightmare, trying to get answers as to why the water started accumulating gas from over 1700 meters below. That's supposed to be impossible, but many tests have now proven that this in fact has happened. This “investigative” life

¹ *Are Fracking Waste water Wells Poisoning the Ground Beneath our Feet?*, Abram Lustgarten, Propublica, June 21, 2012
² *Fingerprinting of Gas Contaminating Groundwater & Soil in a Petroliferous Region, Alberta, Canada*, Barbara Tilley & Karlis Muehlenbachs, Presentation, Cambridge, UK July 23, 2011.

that we have been forced to live has prompted us to carefully sift facts from fiction.

To mount a rebuttal to industry's claims that hydraulic fracturing is safe, we compared their website article provided by CAPP (Canadian Association of Petroleum Producers) called *More Facts, Less Friction* to our experiences living on the land.

1. *CAPP says that properly constructed NG (natural gas) wells protect water.*

That may work in an ideal model, but NOT in the real world. We know casings do not protect water.³ After 50 years, the time that oil and gas has been produced in Alberta, cement and steel deteriorate. Injection wells receive salt brine mixed with toxic chemicals from drilling and fracing. This mixture coats the casing and eventually corrosion takes over. No matter how deep the pipe or how many layers of steel and cement, it will break down. With today's caustic chemicals and increased hydraulic pressures, it's likely to happen sooner than later.

CAPP goes on to say there is no evidence of groundwater contamination.

That is an absolute lie⁴ and we are just one of many landowners who are experiencing that.

We do not cultivate or dig metres below our land, only the energy industry operates there. In the Grande Prairie area there was more recent proof of groundwater contamination caused by fracturing.⁵

CAPP claims no water is needed after the drilling phase.

In reality, fracing can occur many times over the life of a well. It is a common practice when the well production declines, that the company re-fracs the well to increase production. One industry employee shared that he was proud to be part of a multi-drill on one pad that involved 50 pumper trucks, pumping water at 17 cubic meters per second. In order to supply that volume of water, the company had to pipe water from two lakes several kilometres away. That was for one mass fracing operation!⁶ Sadly he was not concerned, because someone had convinced him that there isn't a water shortage in Canada.

Recently I learned that companies are fracturing with propane to reduce the demand for large volumes of water.⁷ Our water already has propane in it. Thanks, we don't want anymore.

CAPP claims that the water used in fracturing is treated and reused at other wells.

This is quite a play on words and not the normal procedure. Companies take municipal treated water to use for their fracture operations. Plus recently companies have signed agreements to purchase and use human waste water for their fracturing. What people may not understand is that this was potable water to begin with. The public used it and returned it to the system as waste water. Normally all human waste water is treated and flushed down our rivers where nature does another cleaning treatment. Really one community's waste water is another community's drinking water. Once the energy industry, however, uses the water to frac, it is contaminated and the flowback is injected down disposal wells. In fact, flowback water is seldom re-used due to its potential for corrosion, scaling, and clogging equipment.

2. *The industry claims hydraulic fracturing is safe and regulated by government.*

If it is so safe why are people all over the world opposing its use and asking for moratoriums?

The truth is that it has not been proven safe and most regulations, at least in Alberta, are self-policing⁸. There is no full public disclosure of the chemicals used in drilling or fracing. The regulator admits to minimal inspections of sites and the industry to voluntary audits. What kind of regulating is that? It's the kind that says 'we are protecting the energy industry.'

3 *Fracking Contamination 'will get worse'*, Andrew Nikiforuk, The Tyee, Dec. 19, 2011

4 *Migration of Methane into groundwater from leaking production wells near Lloydminster*, CAPP Pub#1995-0001

5 *Comedy of Errors on Frack Job No Laughing Matter*, Stephen Ewart, Calgary Herald, Dec. 21, 2012

6 *World's Biggest Experimental Frack Job*, Will Koop in bctwa.org, Jun. 17, 2010

7 *Husky Well Fire Injures Several Alberta Workers*, Nathan Vanderklippe, Globe and Mail, March 7, 2011

8 *Hydraulic Fracturing and Wellbore Integrity*, Alberta Surface Rights Group, www.albertasurfacerrights.com

3. *CAPP's third point is that using **shale gas** means less GHG (greenhouse gas) emissions.*

Why say “shale” gas, and not just “natural gas” that we are all familiar with? The push to sell shale gas to an unsuspecting public is to convince them that it is somehow better or different than natural gas.

Why would companies, whose pulse is profit, choose to madly go after such an uneconomic product. The production of more gas only serves to drive the market value lower. The industry readily admits that shale wells drop in production markedly in the first 3 years and may even cease to produce. Yet, they drill, frac and re-frac using valuable water and costly chemicals to extract a near worthless product. How do they continue to do this when expenses continually exceed income? Perhaps it's because these wells qualify for government incentives and minimal royalties.⁹ In Alberta companies pay little in royalties and are given drilling incentives to boot.

4. *CAPP claims that once completed a NG well is the size of a two car garage.*

One well site without an access road is 2.5 acres minimum. Add access roads or multi-well pads and compressors, then consider the number of acres sacrificed to industrial development. Besides what you see on the surface, in the energy industry, this *garage* has a massive basement full of pipelines and horizontal drill stems and frac zones. The surface operation is only one part of the potential risk. There are emissions, risk of spills and long term industrial traffic.

5. *Another claim by CAPP: in their view, NG producers support disclosure of fluids used in hydraulic fracturing.*

Late 2013 regulators in Alberta required companies to disclose some of the toxic chemicals they use fracturing in Alberta.¹⁰ However they are allowed to keep certain “secret” ingredients from disclosure. In some cases those represent more than 50% of the ingredients used in fracturing the well. There is no definitive way to tell what effect this can have on human health and the environment if chemical composition is not fully known.

CAPP is encouraging the companies to use “Best Practices”¹¹. This was also their media propaganda used in 2006 when CBM (coal bed methane) development was questioned. Did this prevent water contamination?¹² No!! So don't expect this promise to hold water either. Kind of like the leaking pipelines that we have heard about in the news recently. Ruptures are repaired, the obvious visual spill cleaned up, but the residents are left to live with the contamination.¹³

6. *CAPP's final point: Induced seismic activity and hydraulic fracturing -understand the facts.*

A study released by the Oil and Gas Commission this summer concluded that fracturing does cause earthquakes.¹⁴ Further the BC Oil and Gas study alleges there is a link between quakes and fracing, especially in regards to injection of fluids. CAPP defends that this may be true for hydraulic fluids but not waste water injection. The USGS (United States Geological Surveys) has just announced that it will be posting induced quakes caused by injection of fluids.¹⁵

To summarize our landowners' view: ***with more fracs, you are going to get more fiction.*** There are more ads paid for by the energy industry telling us that fracturing is safe and environmentally friendly. If our trees and rivers could talk, what would they say? Is our land, air and water still healthy? Looking the other way is not going to make the damage go away. The impacts are inevitable because there have been too many incidents proving that this process makes no sense. Don't confuse facts with fiction.

Say NO!! to hydraulic fracturing. Protect your beautiful land and pristine water.

9 *Royalty Incentives-Shale Gas*, Enersight website

10 *Frac Chemical Disclosure in North America*, www.ernstversusencana.ca

11 *Guiding Principles for Hydraulic Fracturing*, CAPP, Sept. 2011

12 *Frack Attack, Natural Gas Gains, Water Loses*, Joyce Nelson, Watershed Sentinel, March-April, 2010

13 *Big oil spill stink still riles landowner*, Johnnie Bachusky, Sundre Roundup, Aug.21, 2012

14 *Investigation of Observed Seismicity in the Horn River Basin*, BC Oil and Gas Commission, Aug. 2012

15 *USGS to make Separate Riskmap for Man-made Quakes*, Mike Soraghan, E & E News December 23, 2013.