

# The Facts vs. The Frackivists

**Christopher Helman, Forbes, 10-5-11**

In April Chesapeake Energy had a blowout in the Marcellus Shale of Pennsylvania. Within two days it plugged the natural gas well. No fire or injuries, but several thousand gallons of chemical-tainted water spewed out, and a few hundred gallons got into a creek. The incident--which Chesapeake blames on a faulty gasket--occurred as the well was undergoing hydraulic fracture stimulation. Fracking, as it's known, is the process of freeing oil and gas from tight, impermeable rock like shale, using water mixed with sand and chemicals at high pressure.

Chesapeake is America's most prolific driller and fracker--and enemy number one for the "fracktivists." Their Bible, Josh Fox's film "Gasland," depicts people who claim their water wells have been so polluted by fracking they can ignite the gas seeping out of their faucets. "It's sad that so many smart and well-educated people can so fear a process that has such an incredible track record of safety and environmental integrity," says Chesapeake Chief Aubrey McClendon. Without fracking there would be no new natural gas wells in the U.S." Shales and other impermeable rock can't be developed any other way. The process was invented 50 years ago and has been done a million times.

But many are anxious about chemicals--acids to dissolve minerals and create cracks, surfactants to make fluids more slippery, agents to prevent bacteria that corrode pipes. About 10,000 gallons goes down a well--less than 1% of the 1 million gallons of water and 1 million pounds of sand used. You find a lot of the same stuff around the house: swimming pool chemicals, glass cleaner, deodorant. It doesn't mean you should drink it.

New York imposed a temporary moratorium on fracking; France banned it altogether. The Environmental Protection Agency has been investigating the practice for years with an eye toward instituting regulations. Above ground the chemicals are already regulated.

As long as it's done right, fracking is safe. Targeted shale layers are usually 5,000 to 8,000 feet underground. Aquifers for drinking water and irrigation are never deeper than 1,000 feet; injected fluid is not going to migrate through a mile of impermeable rock. But it could escape through imperfect joints in well pipe closer to the surface. Pennsylvania has ordered drillers to use extra layers of pipe at those depths. Chesapeake says it has offered to install water filtration systems to 20 Pennsylvania homeowners with polluted water. McClendon points out that fracking has never killed anyone or destroyed a waterway. "Is the [incident] an embarrassment to me?" he asks. "Yes. Have we corrected the root causes? Yes." Still, perhaps not enough to reassure fracktivists.