



What Lies Beneath

Energy In Depth digs deep into the substrata of U.S. code, separates fact from fiction in ProPublica's latest dispatch

Here's a question for you: What is a "well"? Is it a long, generally thin structural conduit used to secure physical access to sub-surface reserves of oil, gas, water and geothermal? Sure, it's that. But for the **purposes of regulation**, it's also considered any "dug hole" that's "deeper than it is wide" – kind of like a hole you'd dig to stick a fence-post on your property, or one you'd need to install before setting up a basketball hoop in your driveway.

Of course, in digging that "well," you better be careful how it's classified. Under the federal **Safe Drinking Water Act of 1974**, the mere "subsurface emplacement of fluids" – a fancy phrase for "sticking stuff underground" – requires a permit from either the state Underground Injection Control office or the EPA, depending on the class of well involved.

But exactly into what class would a foundation hole for a basketball rim fall? Is it a Class I hazardous waste disposal well? Is it a Class II wastewater disposal well? Maybe a Class III disposal well for the solution mining of **potash** and sulfur?

Of course it isn't. In reality, the reason you don't need a federal permit to dig a 2-foot hole isn't because it's not considered a "well" (it is) -- and it isn't because you aren't "emplacing" fluids within it (you are). It's because the Safe Drinking Water Act has been interpreted for 35 years as a law to safeguard "public drinking water" from the permanent "disposal" of everything from hazardous wastes to mining salts. And as anyone who knows anything about energy exploration can tell you – that doesn't describe either the purpose of **hydraulic fracturing**, or the effect. It's a technique for liberating energy, after all, not disposing of waste.

Enter ProPublica's **Abrahm Lustgarten**; for the uninitiated, someone "as expert on the topic [of fracturing] as anyone in America," **according** to his editor. Earlier this week, Lustgarten published a piece in which he advances the following basic argument: Forget whether the water involved in the fracturing process is dangerous, and set aside whether its productive use in stimulating underground gas constitutes "permanent disposal." It's all about the volume. And if operators leave even a drop of fluid underground, shouldn't the EPA regulate it as underground injection?

At least, that's how we'd paraphrase it. Here's how he **actually lays it out** in the piece:

For more than a decade the energy industry has steadfastly argued ...that the federal law protecting drinking water should not be applied to hydraulic fracturing ... Now an important part of that argument -- that most of the millions of gallons of toxic chemicals that drillers inject underground are removed for

safe disposal, and are not permanently discarded inside the earth -- does not apply to drilling in many of the nation's booming new gas fields.

Now, to accept this point as legitimate, first you'd need to accept the idea that industry's entire argument on hydraulic fracturing – namely, that states are best-equipped to regulate the technology – is rendered null and void in light of the supposedly earth-shattering revelation that some amount of water is left confined underground.

But haven't we known about this reality for some time now – especially as it relates to the Marcellus? Is it possible that the [Wilkes-Barre \(Pa.\) Times-Leader](#) scooped ProPublica on this phenomenon in a story published **more than 10 months ago**?

When the rock is fractured, the liquid, known as fracking fluid, is pumped out, **but only about half comes back**, according to Thomas Beauduy, the SRBC's deputy director. ... DEP believes **the water is segregated far enough away from groundwater to not be an issue**.

The reality of the situation is this: Everyone knows that some volume of water will naturally remain confined underground; the geo-physical realities involved in fracturing a well allow for no other outcome.

But does that mean it's dangerous? Absolutely not. Remember, we're talking about a volume of liquid trapped nearly [two miles beneath the surface](#) – with thousands of tons of rock and several confining strata isolating it from potable drinking water above. And how do we know those confining strata will do their job? Because they've been doing their job for a million years now – not exclusively in preventing frac water from migrating to the surface, but in preventing the salty water **that's already down there naturally** from penetrating our aquifers and ruining our drinking water.

Of course, Congress knows all this, and if it ever intended the [Safe Drinking Water Act](#) to extend beyond its original scope and cover the fracturing of energy wells, it certainly had plenty of chances to make that view known. Passed in 1974, SDWA has been amended a whopping [eight separate times](#) over the past 35 years ('74, '77, '79, '80, '86, '88, '96, '05), but at no time during that extended run was the concept of regulating fracturing under the Act a significant component of the debate. And that's true even though at the time of the bill's passage in '74, fracturing had already been in commercial use for 25 years.

What's changed in 35 years? Not a whole lot on the technological side, with the notable exception of exciting advancements in horizontal drilling techniques that allow producers today to access 10 times the energy by drilling 1/10 the number of wells.

That should be universally hailed as a good thing, right? Unfortunately, for [some groups](#), any technology that allows for greater access to fossil fuels – albeit the cleanest and most secure ones on earth – is rendered an object of fierce opposition. The tragedy of it all? Shale gas exploration in America not only has the potential to deliver hundreds of thousands of new jobs (when we need them most) and billions in annual revenue (when we need it most) – but it can help break our country's dependence on foreign energy, and reduce the concentration of carbon in the atmosphere all at the same time.

Name us another energy source that can do all that. Now you understand [what's at stake](#).

Additional resources available at [Energy In Depth](#):

- **Send a Letter to DEC:** Through the [Energy In Depth portal](#), or (and?) via our friends from [IOGA NY](#).
- **Study:** [Potential Economic and Fiscal Impacts from Natural Gas Production in Broome County, NY](#)
- **Issue Alert:** [Gangs of New York](#)
- **Issue Alert:** [Sign of the Times](#)
- **Fact Sheet:** [HF Opponents Say the Darndest Things](#)
- **GWPC Study:** [State Oil and Natural Gas Regulations Designed to Protect Water Resources](#)
- **Graphic:** [What's In Frac Fluids?](#)
- **EPA Study:** [Study to Evaluate the Impacts to USDWs by Hydraulic Fracturing of Coalbed Methane Reservoirs](#)
- **Browner Memo:** [Letter of Support for Hydraulic Fracturing from Carol Browner, Fmr. EPA Administrator](#)

