

PQ: *Because of exemptions allowed for fracking, drilling companies are allowed to inject kerosene, mineral spirits and a number of other petroleum distillates into wells.*

Gas Drilling Companies Skirt the Law with Fracking Chemicals

by Sue Smith-Heavenrich

Broader View Weekly, April 22, 2010

Gas companies may not be using diesel to hydro-frack wells, but they continue to inject petroleum distillates into natural gas wells. And that practice is threatening drinking water supplies from Pennsylvania and New York to Wyoming, warns Dusty Horwitt.

Horwitt, senior counsel for Washington DC-based Environmental Working Group, was one of three speakers at a recent forum addressing the impacts of gas drilling on drinking water. Walter Hang, of Toxics Targeting, and Dr. Earl Robinson, vice president of Residents for the Preservation of Lowman, also spoke.

A Problem with Benzene

In late January Horwitt released “Drilling Around the Law”, an investigation into petroleum-based fracking chemicals used by companies drilling for natural gas. Because of exemptions allowed for fracking, drilling companies are allowed to inject kerosene, mineral spirits and a number of other petroleum distillates into wells. The problem, says Horwitt, is that these distillates often contain high levels of benzene – a carcinogen so toxic that EPA’s “safe level” for benzene in drinking water is only 5 parts per billion (ppb). That’s the equivalent of five drops of contaminant in 500 barrels of water.

“You can’t count on the EPA or your DEC to protect you,” Horwitt said. Diesel, used for years as a friction reducer in drilling, is regulated under the Safe Drinking Water Act (SDWA) because of its high benzene level. Companies wishing to inject diesel for hydraulic fracturing must obtain the correct permits through the Environmental Protection Agency.

“Ironically, these other petroleum distillates – chemicals they are allowed to inject without permits – can contain 93 times more benzene than diesel,” Horwitt said. Kerosene contains 5,000 parts per million (ppm) benzene, Stoddard solvent up to 10,000 ppm and petroleum naphtha 93,000 ppm. The level of benzene in naphtha alone exceeds EPA standards by 18.6 million.

Citing the DEC’s Supplemental Generic Environmental Impact Statement (SGEIS), Horwitt noted that horizontal wells in Marcellus and other shales will require from one to 8 million gallons of water and fracking chemicals. “These are massive operations,” Horwitt said, “pumping fluids into wells at pressures of 12,000 pounds per square inch (psi).” Even before fracking occurs, there are opportunities for spills.

The companies will tell you there is no problem – that these are the same petroleum distillates used in cosmetics, Horwitt said. “But these chemicals are banned from cosmetics in the European Union.”

The companies insist that they only add small amounts into the frack fluid, Horwitt said. “Point zero eight (.08) percent. It sounds like a miniscule amount, but do the math.”

Horwitt's calculations show that even at that very low level, anywhere from 800 – 6400 gallons of petroleum distillates could be injected for a single frack job.

“That would be enough to contaminate more than 100 billion gallons of water – more than ten times the amount the state of New York uses in a single day,” Horwitt exclaimed.

Horwitt would like to see the exemptions for oil and gas drilling eliminated; he thinks they should obtain a permit for any chemical they inject. “Why require a permit for only one type of petroleum chemical,” he asked? Furthermore, when he asked Department of Environmental Conservation officials whether they checked to see what chemicals companies are injecting, the response was no.

“They [drillers] could easily be injecting diesel,” Horwitt said. And indeed, Halliburton, Schlumberger and other companies have admitted doing just that in some states.

Chemung Watershed Already Compromised

Dr. Earl Robinson, a physician, reported that local drinking water supplies already have high levels of metals, radiation and other contaminants. He cited a 2003 groundwater evaluation conducted by the US Geological Survey. The USGS screened water from 24 public supplies and 13 private wells.

“They detected pesticides, mostly atrazine, as well as aluminum, barium, strontium and manganese,” Robinson reported. “In 34 of the 37 samples they also detected radon levels higher than the 300 picocuries/liter EPA safe drinking water levels,” he said.

Given these existing problems, Robinson is concerned about both the projected amount of drilling in the region and the current disposal of Marcellus drilling waste in the Chemung County landfill. Robinson's primary concern is that water draining through the landfill may leach some of these contaminants, carrying them to groundwater and, possibly, surface water. Radium, he pointed out, can accumulate in vegetables and plants.

“We're already ranked 60 out of 62 counties in terms of health,” Robinson said. “Drilling chemicals and Marcellus waste won't make us healthier.”

DEC Not Paying Attention

Throughout the drilling debate DEC has maintained that in all of the years of gas drilling, there have been no incidents of contaminated water reported. That's not true, counters Walter Hang. He points to the western part of the state – Allegany, Cattaraugus and Chautauqua counties – where most of the drilling has occurred.

Although DEC insists that drilling has not had an impact on drinking water, the Chautauqua County Health Department has logged numerous complaints over the past 20 years, Hang said. And one health department official even tried to convince DEC to take notice of the problems, with no response.

Hang has found at least 135 natural gas and oil incidents reported to health officials in Chautauqua County, home to about one-fifth of all the oil and gas wells in the state. More than 50 of those incidents involve brine contamination of private water wells, and migration of methane into drinking water.

Then, last spring Allegany County resident Dave Eddy reported water contamination. Workers were fracking a non-Marcellus well near his home, and his drinking water well became contaminated with oil. The drilling company, U.S. Energy Development Corporation, installed a water filtration system at the home, put the residents up in a motel and offered compensation.

This is all in a memo from the company to the DEC, Hang explained. The problem is that none of these incidents are reported on the DEC spill site. “If you believe that DEC and EPA will protect your health, you’re wrong,” Hang said. His solution: don’t allow drilling anywhere people get their water from the ground.

Learn more:

You can read Dusty Horwitt’s full report at <http://www.ewg.org/drillingaroundthelaw>
You’ll find Walter Hang’s reports on NY spills at <http://www.toxicstargeting.com>