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Gas Bonanza: How hydraulic fracturing can work for New York

Published: Wednesday, August 25, 2010, 5:00 AM



Readers' Page



The Associated Press, 2008

JOHN PINKERTON (left) and Stephen Rupert of Range Resources talk about extracting natural gas from Marcellus shale at their offices in Canonsburg, Pa. A piece of Marcellus shale sits on the table in the foreground.

By Chris Kulander Recent distress in the economy has not dampened the new natural gas boom sweeping up the Appalachians. Until recently, natural gas could not be economically produced from “tight” rock formations like the Marcellus Shale in Upstate New York. The widespread use of modern hydraulic fracturing techniques has changed that.

Gas contained in the Marcellus does not easily flow through the rock to a well except along cracks in the rock known as “fractures.” Hydraulic fracturing — sometimes called “fracking” — involves injecting fluid into tight formations at very high pressures to create artificial fractures. Generally, the more fractures created, the more gas production. Fracking has made production from the Marcellus Shale possible and created thousands of jobs.

This bonanza comes with a cost. With increased drilling comes increased surface use and more chances for spills and accidents. Fracking is noisy, requires significant amounts of water and increases heavy trucks on country roads. The biggest concern, however, is the potential for water pollution.

Fracking fluids vary, but usually are 99 percent water and solids. The remainder are additives that promote the

fluid's flow through pores in the rock. The solids are "proppant," typically sand and ceramic pellets that prop cracks open, allowing flow of oil or gas to the well.

No evidence directly connects injection of fracking fluid into shale with aquifer contamination. In 2004, the U.S. Environmental Protection Agency released a study finding no confirmed instances of drinking water contamination by fracking fluids in the ground. This finding is not surprising, as fracking fluid is pumped through heavy steel pipe surrounded by a concrete liner to formations thousands of feet below aquifers. After environmentalists criticized the 2004 study, another study by the EPA is planned for completion by 2012 or later.

The potential for water contamination comes after fracking has occurred. Industry sources say that operators receive back 20-40 percent of the fracking fluid when they pump it back to the surface. If improperly handled, this fluid could potentially harm surface water, just like other liquid waste from drilling operations. Methods are being further developed to reuse, treat or contain used fracking fluid. State regulations and enforcement to make sure these methods are applied, however, are currently not well developed in all states.

With the spectacle of the enormous BP release in the Gulf of Mexico lingering, an unfortunate push exists in New York to ban all fracking, purportedly until the technology can be "proven" safe, and to require federal oversight of fracking. The state Senate voted on Aug. 5 for a temporary fracking moratorium until May 15, 2011. This measure, which cannot become law unless passed also by the state Assembly, is purportedly to allow time for study by the state Department of Environmental Conservation. Other bills propose various longer or permanent moratoriums on all fracking.

Hopefully, these delays are not attempts to keep moving the goalposts back by dedicated opponents of the oil and gas business. While a responsive state regulatory framework and vigorous, impartial enforcement of those regulations are necessary, draconian measures such as rolling moratoriums or federal oversight of fracking are not. New York is well able to regulate fracking while at the same time allowing development of natural gas and enjoying the jobs and revenue it brings.

Chris Kulander, a native of Alfred Station, is an attorney with Haynes and Boone, a Houston law firm that guides companies involved in hydraulic fracturing. He received his B.S. and M.S. in geology from Wright State University in Ohio, his Ph.D. in geophysics (petroleum seismology) from Texas A&M, and served as a geophysicist for the U.S. Geological Survey in Washington, D.C., and Denver.

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