

January 17, 2011  
The Editor  
The Exponent-Telegram

Dear Sir,

The current Marcellus "gold rush" is certainly not the first mineral extraction wave to break over West Virginia. But it may be the most intensive. With the prospect of making \$20 million per well, there is sufficient motivation for developers to do a lot of advanced thinking and politicking.

The whole thing has some resemblances and some differences to the strip-mining boom which occurred right after World War II. In both cases, people came from all over with capital to produce much-needed energy. When the war was over, production of war goods stopped, along with new construction work. Men who owned or knew about big machinery came from as far away as Hawaii. Bulldozers pushed off the dirt and steam shovels loaded the coal to be hauled away. No thought was given for where the dirt went or how the water was to run off. Some places didn't even have the land leveled back. Regulation was virtually non-existent.

As time went on problems developed. My Dad was one of, if not the first to have his place near South Harrison stripped. L. E. Cleghorn was the stripper and he was relatively conscientious about his work. However, a neighbor's farm pond was ruined, and he was angry the rest of his life at Dad, not the stripper. A tipple was built at Righter, and when a flood came 60,000 tons of coal washed onto Woodford's bottom. It should have been foreseen, and the productive land was destroyed.

Does the Marcellus development have to follow the same track? In time regulations were developed which considerably mitigated the bad practices used in strip mining at the beginning. The Marcellus is picking up like a prairie fire. The issues are somewhat different, but very much present. It is a glorious experiment, sampling a formation 6000 feet below the surface with a solution at elevated temperatures of various compounds that can dissolve heavy metals in the formation, applied with sufficient pressure to break open the rock. A portion then flows back to the surface.

West Virginia has a grand total of 12 functioning well inspectors and regulations designed for shallow, vertical wells. At this time we have 59,000 wells. Marcellus wells are lucky to *see* an inspector at even one of the stages, drilling, fracing and production, that someone might cut corners on.

There are serious geological issues, too. There are widespread reports of gas and drilling fluids getting into ground water, of frac water being spilled out of ponds on the well sites or dumped by unscrupulous companies directly into streams. There is drilling in shale involving hydrofracing in Quebec, Canada, where an inspection by Quebec's Ministry of Natural Resources showed 19 of 31 wells were leaking gas.

West Virginia has areas where there are many old unplugged or inadequately plugged gas or oil wells that connect a shallow stratum to the surface. When Consolidated Gas Company put in the Lost Creek Storage Field, about 2000 feet below the surface a few decades ago, there was a thirty-foot flare within sight of the overpass at McWhorter. It was blamed on such an unrecorded well.

Over three-quarters of the state is underlain by the Marcellus. Mistakes will surely be made, but we need to start out with the best protective regulation that can be devised. Our society needs the natural gas, but we need to keep untouched the other resources we have, like our great supply of clean water.

Sincerely,

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If there should be any question about the leaking wells in the third from last paragraph, it is reported by the Canadian Broadcasting Corporation here

<http://www.cbc.ca/money/story/2011/01/05/shale-quebec-bape.html>

Secondly, in "The Canadian Press - ONLINE EDITION" Posted: 01/11/2011 10:22 AM