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News, information and opinion about fracking, drilling and politics in the Marcellus Shale region

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## Radium nightmares, uranium dreams

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Posted: Thursday, January 31, 2013 11:06 am

Miranda C. Spencer, Shalereporter.com | 8 comments



Posted on January 31, 2013  
by [Miranda Spencer](#)

What film comes to mind when fracking comes up? “Promised Land,” perhaps? Try “Silkwood.”

The news that fracking wastewater can be [highly radioactive](#) – and is [virtually unregulated](#) – bestows new ammunition to anti-fractivists and another PR headache to the natural gas industry.

The problem, as reporter Rachel Morgan writes in Shale Reporter’s “Under the Radar” series, is naturally occurring radium. A byproduct of decaying uranium and thorium in the shale, it is brought up in the gas fracking process and can reach levels of radioactivity that a U.S. Geological Survey report found are 300 times greater than the Nuclear Regulatory Commission limit for nuclear power-plant discharges.

Simply put, the stuff is toxic – potentially for centuries. So much for one of natgas’s alleged advantages over nuclear energy, with its pools of homeless radioactive waste. Even now that Pennsylvania’s Department of Environmental Protection has pledged to study radioactivity in wastewater, there’s still great uncertainty as to what to do with it.

Treating and recycling it to frack other wells is one option. Another is underground injection. But as a 2012 [Pro Publica investigation](#) showed, that might not be the best idea because injection wells have been known to leak.

And if the fracking boom continues, increasing volumes of wastewater will need to be shot underground, joining the soup of other liquid industrial wastes stored there. So the “out of sight, out of mind” approach doesn’t look too promising either.

But some are not only unafraid of a little radioactive waste, they’re also doubling down on busting through the hot rocks.

As Christopher Helman [reported](#) in the business bible Forbes last week, [Uranium Energy Corp](#) (UEC) in Texas has begun fracking for uranium in the Eagle Ford Shale. The goal: to produce “yellowcake” for the U.S. and international markets that need it for their extant and soon-to-be built nuclear power plants. (Let’s assume they won’t sell any to Iran for bombs.) CEO Amir Adnani said he hopes to produce 3 million pounds a year of yellowcake, and predicts a uranium “boom.” Sound familiar?

What UEC wants to do is actually a variation on a form of mining called “in situ leaching.” It will drill down into rock and inject water mixed with oxygen (but not chemicals) to dissolve the uranium, and then pump out the slurry to be dried out elsewhere.

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11/05/13 **Shell may pull back on Pennsylvania cracker project, crown jewel of region's shale plans.** Royal Dutch Shell PLC's second thoughts about the multibillion-dollar ethylene plant it has considered building in western Pennsylvania are another powerful sign of the competitive pressures that are building as natural gas liquids production from the Marcellus and Utica shale plays takes off. EnergyWire.

11/05/13 **Debate continues about drilling air quality.** Michael McCawley continued letting West Virginia lawmakers know that carcinogenic air pollutants from Marcellus shale drilling pose a serious threat in the Northern Panhandle. Warren Tribune Chronicle, [Ohio](#).

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But the uranium ore is just a few hundred feet down. As Helman pointed out, “not only [at] the same depths as groundwater but from the very same layers of porous rock that hold it.” The company claims the groundwater there isn’t potable anyway, although according to the U.S. Environmental Protection Agency, uranium is dangerous if ingested.

That didn’t stop EPA from issuing UEC an “aquifer exemption” to go ahead with its latest uranium fracking project.

The Marcellus and other U.S. shale formations also contain uranium. Is it too farfetched to wonder if some atomic entrepreneur may come calling to frack for it?

I asked Mark Engle of the U.S. Geological Service his professional opinion. He told me, “While it’s theoretically possible, ... I don’t see a good likelihood of anyone trying to solution mine uranium from the Marcellus. Its uranium content (<0.01%) is rather low compared to typical uranium ore (typically 0.03-0.1% U). There are probably much better targets elsewhere in the U.S.”

Nevertheless, in the American Southwest, this type of uranium fracking has been given the imprimatur of former Energy Secretary Spencer Abraham, who heads UEC’s advisory board. Closer at hand, the state of Virginia is seriously looking into [uranium mining](#). Predictably, local residents are worried about their water.

One tiny consolation: If this trend continues, any radioactive wastewater produced will have an overseer – the NRC.

And if there’s ever a movie, I have a title suggestion. Name it after EPA’s web page on uranium mining: “[RadTown USA](#).”

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Posted in Blogs, Miranda spencer on *Thursday, January 31, 2013 11:06 am*.

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Miranda Spencer posted at 6:34 pm on Tue, Feb 12, 2013.

Posts: 29

Following up, it seems that uranium mining in the state of Virginia is closer to becoming a reality. See this article from the Associated Press: <http://www.sfgate.com/business/article/Virginia-fiercely-debates-mining-uranium-4264638.php>.

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jboursaw posted at 11:48 am on Sat, Feb 2, 2013.

Posts: 2

Yikes - scary stuff. Both Silkwood and Promised Land are frightening.

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Miranda Spencer posted at 11:46 am on Sat, Feb 2, 2013.

Posts: 29

Lisa d, I'd not heard about that petition. Do you have a link? I'm aware that California just put out some draft regulations but not that Gov. Brown is lenient on fracking.

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Lisa d posted at 6:42 am on Sat, Feb 2, 2013.

Posts: 2

It's frightening what these money hungry morons do to the environment. They have no regard for anything but the bottom line. I say let them live in the area they're fracking. I just signed a petition to get Gov. Brown to stop giving frackers free reign in CA.

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Miranda Spencer posted at 4:17 pm on Fri, Feb 1, 2013.

Posts: 29

Ivy Bear, no, they can't put radioactive wastewater down the sewers -- the treatment plants don't take it, though I don't completely understand the treatment process fracking wastewater does receive. As noted above, alot of it is recycled or injected underground. And also as noted, not such a groovy idea overall. Thanks for commenting!

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Ivy Bear posted at 2:48 pm on Fri, Feb 1, 2013.

Posts: 4

What will it take for us to realize that fracking is a bad bad idea??? So now what happens to the waste water from fracking? I presume it goes to the sewage treatment plants and then out into the rivers we use for our drinking water??

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laurazera posted at 2:44 pm on Fri, Feb 1, 2013.

Posts: 2

Well, that is certainly an unexpected twist in the fracking debate. The potential for groundwater contamination just adds to my existing dislike for nuclear power as an energy solution.

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Tara Zrinski posted at 8:38 pm on Thu, Jan 31, 2013.

Posts: 9

This is a great investigation and reveals the potential for an even more menacing presence in the Marcellus Shale-- uranium frackers. I can only imagine that the profits from uranium are much higher than that of natural gas, and so, the stakes will be even greater.

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