



## **FRACK BAN in New Jersey Now More Than Ever!**

### **The Ban Bill: Prohibits drilling technique of hydraulic fracturing in New Jersey**

Hydraulic fracturing or “fracking” is the practice of injecting water and chemicals through a drilled well bore into a rock formation to crack open fractures to release natural gas. Natural gas, primarily methane, trapped in tight geologic formations such as the Marcellus and Utica shales, cannot be accessed without using this practice. Approximately 260 chemicals - and another 40 compounds with secret ingredients that the industry will not disclose- are being used in fracking fluids in Pennsylvania and other states where shale gas is being mined.<sup>1</sup> Many of these chemicals are hazardous to humans and other species, many are toxic such as naphthalene, glutaraldehyde, and acrylonitrile and some are classified as carcinogenic by the federal government such as benzene, formaldehyde, and methanol.

In addition, fracking disturbs, distributes, and brings to the surface naturally occurring chemicals/minerals from deep geologic formations in the “flowback” fluids that erupt to the surface when a well is fracked. The resulting wastewater containing salts (“total dissolved solids”), heavy metals, hydrocarbons, and “naturally occurring radioactive materials” or NORMS, is typically stored in open pits at the well site, which are the source of hazardous air emissions and pose water pollution risks. When finally removed to a wastewater facility, most of the pollutants are not removed but are simply diluted and discharged to waterways or are injected into underground “disposal” wells. There are no treatment facilities in use that are capable of removing all of the pollutants found in gas drilling wastewater. The United States Department of Energy concludes that produced water from gas drilling is 10 times more toxic than those from off shore oil drilling.<sup>2</sup>

Due to the depth and length of the well bores (horizontal drilling is used to access the layers of shale), large amounts of fresh water are being consumed by fracking. About 5 million gallons of water is used to frack each gas well and it is all a depletive loss because about 80-85% stays underground and what does flow back is never returned to the source. This extremely consumptive process endangers the supply of fresh potable water that more than 15 million people rely on from the Delaware River watershed, which is 36% underlain by Marcellus Shale. Approximately 3 million people in New Jersey drink Delaware River water, which is withdrawn downstream from where gas drilling is proposed in the Upper and Middle Delaware River. The Utica Shale, deeper than the Marcellus, intrudes into New Jersey, making gas drilling in our state a real possibility in the future. The Utica is being explored in Pennsylvania and NY now and is forecasted by the industry to hold substantial gas reserves.

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<sup>1</sup> NYSDEC Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas, and Solution Mining Regulatory Program (DSGEIS), 2009

<sup>2</sup> U.S. Dept. of Energy, Argonne National Laboratory, “A White Paper Describing Produced Water from Production of Crude Oil, Natural Gas, and Coal Bed Methane”, January 2004

In Pennsylvania, 12 environmental permit violations per day were recorded by PA Department of Environmental Protection (PADEP) in 2011 and the rate of permit issuance has increased there so far this year to almost 22 drilling permits per day. The rapid fire pace of gas development and lack of government oversight and effective regulations have made a bad situation worse; the result is polluted and depleted streams and rivers choked with runoff from these industrial sized well pads in Pennsylvania and the spread of public health and community problems. We can't let that happen here in New Jersey. A moratorium on gas drilling in the Delaware River Basin has kept the industry at bay so far, preventing pollution of the drinking water of about 3 million state residents who rely on the Delaware for supply.

### **How is New Jersey affected?**

As huge energy corporations like Exxon and Hess jockey into position in the Upper Delaware River to extract gas, New Jersey is increasingly in the crosshairs. Fracked gas in Pennsylvania is already resulting in:

- a proliferation of new gas pipelines with compressor stations cutting across the New Jersey to carry shale gas to market;
- renewed interest in Liquefied Natural Gas facilities to export gas to foreign buyers;
- the threat of the import to the State's discharge facilities of highly contaminated wastewater they are not equipped to treat, resulting in pollution to our rivers and water supplies and the threat of the import of toxic residue from gas waste processing and toxic-laden drill cuttings to landfills that are not designed to contain hazardous waste (due to an exemption that classifies hazardous substances produced by natural gas drilling as non-hazardous);
- the threat of a raid on New Jersey's water to feed the need for water-intense fracking
- If gas development starts in the Delaware River Watershed, water quality for at least 1/3 of the State's population – as "downstreamers" -- will plunge.

If we ban fracking in New Jersey, we can at least prevent these problems here. ***Preventing pollution by banning the dangerous practice of hydraulic fracturing is the best investment that can be made in New Jersey's drinking water.***

The Frack Ban Bill passed the full Legislature in 2011 with flying colors. Governor Chris Christie conditionally vetoed the Ban Bill on August 25, asking the Legislature to amend the Bill to a one year moratorium. DRN and others opposed the moratorium, which had no substance and no justification; we know that fracking will not be safe a year from now and that New Jersey will still face the same challenges: the most densely populated state in the Nation, the most superfund sites and leading the nation in many environmentally-rooted cancers, making it impossible to crowd fracking into our already deeply challenged communities. The Frack Ban Bill has been re-introduced as S246 in the Senate and A567 in the Assembly. The same sponsors who championed the bills last session are committed to successfully enacting a ban this year. Public awareness and opposition grows with new evidence of pollution problems and as communities and the environment continue to suffer from fracking. Recent events include: US Environmental Protection Agency concluded fracking caused water pollution in Pavilion Wyoming<sup>3</sup>; PADEP found Cabot Gas Company well drilling responsible for polluting 19 homeowner wells with methane in Dimock, PA<sup>4</sup>; EPA is further investigating chemical pollution of Dimock wells caused by gas drilling<sup>5</sup>; and earthquakes have been caused by Youngstown Ohio frack wastewater injection wells, now shut down until further study<sup>6</sup>. For an explanation of why groundwater pollution by drilling is inevitable go to:

<http://www.delawariverkeeper.org/resources/Factsheets/Aquifer%20Protection%20Expert%20Factsheet.FINAL.pdf>

<http://www.delawariverkeeper.org/resources/Factsheets/Seismic%20Hazard%20Expert%20Fact%20Sheet.FINAL.pdf>

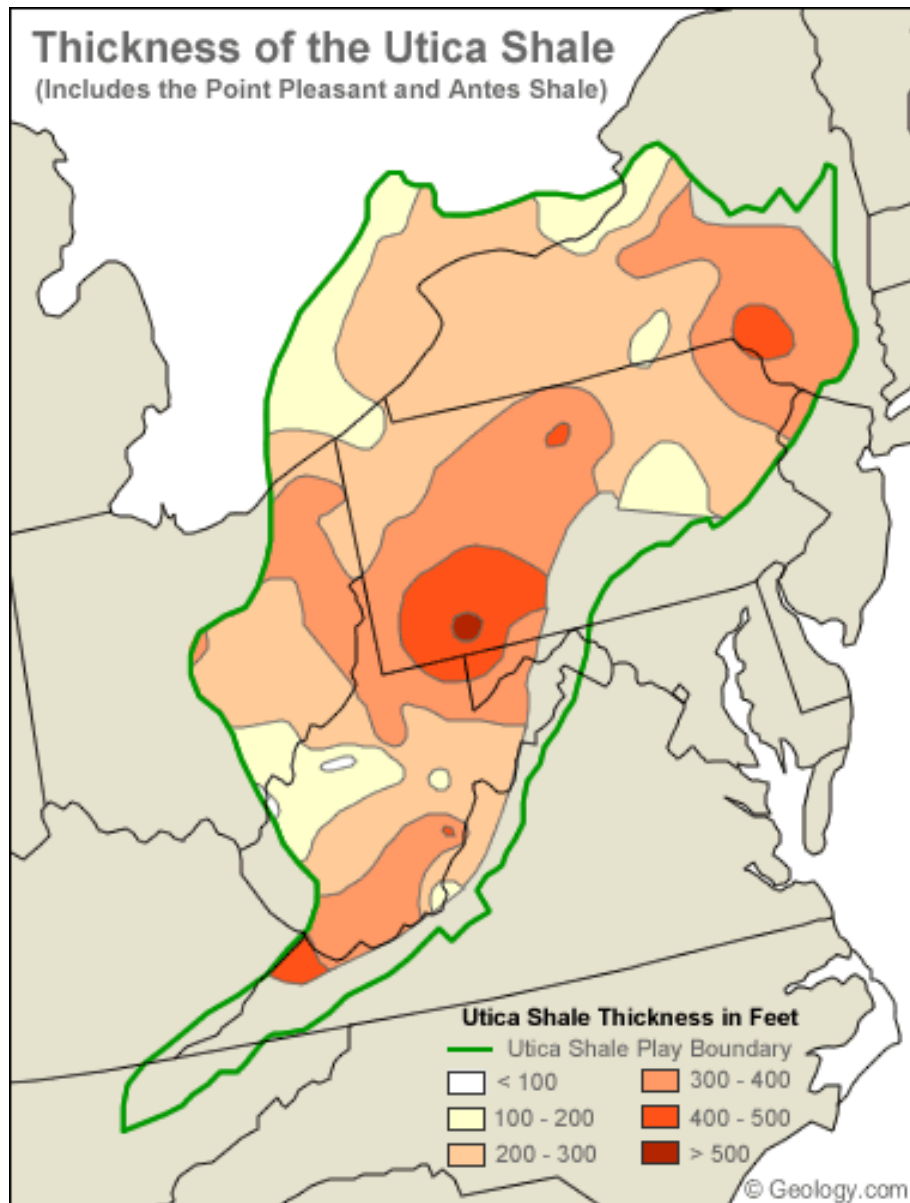
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<sup>3</sup> [http://www.epa.gov/region8/superfund/wy/pavillion/EPA\\_ReportOnPavillion\\_Dec-8-2011.pdf](http://www.epa.gov/region8/superfund/wy/pavillion/EPA_ReportOnPavillion_Dec-8-2011.pdf)

<sup>4</sup> PADEP Consent Order and Settlement Agreement in the Matter of Cabot Oil and Gas Corp., 12.15.10

<sup>5</sup> [http://yosemite.epa.gov/sab/sabproduct.nsf/0/D3483AB445AE61418525775900603E79/\\$File/Draft+Plan+to+Study+the+Potential+Impacts+of+Hydraulic+Fracturing+on+Drinking+Water+Resources-February+2011-Appendices.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/0/D3483AB445AE61418525775900603E79/$File/Draft+Plan+to+Study+the+Potential+Impacts+of+Hydraulic+Fracturing+on+Drinking+Water+Resources-February+2011-Appendices.pdf)

<sup>6</sup> <http://www.nytimes.com/2012/01/02/science/earth/youngstown-injection-well-stays-shut-after-earthquake.html>

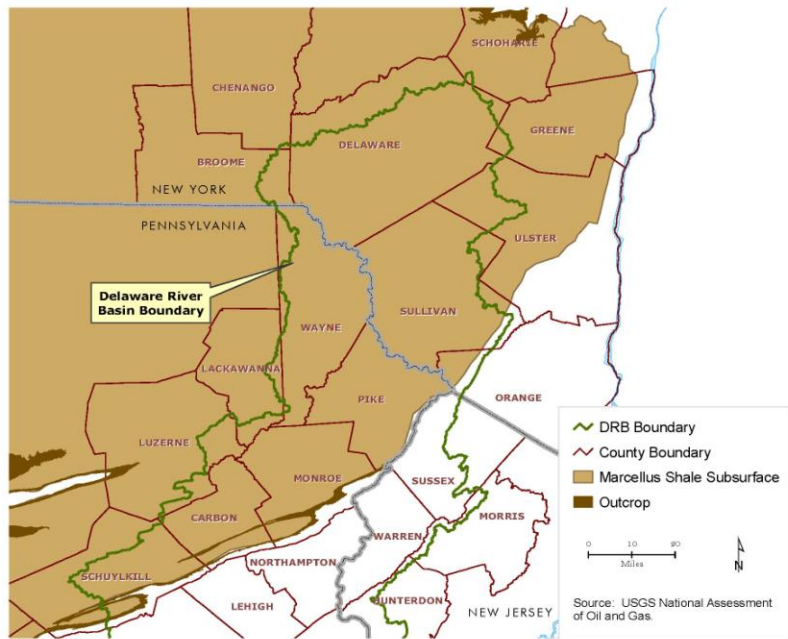


**Utica Shale Boundaries and Thickness**

The Utica Shale formation is found in northwestern New Jersey, as shown above. The Utica is deeper and extends beyond the limits of the Marcellus Shale geographic limits. Because the Utica is almost twice as deep as the Marcellus, it will be more resource-intensive. Each well will use more water to fracture the wells, will cause more air pollution, produce drilling wastes, and will require more equipment and transportation. Land use changes will be greater and, because there is a higher pressure associated with deeper gas reservoirs, there is an increased risk of well blowout.<sup>7</sup>

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<sup>7</sup> Joint legal memorandum on Revised Draft Supplemental Generic Environmental Impact Statement, Catskill Mountainkeeper, Delaware Riverkeeper Network, Earthjustice, Natural Resources Defense Council, Riverkeeper, and the Sierra Club, 1.11.12, page 2-3.



**Marcellus Shale in the Delaware River Watershed (shown in tan)**

The Marcellus Shale Formation underlies approximately 36% of the Delaware River Basin, including portions of Pennsylvania and New York State, primarily north of the Delaware Water Gap.



**Marcellus Shale Formation (shown in grey)**

The Marcellus Shale Formation is carbonaceous radioactive shale that stretches across West Virginia and about one third of Ohio, through 63% of Pennsylvania, into New York State’s Southern Tier, including the Catskill Mountains and Finger Lakes, and into Lake Erie and extremely southern Canada. It is buried about a mile beneath the earth’s surface and is estimated to be 25-250 feet thick.