From: David Wasilewski
Sent: Tuesday, November 12, 2013 2:48 PM
To: Hanlon, Edward
Subject: Input to EPA studies on unconventional methods of drilling for gas/oil.

Please include me as someone who will provide input about the problems associated with unconventional gas drilling. In my view, one problem is that all attention is focussed upon fracking, which accounts for only a small part of the drilling process. By definition, fracking occurs deep beneath the earth's surface. Potential problems associated with the particular stage in drilling referred to as fracking are a function of both geology and elapsed time. The millions of gallons of toxic liquid left underground when a frack job is completed pose a threat over time. How is that the EPA or anyone else can measure the potential for water contamination that may occur over time; 5, 10, or 15 years? This question is further complicated by geological variability.

Aside from fracking, there are other aspects of unconventional drilling that pose a threat to the environment. These include, but are not limited to: 1. acceleration of the migration of naturally occurring substances such as methane or arsenic. One only need look to the water contamination associated with anthracite coal mining. Naturally occurring substances such as sulphur and iron continue to flow into streams where coal mining has ended 40-50 years ago. 2. Water contamination due to failure of gas well casings. Approximately 6% of new casings fail. Thus, there is often an immediate negative impact upon the water table in drilling areas. Over the course of years, the rate of well-casing failure increases dramatically. 3. Storage/disposal of frack liquids and other waste products is something for which the industry has no environmentally sound solution. Deep injection well have been associated with earthquakes. Hundreds of millions of gallons of toxic waste stored underground in an area where earthquakes become the norm is obviously a serious problem. When the industry claims 100% recycle rate for liquids, they mean that 100% of the water/liquid is used at least twice (two or more frack jobs). Eventually, all liquid becomes unusable and must be disposed of. 4. Air pollution associated with frack ponds (impoundments), diesel engines running constantly at drilling sites, and compressor stations is a serious problem.

As the second paragraph (above) shows, although fracking itself constitutes a serious environmental threat, other aspects of unconventional gas drilling pose other environmental threats. My home is located in a rural area of Pennsylvania. People who live near drilling sites (as close as 250 feet from drilling pads/impoundments, now changed to at least 500 feet, which is still ridiculously close to these toxic industrial activities), endure significant negative impacts to their health, financial well-being, and general quality of life. The way the laws are written/enforced in PA, residents have no control over avoiding these negative impacts upon their lives.

David Wasilewski
Hunlock Creek, PA