



Fact Sheet



Horizontal Fracking

The rush to unconventional gas drilling poses risks to Ohio’s communities and natural resources.

Overview



A relatively new drilling technology — known as high-volume, horizontal hydraulic fracturing — now makes it possible to reach natural gas reserves that underlie much of the state of Ohio.

Commonly referred to as “horizontal hydrofracking” or just “fracking,” this deep-shale natural gas drilling uses high-pressure injections of water, sand, and chemicals to release trapped gas.

After drilling vertically to a depth that reaches slightly above the shale, the drillbit is turned horizontally and pushed

into the shale, as much as a mile or more.

Small fractures are created in the targeted area with underground explosions and a mixture of sand, water and chemicals is injected at high pressure into the newly created fractures to further crack the rock and release the gas.

The environmental and health impacts from fracking in other states such as Pennsylvania are shocking and well documented, with numerous spills, blowouts, leaking wells, and other accidents and releases of contaminants.

Facts

CHEMICALS

Many of the chemicals used in fracking — hydrochloric acid, diesel fuel components, and formaldehyde to name a few — are highly toxic and have serious short- and long-term health effects on humans.

Industry spokespersons claim that chemicals used in the fracturing process make up only a small fraction of fracking fluids.

Even so, each fracking operation can use between 4,000 and 7,000 gallons of chemicals each time a well is “fracked.”

WATER CONTAMINATION

Naturally-occurring fissures and faults or the presence of a previously unregistered abandoned mine can allow highly contaminated fracking fluids, along with natural and methane gases and radioactive debris, to migrate upward and be released into aquifers serving drinking water wells.

A recent study out of Duke University, which analyzed private water wells in Pennsylvania, found methane concentrations to be 17 times higher on average in areas with active shale drilling and extraction than in non-active areas.

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WATER USAGE

Hydrofracturing requires the use of 4 to 7 million gallons of water for each “frack” and a single well could be fracked multiple times. If an average family of four in Ohio uses about 300 gallons of water per day, the water used in ONE “frack” would supply 52 four-person households with water for an entire year.

The withdrawal of such large amounts of water from local resources can significantly impact Ohio’s water resources and infringe upon constitutionally protected property rights in ground water for an untold number of landowners.

AIR QUALITY

Hazardous air emissions are released from a variety of sources throughout the fracking process. These include hydrogen sulfide, volatile organic compounds, sulfur dioxide, BTEX (benzene, toluene, ethylbenzene and xylene), as well as methane and natural gas.

Known public health effects from these emissions include reproductive, respiratory, and blood disorders, as well as central nervous system and neurological effects.

LOCAL IMPACTS

Local communities will experience increased risks to public safety and infrastructure due to a significant increase in heavy truck traffic.

Fracking operations can take anywhere from 900 to 1,300 truckloads hauling equipment, materials, and water, sand, and waste fluids.

In 2004, Ohio lawmakers took away all local authority over oil and gas drilling and gave it to the Ohio Department of Natural Resources (ODNR). This is important because many of the impacts of fracking are felt locally, but local communities have little say and notice over the permitting process.

Recommendations



Ohio’s regulatory framework is inadequate, lacking the necessary controls and enforcement capacity to fully protect Ohioans and our natural environment.

Recent reforms to oil and gas drilling law (SB 165) did not incorporate protections specific to the unprecedented scale and foreseeable risk of deep-shale gas drilling.

ODNR must significantly strengthen regulations to include, at a minimum, increased water well monitoring, stronger air emissions standards, and a prohibition on open-pit storage of fracking fluids.

The Ohio General Assembly should immediately issue a moratorium ordering ODNR to withhold approval of new well permits involving high-volume, horizontal hydraulic exploration, drilling,

or extraction until such time as fracking is demonstrated to be safe for the environment and human health and is properly and effectively regulated.

The U.S. Environmental Protection Agency (EPA) is conducting a comprehensive research study to investigate the potential adverse effects of hydraulic fracturing to water resources, drinking water, terrestrial and aquatic ecosystems, and air quality. Preliminary results are expected to be completed by 2012, with the remaining results by 2014.

Ohio’s natural gas reserves will still be available when the U.S. EPA concludes its study.

Ohio should not – and must not – allow risky deep-shale gas drilling before the conclusion of the EPA’s study.