Marcellus shale essay

Countries, United States

The Marcellus Shale formation is located in Pennsylvania, New York, Ohio and West Virginia. This land is very popular because of its tight, deep shale formations which have the potential to hold a lot of natural gas. The Marcellus Shale is large and covers a widespread amount of land area in the Northeastern United States.

Researchers say that there is a potential for the Marcellus Shale formation to hold around 500 trillion cubic feet of natural gas in its shale deposits deep beneath the earth’s surface. The most controversial element of drilling for natural gas in the Marcellus shale is the use of hydraulic fracturing. In this process large pumps are hooked up to the newly drilled well and thousands of gallons of water and chemicals are pumped into the shale formation several thousand feet below the surface. This breaks apart the hard rock, creating fissures from which the shale gas is released. Because of these safety issues I believe that we should not drill into the Marcellus Shale formation in Western New York. In addition to the need for large quantities of water needed to do a frack job, it is controversial. In rare cases, when proper cementing procedures are not followed, frac fluid, which is a mixture of water and chemicals such as acids, can migrate or be forced into groundwater.

(Baker, 2001) In most situations, the groundwater lies from zero to one thousand feet deep, while the natural gas bearing formation lies at several thousand feet. In the case of the Marcellus Shale the gas is not that far in the ground, so to extract the gas the people fracking will be in danger of contaminating the groundwater. In New York the issue has raised particular concern because part of the Marcellus Shale lies underneath the city’s

drinking water supply, not to mention the contiguous forests of the Catskill Mountains and many upstate counties. Aside from the chemicals used, the building of roads, heavy truck traffic, the installation of drill pads, and the massive amounts of water that must be diverted and then stored as waste water after the fracking has been completed also pose threats to the environment. There are several steps in the Marcellus shale drilling process that allow radionuclide, particularly Radium-226, to concentrate in liquid waste. Ra-226 is highly water-soluble and will dissolve in water under the temperature and pressure conditions present in the Marcellus shale formation and in water that is introduced into the well during the production process.

(Sumi, 2008) Radium-226 has a half-life of 1600 years, and, if deposited in the landfill, will remain there essentially forever. Landfill workers that come in contact with the contaminated materials may be exposed. Further, if the landfill is ever inhabited in the future, crops grown in the soil will be concentrated with radium and be ingested. There are not many ways to resolve the issues of hydraulic fracturing. Once someone is exposed to the different chemicals in their drinking water or exposed to the natural gas they then can develop cancer or different diseases and there is nothing they can do by that time. We can not just go without natural gas though since it powers twenty percent of the power in the United States.

We must find a better way to get this natural gas without having to potentially hurt many people. Thus, we should not drill into the Marcellus Shale formation in Western New York. In doing so, people will be exposed to

radiation and other very dangerous chemicals. This will leave them susceptible to harm and health risks. We must find alternatives to hydro fracking before a lot of people get hurt.

BibliographyNew York Department of Environmental Conservation, 2009. “ Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program. http://www. dec.

ny. gov/energy/58440. html Sumi, L. (2008) Shale Gas: Focus on the Marcellus Shale.

The Oil & Gas Accountability Project/Earthworks. http://www. earthworksaction. org/pubs/OGAPMarcellusShaleReport-6-12-08. pdf CoPhysics Corporation, 2010. Radiological Survey Report. “ Marcellus Shale Drilling Cuttings from Tioga and Bradford Counties, PA.

and New England Waste Services of N. Y. , Inc. Landfill Sites in Chemung, NY, Campbell NY, Angelica NY.

” April 2010.