

# MarcellusGas.Org

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# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NORTHWEST REGIONAL OFFICE

October 20, 2011

Re: Water Sample Results for Property

Associated to CID No. 276776  
Act 223, Section 208 Determination  
Hickory Township, Forest County

Dear

Our investigation of your area has resulted in the sampling of your water supply which took place on April 5, 2011. A result obtained for iron and manganese parameters showed elevations above the predrilling analysis levels. The exact amount of methane gas was 0.00891 mg/l. The level of natural gas in your water well represents a very low amount. The department's analyses are enclosed for your information, as well as an analyses interpretation sheet.

Methane is the predominant component of natural gas. Drinking water standard limitations have not been established for methane gas and we do not know of any associated health risks. In general, methane levels in water wells are under .5 mg/l (500 ug/l). The true level of concern begins above 28 mg/l (28,000 ug/l) methane, which is what we call the saturation level. At this level, under normal atmospheric pressure, the water cannot hold additional methane. The potential hazard occurs when the water is used for extended periods of time. This may allow the gas to come out of the water and concentrate in the air space of your home or building. There is a **physical danger of fire or explosion** due to the migration of natural gas into water wells or through soils into dwellings where it could be ignited by sources that are present in most homes/buildings. Natural gas migration can also cause a threat of asphyxiation, although this is extremely rare.

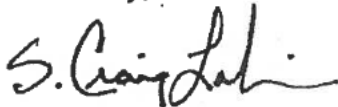
During gas migration investigations, we notify the nearby water supply owners of the hazards associated with methane in their water supply. Please be aware however, that the methane levels can fluctuate somewhat. This means that even with a relatively low level of methane, you should be vigilant of changes in your water that could indicate an increase in methane concentration.

It is the Department's recommendation that all water wells should be equipped with a working vent. This will help alleviate the possibility of concentrating these gases in areas where ignition would pose a threat to life or property. Please note that it is not possible to completely eliminate the hazards of having natural gas in your water supply by simply venting your well.

After reviewing your water sample analyses results and further investigation, the department has concluded that your water supply has been affected by activities associated with Catalyst Energy Inc.'s oil and gas operations.

If you have any questions, please contact Christine Miner at 814.332.6860.

Sincerely,



S. Craig Lobins  
Regional Manager  
Oil and Gas Management

Enclosures

cc: Douglas E. Jones, Catalyst Energy, Inc.  
Water Quality Specialist, John Thomas  
Oil and Gas Inspector, Scott Motter  
Christine Miner, Geologist  
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