



# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NORTHCENTRAL REGIONAL OFFICE

November 7, 2011

CERTIFIED MAIL NO. [REDACTED]

Re: Act 223, Section 208 Determination  
Complaint ID 280698  
Orwell Township, Bradford County

Dear [REDACTED]

The Department has investigated the possible degradation of your water supply well located at [REDACTED] in response to a 6/10/2011 complaint that recent gas well drilling activities may have affected your water well. On 7/7/2011, 8/11/2011 and 9/7/2011 the Department collected samples from your water supply. The samples were submitted to the Department's laboratory in Harrisburg for analysis. The analytical reports for the samples are included, as well as documents that will assist you with interpreting the sample results. The sample results showed manganese in your water ranging from 0.22 milligrams per liter (mg/L) to 0.29 mg/L. These concentrations exceed the secondary maximum contaminant level (SMCL) of 0.05 mg/L for manganese. SMCLs are guidelines regulating compounds that may cause aesthetic effects (taste, odor, color) in drinking water. In addition, the sample results showed iron in your water ranging from 0.38 to 0.80 mg/L. These concentrations exceed the SMCL of 0.3 mg/L for iron.

The sample results showed methane was present at 23.90 mg/L on 7/7/2011, 23.20 mg/l on 8/11/2011 and 27.60 mg/L on 9/7/2011 in your water supply. Combustible gas was also detected in the headspace of your water well. The Department investigation indicates that gas well drilling has impacted your water supply.

Methane is the predominant component of natural gas. Federal water standard limitations have not been established for methane gas. The level of concern begins above 28 mg/l methane, which is referred to as the saturation level. At this level, under normal atmospheric pressure, the water cannot hold additional methane in solution. 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 can also cause a threat of asphyxiation, although this is extremely rare.

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11/7/2011

When the Department is made aware of methane levels greater than 7 mg/l, we notify the water supply owner of the hazards associated with methane in their water supply. Please be aware however, that the methane levels can fluctuate. 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.

The Department is continuing to work to permanently resolve this issue. Should you have any questions concerning this matter, please feel free to contact Eric Rooney at 570-346-5543.

Sincerely,



Jennifer W. Means  
Environmental Program Manager  
Oil and Gas Management

Enclosures:  
Laboratory Analytical Results  
"How to Interpret A Water Analysis Report"

cc:  
Jennifer Means  
Marc Cooley  
William J. Kosmer, P.G.  
Eric Rooney  
Gene Rickard  
Complaint File  
[REDACTED]