



# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NORTHCENTRAL REGIONAL OFFICE

10/01/2010

[REDACTED]

**CERTIFIED MAIL NO.** [REDACTED]

Re: Act 223, Section 208 Determination  
Complaint No. 273310  
Terry Twp., Bradford County

Dear [REDACTED]

The Department has investigated the possible degradation of your water supply in response to your 7/13/2010 complaint that recent gas well drilling activities may have affected your water well. On 7/15/2010 and 7/21/2010, the Department collected samples from your home 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 a summary table and documents that will assist you with interpreting the sample results. The sample results from 7/21/2010 show methane was present at 9.48 mg/l in your water supply. Methane gas was also detected in the headspace of your water well. The Department investigation indicates that gas well drilling has impacted your home water supply.

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

When the Department is made aware of methane levels greater than 3 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.

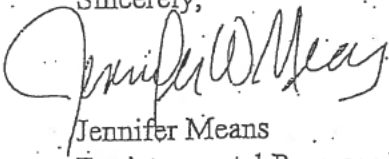
It is the Department's recommendation that all water wells should be equipped with a working vent. This will help alleviate the possibility of concentrating these gases in areas where ignition

10/1/2010

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 with Chesapeake in order to resolve this issue. It is our understanding that Chesapeake has already replaced your water supply by drilling a new water well. Once this well is fully developed, we will schedule to sample this water to ensure compliance with our regulations. Should you have any questions concerning this matter, please feel free to contact Caleb Woolever at 570-327-0546.

Sincerely,



Jennifer Means  
Environmental Program Manager  
Oil and Gas Management

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

cc:  
Caleb Woolever  
John Ryder  
William Kosmer, P.G.  
Chesapeake Energy  
Complaint File