



Pennsylvania Department of Environmental Protection

208 West Third Street, Suite 101

Williamsport, PA 17701-6448

May 13, 2009

Northcentral Regional Office

Fax 570-327-3420

Re: Water Sample Results/Hazards of Natural  
Gas in a Water Well  
Complaint ID No.  
Act 223 Section 208 Determination  
Windham Township, Bradford County

Dear Ms.

Our investigation of your area conducted on April 21, 2009, indicates there is natural gas in your water supply. The analyses and other related information are enclosed for your records.

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. The true level of concern begins above 28 mg/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.

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 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.

It has been determined that your water supply is affected by natural gas contamination. The cause of the gas migration in your area is currently unknown and remains under investigation by DEP. We will continue monitoring events in and around your area. Should you have any questions concerning this matter, please feel free to contact me.

Sincerely,

Richard F. Hall  
Water Quality Specialist  
Oil and Gas Management

Enclosures

cc: John Ryder, WQS Supervisor  
Herb Karlinsey, Oil and Gas Inspector  
File

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