



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NORTHCENTRAL REGION

August 22, 2011

CERTIFIED MAIL NO. 7010 2780 0001 8652 0063

Re: Act 223, Section 208 Determination
Complaint No.
Orwell Township, Bradford County

Dear Mr.

The Department is investigating the possible degradation of your water supply well located at your residence at [redacted] Bradford County in response to an 8/31/2010 complaint that recent gas well drilling activities may have affected your water well. On 10/13/2010 and 7/7/2011, 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/Liter (mg/L) to 0.382 mg/L, and iron in your water ranging from 0.97 mg/L to 5.871 mg/L. These concentrations exceed the secondary maximum contaminant level (SMCL) of 0.05 mg/L for manganese and 0.3 mg/L for iron. The sample results show aluminum was detected at 0.601 mg/L exceeding the SMCL of 0.2 mg/L. SMCLs are guidelines regulating compounds that may cause aesthetic effects (taste, odor, color) in drinking water. Additionally, the sample results showed methane is present ranging from 7.970 mg/L to 11.900 mg/L.

Because drilling activities occurred at a gas well within one thousand feet of your water supply, and the pollution occurred and was reported within six months after completion of those activities, under section 208(c) of the Oil and Gas Act 58 P.S. §601.208(c), the gas well operator is presumed to be responsible for the degradation of your water supply.

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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.

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"