



November 10, 2020

**CERTIFIED MAIL NO.** [REDACTED]

[REDACTED]

Re: 58 Pa. C.S. § 3218 Determination  
Water Supply Request for Investigation No. 279070  
Wilmot Township, Bradford County

Dear [REDACTED]

The Department has completed its investigation of your water supply located at the above address ("Water Supply"). Based on the sample results reviewed and supplementary information obtained to date, the Department has determined that the Water Supply was temporarily affected by oil and gas activities but has returned to background conditions. Nevertheless, please note that your water quality does not meet (*i.e.*, is worse than) the following health and/or aesthetic statewide standards unrelated to oil and gas activities:

Parameters	Unit	Statewide Standards or Recommended Levels	Your Most Recent Sample Results that Are Above Statewide Standards/Levels
Iron	mg/L	0.3	0.442
Manganese	mg/L	0.05	0.141
Turbidity	NTU	1	2.1

The continued use of the previously installed treatment system, if properly maintained, should sufficiently address the levels of the above contaminants. The Department's investigation into your complaint is set forth below.

**Summary of Investigation**

On March 11, 2011 you complained to the Department that methane gas had impacted your Water Supply. During inspections conducted by the Department, evidence of methane gas was observed in the water and the headspace of the Water Supply. Samples from the Water Supply were collected as shown in the attached tables, and submitted to a Pennsylvania-accredited laboratory or the Department's laboratory in Harrisburg for analysis.

Initial results of samples from the Water Supply showed that the Water Supply had levels of methane above expected background conditions. However, additional sampling results revealed that those levels have returned to expected background conditions. Methane levels have

remained below the Department's action level of 7 mg/L in all samples collected from the Water Supply since February 2012. The enclosed tables compare those results.

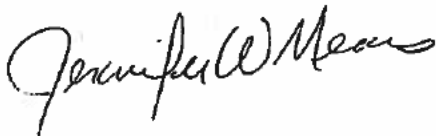
As detailed in the table above, several tested parameters remain above their respective health and/or aesthetic statewide standards. Turbidity ranged from <1 nephelometric turbidity unit (NTU) to 15.2 NTU. Turbidity is caused by the presence of suspended matter such as sediment, nonliving organic particulates, plankton, or other microscopic organisms. In the case of your Water Supply, it appears the turbidity detected is mainly related to sediment and is also partially responsible for the detected concentrations of iron and manganese.

Iron and manganese, common metals associated with groundwater in the region, remain above their secondary maximum contaminant levels (SMCLs) in water samples collected from the Water Supply. The most likely source of the iron and manganese detected in the Water Supply is from the bedrock from which the Water Supply derives its water.

Based on the Department's investigation, the Department has determined that the impacts on the Water Supply were temporary and that the quality of the Water Supply has now returned to background conditions. Because the Water Supply has returned to background conditions, the Department does not plan to require further action regarding the Water Supply. Accordingly, our prior correspondence to you regarding impacts to the Water Supply, dated May 16, 2011, is superseded by this letter.

Please contact William J. Kosmer, P.G. at 570-974-2613 should you have any questions concerning this matter.

Sincerely,



Jennifer W. Means  
Environmental Program Manager  
Eastern Oil and Gas District

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

cc:  
William J. Kosmer, P.G.  
Sean Van Fleet  
Complaint File # 279070



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NORTHCENTRAL REGIONAL OFFICE

File

5/16/2011

[REDACTED]  
[REDACTED]  
[REDACTED]

**CERTIFIED MAIL NO.** [REDACTED]

Re: Act 223, Section 208 Determination  
Complaint No. 279070  
Wilmot Twp., Bradford County

Dear [REDACTED]

The Department has investigated the possible degradation of your water supply in response to a 3/21/2011 complaint that recent gas well drilling activities may have affected your water well. On 3/21/2011, 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 documents that will assist you with interpreting the sample results. The sample results from 3/21/2011 showed methane was present at 20.6 mg/l in your water supply. 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, the 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 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

5/16/2011

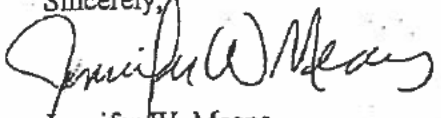
would pose a threat to life or property. Please note that it is not possible to completely eliminate the hazards of having natural gas in your water supply by simply venting your well.

The Department is continuing to work in order to permanently resolve this issue. Should you have any questions concerning this matter, please feel free to contact

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William J. Kosmer, P.G. at 570-974-2613.

Sincerely,



Jennifer W. Means  
Environmental Program Manager  
Oil and Gas Management

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

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cc:  
Jennifer Means  
John Ryder  
Caleb Woolever  
Complaint File 279090