



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHCENTRAL REGIONAL OFFICE

12/6/10

CERTIFIED MAIL NO. [REDACTED]

Re: Act 223, Section 208 Determination
Complaint No. 274977
Alba Boro, Bradford County

Dear [REDACTED]

The Department has investigated the possible degradation of your water supply well located at [REDACTED] in response to a 10/15/2010 complaint that recent gas well drilling activities may have affected your water well. On 10/15/2010, 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 documents that will assist you with interpreting the sample results. The sample results showed methane is present at 9 mg/l in your water supplies. Methane gas was also detected in the headspace of your water wells. The Department investigation indicates that gas well drilling has impacted your 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 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.

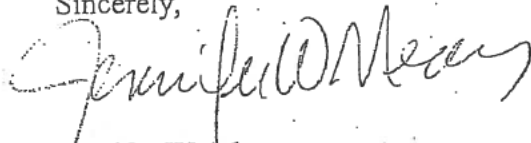
It is the Department's recommendation that all water wells should be equipped with a working vent. This will help alleviate the possibility of concentrating these gases in areas where ignition

12/6/2010

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.

It is our understanding that Talisman is currently providing you with an alternate water supply. The Department is continuing to work with Talisman in order to permanently resolve this issue. Should you have any questions concerning this matter, please feel free to contact 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"

cc:
Jennifer Means
John Ryder
Caleb Woolever
Talisman Energy
Complaint File
Kosmer



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DISTRICT OIL AND GAS OPERATIONS

8/27/2012

CERTIFIED MAIL NO. [REDACTED]

Re: 58 Pa.C.S § 3218 Determination
Complaint No. 274977
Alba Boro, Bradford County

Dear [REDACTED]

The Department has investigated the degradation of your water supply well located at [REDACTED] in response to a 10/15/2010 complaint that gas well drilling activities may have affected your water well. On 10/15/2010, the Department collected samples from your water supply. The samples were submitted to the Department's laboratory in Harrisburg for analysis. The analytical reports indicated that gas well drilling had impacted your water supply, and on December 6, 2010, the Department issued a letter of positive determination describing this impact.

Subsequent to the issuance of the December 10, 2010 determination letter, additional samples were collected from your water supply as part of an intensive investigation. The samples were collected by a qualified third party and submitted to an independent accredited laboratory for analysis. The analytical reports for those samples were previously submitted to you. The Department's investigation indicates that the previous impact to your water supply appears to have been temporary, and that water quality has returned to background conditions.

Based on water quality sample results to date, the Department does not anticipate requiring any further action in relation to this matter. Should you have any questions, please feel free to contact William J. Kosmer, P.G. at 570-974-2613.

Sincerely,

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

cc:

Jennifer Means
William J. Kosmer, P.G.
Dave Engle
Complaint File 274977
[REDACTED]