



November 16, 2021

CERTIFIED MAIL NO. [REDACTED]

[REDACTED]

Re: Water Supply Request for Investigation ID: 335090

[REDACTED]
58 Pa.C.S. § 3218 Determination
Liberty Township, Tioga County

Dear [REDACTED]

The purpose of this letter is to notify you of the Department's action of approving a Rebuttal to the Presumption of Liability ("Rebuttal Report") submitted by SWN Production Company LLC ("SWN") regarding your water supply as set forth in the enclosed letter. On August 3, 2018, you received a letter from the Department stating that SWN was presumed responsible for the pollution of your water supply located at the above subject address ("Water Supply"). Section 3218 of the 2012 Oil and Gas Act allows an oil and gas operator the opportunity to rebut the presumption that oil and gas activities impacted the Water Supply. On January 25, 2019, SWN submitted the Rebuttal Report to the Department.

The Rebuttal Report was prepared by Moody and Associates, Inc. SWN asserted that the rebuttable presumption of liability does not apply because the pollution existed prior to the drilling, stimulation or alteration activity as determined by a predrilling or prealteration survey, as provided by Section 3218(d)(2)(i) of the Oil and Gas Act and occurred as the result of a cause other than the drilling or alteration of an unconventional gas well, as provided by Section 3218(d)(2)(v) of the Oil and Gas Act. The Department reviewed the Rebuttal Report and concurred with the conclusions therein that the increase in dissolved methane observed was likely the result of variations between laboratories and sampling methods used to collect the samples. Water sampling conducted in accordance with SWN's monitoring plan for the Water Supply showed that dissolved methane concentrations consistently remained within a range of concentrations expected through groundwater fluctuation and usage of the Water Supply.

Samples of the methane from the Water Supply were sent to a specialized laboratory for isotope analysis. The isotopic analysis allowed for more detailed characterization of the natural gas in the Water Supply. The isotope analyses showed natural gas from the Water Supply was distinct from natural gas sampled from potential gas well sources in the area.

Based on the Rebuttal Report, as described in the enclosed letter, the operator has successfully rebutted presumptive liability under Sections 3218(d)(2)(i) and (v) of the Oil and Gas Act, 58 Pa.C.S. §§ 3218(d)(2)(i) and (v).

Please see the enclosed Department approval of SWN's Rebuttal Report for further explanation of the elevated methane levels detected in your Water Supply.

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.

The Department understands that your Water Supply has a vent currently installed. 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.

Additionally, please note that on occasion, your water quality does not meet (*i.e.* is worse than) health statewide standards for bacteria.

The Department considers the water supply request for investigation closed and does not anticipate further action related to your Water Supply. Should you have any questions regarding the investigation, please contact Caleb Woolever at 570.327.0546.

Sincerely,



Jennifer W. Means
Program Manager
Eastern Oil and Gas District

CID 335090

-3-

November 16, 2021

Enclosures:
Sample Results Table
Fact Sheet

cc:
Stephanie Wharton
Caleb Woolever
Matt Nuss
Complaint File # 335090



August 3, 2018

CERTIFIED MAIL NO. [REDACTED]

Re: Water Supply Request for Investigation ID: 335090
[REDACTED]

58 Pa. C.S. § 3218 Determination
Liberty Township, Tioga County

Dear [REDACTED]

The Department of Environmental Protection (Department) is investigating the possible degradation of your water supply well located at the above referenced subject address ("Water Supply"), in response to a complaint received on June 08, 2018, that recent gas well drilling activities may have affected your Water Supply well. The Department's investigation to this point, prompted by information you provided, indicates that oil and gas activities are presumed to be the cause of the pollution of your water supply.

Summary of Investigation

On June 08, 2018, it was reported to the Department that methane gas had been detected in the Water Supply. On June 26, 2018, the Department collected samples from your Water Supply. Samples were collected as shown in the enclosed table, and submitted to the Department's laboratory in Harrisburg for analysis.

The June 26, 2018, sample results showed that total coliform bacteria exceeded the applicable water quality standard. Total coliform bacteria was detected at 3/100 mL, which exceeded the MCL of the presence of total coliform bacteria. Dissolved methane was detected at 15.9 mg/L, which exceeded the DEP unofficial action level of 7 mg/L.

Additionally, the sample results collected by the Department on June 26, 2018 showed microbiological contaminants. Iron-related bacteria was detected at 2,200 CFU/mL, sulfate-reducing bacteria was detected at 1,400 CFU/mL, and slime-forming bacteria was detected at 67,000 CFU/mL. Enclosed are documents that may assist in understanding disinfection and associated information regarding private water wells.

August 3, 2018

Because drilling activities occurred at a gas well within two thousand five hundred feet (2,500') of your Water Supply, and the pollution occurred and was reported within one year after completion of those activities, under Section 3218 of the Oil & Gas Act (58 Pa C.S. §3218), the gas well operator is presumed to be responsible for the degradation of your Water Supply.

It is the Department's understanding that you are being provided alternate water. The Department is continuing to investigate and work to permanently resolve this issue. Should you have any questions concerning this matter, please feel free to contact Caleb Woolever, Geologic Specialist, at 570.327.0546.

Sincerely,



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

Enclosures:

Fact Sheet – Interpreting Water Supply Results
Fact Sheet – Disinfection of Home Wells and Springs
Results Table

cc: Stephanie Wharton (email)
Matthew Nuss (email)
Ben Bahner (email)
Sharon Steinbacher (email)
Complaint File #: 335090