



August 26, 2019

CERTIFIED MAIL NO. [REDACTED]

[REDACTED]

Re: 58 Pa. C.S. § 3218 Determination
Water Supply Request for Investigation No. 287060
Delmar Township, Tioga County

Dear Mr. Bowers:

The Department has completed its investigation of your water supply located at the above subject address ("Water Supply") in response to a complaint received on 2/21/2012, that recent oil and gas activities affected the 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 in the absence of any treatment, 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 Sample Results that Are Above Statewide Standards/Levels
Manganese	mg/L	0.05	0.403
Turbidity	NTU	1	1.76

The current levels of the above listed constituents are consistent with those observed in pre-drill data collected from the Water Supply. The Department's investigation into your complaint is set forth below.

Summary of Investigation

On February 21, 2012, the Department was notified by a nearby oil and gas operator of elevated methane levels in the Water Supply. During inspections conducted by the Department and others during the course of the investigation, methane gas was observed in the water 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 levels which are below the Department's unofficial action level for methane and that these concentrations are at expected background conditions. The enclosed tables compare those results.

As detailed in the table above, two of the tested parameters remain above their respective health and/or aesthetic statewide standards. The most recent turbidity level detected was 1.79 nephelometric turbidity units (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 manganese.

Manganese, a common metal associated with groundwater in the region, remains above its secondary maximum contaminant level (SMCL) in water samples collected from the Water Supply. The most likely source of the manganese detected in the Water Supply is from the bedrock from which the Water Supply derives its water. The current level of manganese present in the Water Supply is consistent with levels observed during pre-drill sampling.

Based on the Department's investigation, the Department has determined that the impacts to the Water Supply were temporary and that the quality of the Water Supply is now at background conditions. As a result, the Department does not plan to require further action regarding the Water Supply.

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



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

Enclosures:
June 26, 2019 Groundwater Sampling Analytical Results
Laboratory Analytical Tables
"How to Interpret A Water Analysis Report"

cc:
William J. Kosmer, P.G.
Stephanie Wharton
Matt Nuss
Sharon Steinbacher
Complaint File # 287060