



January 9, 2023

CERTIFIED MAIL NO. [REDACTED]

[REDACTED]

Re: 25 Pa. Code § 78a.51(c) Determination
Water Supply Request for Investigation No. 365308
Shippen Township, Cameron County

Dear [REDACTED]

The Department of Environmental Protection (Department) has been investigating the possible degradation of your water supply located at the above address ("Water Supply"), in response to a July 6, 2022 complaint that gas well development activities may have affected your Water Supply. The Department's investigation, prompted by information you provided, has determined that your Water Supply was adversely affected by oil and gas operations.

Please note that without any treatment, water quality sampling indicates that on occasion your water quality has not met (*i.e.*, is worse than) the following health and/or aesthetic statewide standards (note that Primary Maximum Contaminant Levels (MCLs) are intended to reflect potential dangers to human health, while secondary Maximum Contaminant Levels (SMCLs) reflect the aesthetics of the water (*i.e.* taste, smell, etc.)):

Parameters	Unit	Statewide Standards or Recommended Levels	Your <u>Highest</u> * Sample Results that were Detected Above Statewide Standards/Levels
TDS	mg/L	500	23,360
Chloride	mg/L	250	10,777
Barium	mg/L	2	95
Manganese	mg/L	0.05	6.12
Arsenic	mg/L	0.01	0.016
pH	pH units	6.5 – 8.5	5.5
Total Coliform	-	Absent	Present
E. coli	mg/L	Absent	Present

*pH concentration was the lowest detected concentration outside the acceptable range.

The information upon which this determination is based is summarized below.

Summary of Investigation

On July 6, 2022 the Department was notified that the water from your Water Supply contained elevated levels of chlorides and specific conductance. During inspections conducted by the Department and others, saline water was observed in the Water Supply. Subsequently, water quality samples were collected from the Water Supply on several occasions by the Department and private consultants, and were submitted to the Department's laboratory or to an accredited third party laboratory for analysis. The analytical reports for the samples collected by the Department were previously submitted to you. Please see the attached documents, which include analytical tables regarding the quality of the Water Supply, as well as information regarding interpreting those results.

Over the course of the investigation, samples collected from your Water Supply revealed that all parameters tested during the monitoring period met their respective MCLs/SMCLs for compounds for which an MCL/SMCL exists with the exception of total dissolved solids (TDS), chlorides, barium, arsenic, manganese, pH, and bacteria. TDS ranged from 56 mg/L to 23,360 mg/L, in exceedance of the SMCL of 500 mg/L. Chlorides were detected above the SMCL of 250 mg/L at concentrations ranging from <2 mg/L to 10,777 mg/L. Barium was detected above its MCL of 2 mg/L at concentrations ranging from 0.03 mg/L to 95 mg/L. Manganese was detected at concentrations ranging from 0.02 mg/L to 6.12 mg/L, above its SMCL of 0.05 mg/L. Arsenic was detected in one sample, slightly in exceedance of its MCL of 0.01 mg/L, at a concentration of 0.016 mg/L. During several sampling events, pH was below the recommended range of 6.5 – 8.5, with the lowest concentration being 5.3. Bacteria (total coliform and E. coli) were also detected in the samples from your Water Supply.

The Department is continuing to work to permanently resolve this issue. Should you have any questions regarding the investigation, please contact William J. Kosmer, P.G. at 570.974.2613.

Sincerely,



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

Enclosures:

Laboratory Analytical Table
"How to Interpret A Water Analysis Report"

cc:

William J. Kosmer, P.G.
Stephanie Wharton
Sue Herzing
Sean VanFleet
Carrie Knapp
Complaint File # 365308