

# MarcellusGas.Org

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# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS MANAGEMENT

January 6, 2016

Certified Mail No: [REDACTED]

[REDACTED]

Re: Water Supply Request for Investigation Complaint ID# 309063,  
Determination of Temporary Impact-58 Pa C.S. § 3218  
Hempfield Township, Westmoreland County

Dear [REDACTED]

The Department has completed its investigation of your water supply [REDACTED].  
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 expected conditions. The Department's investigation into your complaint is set forth below.

## Summary of Investigation

On December 2, 2014, you complained to the Department that your water supply had a salty taste. On the dates of the Department's inspections, your water was clear and without odor, as documented in the enclosed inspection reports. Samples from the Water Supply were collected as shown in the table below, and submitted to the Department's laboratory in Harrisburg for analysis. Those analytical results are enclosed.

Initial results of samples from the Water Supply showed that the Water Supply had parameters, including Alkalinity, Chlorides, Calcium, Magnesium, Sodium, Total Dissolved Solids, and conductivity, above expected conditions. However, additional sampling results revealed that those levels returned to expected conditions.

The following table compares those results.

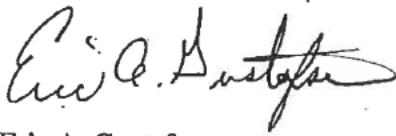
Contaminant or Parameter	Unit	Standards or Recommended Levels	EXCO Sample 12/4/14	DEP Sample 12/4/14	EXCO Sample 12/11/14	EXCO Sample 12/17/14	DEP Sample 01/05/15	EXCO Sample 01/05/15
Alkalinity	mg/L	NA	40.0	40.6	48.0	< 20.0	25.4	24.0
Aluminum	mg/L	5 - 200	< 50	< 200	< 50	0.164	< 200	0.07
Arsenic	ug/L	10	< 4	< 3	< 4	< 4	< 3	< 4
Barium	mg/L	2	0.310	0.291	0.354	0.0949	0.070	0.0696
Bromide	mg/L	NA	1.68	1.710	1.98	< 1.0	0.326	< 1.0
Calcium	mg/L	NA	59.4	55.2	64.7	18.6	16.8	16.3
Chloride	mg/L	250	198	222.4	258	62.7	34.4	30.9
Hardness	mg/L	NA	233	216	257	75	67	65.6
Iron, Fe	mg/L	0.3	0.0235	0.03	< 0.02	0.103	0.08	0.0628
Lithium	mg/L	NA	0.011	< 25	0.0169	< 0.01	< 25	< 0.01
Magnesium	mg/L	NA	20.6	18.9	23.3	6.95	6.072	6.08
Manganese, Mn	mg/L	0.05	< 10	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
pH		6.5 - 8.5	7.84	7.6	7.88	7.47	7.5	7.76
Potassium	mg/L	NA	1.99	1.873	2.21	1.64	1.386	1.33
Selenium	ug/L	50	< 0.01	< 7	0.0100	0.0100	< 7	< 0.01
Sodium	mg/L	NA	62.4	58.6	91.2	91.2	11.70	11.6
Specific Cond	µS/cm	NA	812	816	901	232	216	227
Strontium, Sr	mg/L	NA	1.63	1.52	1.79	0.315	0.21	0.205
Sulfate	mg/L	250	18.0	20.9	20.6	17.5	< 15	17.7
TDS	mg/L	500	966	554	650	144	140	104
Total Suspended Solids	mg/L	NA	< 4.0	< 5	< 4.00	< 4.00	< 5	< 4.00
Turbidity	NTU	1*, 5*	< 1.0	< 1.0	< 1.0	2.05	1.26	1.40
Zinc	ug/L	5,000	< 10	< 10	< 10	< 10	< 10	< 0.01

\*For systems that use conventional or direct filtration, at no time can turbidity (cloudiness of water) go higher than 1 nephelometric turbidity unit (NTU), and samples for turbidity must be less than or equal to 0.3 NTU in at least 95 percent of the samples in any month. Systems that use filtration other than conventional or direct filtration must follow state limits, which must include turbidity at no time exceeding 5 NTU.

Based upon 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 expected conditions. Because the Water Supply has returned to expected conditions, the Department does not plan to require further actions regarding the Water Supply.

Please contact Water Quality Specialist, Greg Higgins, 724.925.5425 or via email at [ghiggins@pa.gov](mailto:ghiggins@pa.gov) if you have any questions about the Water Supply.

Sincerely,



Eric A. Gustafson  
District Oil and Gas Manager  
District Oil and Gas Operations

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

cc: Water Quality Specialist Supervisor – April Weiland  
Complaint File