Pennsylvania
Department of
Environmental Protection

April 25, 2025

CERTIFIED MAIL NO. [redacted]

[redacted]

Re: Water Supply Request for Investigation ID: 360620
58 Pa. C.S. § 3218 Determination
Lenox Township, Susquehanna County

Dear [redacted]

The Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") has been investigating the possible degradation of your new water supply located at the above-referenced address ("Water Supply") from oil and gas activities. The Department has determined that your Water Supply was adversely affected by oil and gas activities, including but not limited to the drilling, alteration, or operation of an oil or gas well. The information upon which this determination is based is summarized below.

Please note that without any treatment, water quality sampling indicates that on occasion your water quality does not meet (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.). None of the parameters in the Water Supply were above an MCL; however, certain samples were above an SMCL or the Department's Action Level, as set forth in the table below.

Parameters	Unit	Statewide Standards or Recommended Levels	Your Highest Sample Results that Were Detected Above Statewide Standards/Levels
Manganese	mg/L	0.05	**0.14**
Methane	mg/L	7 (DEP Action Level)	**27**

Summary of Investigation

On February 17, 2023, the Department was notified that your new Water Supply, drilled in May 2022, became progressively cloudier over the prior two months. Due to a nearby gas migration investigation that was on-going at the time your well was drilled, samples were collected from your Water Supply on several occasions by the Department and private consultants. The samples were submitted to the Department's laboratory in Harrisburg or to an accredited third-

party laboratory for analysis. The analytical reports for the samples collected by the Department were previously provided to you, but are summarized for your convenience in the enclosed table along with sample results provided by Coterra Energy, Inc. The samples collected revealed an increasing trend in dissolved methane concentrations in your Water Supply.

Samples of the methane from the Water Supply were collected and sent to a specialized laboratory for isotopic and compositional analysis. These analyses allowed for a more detailed characterization of the gas present in the Water Supply. The isotope and compositional analyses indicate that the stray gas in your Water Supply appears to be associated with oil and gas activities.

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, it notifies 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 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.

The Department is continuing to work to permanently resolve this issue. Should you have any questions regarding the investigation, please contact Eric Rooney, P.G. at 570.346.5543.

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board) pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A. The Board's address is:

Environmental Hearing Board
Rachel Carson State Office Building, Second Floor
400 Market Street
P.O. Box 8457
Harrisburg, PA 17105-8457

TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at www.ehb.pa.gov or by contacting the Secretary to the Board at 717-787-3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717-787-3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

Sincerely,

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

Enclosures:
Laboratory Analytical Results Table

c: Michael O'Donnell
Eric Rooney, P.G.
Briana Cunningham
Complaint File # 360620

CID# 360620	5/11/2022	5/24/2022	6/10/2022	6/16/2022	6/27/2022	7/7/2022	7/15/2022	11/7/2022	2/28/2023	4/6/2023	4/6/2023	6/2/2023	8/31/2023	Well #2
Results in mg/L unless otherwise noted.	Coterra	Coterra	Coterra	Coterra	Coterra	Coterra	Coterra	Coterra	DEP	Coterra	Coterra	Coterra	Coterra	
										raw	treated	raw	raw	**MCL/Standard**
Methane	0.360	0.190	1.5	1.3	1.8	1.3	1.6	3.3	5.69	6.3	8.6	9.1	26	**7
Ethane	<0.0050	<0.0050	0.019	0.015	0.027	0.018	0.021	0.045	0.107	0.083	0.110	0.098	0.240	No Standard
Propane	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0142	<0.0050	<0.0050	<0.0050	<0.0050	No Standard
Alkalinity	~	~	130	~	120	~	~	~	136.4	130	120	~	120	No Standard
Aluminum	~	~	<0.030	~	<0.030	~	~	~	<0.015	<0.030	<0.030	~	<0.030	0.2
Arsenic	~	~	0.0040	~	0.0021	~	~	~	<0.003	<0.0020	<0.0020	~	0.0052	*0.010
Barium	~	~	0.25	~	0.23	~	~	~	0.138	0.15	0.13	~	0.24	*2
Bromide	~	~	<0.50	~	<0.50	~	~	~	<0.2	<3.8	<3.8	~	<0.75	No Standard
Calcium	~	~	37	~	39	~	~	~	38.000	39	40	~	38	No Standard
Hardness	~	~	130	~	130	~	~	~	116	100	110	~	110	No Standard
Iron	~	~	0.33	~	0.20	~	~	~	<0.100	<0.050	<0.050	~	<0.050	0.3
Lithium	~	~	<0.050	~	<0.050	~	~	~	<0.0250	<0.050	<0.050	~	<0.050	No Standard
Magnesium	~	~	5.2	~	5.3	~	~	~	5.14	5.5	5.6	~	5.4	No Standard
Manganese	~	~	0.13	~	0.10	~	~	~	0.0018	0.028	0.0035	~	0.14	0.05
pH (units)	~	~	7.9	~	8.0	~	~	~	7.7	~	~	~	~	6.5-8.5
Potassium	~	~	1.5	~	1.4	~	~	~	1.32	1.4	1.4	~	1.4	No Standard
Selenium	~	~	<0.0010	~	<0.0010	~	~	~	<0.004	<0.0010	<0.0010	~	<0.0010	*0.05
Sodium	~	~	12	~	11	~	~	~	10.90	12	12	~	12	No Standard
SPC (µS/cm)	~	~	270	~	270	~	~	~	274	~	~	~	~	No Standard
Strontium	~	~	0.62	~	0.62	~	~	~	0.550	0.57	0.57	~	0.64	No Standard
Total Chloride	~	~	3.8	~	3.6	~	~	~	3.28	3.4	4.5	~	13	250
TDS	~	~	150	~	150	~	~	~	164	150	150	~	97	500
Total Sulfate	~	~	9.0	~	9.0	~	~	~	8.70	9.5	9.4	~	7.6	250
TSS	~	~	<4.2	~	<3.9	~	~	~	<20	<3.0	3.5	~	<3.0	No Standard
Turbidity (NTU)	~	~	2.0	~	1.3	~	~	~	<1	<1.0	<1.0	~	<1.0	No Standard
Zinc	~	~	<0.010	~	<0.010	~	~	~	<0.030	<0.010	<0.010	~	0.014	5

Highlighting indicates an exceeded standard or level ~ Not analyzed * Denotes Primary MCL < Indicates analyte was not detected above its detection limit.

**** 7 mg/L represents the Department's official action level for dissolved methane in groundwater**

CID# 360620	9/12/2023	12/19/2023	1/11/2024	3/12/2024	6/7/2024									Well #2
Results in mg/L unless otherwise noted.	Coterra	Coterra	Coterra	Coterra	Coterra									
	treated			raw	raw									MCL/Standard
Methane	27	6.8	18	14	13									**7
Ethane	0.300	0.130	0.140	0.110	0.048									No Standard
Propane	0.058	<0.0050	<0.0050	<0.0050	<0.0050									No Standard
Alkalinity	120	35	120	~	130									No Standard
Aluminum	<0.030	<0.030	<0.030	~	<0.030									0.2
Arsenic	0.0025	<0.002	<0.002	~	<0.0020									*0.010
Barium	0.17	0.16	0.048	~	0.14									*2
Bromide	<0.75	<0.75	<0.75	~	<0.75									No Standard
Calcium	39	39	38	~	36									No Standard
Hardness	120	120	120	~	110									No Standard
Iron	<0.050	<0.050	<0.050	~	0.17									0.3
Lithium	<0.050	<0.050	<0.050	~	<0.050									No Standard
Magnesium	5.5	5.6	5.4	~	5.0									No Standard
Manganese	0.0064	0.048	0.075	~	0.046									0.05
pH (units)	~	7.1	7.9	~	8.0									6.5-8.5
Potassium	1.4	1.5	1.4	~	1.3									No Standard
Selenium	<0.0010	<0.0010	<0.0010	~	<0.0010									*0.05
Sodium	12	12	11	~	11									No Standard
SPC (µS/cm)	~	~	260	~	~									No Standard
Strontium	0.61	0.6	0.14	~	0.54									No Standard
Total Chloride	14	3.2	4.6	~	3.8									250
TDS	110	160	140	~	150									500
Total Sulfate	7.7	8.1	8.2	~	8.8									250
TSS	<3.0	<3.0	<3.8	~	<3.0									No Standard
Turbidity (NTU)	<1.0	<1.0	<1.0	~	1.1									No Standard
Zinc	<0.010	0.029	0.01	~	0.016									5

Highlighting indicates an exceeded standard or level ~ Not analyzed * Denotes Primary MCL < Indicates analyte was not detected above its detection limit.

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