



February 17, 2026

CERTIFIED MAIL NO. [REDACTED]

Re: Stray Gas Investigation
DEP Identifier: 390496
Determination -- 58 Pa. C.S § 3218
Keating Township, McKean County

Dear [REDACTED]

The Pennsylvania Department of Environmental Protection (“Department”) has completed its investigation of your water supply illustrated on Figure 1 (“Water Supply”). Based on observations during the site visits, information provided by you, and the review of relevant documents, the Department was not able to determine the source(s) of the odor in your Water Supply; however, based on the results of the isotopic sampling and the timing of the odor with the collapsed abandoned well in the back yard, it is believed that the source of the odor is coming from the abandoned/pre-act plugged wells in the area, and most likely from the old gas well in the back yard. This information is summarized below. A more in-depth explanation of the investigation and determination can be found in the Department’s Water Supply Investigation Memo (“Department’s Memo”) that has been included with this letter.

CASE INFORMATION

Date of Complaint	Nature of Complaint (odor, taste, quantity, use, color, gas)
July 8, 2025	Odor in water and a “sink hole” in the back yard.

INVESTIGATION SUMMARY

On July 8, 2025, the Department was contacted about an odor in your Water Supply and a “sink hole” that you found in the back yard. The Department visited the site on July 10, July 15, July 22, August 13 and September 18, 2025, to complete an interview, collect water samples and inspect the sink hole in the back yard. The Department determined the “sink hole” was an old, abandoned gas well.

The Water Supply was reported to be 285’ deep and is located in pit below the back deck/patio. It was also reported that the house was built in 1961, and the pump was replaced in 1988. Upon inspection of the Water Supply, it appeared to be a plugged back gas well, which was common practice in the area, and at one time an acceptable Alternate Method to plug an oil or gas well.

The following water samples were collected:

- Pressure tank- before treatment. Water was clear with some black flakes and had a metallic/petroleum odor. No gas was detected from a jar on any of the visits.
 - SAC946 & METH- July 10, 2025, sent to Bureau of Laboratories (“BOL”).
 - VOADW & UVIR- July 22, 2025, sent to BOL.
 - DG2 & $\delta^{13}\text{CO}_2$ - August 13, 2025, sent to Isotech.
 - SV-DW- September 18, 2025, sent to BOL.
- Reverse osmosis- after treatment. Water was clear.
 - SAC946, METH & VOADW- July 22, 2025, sent to BOL.
 - SV-DW- September 18, 2025, sent to BOL.

WATER SAMPLE RESULTS

Parameter	Unit	Pressure Tank-Pre 7/10/2025	Reverse Osmosis-Post 7/22/2025	Drinking Water Standards
ALKALINITY	MG/L	192.8	10.0	
ALUMINUM	UG/L	20.005	<15.0	200
ARSENIC	UG/L	<3.00	<3.00	10
BARIUM	MG/L	0.469	<0.010	2
BROMIDE	MG/L	0.260	<0.2	
CALCIUM	MG/L	6.520	<0.100	
HARDNESS	MG/L	21	0	
IRON	MG/L	0.349	<0.100	0.3
LITHIUM	UG/L	30.00	<25.0	
MAGNESIUM	MG/L	1.200	<0.010	
MANGANESE	MG/L	0.010	<0.010	0.05
pH	pH units	*8.5	*7.0	6.5 – 8.5
POTASSIUM	MG/L	1.70	<1.00	
SELENIUM	UG/L	<4.00	<4.00	50
SODIUM	MG/L	125.00	5.95	
SPC @ 25.0 C	umhos/cm	594.00	22.90	
STRONTIUM	MG/L	0.277	<0.010	
CHLORIDE	MG/L	69.24	1.63	250
TDS	MG/L	344	<20	500
SULFATE	MG/L	<1.00	<1.00	250
TSS	MG/L	<20	<20	
TURBIDITY*	NTU	<1	<1	**1
ZINC	UG/L	34.00	<30.0	5000
METHANE	MG/L	6.2	5.690	***7
ETHANE	MG/L	0.103	0.0951	
PROPANE	MG/L	<0.0142	<0.0142	
UV	Analysis detected no petroleum in the sample- 7/22/2025			
IR	Analysis detected no petroleum in the sample- 7/22/2025			
VOADW	Pressure Tank-Pre: All parameters were ND or 0 ug/L- 7/22/2025			
	Reverse Osmosis-Post: All parameters were ND or 0 ug/L- 7/22/2025			
SV-DW	Pressure Tank-Pre: All parameters were ND-9/18/2025			
	Reverse Osmosis-Post: All Parameters were ND- 9/18/2025			

BOLD- Outside Drinking Water MCL's

ND- Non Detect

* Holding Time Exceeded

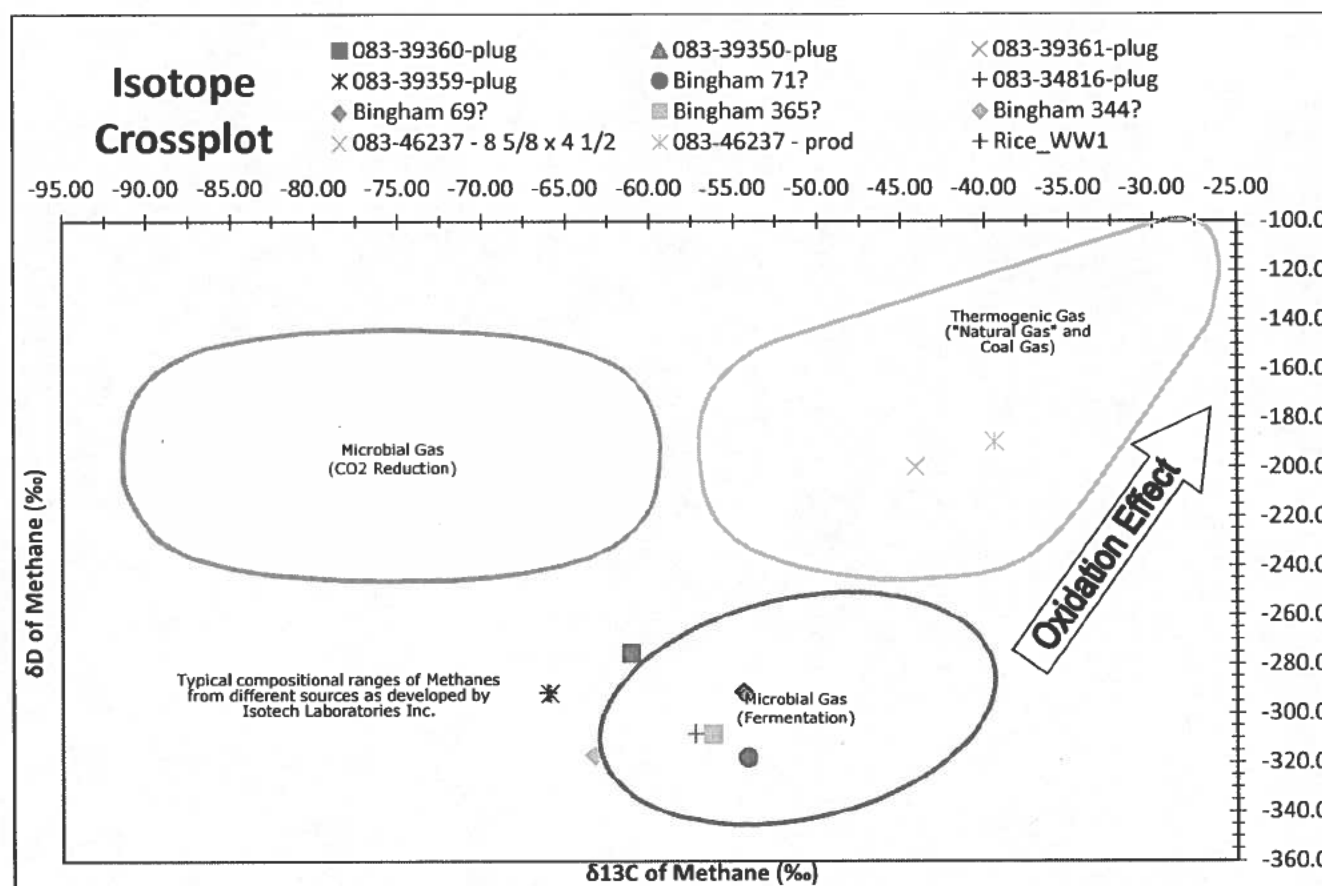
**Only applicable to unfiltered surface water sources

*** DEP Action Level

Iron (pre-treatment) was the only parameters detected above the Department’s Division of Drinking Water Management Maximum Contaminant Levels (“MCLs”). Laboratory hold time for pH is one hour, so consequently laboratory pH is not valid. Higher concentrations of iron are common across McKean County (Lohman, 1939). The MCL for iron was not established for health, but aesthetic reasons (staining and taste) (Buckwalter, 2007).

Methane was detected, but not above the Department’s Action Level in both pre and post treatment samples. Methane is not toxic and does not have known health problems, but elevated concentrations in drinking water can escape and cause an explosive atmosphere in closed and confined areas (Swistock, 2022).

Gas samples collected from this investigation were compared to samples collected from previous investigations. Additional information pertaining to the samples taken from previous investigations can be found in the attached Department’s Memo. All of the sample results are illustrated on a crossplot of methane $\delta^{13}\text{C}$ and δD .



The Department’s GIS mapping records show 15 oil and gas wells are mapped within 1,000 feet of the residence. Based on the Department’s records, all of the wells are conventional wells; 7 are marked as plugged injection wells, 7 are marked as plugged oil wells and one is marked as an active observation well. The permit dates range from 1973-1986. The Department’s Oil and Gas Inspectors (“OGIs”) have inspected a number of the wells located within the area. Inspection reports for all of the wells can be found on the Departments Oil and Gas Mapping site at <https://gis.dep.pa.gov/PaOilAndGasMapping>.

In addition to the Department's GIS records, evidence of past oil and gas operations have been found in historical records dating back to 1907. Historical maps showed numerous oil and gas wells in the area. Also, while conducting oil and gas well inspections within the area, a considerable amount of historical oil and gas producing equipment was observed, in particular, equipment used in jerker line systems. Additional information concerning the oil and gas wells in the area has been included in the attached Department's Memo.

Based on observations during the site visits, information provided by you, and the review of relevant documents to date, the Department has determined that the Water Supply has been impacted by oil and gas activity; however, the source of the odor is unknown. Based on the results of the isotopic sampling and the timing of the odor with the collapsed abandoned well in the back yard, it is believed that the source of the odor is coming from the abandoned/pre-act plugged wells in the area, and most likely from the old gas well in the back yard. Once we receive the signed Landowner Consent Form that we emailed you on December 11, 2025 or that is included in this letter, we can continue with the plugging of the abandoned well in the back yard.

Additional explanations on the Department's Determination can be found in the attached Department's Memo. Please contact Alicia Furey at 814.332.6132 if you have any questions about the Department's determination.

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,

Scott M. Dudzic

Scott M. Dudzic
Northwest District Oil and Gas Manager
District Oil and Gas Operations

Enclosures:

Figure 1
Interpreting Water Supply Results
Methane Gas and It's Removal from Water Wells
Methane Gas and Your Water Well
Department's Memo
Landowner Consent Form

cc: Joe Lichtinger (via email)
Alicia Furey (via email)
Jennifer McDonough (via email)

Attachments

References:

Buckwalter, T. F., Moore, M. E., 2007, Ground-Water Resources and the Hydrologic Effects of Petroleum Occurrence and Development, Warren County, Northwestern Pennsylvania: United States Geological Survey, Scientific Investigations Report 2006-5263, 86 p.

Swistock, B. 2022, Methane Gas and Its Removal from Water Wells, PennState Extension,
<https://extension.psu.edu/methane-gas-and-its-removal-from-water-wells>

Lohman, S. W., 1939, Ground water in north-central Pennsylvania: Pennsylvania Geological Survey, 4th ser., Water Resource Report 6

CONFIDENTIAL

Figure 1
Figures 1-7 in Department's Memo

