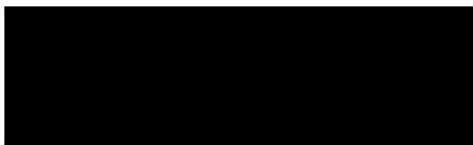




Pennsylvania
**Department of
Environmental Protection**

October 24, 2024

CERTIFIED MAIL NO. 9589 0710 5270 1975 0621 20



Re: Request for Investigation 351410
Positive Determination -- 58 Pa. C.S § 3218
Stray Gas Migrating into Water Supply
Porter Township, Clarion County

Dear 

The Pennsylvania Department of Environmental Protection ("Department") has completed its investigation of your water supply listed in Exhibit A ("Water Supply"). The Department's investigation indicates that oil and gas activities impacted the Water Supply. This information is summarized below.

CASE INFORMATION:

Date of Complaint	Nature of Complaint (odor, taste, quantity, use, color)	Sample Results Above Statewide Standards or Recommended Levels
July 28, 2020	Bubbling and gas odor coming from Water Supply	Free and dissolved natural gas in Water Supply

On July 28, 2020, you notified the Department that there was a gas odor and bubbling in your Water Supply. The Department confirmed bubbling and a gas odor coming from the Water Supply and immediately began a stray gas migration investigation.

The Department inspected all gas wells within 2,500 feet of the Water Supply. As part of these inspections, the Department routinely surveys the shallow soil surrounding gas wells for the presence of combustible gas. The detection of combustible gas in the soil surrounding a gas well may indicate a casing or cementing failure that may be allowing gas to escape from the well. No gas was detected in the soil surrounding any of the gas wells within 2,500 feet of the Water Supply. The well inspections did reveal that several gas wells did not have check valves or that the check valves were installed improperly. A request was made for the operator to properly install check valves on each of the gas wells. According to the operator, the installation of check valves was completed in September of 2020.

In addition, one gas well was found to have gas between the production tubing and surface casing. The gas well was plugged during the investigation; however, the gas well continues to

vent gas. The venting of gas from this gas well may be unrelated to the complaint of gas migrating into your Water Supply and continues to be monitored.

The Department also became aware of an abandoned gas well approximately 700 feet from the Water Supply. The well was found to be venting natural gas and was placed on the list of abandoned wells to be plugged by the Department. The well continues to vent gas and will be plugged when funding becomes available. The abandoned gas well may be unrelated to the complaint of gas migrating into your Water Supply.

The Water Supply was monitored for free gas throughout the investigation. The initial free gas reading in the Water Supply was 100% methane by volume. The free gas monitoring of the Water Supply indicated a significant drop in the free gas detected in the Water Supply in September of 2020. From March 2022 to August 2024, intermittent low levels of gas (>1%) were detected inside the casing of the Water Supply.

Based on gas well inspections, review of geologic mapping, monitoring of the Water Supply, and gas and water sample results, the Department determines that the Water Supply was impacted by oil and gas activity; however, a specific source could not be determined.

Low levels of free gas continue to be detected in the Water Supply, and the Department recommends that the Water Supply remain vented. 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. Please refer to the enclosed Fact Sheet: Methane Gas and Water Wells for additional information on venting water wells.

Although no gas was detected in the living space or in the crawlspace of your home, please be aware that 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. Changing conditions can allow gas to migrate to basements and crawlspaces. Consequently, 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. Please refer to the enclosed Fact Sheet: Methane Migration into Occupied Buildings for additional details on methane migration.

During the Department's investigation, water samples were collected from your Water Supply. The water sample results indicate that your water quality exceeds statewide standards for iron and manganese. Iron and manganese occur naturally in many water supplies in Western Pennsylvania due to the types of rocks the groundwater encounters as it flows to wells. These levels can naturally fluctuate throughout the year due to seasonal variation. Levels can also fluctuate year over year due to climate variability and other influences. Increases in iron and manganese, in some cases, have been attributed to methane migrating into a Water Supply.

At this time, it is the Department's understanding that the Water Supply is not supplying a sufficient volume of water for household use and is currently not being used. The cause of the

lack of water produced by the Water Supply is not well understood but it is not believed to be associated with oil and gas activities. This letter formally closes the Department's investigation of your Water Supply. If you have any questions about any of the above, please contact Aaron O'Hara at 814.308.3118.

Sincerely,

Scott M. Dudzic

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

Enclosures:

DEP Fact Sheet: Methane Gas and Water Wells
PSU: Iron and Manganese in Private Water Systems

c: Joe Lichtinger (email)
Steve Lencer (email)
Dave Adams (email)
Brian Shank (email)
Ruth Taylor (email)
Jen McDonough (email)
Paul Strobel (email)
Aaron O'Hara (email)

CONFIDENTIAL

Exhibit A

