



Agency for Toxic Substances
and Disease Registry
Atlanta, GA 30333

October 16, 2017

Ray Kemble
11081 State Route 3023
Dimock, PA 18816

Subject: Water Sampling Results

Dear Mr. Kemble:

During the week of July 31, 2017, the Agency for Toxic Substances and Disease Registry (ATSDR) sampled water in 25 homes in the Dimock area for chemicals, including methane, to determine the quality of the water. At your home, water was tested at the kitchen tap (treated bulk Montrose water), from your pressure tank (raw groundwater) and from your bulk water tank (untreated bulk Montrose water).

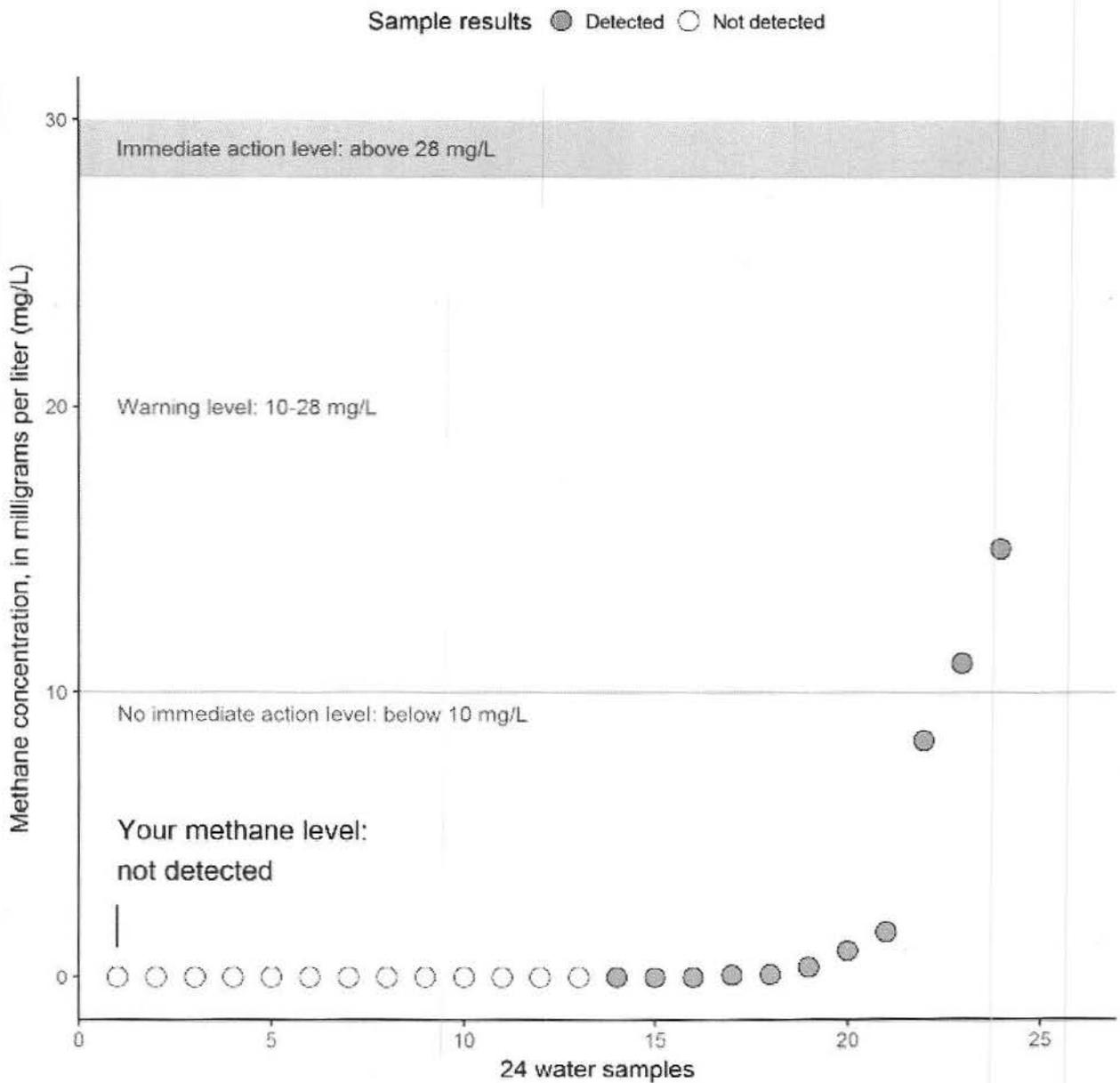
Methane is a colorless, odorless gas that can dissolve in water. Safety is our main concern about high levels of methane because it is a fire and explosive hazard. If present, methane is released from water into the air during everyday household activities. If methane gas builds up to a high enough level in an enclosed space that is not well ventilated, a spark or ignition source can cause a fire or explosion. Activities which use a large volume of water in a small or poorly ventilated area can also cause methane gas to build up. Examples of such activities include running a dishwasher, a washing machine or daily showering.

Methane gas that builds up in an enclosed space can also take the place of oxygen in the room and make it difficult to breathe. This would only happen with a very high buildup of methane in a room. Drinking water or eating food prepared with water containing methane and/or skin contact with water containing methane will not harm your health.

Action levels for methane in water are taken from the U.S. Department of the Interior guidance on methane hazards (please see reference at the end of this letter). Methane detected at a concentration below 10 milligrams per liter (mg/L) does not warrant immediate action except for monitoring the appearance of the water and possibly ventilating the home. Concentrations from 10 mg/L through 28 mg/L are considered to be at a warning level. At this level, additional recommendations include the installation of a combustible gas monitor, ventilation of the home, ventilation of the well head, and removal of ignition sources in enclosed areas of the home. Concentrations above 28 mg/L require immediate action, and immediate ventilation of the wellhead is recommended. At this level, treatment of the water to remove methane may be needed.

2 Ray Kemble - Methane Results

Test results found some tap water samples in the Dimock area had methane gas concentrations in the no immediate action range and others in the warning range. The highest test result was 15 mg/L. No test results were found in the immediate action range (above 28 mg/L). Results of the methane found in the **tap water** of participant's homes is provided below and the result in your tap water is identified.



Methane was not detected in the bulk Montrose water you use in your home, either at your kitchen tap or at your bulk water container, indicating that methane gas in your home as a result of water use should not be a problem. In your raw well water, methane was found at a concentration of 3.1 mg/L, which is below the warning level of 10 mg/L. Concentrations of methane gas in well water, however, may differ over time. On some days it may be lower than measured, and on other days it may be higher.

Although you do not currently use well water in your home, it has been identified in your well water. If you use well water in the future, ATSDR recommends the following:

- Monitor your water for bubbles. If you see bubbles, consider ventilating your home and have your water tested.
- Put a combustible gas detector in poorly ventilated spaces in your home where methane gas could concentrate. These detectors can be found at home improvement or hardware stores.
- When using large amounts of water, such as running water from the tap for several minutes, running the shower, or using the washing machine, ventilate the room by turning on a fan or opening a window to lower the risk of methane gas building up in the room.
- Ventilate the wellhead. A vent on your wellhead will let the methane gas get away before it enters your home.

All of the water samples were tested for other chemicals. These results will be provided to you in a separate letter in the near future. That letter will explain what the results mean for people using their well water as drinking water.

Thank you for letting us test your well. We are sharing our concern about the elevated methane in area groundwater and the hazards it may pose for all participants, regardless of whether their methane levels were elevated. We have enclosed a fact sheet to provide further information on methane.

If you have any questions, please contact Bob Helverson at ATSDR Region 3 at 215-814-3139, or by e-mail at RHelverson@cdc.gov.

Sincerely,

Handwritten signature of Ileana Arias in black ink, followed by the text "(for)" in parentheses.

Ileana Arias, PhD

Director

Division of Community Health Investigations

Agency for Toxic Substances and Disease Registry

Enclosure

Reference:

US Department of the Interior. *Technical measures for the investigation and mitigation of fugitive methane hazards in areas of coal mining*. Pittsburgh, PA: Office of Surface Mining Reclamation and Enforcement, Appalachian Regional Coordinating Center; September 2001.

Agency for Toxic Substances and Disease Registry Fact Sheet

Methane Gas in Well Water

This fact sheet is about methane gas in well water and what actions need to be taken to protect yourself from methane gas.

What is methane?

- Methane is a colorless, odorless gas.
- Methane can dissolve in water and escape to the air as a gas.
- Methane gas can build up in poorly ventilated areas and cause a fire or explosion.
- Drinking or cooking with water containing methane gas is not a health hazard because the methane gas goes into the air.

How do I know if methane is in my water?

- Water that has bubbles like carbonated soda or that looks white or milky may contain methane.
- Water can be tested for methane by an approved drinking water testing laboratory. Contact information for these laboratories is available from state and local health departments.

What can I do if methane is in my water?

- Put a combustible gas detector in poorly ventilated spaces in your home where methane gas could concentrate.
 - The detector will warn you if methane in your home approaches an unsafe level.
 - Most home improvement or hardware stores carry detectors that will alert you with light or sound.
 - Follow the directions that come with the detector to find the best place to set it up.
- Ventilate areas in your home where methane gas could accumulate.
 - In small or inside areas where you use a lot of water (such as the bathroom, kitchen, or laundry room), make sure you turn on a fan or open a window when water is running for more than a few minutes.
- Have a vent put on your wellhead.
 - A vent on your wellhead will let the methane gas get away before it enters your home.
- Do not let sparks or open flames near the wellhead or inside your home, such as the bathroom or laundry room.

What should I do if the combustible gas detector sends out an alarm?

- Follow the instructions that come with the alarm.
- A combustible gas detector is meant to be a warning. If the detector sounds an alarm, that does NOT mean you will have an explosion or fire in your home.
- Open the windows in your home.
- Put out any open flames such as cigarettes or candles.
- To be safe, you should get yourself and everyone else out of the house.
- Get to a place far enough away from your house to be safe in the unlikely event of an explosion and call 911.
- Do not go back into your house until the fire department checks your house and says it's safe.

How can I vent my water well for methane?

- Contact your state or local public health department for information on approved water well drillers and pump installers who can put in a well cap vent for you.

How can I get more information?

- Contact Bob Helverson with ATSDR Region 3 at 215-814-3139 or by email at RHelverson@cdc.gov
- ATSDR at 1-800-CDC-INFO (800-232-4636) or TTY: (888) 232-6348 or by email at cdcinfo@cdc.gov

About ATSDR

ATSDR—the Agency for Toxic Substances and Disease Registry—is a federal public health agency and part of the U.S. Department of Health and Human Services. ATSDR works to create healthy and safe environments and helps people avoid harmful exposures to toxic substances.