



June 13, 2017

CERTIFIED MAIL NO. [REDACTED]

[REDACTED]

Re: Request for Investigation CID 310559
Stray Gas Migration, Source Not Determined
Porter Township, Clarion County

Dear [REDACTED]

This letter is regarding the 2009 explosion and fire at your residence and the stray gas that continues to migrate into the basement of your home. Based on the inspections of oil and gas wells, water sample analysis from private water wells, stray gas isotopic and compositional analysis, the review of the local geology, and other information obtained to date, DEP determined that the stray gas is likely the result of the drilling, alteration or operation of an oil or gas well, or a pipeline, however, the specific source could not be identified during the investigation. This information is summarized below.

In addition, due to the ongoing gas migration, DEP strongly recommends that you continuously operate the positive pressure system installed in your home and maintain operation of the gas detectors throughout the home. The positive pressure system and gas detectors should be inspected for proper operation on a regular basis. Finally, as discussed during the investigation, it would be appropriate for you to consider additional measures to eliminate the migration of stray gas into your home, as DEP detected up to 4% methane in the basement of your home at one point during the investigation.

CASE INFORMATION

| Date of Complaint | Nature of Complaint (odor, taste, quantity, use, color) |
|-------------------|---|
| March 16, 2015 | Gas migrating into the basement of the home. |

LABORATORY RESULTS FROM WATER WELL SAMPLES

| Parameter/Description | Statewide Standards or Recommended Levels | DEP Sample 01/05/2011 | DEP Sample 04/16/2015 |
|-------------------------|---|-----------------------|-----------------------|
| Alkalinity (mg/l) | | 154.6 | 170.8 |
| Aluminum (ug/l) | 200 | | <200 |
| Arsenic (ug/l) | 10 | | <3.0 |
| Barium (mg/l) | 2 | 0.069 | 0.098 |
| Bromide (mg/l) | | | <0.2 |
| Calcium (mg/l) | | 73.500 | 72.100 |
| Hardness (mg/l) | | 220 | 215 |
| Iron (mg/l) | 0.3 | 0.272 | 0.26 |
| Lithium (ug/l) | | | <25 |
| Magnesium (mg/l) | | 8.770 | 8.516 |
| Manganese (mg/l) | 0.05 | 0.437 | 0.21 |
| pH | 6.5-8.5 | 7.3 | 7.5 |
| Potassium (mg/l) | | 2.157 | 2.149 |
| Selenium (ug/l) | 50 | | <7 |
| Sodium (mg/l) | | 1.106 | 0.967 |
| Conductivity (umhos/cm) | | 451.00 | 410.00 |
| Strontium (mg/l) | | 0.169 | 0.16 |
| Chloride (mg/l) | 250 | 5.7 | 8.5 |
| TDS (mg/l) | 500 | 258 | 248 |
| Sulfate (mg/l) | 250 | 66.3 | 78.7 |
| TSS (mg/l) | | | <5 |
| Turbidity (ntu) | | | <1 |
| Zinc (ug/l) | 5000 | | <10.0 |
| Ethane (mg/l) | | Not detected | Not detected |
| Methane (mg/l) | | 0.226 | 0.0222 |
| Propane (mg/l) | | Not detected | Not detected |

June 13, 2017

If you have any questions about any of the above, please contact Aaron O'Hara.

Sincerely,



S. Craig Lobins
Northwest District Oil and Gas Manager
District Oil and Gas Operations

Enclosures: Exhibit A
PSU Extension - How to Interpret a Water Analysis Report
PSU Extension - Iron and Manganese in Private Water Systems
DEP Fact Sheet - Methane Migration into Occupied Buildings
DEP Fact Sheet - Methane Gas and Water Wells

cc: Joe Lichtinger (email)
Steve Lencer (email)
Travis Walker (email)
Chad Meyer (email)
Ruth Taylor (email)
Michael Braymer (email)
File through Aaron O'Hara