

# MarcellusGas.Org

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# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NORTHWEST REGIONAL OFFICE

August 8, 2011

[REDACTED]

Re: Water Sample Results/Hazards of Natural Gas in a Water Well  
Complaint ID No. 281151  
Act 223 Section 208 Determination  
Jones Township, Elk County

Dear [REDACTED]

Our investigation of your area conducted on July 7, 2011, indicated there was natural gas (10.6 mg/l methane) in your water supply. At the headspace of your well there was a reading of 2.5 percent total gas. Your supply was resampled by DEP on August 1, 2011, with a result of 0.196 mg/l methane and no associated ethane or propane. The August results will be included with a future mailing. The analyses and other related information are enclosed for your records.

Methane is the predominant component of natural gas. Drinking water standard limitations have not been established for methane gas and we do not know of any associated health risks. In general, methane levels in water wells are under .5 mg/l (500 ug/l). The true level of concern begins above 28 mg/l (28,000 ug/l) methane, which is what we call the saturation level. At this level, under normal atmospheric pressure, the water cannot hold additional methane. The potential hazard occurs when the water is used for extended periods of time. 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 migration 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, we notify the water supply owner of the hazards associated with methane in their water supply. Please be aware however, that the methane levels can fluctuate somewhat. 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.

It has been determined that your water supply was affected by natural gas contamination which has now subsided, as well as elevated iron and manganese, as compared with the predrill. William Brawand has been informed of his liability for the replacement of your water supply under the Oil and Gas Act 223, Section 601.208 regarding the protection of water supplies. We will continue monitoring events in and around your area. Should you have any questions concerning this matter, please feel free to contact Christine Miner.

Sincerely,



S. Craig Lobins  
Regional Manager  
Oil and Gas Management

Enclosures

cc: Responsible Operator: William Brawand, [REDACTED]  
Water Quality Specialist, John Thomas  
Oil and Gas Inspector, Scott Motter  
Christine Miner  
File

SCL:CJM:mw

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN THE MATTER OF:

William Brawand d/b/a : The Clean Streams Law and  
Brawand Oil Company : The Oil and Gas Act  
2529 Rasselas Road :  
Wilcox, PA 15870-9723 :

ORDER

NOW, this 14<sup>th</sup> day of December 2012, the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") has made and determined the following FINDINGS and enters the following ORDER:

FINDINGS

A. The Department is the agency with the duty and authority to implement, administer, and enforce The Clean Streams Law, Act of June 22, 1937, P.L. 1987, *as amended*, 35 P.S. §§691.1-691.1001 ("Clean Streams Law"); the Oil and Gas Act, Act of February 14, 2012, P.L. 87, No. 13, 58 Pa.C.S. §§3201-3274 ("2012 Oil and Gas Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. §510-17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("Regulations").

B. William H. Brawand ("Mr. Brawand") is an adult individual and is engaged in various oil and gas exploration and production activities in Pennsylvania, and maintains a mailing address of 2529 Rasselas Road, Wilcox, PA 15870-9723.

C. Mr. Brawand is the "owner" and "operator," as those terms are defined in Section 3203 of the 2012 Oil and Gas Act, 58 Pa.C.S. §3203, of the [REDACTED] Well, authorized under Permit No. [REDACTED] and the [REDACTED] Well, authorized under Permit No. [REDACTED] (collectively the "Brawand Wells") located near the village of Wilcox, in Jones Township, Elk County.

D. On October 22, 2010, the Department issued permits to Mr. Brawand to drill the Brawand Wells in Jones Township, Elk County, Pennsylvania.

E. On January 20, 2011, Mr. Brawand started drilling the Brawand Wells. The drilling of the Brawand Wells was completed on February 2, 2011.

Pollution of [REDACTED] Water Well

F. [REDACTED] ([REDACTED]) are adult individuals who reside at [REDACTED] [REDACTED] have a private drinking water well at their residence, which is located within 1,000 feet of the Brawand Wells ([REDACTED] Water Supply”).

G. On January 13, 2011, prior to commencing drilling of the Brawand Wells, Mr. Brawand sampled the [REDACTED] Water Supply ([REDACTED] Pre-Drill Survey”) which indicated a level of less than 0.001 milligrams per liter (“mg/l”) dissolved methane gas in the [REDACTED] Water Supply. The [REDACTED] Pre-Drill Survey further indicated that 0.27 mg/l of iron and 0.455 mg/l of manganese was present in the [REDACTED] Water Supply. A true and correct copy of the [REDACTED] Pre-Drill Survey is attached and incorporated herein as Exhibit A.

H. On June 30, 2011, [REDACTED] filed a complaint with the Department, regarding a gas odor in [REDACTED] residence and in the shed where [REDACTED] water well is located, and regarding the increased concentration of dissolved methane gas in the sample of the [REDACTED] Water Supply that was collected by [REDACTED] on June 9, 2011.

I. On July 7, 2011, the Department determined that combustible gas was present in the headspace of the water well serving the [REDACTED] Water Supply, and the Department collected samples of the [REDACTED] Water Supply for general chemistry and dissolved gas analysis ([REDACTED] Post-Drill Survey 1”).

J. The [REDACTED] Post-Drill Survey 1 indicated that 10.6 mg/l of dissolved methane gas was present in the [REDACTED] Water Supply. In addition, the [REDACTED] Post-Drill Survey 1 further indicated that 1.38 mg/l of iron and 1.076 mg/l of manganese was present in the [REDACTED] Water Supply. A true and correct copy of the [REDACTED] Post-Drill Survey 1 is attached and incorporated herein as Exhibit B.

K. On July 29, 2011, the Department notified Mr. Brawand of his obligation to investigate a potential natural gas migration in the vicinity of [REDACTED] Pennsylvania, in accordance with 25 Pa. Code §78.89.

L. On August 11, 2011, the Department issued a Notice of Violation to Mr. Brawand for discharging natural gas, a polluting substance, to waters of the Commonwealth without authorization, and for failing to prevent gas from entering fresh groundwater.

M. Subsequent sampling of the [REDACTED] Water Supply on August 1, 2011, August 23, 2011, September 15, 2011, January 9, 2012, and March 5, 2012 indicated a reduction to negligible levels of methane in the [REDACTED] Water Supply.

#### Violations

M. The groundwater supplying the [REDACTED] Water Supply is a “water of the Commonwealth” as that term is defined in Section 1 of the Clean Streams Law, 35 P.S. §691.1.

N. The elevated concentrations of iron and manganese dissolved in the groundwater serving the [REDACTED] Water Supply are “industrial wastes” and “pollution” as those terms are defined in Section 1 of the Clean Streams Law, 35 P.S. §691.1.

O. Section 3218(c) of the 2012 Oil and Gas Act, 58 Pa.C.S. §3218(c) establishes a rebuttable presumption that a well operator is responsible for the pollution of a water supply that is within 1,000 feet of an oil and gas well where the pollution occurs within six months after the completion of drilling or alteration of such well.

P. The [REDACTED] Water Supply became polluted with combustible free gas, and increased levels of iron, manganese, and dissolved methane within approximately five months of the completion of drilling of the Brawand Wells.

Q. Because the [REDACTED] Water Supply is within 1,000 feet of Brawand Wells, and became polluted within six months of completion of drilling of the Brawand Wells, Mr. Brawand is presumed to be responsible for the pollution to the [REDACTED] Water Supply pursuant to Section 3218(c) of the 2012 Oil and Gas Act, 58 Pa.C.S. §3218(c).

R. The Department has determined that the drilling activities of Mr. Brawand are responsible for the pollution to the [REDACTED] Water Supply, pursuant to Section 3218(b) of the 2012 Oil and Gas Act, 58 Pa.C.S. §3218(b).

S. The discharge of elevated concentrations of iron, manganese, and methane gas in the groundwater serving the [REDACTED] Water supply as a result of from drilling activities by Mr. Brawand, without first obtaining a permit or approval from the Department, violates Sections 301, 307, 401, and 402 of the Clean Streams Law, 35 P.S. §§691.301, 691.307, 691.401, and 691.402, and is contrary to the requirements of 25 Pa. Code §78.73(a).

T. Mr. Brawand's pollution of the [REDACTED] Water Supply violates 25 Pa. Code §78.73; constitutes unlawful conduct and a public nuisance pursuant to Sections 3259 and 3252 of the 2012 Oil and Gas Act, 58 Pa.C.S. §§3259 and 3252, and Section 611 of the Clean Streams Law, 35 P.S. §691.611; and subjects Mr. Brawand to civil penalty liability pursuant to Section 3256 of the 2012 Oil and Gas Act, 58 Pa.C.S. §3256, and Section 605 of the Clean Streams Law, 35 P.S. §691.605.

U. Mr. Brawand did not restore or replace the [REDACTED] Water Supply with an alternative source of water adequate in quantity and quality for the purposes served by the

Water Supply, in violation of Section 3218 of the 2012 Oil and Gas Act, 58 Pa.C.S. §3218, and 25 Pa. Code §78.51.

V. On October 26, 2011, informed the Department that they installed treatment to mitigate the pollution described above.

W. As indicated in Paragraph M, above, dissolved methane has been reduced to negligible levels in the Water Supply.

X. On January 9, 2012, the Department sampled the Water Supply and determined that the treatment installed on the Water Supply was effectively reducing the elevated levels of iron and manganese to drinking water standards established under the Pennsylvania Safe Drinking Water Act, 35 P.S. §§721.1-721.17.

Y. Pursuant to 25 Pa. Code §78.51(d)(1)(v), "if the operating and maintenance costs of the restored or replaced water supply are increased, the operator shall provide for permanent payment of the increased operating and maintenance costs of the restored or replaced water supply."

Z. As a result of installing treatment to mitigate the pollution described above, the have incurred increased costs to operate and maintain the treatment system for the Water Supply.

AA. As of the date of this Order, Mr. Brawand has not complied with the provisions of 25 Pa. Code §78.51(d)(1)(v), set forth in Paragraph Y, above.

#### ORDER

NOW, therefore, pursuant to Sections 3218(b) and 3253 of the 2012 Oil and Gas Act, 58 Pa.C.S. §§3218(b) and 3253 (former 58 P.S. §§601.208(b) and 503), Section 610 of the Clean Streams Law, 35 P.S. §691.610, 25 Pa. Code §78.51(c), and Section 1917-A of the Administrative Code, 71 P.S. §510-17, the Department hereby ORDERS that:



1. Compliance with the Law. Mr. Brawand shall take all actions necessary, including the corrective actions set forth in this Order, to attain and thereafter maintain compliance with all applicable environmental laws and regulations, including all applicable provisions of the Clean Streams Law, Oil and Gas Act, and the Regulations promulgated thereunder.

2. Operating and Maintenance Agreement.

a. Within ten (10) days after the date of this Order, Mr. Brawand shall meet with [REDACTED] to discuss options reimbursing them for all past and future increased operating and maintenance costs for the treatment system installed at the [REDACTED] Water Supply.

b. Within thirty (30) days after the date of this Order, Mr. Brawand shall submit to the Department, in writing, copies of any contracts or other documents that identify the executed agreement between Mr. Brawand and the [REDACTED] regarding reimbursing the [REDACTED] for all past and future increased operation and maintenance costs for the treatment system installed at the [REDACTED] Water's Supply.

3. Further Pollution/Diminution Prohibited. Mr. Brawand shall neither cause additional pollution to the waters of the Commonwealth nor affect any other water supply by pollution or diminution in the execution of this Order.

4. All correspondence with the Department concerning this Order shall be addressed as follows:

Susan Black  
Oil and Gas Management  
Department of Environmental Protection  
230 Chestnut Street  
Meadville, PA 16335-3481  
Telephone: 814-332-6860  
Fax: 814-332-6121

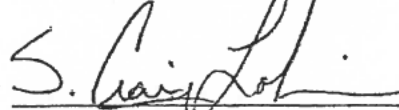
Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. §7514, and the Administrative Agency Law, 2 Pa.C.S.A. Chapter 5A, to

the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, Pennsylvania 17105-8457, 717-787-3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717-787-3483. This Paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO 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 (717-787-3483) FOR MORE INFORMATION.

FOR THE COMMONWEALTH OF PENNSYLVANIA,  
DEPARTMENT OF ENVIRONMENTAL PROTECTION:



S. Craig Lobins  
Regional Manager  
Oil and Gas Management  
Northwest Regional Office

