

**PA DEP Methane Contamination of drinking water Caused by Oil Gas Industry
Letters Released to media by FOIP in August 2014***

Date	Pre / Post drilling Methane levels	General, Actionable (A), Warning Letter (WL) methane levels
2010 01 20 investigation	"stray gas migration"	
2010 09 02 complaint	Pre 0 mg/l methane Post 56.3 mg/l methane	A > 28 mg/l W > 3 mg/l
2010 10 04		"in general, methane levels in water wells are under .5 mg/l." A > 28 mg/l W > 3 mg/l
2010 10 11 complaint	2.16 mg/l and gas in headspace of ww	"in general, methane levels in water wells are under .5 mg/l." A > 28 mg/l W > 3 mg/l
2010 12 17	Methane caused by oil and gas, reduced to trace levels	
2011 10 20	Pre 0.00891 mg/l methane	"in general, methane levels in water wells are under .5 mg/l." A > 28 mg/l Warning letter level not stated
2011 07 13 Investigation explosion of residence	"the investigation revealed natural gas entering the [redacted] residence via a floor drain located in the basement" "Subsequent plugging of the three (3) abandoned wells resulted in no further detection of natural gas in the floor drain"	
2011 08 05 to 2010 complaint	1.4 mg/l methane, gas in headspace "Combustible gas readings...ranged from 30 percent..."	A > 28 mg/l Warning letter level not stated
2011 08 08 investigation	10.6 mg/l methane diminished to 0.196 mg/l	"in general, methane levels in water wells are under .5 mg/l." LAST LETTER with this .5 mg/l baseline info. > 28 mg/l > 7 mg/l WARNING LETTER LEVEL UP TO 7 FROM 3
2011 09 21 investigation	Methane 53.6 - 83.7 mg/l Propane 0.0617 - 3.63 mg/l	> 28 mg/l > 7 mg/l
2012 03 02	Methane 21.1 mg/l Ethane 0.931 mg/l Propane 0.183 mg/l	> 28 mg/l > 7 mg/l

2012 03 02	Methane 42.1 mg/l Ethane 2.040 mg/l Propane 0.0876 mg/l	> 7 mg/l		
2012 08 13 complaint	Post 62.8 mg/l methane	> 28 mg/l > 7 mg/l		
2012 08 13 complaint	Post 82.7 mg/l methane	> 28 mg/l > 7 mg/l		
2012 09 05 2010 complaint	"The department collected combustible gas readings and water samples from your well. The combustible gas readings indicate that gas well drilling had impacted your water supply...."			
2012 09 05 complaint	Post 38 - 66 mg/l methane	> 28 mg/l > 7 mg/l		
2012 09 05 complaint	Post 69-86 mg/l methane	> 28 mg/l > 7 mg/l		
2012 09 05 complaint	Post 21 - 101 mg/l methane	> 28 mg/l > 7 mg/l		
2012 09 11 investigation	Methane 20.10 Ethane 0.489	> 28 mg/l > 7 mg/l		
2012 12 14 DEP Order	Pre < 0.001 mg/l methane Post: combustible gas in headspace; 10.6 mg/l methane, negligible by March 2012			
2013 01 14 2012 complaint	Post 51.5 mg/l methane	> 28 mg/l > 7 mg/l		
2013 01 14 complaint	Post 0.24-137 mg/l	> 28 mg/l > 7 mg/l		
2013 10 08	Temporary ethane contamination, methane continues to contaminate the water, DEP blamed microbial gas or naturally occurring. Water not supplied, DEP recommended venting, warned this would not "completely eliminate the hazards"			
2013 10 22 complaint	Methane 36.3 - 16.8 Ethane 0.0975 - 0.272	> 7 mg/l		
2013 08 28	Methane 23 - 0.964 mg/l	> 28 mg/l		

investigation	Ethane 0.308 - 0.165 mg/l	> 7 mg/l
2013 08 28 investigation	Pre no ethane or methane Post Methane 32.5 - 24.8 Ethane 0.54 - 0.292 mg/l	> 28 mg/l > 7 mg/l
2013 11 19	"These results showed the water well gas to plot within the Immature Microbial Gas range. This is indicative of glacial gas that is naturally occurring in your area The gas was likely disturbed by the drilling that took place in your vicinity. "	
2014 03 24 investigation	18.9 - 8.46 mg/l methane 4.41 - 0.8 mg/l ethane 1.38 - non detect mg/l propane	
2014 07 18 2010 investigation	"As you may remember, the gas migration into the [redacted] water wells was explained to you as being sourced from the historic abandoned gas and oil wells in the area. These wells have yet to be plugged under Pennsylvania's Abandoned Well Plugging Fund."	

*Many more letters were released showing other contamination, all were caused by oil gas activities. **Only gas contamination letters are tabled.** If no methane data is listed, none was presented in the letter.

July 2014, DEP released 209 cases; August 28, 2014 they released more cases, bringing total to 248 cases. Media FOIPed for them.

Standard comment in most of the letters:

"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 threat of asphyxiation....

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.**"