



May 26, 2009

Mr. Chad Pulsifer
918 S Los Charros Court
Pueblo West, CO 81007-6405

RE: Complaint 200204502
Water Well Isotopic Analysis
Well Permit 250313
SWSW 35 32S 68W Las Animas County, Colorado

Dear Chad:

In response to your request for a baseline water quality testing of your water well before additional drilling takes place in the vicinity of this stock well, the Colorado Oil and Gas Conservation Commission (COGCC) conducted a field visit to your property on April, 14, 2009. Samples were collected on April 14, 2009 for gas composition and isotopic analysis.

FIELD TESTING

I visited your property on April 14, 2009 and provided you with analytical results from sampling conducted for the COGCC by Whetstone Associates. Staff from Norwest Applied Hydrology also were at your home on April 14th. You started the well pumping and after pH and temperature stabilized I then collected a sample. I did observe bubbles in the water as it was pumped. The water was clear and I did not notice any odors from the water. The sample for analysis of gas composition and isotopic analysis were received by Isotech Laboratories in Champaign, Illinois on April 15, 2009.

METHANE GAS ANALYSIS

The gas composition and isotopic results are included as Attachment 1. The concentration of methane is much greater than that of ethane.

CONCLUSIONS

A plot of the carbon and hydrogen isotopic composition of methane present in water from your domestic well is included as Attachment 2. The isotopic composition is not similar to the isotopic composition of methane sampled and analyzed from a domestic well in the vicinity of your well (Ross). The isotopic composition of the methane present in water from your well is more similar to methane produced from microbial processes than to the isotopic composition of methane from CBM wells in Las Animas county.

I have also included the original copies of lab data you provided to me on April 14, 2009 as you requested. I am still trying to better understand the source of methane in your well water and will send you an update shortly.

If you have any questions or would like to discuss these matters further, please contact me at 719-846-3091 or by email at peter.gintautas@state.co.us .

Sincerely,
Colorado Oil and Gas Conservation Commission

Peter Gintautas
Environmental Protection Specialist

Attachments: Attachment 1 - Isotech Laboratories Data Report
 Attachment 2 – Plot of Isotopic Composition
 Attachment 3 - Previous Lab Data

Lab #: 160377 Job #: 11291
 Sample Name/Number: Pulsifer WW
 Company: Colorado Oil & Gas Conservation
 Date Sampled: 4/14/2009
 Container: Dissolved Gas Bottle
 Field/Site Name: Complaint 200204502
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 4/15/2009 Date Reported: 5/14/2009

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 18O per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	0.352			
Oxygen -----	6.17			
Nitrogen -----	20.09			
Carbon Dioxide -----	0.78			
Methane -----	72.57	-56.12	-259.2	
Ethane -----	0.0405			
Ethylene -----	nd			
Propane -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			
Water -----			-78.3	-10.09
Dissolved Inorganic Carbon -		-12.40		

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 736

Specific gravity, calculated: 0.682

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.72

nd = not detected. na = not analyzed. Isotopic composition of carbon is relative to VPDB. Isotopic composition of hydrogen and oxygen are relative to VSMOW. Calculations for BTU and specific gravity per D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %. ASTM Chemical analysis based on standards accurate to within 2%

Isotopic Composition of Methane from Pulsifer Water Well

