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May 19th, 2014

Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, CO, 80203
Attention: Jim Hughes

Dear Mr. Hughes,

Pursuant to Rule 608(b)(4) McElvain Energy Inc. (MEI) is taking this opportunity to notify the Colorado Oil and Gas Conservation Commission (COGCC) of the presence of thermogenic methane gas in water samples taken from a private water well (Jack Wheeler #185055--) in the San Juan Basin, Ignacio Blanco Field, La Plata County, CO (NWNE 18 33N 8W NM) in February of 2014. After discovering dissolved methane gas in the Jack Wheeler water well samples at a concentration of > 2mg/L, MEI had the samples submitted to Isotech Laboratories Inc. in Champaign IL. for complete isotopic analysis.

Isotech confirmed (see attached report) that the dissolved methane gas present in the Jack Wheeler water well samples is significantly oxidized due to microbial oxidation. Although the Isotech Engineer was unable to determine the exact date or the primary source of the methane gas contamination; the historical MEI water sampling events show the analytical data to be consistently unchanged since the CBM water well sampling began in 2004. Isotech also determined that since the dissolved methane gas levels present in the water samples have not changed substantially since testing began in 2004, that the dissolved gas present in the water well samples is due to historical contamination and was present before the MEI Slugger #1 and Slugger #11 CBM wells were drilled, completed, and put on production.

A Dakota formation well drilled in 1952 (V.D. Helton #1, since plugged and abandoned) in close proximity to the MEI Slugger #1 and #11 wells drilled in 2005 and 2010 respectively, denotes a history of casing and bradenhead mechanical integrity issues which predate the COGCC Rule 608 CBM water well testing program. For a more detailed review or the water sample analysis please see the attached review from Isotech Laboratories. Please direct questions regarding this matter to Tony Cooper @ 303-893-0933 x 331.

Respectfully Submitted,

Tony G. Cooper

Tony G. Cooper
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McElvain Energy Inc.
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April 28, 2014

Tony Cooper
McElvain Energy Inc.
1050 17th St., Suite 2500
Denver, CO 80265

Dear Mr. Cooper,

The following report concerns several dissolved gas samples associated with a private residential water well (currently referred as the Jack Wheeler well) located in the San Juan Basin, La Plata County, Colorado. Additional information was obtained from the COGCC database to help evaluate the gas results from the Wheeler well. Samples from the Wheeler well have been collected over nearly ten years by McElvain Oil & Gas and Four Corners Geoscience starting from 11/11/04 (then known as the Farnsworth water well) to the most recent sample collected 02/12/14. Because the samples were collected and submitted at different times they were assigned to multiple Isotech Job numbers including: 5592, 5650, 11102, 12658, 15319, and 24332. These samples were collected to gather information on dissolved gases measured in the residential well both before and after the installation of two nearby gas production wells drilled within the past nine years. These two production wells, drilled to the Fruitland Coal Formation, include the Slugger #1 (completion date 5/16/2005) and Slugger #11 well (completion date 3/5/2010). According to the COGCC database an older production well, V.D. Helton#1, drilled to the deeper Dakota Formation, located very close to the Slugger wells, was completed in 1952. For convenience the analytical reports, which included compositional analyses of the gas and stable isotope analyses of the methane for each sample, were compiled and are shown in Table 1. The question is whether the gas detected in the residential water well is thermogenic or microbial. To help illustrate the data I have enclosed three figures to show how these samples compare to one another and with compositions typically observed for different sources of methane.

The compositional analyses of the gas samples from the Wheeler well showed 13.63 to 23.55 % methane and the presence of 100 to 186 ppm of ethane (C_2). Two of the samples contained traces of heavier hydrocarbons including propane (C_3) and/or hexanes (C_{6+}). One of the samples, collected 3/11/10, contained detectable amounts of the full range of the heavier hydrocarbons from C_2 through C_{6+}. The presence of heavier hydrocarbons in a gas sample is often indicative of thermogenic gas; nevertheless, some gases produced from microbial sources have been shown to contain small amounts of the heavier hydrocarbons, especially ethane (*Taylor et al., 2000, Envron. Sci. Technol., v 34, p 4727-4732; Bernard et al, 1978, J. Geophys. Res., v. 83, p 4053-4061*). However, many of the thermogenic gases from the northern part of the San Juan Basin are particularly dry gases and do not typically contain large concentrations of the heavier hydrocarbons (Scott, 1994). The concentration of ethane, detected in in the Wheeler well at each sampling event, do not show a pattern of increasing values subsequent to the completion of the Slugger #1 and #11 gas wells compared to the initial sampling events prior to drilling the two Slugger gas wells (Figure 1).

The carbon and hydrogen isotopic composition ($\delta^{13}C$ and δD) of the methane from the Wheeler well plot far outside what is typically observed for the different sources of methane (Figure 2).

The methane in the Wheeler well is isotopically very enriched in the heavier isotopes indicating the gas from this well has been substantially oxidized. During microbial oxidation the lighter isotopes of methane react faster leaving the residual methane isotopically enriched in the heavier isotopes, causing a shift in the isotopic composition in the direction shown by the arrow in Figure 2. The six samples from the Wheeler water well show a pattern that follow the characteristic trend expected for microbial oxidation. Pre- and post- Slugger gas well sampling events showed very similar isotopic compositions suggesting little to no impact from the Slugger gas well development. The changes in isotopic composition of the methane from the Wheeler well appear to be primarily associated with the degree of oxidation of the gas sampled from the residential well. Figure 3 shows the data from the Wheeler well along with the typical range of values observed for coalbed methane from the Fruitland FM as well as a projection of expected values due to microbial oxidation. Additional data from another residential water well sampled in 1998 and 2001 located in the adjacent section to the north of the Wheeler well (approximately 0.5 miles away) has been included to show how those values compare with the data from the Wheeler water well. All of the dissolved gas samples on Figure 3 fit a trend of significant microbial oxidation of thermogenic gas. This data also fit isotopic results published for dissolved gas in groundwater from the San Juan Basin which showed many samples with a very similar oxidation trend (*Gorody et al., 2004, Dissolved methane in groundwater, San Juan Basin, La Plata County Colorado: Analysis of Data Submitted in Response to COGCC Orders 112-156 and 112-157*).

In summary, based on the molecular composition and isotopic characteristics of the methane observed for the dissolved gas samples, the source of methane in the Jack Wheeler well appears to be primarily thermogenic gas that has been significantly oxidized, altering the isotopic composition to values substantially enriched in the heavier isotopes. The pre- and post- Slugger gas well sampling events of the Wheeler residential well indicate no significant change in hydrocarbon concentrations such as ethane suggesting little to no impact from the gas wells to the Jack Wheeler well. From the information available we cannot determine how or when the methane has migrated into the aquifer from which the Wheeler well is screened. However, the sampling events indicate the gas was present prior to the implementation of the Slugger wells.

If you have any questions or if there is anything else we can do for you, please do not hesitate to contact us. Thank you for choosing Isotech for your analysis needs, we appreciate your business.

Sincerely,

Keith C. Hackley, Ph.D., PG
Senior Isotope Geochemist
Isotech Laboratories, Inc.
hackley@isotechlabs.com

Enclosures (4)

cc Lynn Fechter (*Four Corners Geoscience*)

Table 1. Gas composition and isotopic analyses of dissolved gas samples from the Jack Wheeler water well (previously the Richard Farnsworth water well) located in La Plata Co., CO (Sec 18, T33N, R8W).

Isotech Job No.	Isotech Lab No.	Sample Name	Sample Date	Field Name	He %	H_2 %	Ar %	O_2 %	CO_2 %	N_2 %	CO %	C_1 %	C_2 %	C_2H_4 %	C_3 %	C_3H_6 %	iC_4 %	nC_4 %	iC_5 %	nC_5 %	C_6+ %	$\delta^{13}CO_2$ ‰	$\delta^{13}C_1$ ‰	δDC_1 ‰
5592	75299	Richard Farnsworth water well (Pretest)	11/11/04	Slugger #1	nd	nd	0.921	0.15	0.17	75.19	nd	23.55	0.0131	nd	nd	nd	nd	nd	nd	nd	0.0071		-13.9	15
5650	75946	Richard Farnsworth Water Well	12/9/04	Slugger #1	nd	nd	0.881	6.66	0.11	77.59	nd	14.75	0.0124	nd	nd	nd	nd	nd	nd	nd	nd		-14.9	1
11102	157726	Jack Wheeler Pretest	3/4/09	Slugger #11	nd	nd	0.821	0.036	0.14	81.86	nd	17.12	0.0186	nd	nd	nd	nd	nd	nd	nd	nd		-18.93	-11.6
12658	181451	Jack Wheeler Complaint	3/11/10	Slugger #11	0.0109	nd	0.761	0.048	0.10	84.60	nd	14.41	0.0101	nd	0.0003	nd	0.0001	0.0001	0.0002	0.0003	0.0578		-19.10	-16.7
15319	211601	Jack Wheeler/ 1 Year Posttest	5/18/11	Slugger #11	na	nd	1.07	0.12	0.24	83.14	nd	15.42	0.0106	nd	0.0003	nd	nd	nd	nd	nd	0.0011		-15.40	7.8
24332	412674	Jack Wheeler/ 3 Year Posttest	2/12/14	Slugger #11	na	nd	1.16	0.039	0.26	84.90	nd	13.63	0.0100	nd	nd	nd	nd	nd	nd	nd	nd	-28.8	-12.17	60.5

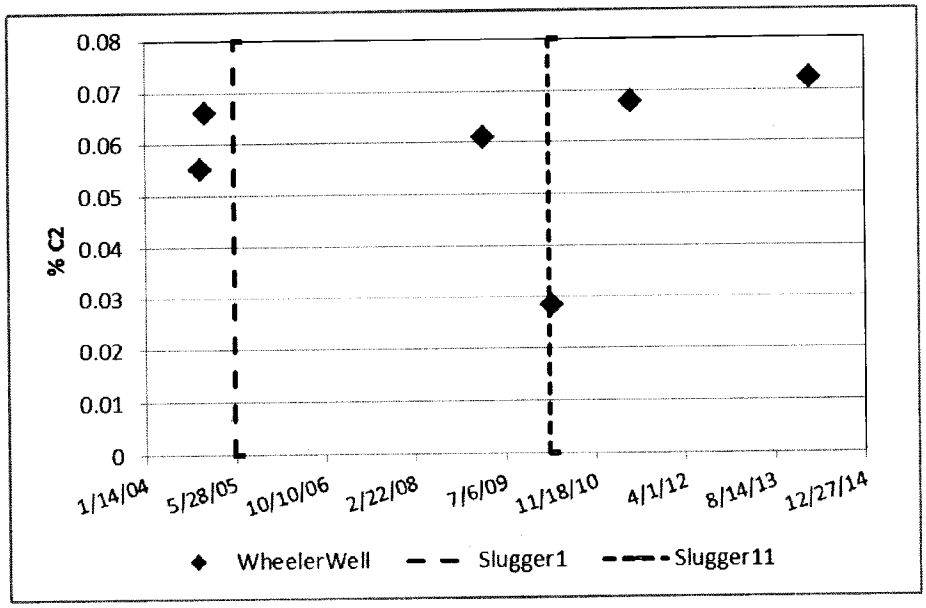

Figure 1. Percent ethane (adjusted for air using argon concentration) in dissolved gas from the Jack Wheeler water well versus time showing pre and post values relative to completion of Slugger #1 and Slugger #11 gas wells.

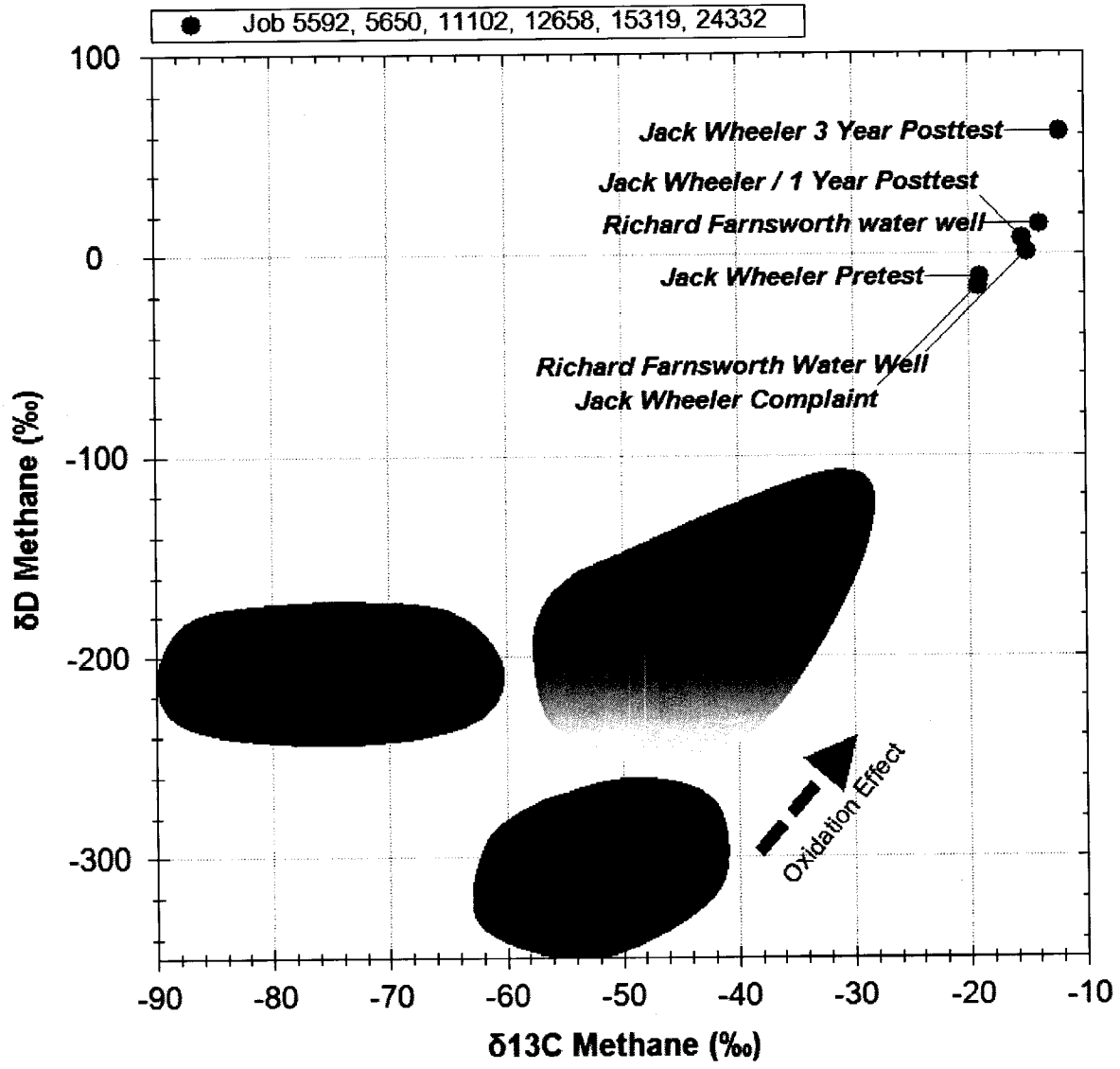

Figure 2. Graph of $\delta^{13}C$ and δD data of the methane from the Jack Wheeler residential well (Table 1) plotted along with typical domains for various sources of methane. (*Diagram modified from Coleman, Liu, Hackley, and Pelphrey, 1995, Environmental Geosciences, v. 2, p. 95-103.*)

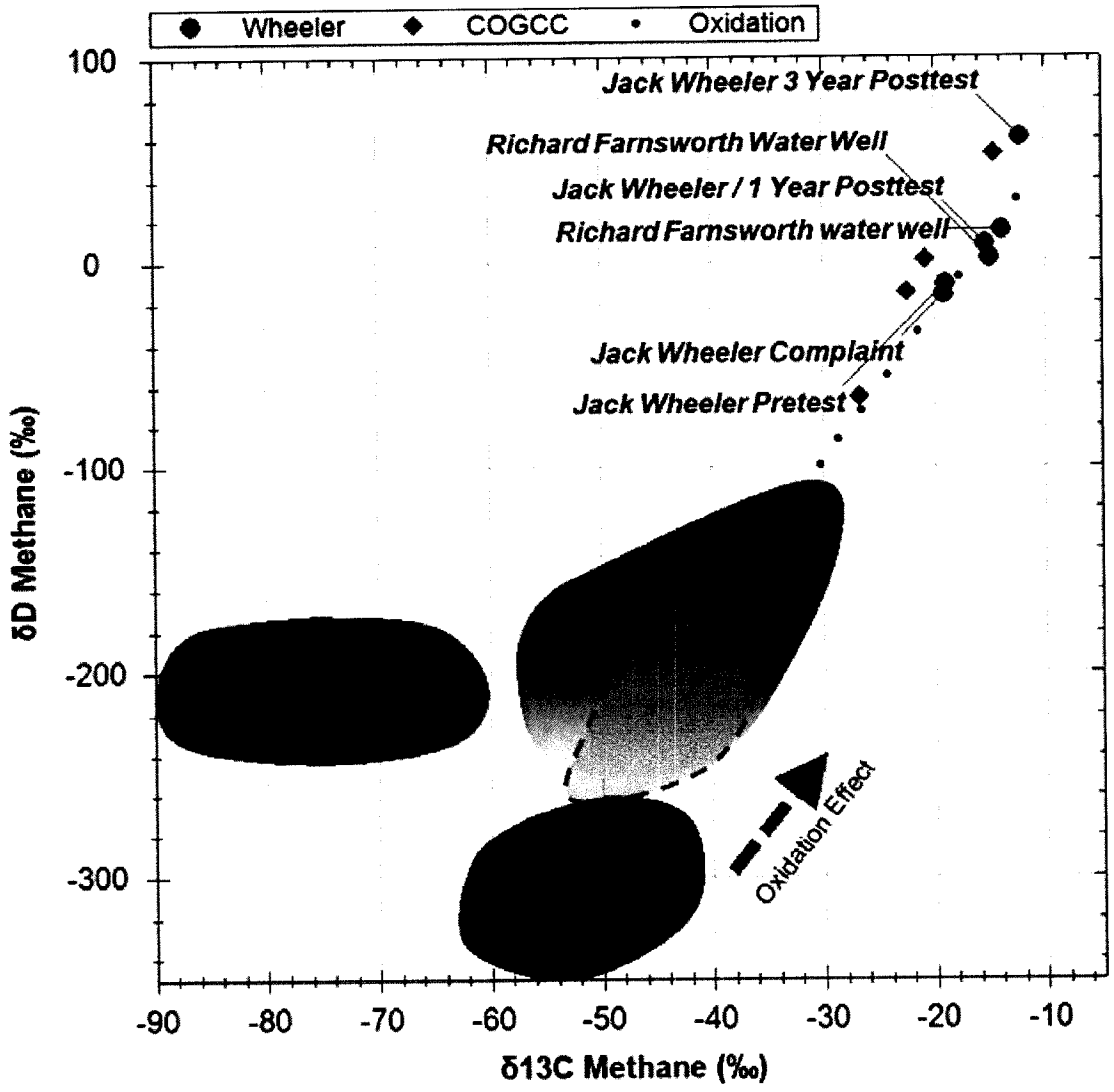

Figure 3. Graph of $\delta^{13}C$ and δD data of the methane from the Jack Wheeler residential well (Table 1) plotted along with additional dissolved gas from another water well ~ 0.5 miles to the north (green filled diamonds), range of values measured for coalbed methane from the Fruitland Formation (blue area outlined with dashed lines), and projected values of methane showing effects of microbial oxidation (black dots) from a starting value in the middle of the thermogenic gas domain. (*Four additional dissolved gas data from COGCC database; Range of CBM values from Gorody, Baldwin, and Scott, 2004, Methane in Ground Water, San Juan Basin, La Plata County Colorado- Analysis of Data Submitted in Response to COGCC Orders 112-156 and 112-157; Typical domains for various sources of methane are modified from Coleman, Liu, Hackley, and Pelphrey, 1995, Environmental Geosciences, v. 2, p. 95-103.*)