

Lab #: 384303 Job #: 23021 IS-64384
 Sample Name/Number: Farley ~~213884~~ 231884
 Company: Colorado Oil & Gas Conservation
 Date Sampled: 9/05/2013
 Container: Dissolved Gas Bottle
 Field/Site Name: 434043
 Location: Sec 23 3N 66W WELD
 Formation/Depth:
 Sampling Point:
 Date Received: 9/27/2013 Date Reported: 10/21/2013

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	nd			
Helium -----	na			
Hydrogen -----	nd			
Argon -----	0.879			
Oxygen -----	3.79			
Nitrogen -----	46.83			
Carbon Dioxide -----	0.82			
Methane -----	47.63	-69.19	-243.2	
Ethane -----	0.0487			
Ethylene -----	nd			
Propane -----	0.0006			
Propylene -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.66

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 384304 Job #: 23021 IS-64384
 Sample Name/Number: Farley ~~247519~~ 247419
 Company: Colorado Oil & Gas Conservation
 Date Sampled: 9/05/2013
 Container: Dissolved Gas Bottle
 Field/Site Name: 434043
 Location: Sec 23 3N 66W WELD
 Formation/Depth:
 Sampling Point:
 Date Received: 9/27/2013 Date Reported: 10/21/2013

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	nd			
Helium -----	na			
Hydrogen -----	nd			
Argon -----	0.940			
Oxygen -----	2.86			
Nitrogen -----	48.73			
Carbon Dioxide -----	0.65			
Methane -----	46.75	-68.61	-253.0	
Ethane -----	0.0723			
Ethylene -----	nd			
Propane -----	0.0009			
Propylene -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.68

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.