ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	430227	Job #:	25074	IS-70996	Co. Job#:
Sample Name:	Morton-1				Co. Lab#:
Company:	Colorado Oil & Gas Conservation				
API/Well:					
Container:	IsoFlask				
Field/Site Name:	COGCC: Morton Well				
Location:	Brighton, CO				
Formation/Depth:					
Sampling Point:					
Date Sampled:	4/25/2014	Date Received:	4/30/2014	Date Reported:	6/11/2014

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Helium	na			
Hydrogen	nd			
Argon	0.553			
Oxygen	0.090			
Nitrogen	21.88			
Carbon Dioxide	6.57			
Methane	59.51	-51.96	-237.3	
Ethane	7.88	-32.01		
Ethylene	nd			
Propane	2.49	-27.35		
Propylene	nd			
Iso-butane	0.295			
N-butane	0.501	-26.46		
Iso-pentane	0.120			
N-pentane	0.0737			
Hexanes +	0.0373			

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.59
Concentration of methane in water = 41 cc/L ; 28 ppm
Concentration of ethane in water = 5.9 cc/L ; 7.3 ppm
Concentration of propane in water = 1.8 cc/L ; 3.2 ppm
*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. %.