

Lab #: 755473 Job #: 44326 IS-94649 Co. Job#:
 Sample Name: Kawakami 31-35 / Surface CSG Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 251746
 Date Sampled: 2/06/2020 8:33 Date Received: 2/21/2020 Date Reported: 3/12/2020

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0560			
Hydrogen -----	nd			
Argon -----	0.0262			
Oxygen -----	0.41			
Nitrogen -----	4.48			
Carbon Dioxide -----	0.006			
Methane -----	83.79	-55.1	-234	
Ethane -----	4.19	-34.9		
Ethylene -----	nd			
Propane -----	4.45	-31.4		
Propylene -----	nd			
Iso-butane -----	0.769	-32.4		
N-butane -----	1.24	-29.9		
Iso-pentane -----	0.280	-28.7		
N-pentane -----	0.223	-28.2		
Hexanes + -----	0.0789			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1127

Specific gravity, calculated: 0.679

Remarks: 16192342

Isotopes obtained online via GC-C-IRMS and GC-P-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. All gas component carbon isotope values are reported on a scale defined by a two point calibration of LSVEC and NBS 19. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 755474 Job #: 44326 IS-94649 Co. Job#:
 Sample Name: Kawakami 31-35 / Production CSG Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 251746
 Date Sampled: 2/06/2020 8:36 Date Received: 2/21/2020 Date Reported: 3/12/2020

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0220			
Hydrogen -----	0.0322			
Argon -----	0.0101			
Oxygen -----	0.086			
Nitrogen -----	0.84			
Carbon Dioxide -----	2.19	0.6		
Methane -----	82.92	-47.5	-245	
Ethane -----	9.43	-32.2		
Ethylene -----	0.0004			
Propane -----	3.00	-29.3		
Propylene -----	nd			
Iso-butane -----	0.348	-31.4		
N-butane -----	0.854	-28.2		
Iso-pentane -----	0.148	-28.4		
N-pentane -----	0.110	-27.5		
Hexanes + -----	0.0098			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1135

Specific gravity, calculated: 0.676

Remarks: 16192342

Isotopes obtained online via GC-C-IRMS and GC-P-IRMSv

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. All gas component carbon isotope values are reported on a scale defined by a two point calibration of LSVEC and NBS 19. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.