

Lab #: 657189 Job #: 37837 IS-94649 Co. Job#:
 Sample Name: Pratt 4G / Production CSG Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 434525
 Date Sampled: 2/26/2018 13:45 Date Received: 3/26/2018 Date Reported: 6/01/2018

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0110			
Hydrogen -----	0.334			
Argon -----	0.418			
Oxygen -----	9.78			
Nitrogen -----	35.12			
Carbon Dioxide -----	0.30			
Methane -----	45.78	-47.66	-234.5	
Ethane -----	5.63	-31.62		
Ethylene -----	0.0001			
Propane -----	1.81	-28.24		
Propylene -----	nd			
Iso-butane -----	0.237	-31.08		
N-butane -----	0.403	-27.36		
Iso-pentane -----	0.0841			
N-pentane -----	0.0618			
Hexanes + -----	0.0309			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 639

Specific gravity, calculated: 0.815

Remarks: Cost Center 13175931

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. %.