

Lab #: 746666 Job #: 43749 IS-94649 Co. Job#:   
 Sample Name: McCoy 1 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location: C761660   
 Formation:   
 Sampling Point: 240774   
 Date Sampled: 12/10/2019 10:35 Date Received: 12/16/2019 Date Reported: 1/23/2020

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0200			
Hydrogen -----	0.554			
Argon -----	0.0411			
Oxygen -----	0.29			
Nitrogen -----	4.32			
Carbon Dioxide -----	1.13	-0.5		
Methane -----	78.06	-47.5	-227	
Ethane -----	10.54	-30.2		
Ethylene -----	nd			
Propane -----	3.25	-25.4		
Propylene -----	nd			
Iso-butane -----	0.553	-28.1		
N-butane -----	0.734	-25.2		
Iso-pentane -----	0.279	-26.9		
N-pentane -----	0.148	-25.5		
Hexanes + -----	0.0786			

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

Specific gravity, calculated: 0.693

Remarks: Isotopes obtained online via GC-C-IRMS/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 #: 746667 Job #: 43749 IS-94649 Co. Job#:   
 Sample Name: McCoy 1 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location: C761660   
 Formation:   
 Sampling Point: 240774   
 Date Sampled: 12/10/2019 10:30 Date Received: 12/16/2019 Date Reported: 1/23/2020

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0213			
Hydrogen -----	nd			
Argon -----	0.0162			
Oxygen -----	0.26			
Nitrogen -----	1.59			
Carbon Dioxide -----	0.006			
Methane -----	79.50	-49.7	-254	
Ethane -----	11.27	-33.9		
Ethylene -----	nd			
Propane -----	4.79	-29.6		
Propylene -----	nd			
Iso-butane -----	0.553	-31.3		
N-butane -----	1.29	-28.1		
Iso-pentane -----	0.258	-28.8		
N-pentane -----	0.287	-28.9		
Hexanes + -----	0.159			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1219

Specific gravity, calculated: 0.704

Remarks: Insufficient CO2 concentration for isotopic analysis. Isotopes obtained online via GC-C-IRMS/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. %.