

Lab #: 752764 Job #: 44089 IS-94649 Co. Job#:
 Sample Name: Melbon 4K-17H / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location: C82289
 Formation:
 Sampling Point: 457073
 Date Sampled: 1/08/2020 13:15 Date Received: 1/28/2020 Date Reported: 2/19/2020

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0156			
Hydrogen -----	0.0887			
Argon -----	0.0174			
Oxygen -----	0.34			
Nitrogen -----	1.61			
Carbon Dioxide -----	1.49	2.4		
Methane -----	87.84	-49.6	-254	
Ethane -----	8.42	-33.4		
Ethylene -----	0.0008			
Propane -----	0.166	-29.3		
Propylene -----	nd			
Iso-butane -----	0.0038			
N-butane -----	0.0019			
Iso-pentane -----	0.0003			
N-pentane -----	0.0003			
Hexanes + -----	0.0009			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1045

Specific gravity, calculated: 0.619

Remarks: C82289

Isotopes obtained online via GC-C-IRMS/GC-P-IRMS. Insufficient C4-C5 concentrations for isotopic analysis.

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. %.