

Lab #: 752767 Job #: 44089 IS-94649 Co. Job#:
 Sample Name: Melbon 4D-17H / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location: C82282
 Formation:
 Sampling Point: 457075
 Date Sampled: 1/08/2020 10:45 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 -----	0.0119			
Hydrogen -----	0.148			
Argon -----	0.107			
Oxygen -----	2.48			
Nitrogen -----	9.93			
Carbon Dioxide -----	0.11			
Methane -----	80.59	-47.9	-249	
Ethane -----	6.36	-32.4		
Ethylene -----	0.0006			
Propane -----	0.256	-27.8		
Propylene -----	nd			
Iso-butane -----	0.0007			
N-butane -----	0.0006			
Iso-pentane -----	0.0002			
N-pentane -----	0.0002			
Hexanes + -----	0.0003			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 937

Specific gravity, calculated: 0.643

Remarks: C82282

Isotopes obtained online via GC-C-IRMS/GC-P-IRMS. Insufficient C4-C5 concentrations for isotopic analysis. *
 CO2 carbon isotope data will not be available due to extraneous peak interference

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. %.