

Lab #: 785220 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Canyon Creek 43-13 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 415313   
 Date Sampled: 2/09/2021 14:44 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0144			
Hydrogen -----	0.0401			
Argon -----	0.0151			
Oxygen -----	0.17			
Nitrogen -----	1.34			
Carbon Dioxide -----	1.36	-1.4		
Methane -----	82.13	-47.9	-215	
Ethane -----	10.78	-30.4		
Ethylene -----	0.0002			
Propane -----	3.14	-27.1		
Propylene -----	nd			
Iso-butane -----	0.364	-29.9		
N-butane -----	0.540	-26.9		
Iso-pentane -----	0.0682	-27.8		
N-pentane -----	0.0368	-26.6		
Hexanes + -----	0.0043			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1139

Specific gravity, calculated: 0.671

Remarks: W70672 8503

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 #: 785221 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Canyon Creek 43-13 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 415313   
 Date Sampled: 2/09/2021 14:41 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0456			
Hydrogen -----	0.0339			
Argon -----	0.0876			
Oxygen -----	2.01			
Nitrogen -----	8.95			
Carbon Dioxide -----	0.010			
Methane -----	75.01	-54.3	-230	
Ethane -----	6.92	-33.9		
Ethylene -----	nd			
Propane -----	4.76	-30.4		
Propylene -----	nd			
Iso-butane -----	0.624	-31.5		
N-butane -----	1.12	-29.1		
Iso-pentane -----	0.210	-28.8		
N-pentane -----	0.165	-28.5		
Hexanes + -----	0.0555			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1080

Specific gravity, calculated: 0.716

Remarks: W70672 8503

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 #: 785222 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Lumry 32-24 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 329   
 Date Sampled: 2/10/2021 14:18 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0169			
Hydrogen -----	0.0485			
Argon -----	nd			
Oxygen -----	0.10			
Nitrogen -----	0.56			
Carbon Dioxide -----	2.93	2.2		
Methane -----	84.18	-47.3	-208	
Ethane -----	8.59	-28.4		
Ethylene -----	0.0011			
Propane -----	2.28	-25.7		
Propylene -----	nd			
Iso-butane -----	0.427	-27.1		
N-butane -----	0.485	-26.0		
Iso-pentane -----	0.175	-26.3		
N-pentane -----	0.0993	-26.5		
Hexanes + -----	0.104			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1111

Specific gravity, calculated: 0.670

Remarks: W43434 8503

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 #: 785223 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Lumry 32-24 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 329   
 Date Sampled: 2/10/2021 14:15 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0246			
Hydrogen -----	nd			
Argon -----	0.138			
Oxygen -----	3.25			
Nitrogen -----	12.55			
Carbon Dioxide -----	0.015			
Methane -----	69.83	-50.5	-236	
Ethane -----	8.22	-32.8		
Ethylene -----	nd			
Propane -----	4.05	-29.5		
Propylene -----	nd			
Iso-butane -----	0.485	-31.5		
N-butane -----	0.987	-28.8		
Iso-pentane -----	0.193	-28.6		
N-pentane -----	0.173	-28.4		
Hexanes + -----	0.0850			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1024

Specific gravity, calculated: 0.734

Remarks: W43434 8503

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 #: 785224 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Mcdonald 1 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 206552   
 Date Sampled: 2/10/2021 10:17 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0208			
Hydrogen -----	0.173			
Argon -----	0.0061			
Oxygen -----	0.088			
Nitrogen -----	0.67			
Carbon Dioxide -----	1.59	0.2		
Methane -----	83.85	-48.8	-238	
Ethane -----	9.65	-32.8		
Ethylene -----	nd			
Propane -----	2.84	-29.1		
Propylene -----	nd			
Iso-butane -----	0.302	-31.5		
N-butane -----	0.612	-28.4		
Iso-pentane -----	0.100	-28.8		
N-pentane -----	0.0812	-27.9		
Hexanes + -----	0.0216			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1133

Specific gravity, calculated: 0.663

Remarks: W9665 8503

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 #: 785225 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Mcdonald 1 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 206552   
 Date Sampled: 2/10/2021 10:15 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0722			
Hydrogen -----	nd			
Argon -----	0.183			
Oxygen -----	4.08			
Nitrogen -----	16.45			
Carbon Dioxide -----	0.018			
Methane -----	67.32	-56.3	-234	
Ethane -----	7.67	-31.3		
Ethylene -----	nd			
Propane -----	2.91	-27.2		
Propylene -----	nd			
Iso-butane -----	0.339	-30.1		
N-butane -----	0.510	-27.0		
Iso-pentane -----	0.208	-28.5		
N-pentane -----	0.160	-26.8		
Hexanes + -----	0.0829			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 939

Specific gravity, calculated: 0.733

Remarks: W9665 8503

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 #: 785226 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Oxford Farms F unit 1 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 206600   
 Date Sampled: 2/11/2021 9:15 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	0.927			
Oxygen -----	20.76			
Nitrogen -----	78.24			
Carbon Dioxide -----	0.076			
Methane -----	0.0012			
Ethane -----	0.0001			
Ethylene -----	nd			
Propane -----	nd			
Propylene -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	0.0001			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 0

Specific gravity, calculated: 1.000

Remarks: Insufficient concentrations for isotopic analysis.  
W768290 8503

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 #: 785227 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: State 1E-16H / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 431904   
 Date Sampled: 2/18/2021 9:59 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	0.927			
Oxygen -----	20.77			
Nitrogen -----	78.23			
Carbon Dioxide -----	0.077			
Methane -----	0.0004			
Ethane -----	nd			
Ethylene -----	nd			
Propane -----	nd			
Propylene -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 0

Specific gravity, calculated: 1.000

Remarks: C72626 8503

Insufficient 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. %.



Lab #: 785228 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: State 1E-16H / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 431904   
 Date Sampled: 2/18/2021 9:54 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0259			
Hydrogen -----	1.13			
Argon -----	0.0614			
Oxygen -----	1.35			
Nitrogen -----	5.79			
Carbon Dioxide -----	0.006			
Methane -----	76.15	-51.6	-260	
Ethane -----	10.02	-34.7		
Ethylene -----	nd			
Propane -----	3.77	-30.3		
Propylene -----	nd			
Iso-butane -----	0.366	-31.6		
N-butane -----	0.959	-29.2		
Iso-pentane -----	0.172	-28.3		
N-pentane -----	0.148	-28.8		
Hexanes + -----	0.0543			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1109

Specific gravity, calculated: 0.692

Remarks: C72626 8503

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 #: 785229 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Vogl McCoy 2E-5H / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 433791   
 Date Sampled: 2/19/2021 12:20 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0169			
Hydrogen -----	0.728			
Argon -----	0.0710			
Oxygen -----	1.61			
Nitrogen -----	6.29			
Carbon Dioxide -----	1.30	1.4		
Methane -----	76.42	-52.6	-253	
Ethane -----	10.45	-33.4		
Ethylene -----	0.0065			
Propane -----	2.75	-29.3		
Propylene -----	nd			
Iso-butane -----	0.134	-30.5		
N-butane -----	0.145	-27.4		
Iso-pentane -----	0.0020			
N-pentane -----	0.0008			
Hexanes + -----	0.0798			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1046

Specific gravity, calculated: 0.682

Remarks: C74809 8503

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 #: 785230 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Vogl McCoy 2E-5H / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 433791   
 Date Sampled: 2/19/2021 12:18 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	0.0319			
Argon -----	0.0111			
Oxygen -----	0.069			
Nitrogen -----	0.39			
Carbon Dioxide -----	nd			
Methane -----	99.19	-53.9	-299	
Ethane -----	0.132	-34.1		
Ethylene -----	0.0002			
Propane -----	0.0992	-31.1		
Propylene -----	0.0002			
Iso-butane -----	0.0158			
N-butane -----	0.0406	-28.9		
Iso-pentane -----	0.0086			
N-pentane -----	0.0079			
Hexanes + -----	0.0031			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1013

Specific gravity, calculated: 0.559

Remarks: C74809 8503

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 #: 785231 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Wigget 32-13 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 293220   
 Date Sampled: 12/30/2020 11:50 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0072			
Hydrogen -----	nd			
Argon -----	0.178			
Oxygen -----	4.16			
Nitrogen -----	15.33			
Carbon Dioxide -----	1.56	2.9		
Methane -----	58.72	-48.1	-226	
Ethane -----	10.67	-31.2		
Ethylene -----	0.0002			
Propane -----	5.00	-27.9		
Propylene -----	nd			
Iso-butane -----	0.853	-31.0		
N-butane -----	2.02	-28.0		
Iso-pentane -----	0.693	-28.7		
N-pentane -----	0.803	-27.6		
Hexanes + -----	0.0085			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1067

Specific gravity, calculated: 0.828

Remarks: W43132 8503

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 #: 785232 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Wigget 32-13 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 293220   
 Date Sampled: 12/30/2020 11:45 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0410			
Hydrogen -----	nd			
Argon -----	0.101			
Oxygen -----	2.33			
Nitrogen -----	9.60			
Carbon Dioxide -----	0.015			
Methane -----	73.83	-53.9	-239	
Ethane -----	6.85	-34.8		
Ethylene -----	nd			
Propane -----	4.74	-30.6		
Propylene -----	nd			
Iso-butane -----	0.658	-31.8		
N-butane -----	1.23	-29.6		
Iso-pentane -----	0.283	-29.0		
N-pentane -----	0.228	-28.5		
Hexanes + -----	0.0971			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1078

Specific gravity, calculated: 0.726

Remarks: W43132 8503

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 #: 785233 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Wigget 4-2-13 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 64   
 Date Sampled: 12/30/2020 12:40 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	0.933			
Oxygen -----	20.86			
Nitrogen -----	78.12			
Carbon Dioxide -----	0.085			
Methane -----	0.0006			
Ethane -----	nd			
Ethylene -----	nd			
Propane -----	nd			
Propylene -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 0

Specific gravity, calculated: 1.000

Remarks: Insufficient concentrations for isotopic analysis.  
W43139 8503

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 #: 785234 Job #: 47089 IS-94649 Co. Job#:   
 Sample Name: Wigget 4-2-13 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 64   
 Date Sampled: 12/30/2020 12:35 Date Received: 3/01/2021 Date Reported: 3/22/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	0.932			
Oxygen -----	20.84			
Nitrogen -----	78.17			
Carbon Dioxide -----	0.060			
Methane -----	0.0005			
Ethane -----	nd			
Ethylene -----	nd			
Propane -----	nd			
Propylene -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 0

Specific gravity, calculated: 1.000

Remarks: Insufficient concentrations for isotopic analysis.  
W43139 8503

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. %.