

Lab #: 804060 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Coal Creek 6-4-19 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 297980   
 Date Sampled: 8/04/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0098			
Hydrogen -----	0.0328			
Argon -----	nd			
Oxygen -----	0.045			
Nitrogen -----	0.38			
Carbon Dioxide -----	1.95	2.5		
Methane -----	75.33	-47.6	-234	
Ethane -----	12.97	-31.7		
Ethylene -----	0.0002			
Propane -----	5.74	-28.5		
Propylene -----	nd			
Iso-butane -----	0.833	-31.1		
N-butane -----	2.03	-27.7		
Iso-pentane -----	0.396	-28.3		
N-pentane -----	0.283	-26.5		
Hexanes + -----	0.0006			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1263

Specific gravity, calculated: 0.748

Remarks: W53200 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 #: 804061 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Coal Creek 6-4-19 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 297980   
 Date Sampled: 8/04/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0288			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.048			
Nitrogen -----	0.98			
Carbon Dioxide -----	0.015			
Methane -----	81.88	-50.9	-239	
Ethane -----	9.17	-34.2		
Ethylene -----	nd			
Propane -----	5.39	-30.5		
Propylene -----	nd			
Iso-butane -----	0.649	-31.9		
N-butane -----	1.31	-28.7		
Iso-pentane -----	0.246	-28.6		
N-pentane -----	0.206	-28.5		
Hexanes + -----	0.0800			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1217

Specific gravity, calculated: 0.694

Remarks: W53200 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 #: 804062 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: North Rinn 0-4-9 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 424118   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0100			
Hydrogen -----	0.0480			
Argon -----	nd			
Oxygen -----	0.038			
Nitrogen -----	0.40			
Carbon Dioxide -----	1.63	2.8		
Methane -----	73.80	-48.7	-246	
Ethane -----	13.49	-33.5		
Ethylene -----	nd			
Propane -----	6.24	-29.5		
Propylene -----	nd			
Iso-butane -----	0.869	-31.7		
N-butane -----	2.20	-28.1		
Iso-pentane -----	0.553	-28.9		
N-pentane -----	0.617	-28.5		
Hexanes + -----	0.106			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1301

Specific gravity, calculated: 0.767

Remarks: W73578 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 #: 804063 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: North Rinn 0-4-9 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 424118   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0102			
Hydrogen -----	0.0519			
Argon -----	0.0074			
Oxygen -----	0.11			
Nitrogen -----	0.64			
Carbon Dioxide -----	1.41	1.1		
Methane -----	75.12	-48.5	-247	
Ethane -----	13.51	-33.5		
Ethylene -----	nd			
Propane -----	5.92	-29.8		
Propylene -----	nd			
Iso-butane -----	0.746	-31.6		
N-butane -----	1.71	-28.2		
Iso-pentane -----	0.329	-28.7		
N-pentane -----	0.317	-28.0		
Hexanes + -----	0.119			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1266

Specific gravity, calculated: 0.744

Remarks: W73578 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 #: 804064 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: North Rinn 13-9 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 424117   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0137			
Hydrogen -----	0.0450			
Argon -----	nd			
Oxygen -----	0.042			
Nitrogen -----	0.47			
Carbon Dioxide -----	1.30	3.1		
Methane -----	74.73	-48.4	-245	
Ethane -----	12.68	-33.3		
Ethylene -----	nd			
Propane -----	5.69	-29.7		
Propylene -----	nd			
Iso-butane -----	0.858	-31.3		
N-butane -----	2.07	-27.9		
Iso-pentane -----	0.624	-28.5		
N-pentane -----	0.700	-27.9		
Hexanes + -----	0.779			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1316

Specific gravity, calculated: 0.772

Remarks: W73384 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 #: 804065 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: North Rinn 13-9 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 424117   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0127			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.051			
Nitrogen -----	0.49			
Carbon Dioxide -----	1.17	3.0		
Methane -----	76.69	-48.1	-242	
Ethane -----	12.62	-33.3		
Ethylene -----	nd			
Propane -----	5.30	-29.5		
Propylene -----	nd			
Iso-butane -----	0.713	-31.3		
N-butane -----	1.64	-27.8		
Iso-pentane -----	0.400	-28.4		
N-pentane -----	0.437	-27.8		
Hexanes + -----	0.477			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1271

Specific gravity, calculated: 0.742

Remarks: W73384 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 #: 804066 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: North Rinn 2-4-9 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 424109   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0133			
Hydrogen -----	0.0759			
Argon -----	nd			
Oxygen -----	0.045			
Nitrogen -----	0.43			
Carbon Dioxide -----	1.75	2.3		
Methane -----	75.77	-48.4	-243	
Ethane -----	13.11	-33.1		
Ethylene -----	nd			
Propane -----	5.73	-29.7		
Propylene -----	nd			
Iso-butane -----	0.729	-31.4		
N-butane -----	1.67	-28.3		
Iso-pentane -----	0.308	-28.7		
N-pentane -----	0.280	-28.0		
Hexanes + -----	0.0894			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1255

Specific gravity, calculated: 0.740

Remarks: W73383 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 #: 804067 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: North Rinn 2-4-9 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 424109   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0136			
Hydrogen -----	0.0780			
Argon -----	nd			
Oxygen -----	0.050			
Nitrogen -----	0.49			
Carbon Dioxide -----	1.22	1.4		
Methane -----	71.90	-48.4	-243	
Ethane -----	10.73	-33.4		
Ethylene -----	nd			
Propane -----	8.73	-29.9		
Propylene -----	nd			
Iso-butane -----	1.49	-31.5		
N-butane -----	3.28	-28.0		
Iso-pentane -----	0.708	-28.7		
N-pentane -----	0.625	-27.8		
Hexanes + -----	0.687			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1387

Specific gravity, calculated: 0.816

Remarks: W73383 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 #: 804068 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: North Rinn 24-9 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 424128   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0119			
Hydrogen -----	0.0153			
Argon -----	nd			
Oxygen -----	0.035			
Nitrogen -----	0.52			
Carbon Dioxide -----	1.03	1.9		
Methane -----	78.07	-47.9	-242	
Ethane -----	12.01	-32.9		
Ethylene -----	nd			
Propane -----	4.92	-29.3		
Propylene -----	nd			
Iso-butane -----	0.681	-31.4		
N-butane -----	1.57	-28.4		
Iso-pentane -----	0.417	-28.6		
N-pentane -----	0.434	-28.2		
Hexanes + -----	0.288			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1253

Specific gravity, calculated: 0.728

Remarks: W73581 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 #: 804069 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: North Rinn 24-9 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 424128   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0643			
Hydrogen -----	0.0206			
Argon -----	0.0115			
Oxygen -----	0.094			
Nitrogen -----	1.95			
Carbon Dioxide -----	0.006			
Methane -----	80.60	-52.2	-242	
Ethane -----	10.21	-33.4		
Ethylene -----	nd			
Propane -----	4.58	-29.6		
Propylene -----	0.0002			
Iso-butane -----	0.584	-31.5		
N-butane -----	1.17	-28.2		
Iso-pentane -----	0.255	-28.4		
N-pentane -----	0.237	-27.9		
Hexanes + -----	0.215			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1203

Specific gravity, calculated: 0.696

Remarks: W73581 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 #: 804070 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Rasmussen 0-4-19 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 419448   
 Date Sampled: 8/04/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0375			
Hydrogen -----	0.0224			
Argon -----	0.0062			
Oxygen -----	0.047			
Nitrogen -----	1.36			
Carbon Dioxide -----	0.026			
Methane -----	84.03	-52.6	-241	
Ethane -----	6.74	-35.5		
Ethylene -----	nd			
Propane -----	4.77	-31.4		
Propylene -----	nd			
Iso-butane -----	0.604	-32.2		
N-butane -----	1.19	-29.6		
Iso-pentane -----	0.325	-28.8		
N-pentane -----	0.344	-28.7		
Hexanes + -----	0.499			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1203

Specific gravity, calculated: 0.690

Remarks: W69243 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 #: 804071 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Rasmussen 0-4-19 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 419448   
 Date Sampled: 8/04/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0150			
Hydrogen -----	0.366			
Argon -----	nd			
Oxygen -----	0.039			
Nitrogen -----	0.45			
Carbon Dioxide -----	1.77	2.9		
Methane -----	77.55	-48.0	-242	
Ethane -----	11.95	-33.2		
Ethylene -----	nd			
Propane -----	4.92	-28.9		
Propylene -----	nd			
Iso-butane -----	0.659	-31.3		
N-butane -----	1.50	-28.3		
Iso-pentane -----	0.328	-28.5		
N-pentane -----	0.325	-27.9		
Hexanes + -----	0.127			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1229

Specific gravity, calculated: 0.724

Remarks: W69243 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 #: 804072 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Rasmussen 4-6-19 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 419433   
 Date Sampled: 8/04/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0284			
Hydrogen -----	0.0881			
Argon -----	nd			
Oxygen -----	0.044			
Nitrogen -----	0.86			
Carbon Dioxide -----	0.006			
Methane -----	86.64	-48.9	-243	
Ethane -----	7.26	-33.5		
Ethylene -----	nd			
Propane -----	2.59	-29.0		
Propylene -----	0.0005			
Iso-butane -----	0.378	-31.5		
N-butane -----	0.919	-27.8		
Iso-pentane -----	0.344	-28.8		
N-pentane -----	0.363	-28.0		
Hexanes + -----	0.475			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1168

Specific gravity, calculated: 0.662

Remarks: W69240 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 #: 804073 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Thomas 14-7 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 280826   
 Date Sampled: 8/03/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0300			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.051			
Nitrogen -----	1.01			
Carbon Dioxide -----	nd			
Methane -----	82.23	-50.9	-243	
Ethane -----	9.25	-34.6		
Ethylene -----	nd			
Propane -----	4.83	-30.0		
Propylene -----	nd			
Iso-butane -----	0.607	-31.6		
N-butane -----	1.25	-28.5		
Iso-pentane -----	0.292	-28.7		
N-pentane -----	0.272	-28.2		
Hexanes + -----	0.175			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1213

Specific gravity, calculated: 0.692

Remarks: C17139 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 #: 804074 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Thomas 33-7 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 291136   
 Date Sampled: 8/03/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0320			
Hydrogen -----	0.0769			
Argon -----	0.0050			
Oxygen -----	0.054			
Nitrogen -----	1.13			
Carbon Dioxide -----	0.010			
Methane -----	81.17	-50.7	-237	
Ethane -----	9.75	-33.4		
Ethylene -----	nd			
Propane -----	4.91	-29.9		
Propylene -----	nd			
Iso-butane -----	0.649	-31.6		
N-butane -----	1.30	-28.4		
Iso-pentane -----	0.321	-28.7		
N-pentane -----	0.304	-28.3		
Hexanes + -----	0.288			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1225

Specific gravity, calculated: 0.701

Remarks: C17138 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 #: 804075 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Thomas 2-8-7 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 292901   
 Date Sampled: 8/03/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0318			
Hydrogen -----	0.0386			
Argon -----	0.0056			
Oxygen -----	0.052			
Nitrogen -----	0.92			
Carbon Dioxide -----	0.009			
Methane -----	83.09	-50.3	-241	
Ethane -----	9.36	-33.6		
Ethylene -----	nd			
Propane -----	4.37	-29.9		
Propylene -----	nd			
Iso-butane -----	0.520	-31.7		
N-butane -----	1.00	-28.4		
Iso-pentane -----	0.221	-28.7		
N-pentane -----	0.195	-28.2		
Hexanes + -----	0.190			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1196

Specific gravity, calculated: 0.680

Remarks: W44164 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 #: 804076 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Thomas 2-8-7 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 292901   
 Date Sampled: 8/03/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0103			
Hydrogen -----	0.278			
Argon -----	nd			
Oxygen -----	0.039			
Nitrogen -----	0.39			
Carbon Dioxide -----	1.52	1.9		
Methane -----	77.20	-47.9	-239	
Ethane -----	12.44	-32.5		
Ethylene -----	nd			
Propane -----	5.38	-28.4		
Propylene -----	nd			
Iso-butane -----	0.702	-31.1		
N-butane -----	1.41	-27.6		
Iso-pentane -----	0.271	-28.4		
N-pentane -----	0.256	-27.3		
Hexanes + -----	0.103			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1238

Specific gravity, calculated: 0.725

Remarks: W44164 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 #: 804077 Job #: 48823 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: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0462			
Hydrogen -----	nd			
Argon -----	0.0080			
Oxygen -----	0.043			
Nitrogen -----	1.62			
Carbon Dioxide -----	0.036			
Methane -----	84.00	-53.0	-239	
Ethane -----	7.37	-35.0		
Ethylene -----	nd			
Propane -----	4.71	-30.7		
Propylene -----	nd			
Iso-butane -----	0.601	-31.9		
N-butane -----	0.998	-29.0		
Iso-pentane -----	0.209	-28.5		
N-pentane -----	0.151	-27.9		
Hexanes + -----	0.206			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1179

Specific gravity, calculated: 0.678

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 #: 804078 Job #: 48823 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: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0103			
Hydrogen -----	0.0684			
Argon -----	nd			
Oxygen -----	0.047			
Nitrogen -----	0.38			
Carbon Dioxide -----	1.72	2.6		
Methane -----	72.45	-47.7	-230	
Ethane -----	12.40	-31.8		
Ethylene -----	0.0002			
Propane -----	6.93	-29.3		
Propylene -----	nd			
Iso-butane -----	1.24	-31.3		
N-butane -----	2.80	-28.1		
Iso-pentane -----	0.837	-28.7		
N-pentane -----	0.844	-28.0		
Hexanes + -----	0.276			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1346

Specific gravity, calculated: 0.797

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 #: 804079 Job #: 48823 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: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0618			
Hydrogen -----	nd			
Argon -----	0.0112			
Oxygen -----	0.056			
Nitrogen -----	2.32			
Carbon Dioxide -----	nd			
Methane -----	84.28	-54.1	-235	
Ethane -----	6.14	-35.2		
Ethylene -----	nd			
Propane -----	4.72	-30.6		
Propylene -----	nd			
Iso-butane -----	0.727	-31.9		
N-butane -----	1.16	-29.0		
Iso-pentane -----	0.255	-28.6		
N-pentane -----	0.188	-28.1		
Hexanes + -----	0.0798			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1167

Specific gravity, calculated: 0.677

Remarks: 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 #: 804080 Job #: 48823 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: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0169			
Hydrogen -----	0.0501			
Argon -----	nd			
Oxygen -----	0.047			
Nitrogen -----	0.39			
Carbon Dioxide -----	2.84	2.1		
Methane -----	82.38	-46.1	-213	
Ethane -----	9.21	-29.1		
Ethylene -----	0.0001			
Propane -----	2.74	-26.4		
Propylene -----	nd			
Iso-butane -----	0.492	-28.1		
N-butane -----	0.811	-26.8		
Iso-pentane -----	0.321	-27.7		
N-pentane -----	0.309	-27.3		
Hexanes + -----	0.389			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1156

Specific gravity, calculated: 0.695

Remarks: 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 #: 804081 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: William Peltier 1A-20H / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 422535   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0124			
Hydrogen -----	0.187			
Argon -----	nd			
Oxygen -----	0.042			
Nitrogen -----	0.43			
Carbon Dioxide -----	1.44	2.3		
Methane -----	78.16	-47.8	-238	
Ethane -----	12.62	-32.1		
Ethylene -----	0.0031			
Propane -----	5.34	-28.2		
Propylene -----	nd			
Iso-butane -----	0.545	-30.9		
N-butane -----	0.961	-27.2		
Iso-pentane -----	0.127	-27.8		
N-pentane -----	0.101	-26.4		
Hexanes + -----	0.0312			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1214

Specific gravity, calculated: 0.709

Remarks: C64715 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 #: 804082 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: William Peltier 1A-20H / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 422535   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0212			
Hydrogen -----	0.0588			
Argon -----	0.0053			
Oxygen -----	0.044			
Nitrogen -----	0.84			
Carbon Dioxide -----	nd			
Methane -----	80.93	-48.9	-241	
Ethane -----	10.68	-32.4		
Ethylene -----	nd			
Propane -----	4.90	-29.0		
Propylene -----	nd			
Iso-butane -----	0.608	-31.3		
N-butane -----	1.26	-27.8		
Iso-pentane -----	0.273	-28.5		
N-pentane -----	0.247	-27.7		
Hexanes + -----	0.135			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1224

Specific gravity, calculated: 0.697

Remarks: C64715 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 #: 804083 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: William Peltier 1A-20H / Intermediate Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 422535   
 Date Sampled: 8/02/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0222			
Hydrogen -----	0.0506			
Argon -----	0.0057			
Oxygen -----	0.044			
Nitrogen -----	0.80			
Carbon Dioxide -----	0.009			
Methane -----	81.27	-49.0	-241	
Ethane -----	10.60	-32.3		
Ethylene -----	nd			
Propane -----	4.80	-28.8		
Propylene -----	nd			
Iso-butane -----	0.592	-31.3		
N-butane -----	1.22	-27.8		
Iso-pentane -----	0.255	-28.5		
N-pentane -----	0.223	-27.6		
Hexanes + -----	0.105			

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

Specific gravity, calculated: 0.693

Remarks: C64715 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 #: 804084 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wise F unit 1 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 206709   
 Date Sampled: 8/03/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.144			
Hydrogen -----	0.0142			
Argon -----	0.0225			
Oxygen -----	0.047			
Nitrogen -----	5.35			
Carbon Dioxide -----	nd			
Methane -----	91.25	-60.0	-209	
Ethane -----	1.75	-33.4		
Ethylene -----	nd			
Propane -----	0.935	-30.3		
Propylene -----	0.0001			
Iso-butane -----	0.138	-31.5		
N-butane -----	0.182	-28.9		
Iso-pentane -----	0.0497	-28.6		
N-pentane -----	0.0506	-27.9		
Hexanes + -----	0.0645			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 998

Specific gravity, calculated: 0.602

Remarks: W768320 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 #: 804085 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Crandell 0-8-26 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 417898   
 Date Sampled: 8/16/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0187			
Hydrogen -----	0.256			
Argon -----	nd			
Oxygen -----	0.035			
Nitrogen -----	0.63			
Carbon Dioxide -----	1.80	2.5		
Methane -----	79.31	-48.0	-249	
Ethane -----	10.69	-32.6		
Ethylene -----	nd			
Propane -----	4.44	-28.9		
Propylene -----	nd			
Iso-butane -----	0.577	-31.4		
N-butane -----	1.29	-28.1		
Iso-pentane -----	0.338	-28.6		
N-pentane -----	0.414	-28.3		
Hexanes + -----	0.205			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1210

Specific gravity, calculated: 0.714

Remarks: W66731 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 #: 804086 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Crandell 0-8-26 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 417898   
 Date Sampled: 8/16/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0206			
Hydrogen -----	0.0326			
Argon -----	0.0269			
Oxygen -----	0.57			
Nitrogen -----	2.70			
Carbon Dioxide -----	0.77	2.2		
Methane -----	78.53	-49.6	-244	
Ethane -----	9.75	-33.2		
Ethylene -----	nd			
Propane -----	4.76	-29.7		
Propylene -----	nd			
Iso-butane -----	0.644	-31.2		
N-butane -----	1.22	-28.8		
Iso-pentane -----	0.303	-28.3		
N-pentane -----	0.282	-28.1		
Hexanes + -----	0.395			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1195

Specific gravity, calculated: 0.717

Remarks: W66731 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 #: 804087 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Dream Weaver 3E-21H-N268 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 457513   
 Date Sampled: 8/16/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0074			
Hydrogen -----	0.315			
Argon -----	0.0125			
Oxygen -----	0.028			
Nitrogen -----	39.27			
Carbon Dioxide -----	0.13	-3.5		
Methane -----	46.89	-49.3	-249	
Ethane -----	7.59	-33.5		
Ethylene -----	0.0003			
Propane -----	3.31	-29.7		
Propylene -----	nd			
Iso-butane -----	0.458	-31.7		
N-butane -----	1.07	-28.6		
Iso-pentane -----	0.278	-28.9		
N-pentane -----	0.313	-28.1		
Hexanes + -----	0.331			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 785

Specific gravity, calculated: 0.827

Remarks: C81100 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 #: 804088 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Dream Weaver 3J-21H / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 457520   
 Date Sampled: 8/16/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0088			
Hydrogen -----	0.377			
Argon -----	0.0125			
Oxygen -----	0.11			
Nitrogen -----	10.60			
Carbon Dioxide -----	0.17	-4.0		
Methane -----	69.73	-48.2	-245	
Ethane -----	11.40	-33.1		
Ethylene -----	0.0003			
Propane -----	4.69	-29.5		
Propylene -----	nd			
Iso-butane -----	0.628	-31.8		
N-butane -----	1.41	-28.4		
Iso-pentane -----	0.345	-29.1		
N-pentane -----	0.329	-28.7		
Hexanes + -----	0.185			

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

Specific gravity, calculated: 0.746

Remarks: C81105 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 #: 804089 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Haley G unit 1 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 206608   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0213			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.029			
Nitrogen -----	0.81			
Carbon Dioxide -----	2.02	0.7		
Methane -----	84.51	-46.9	-224	
Ethane -----	10.46	-31.5		
Ethylene -----	nd			
Propane -----	1.20	-26.8		
Propylene -----	nd			
Iso-butane -----	0.177	-29.8		
N-butane -----	0.405	-26.9		
Iso-pentane -----	0.104	-27.5		
N-pentane -----	0.0735	-26.7		
Hexanes + -----	0.187			

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

Specific gravity, calculated: 0.656

Remarks: W768427 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 #: 804090 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Haley G unit 1 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 206608   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0548			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.029			
Nitrogen -----	1.65			
Carbon Dioxide -----	nd			
Methane -----	85.12	-52.9	-240	
Ethane -----	5.90	-34.9		
Ethylene -----	nd			
Propane -----	3.92	-31.3		
Propylene -----	nd			
Iso-butane -----	0.757	-32.4		
N-butane -----	1.67	-29.9		
Iso-pentane -----	0.386	-28.9		
N-pentane -----	0.332	-28.9		
Hexanes + -----	0.183			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1185

Specific gravity, calculated: 0.681

Remarks: W768427 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 #: 804091 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Johnson 11-12 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 300269   
 Date Sampled: 8/12/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0104			
Hydrogen -----	0.407			
Argon -----	nd			
Oxygen -----	0.034			
Nitrogen -----	0.42			
Carbon Dioxide -----	1.84	2.5		
Methane -----	74.41	-48.9	-249	
Ethane -----	13.54	-33.8		
Ethylene -----	0.0002			
Propane -----	6.01	-29.8		
Propylene -----	nd			
Iso-butane -----	0.736	-31.7		
N-butane -----	1.78	-28.4		
Iso-pentane -----	0.346	-28.6		
N-pentane -----	0.364	-28.4		
Hexanes + -----	0.100			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1266

Specific gravity, calculated: 0.748

Remarks: C763799 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 #: 804092 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Johnson 11-12 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 300269   
 Date Sampled: 8/12/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0329			
Hydrogen -----	nd			
Argon -----	0.0051			
Oxygen -----	0.036			
Nitrogen -----	1.08			
Carbon Dioxide -----	nd			
Methane -----	82.35	-51.9	-251	
Ethane -----	8.90	-36.3		
Ethylene -----	nd			
Propane -----	5.25	-31.7		
Propylene -----	nd			
Iso-butane -----	0.547	-32.6		
N-butane -----	1.08	-29.9		
Iso-pentane -----	0.241	-28.9		
N-pentane -----	0.227	-29.5		
Hexanes + -----	0.250			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1211

Specific gravity, calculated: 0.691

Remarks: C763799 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 #: 804093 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Libsack 43-27 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 270165   
 Date Sampled: 8/10/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0052			
Hydrogen -----	0.114			
Argon -----	nd			
Oxygen -----	0.050			
Nitrogen -----	0.25			
Carbon Dioxide -----	2.75	3.0		
Methane -----	75.77	-45.7	-223	
Ethane -----	12.02	-29.4		
Ethylene -----	0.0013			
Propane -----	4.96	-25.8		
Propylene -----	nd			
Iso-butane -----	0.872	-29.5		
N-butane -----	1.78	-25.7		
Iso-pentane -----	0.573	-27.5		
N-pentane -----	0.569	-25.2		
Hexanes + -----	0.281			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1256

Specific gravity, calculated: 0.755

Remarks: W1035 18503

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 #: 804094 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Libsack 43-27 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 270165   
 Date Sampled: 8/10/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0161			
Hydrogen -----	0.109			
Argon -----	nd			
Oxygen -----	0.047			
Nitrogen -----	0.82			
Carbon Dioxide -----	0.043			
Methane -----	78.95	-49.1	-236	
Ethane -----	10.81	-33.0		
Ethylene -----	nd			
Propane -----	5.96	-29.1		
Propylene -----	nd			
Iso-butane -----	0.827	-30.9		
N-butane -----	1.37	-27.6		
Iso-pentane -----	0.379	-28.5		
N-pentane -----	0.311	-27.0		
Hexanes + -----	0.359			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1262

Specific gravity, calculated: 0.721

Remarks: W1035 18503

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 #: 804095 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Ogren 1 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 206563   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0134			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.035			
Nitrogen -----	0.35			
Carbon Dioxide -----	2.10	2.9		
Methane -----	75.57	-46.6	-223	
Ethane -----	11.61	-31.2		
Ethylene -----	0.0001			
Propane -----	5.22	-28.3		
Propylene -----	nd			
Iso-butane -----	0.944	-30.9		
N-butane -----	2.22	-27.7		
Iso-pentane -----	0.912	-28.8		
N-pentane -----	0.882	-28.0		
Hexanes + -----	0.145			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1290

Specific gravity, calculated: 0.767

Remarks: W768238 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 #: 804096 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Ogren 1 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 206563   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0452			
Hydrogen -----	0.0170			
Argon -----	0.0069			
Oxygen -----	0.037			
Nitrogen -----	1.72			
Carbon Dioxide -----	0.019			
Methane -----	83.03	-52.9	-237	
Ethane -----	8.37	-34.5		
Ethylene -----	nd			
Propane -----	4.80	-30.2		
Propylene -----	0.0006			
Iso-butane -----	0.508	-31.6		
N-butane -----	0.903	-28.5		
Iso-pentane -----	0.211	-28.6		
N-pentane -----	0.177	-27.5		
Hexanes + -----	0.159			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1183

Specific gravity, calculated: 0.680

Remarks: W768238 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 #: 804097 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Rasmussen 12-28 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 266406   
 Date Sampled: 8/16/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0105			
Hydrogen -----	0.0641			
Argon -----	nd			
Oxygen -----	0.027			
Nitrogen -----	0.47			
Carbon Dioxide -----	1.17	2.7		
Methane -----	78.19	-47.9	-245	
Ethane -----	12.46	-33.1		
Ethylene -----	0.0002			
Propane -----	4.87	-29.5		
Propylene -----	nd			
Iso-butane -----	0.608	-31.7		
N-butane -----	1.35	-28.3		
Iso-pentane -----	0.287	-28.7		
N-pentane -----	0.288	-28.2		
Hexanes + -----	0.201			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1236

Specific gravity, calculated: 0.719

Remarks: C763587 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 #: 804098 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Rasmussen 12-28 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 266406   
 Date Sampled: 8/16/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0130			
Hydrogen -----	2.84			
Argon -----	nd			
Oxygen -----	0.037			
Nitrogen -----	0.59			
Carbon Dioxide -----	0.77	1.1		
Methane -----	75.04	-47.9	-245	
Ethane -----	12.09	-32.5		
Ethylene -----	0.0002			
Propane -----	5.41	-29.6		
Propylene -----	nd			
Iso-butane -----	0.717	-31.9		
N-butane -----	1.55	-28.2		
Iso-pentane -----	0.332	-28.8		
N-pentane -----	0.320	-27.9		
Hexanes + -----	0.287			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1237

Specific gravity, calculated: 0.714

Remarks: C763587 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 #: 804099 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Woolley 11-7 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 421621   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0089			
Hydrogen -----	0.0141			
Argon -----	nd			
Oxygen -----	0.032			
Nitrogen -----	0.35			
Carbon Dioxide -----	1.56	2.6		
Methane -----	74.43	-47.1	-238	
Ethane -----	14.13	-32.5		
Ethylene -----	0.0001			
Propane -----	6.20	-29.0		
Propylene -----	nd			
Iso-butane -----	0.881	-31.3		
N-butane -----	1.94	-28.0		
Iso-pentane -----	0.312	-28.2		
N-pentane -----	0.114	-26.7		
Hexanes + -----	0.0302			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1276

Specific gravity, calculated: 0.749

Remarks: W69512 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 #: 804100 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Woolley 11-7 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 421621   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0232			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.068			
Nitrogen -----	0.86			
Carbon Dioxide -----	nd			
Methane -----	82.25	-50.3	-245	
Ethane -----	9.32	-35.6		
Ethylene -----	nd			
Propane -----	4.64	-30.5		
Propylene -----	nd			
Iso-butane -----	0.579	-32.3		
N-butane -----	1.33	-29.3		
Iso-pentane -----	0.348	-29.1		
N-pentane -----	0.325	-29.1		
Hexanes + -----	0.256			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1220

Specific gravity, calculated: 0.695

Remarks: W69512 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 #: 804101 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Woolley 22-7 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 421629   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0199			
Hydrogen -----	nd			
Argon -----	0.0218			
Oxygen -----	0.37			
Nitrogen -----	2.03			
Carbon Dioxide -----	1.97	1.6		
Methane -----	77.56	-46.2	-212	
Ethane -----	11.25	-31.6		
Ethylene -----	0.0002			
Propane -----	4.19	-28.0		
Propylene -----	nd			
Iso-butane -----	0.611	-30.4		
N-butane -----	1.19	-27.8		
Iso-pentane -----	0.328	-28.5		
N-pentane -----	0.301	-27.7		
Hexanes + -----	0.162			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1186

Specific gravity, calculated: 0.721

Remarks: W69625 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 #: 804102 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Woolley 22-7 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 421629   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0235			
Hydrogen -----	0.0135			
Argon -----	0.0053			
Oxygen -----	0.052			
Nitrogen -----	0.76			
Carbon Dioxide -----	0.006			
Methane -----	81.70	-49.3	-243	
Ethane -----	9.97	-33.3		
Ethylene -----	nd			
Propane -----	4.77	-29.4		
Propylene -----	nd			
Iso-butane -----	0.706	-31.6		
N-butane -----	1.27	-29.0		
Iso-pentane -----	0.310	-29.0		
N-pentane -----	0.250	-29.2		
Hexanes + -----	0.168			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1223

Specific gravity, calculated: 0.695

Remarks: W69625 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 #: 804103 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Woolley 2-4-7 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 421632   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0126			
Hydrogen -----	0.0540			
Argon -----	nd			
Oxygen -----	0.037			
Nitrogen -----	0.40			
Carbon Dioxide -----	1.71	1.6		
Methane -----	74.15	-47.0	-230	
Ethane -----	13.05	-32.1		
Ethylene -----	nd			
Propane -----	6.34	-28.7		
Propylene -----	nd			
Iso-butane -----	1.10	-30.7		
N-butane -----	2.46	-27.6		
Iso-pentane -----	0.442	-28.3		
N-pentane -----	0.245	-27.2		
Hexanes + -----	0.0015			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1291

Specific gravity, calculated: 0.762

Remarks: W69632 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 #: 804104 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Woolley 2-4-7 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 421632   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0331			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.045			
Nitrogen -----	0.95			
Carbon Dioxide -----	nd			
Methane -----	80.49	-50.1	-240	
Ethane -----	10.61	-32.8		
Ethylene -----	nd			
Propane -----	5.08	-29.1		
Propylene -----	nd			
Iso-butane -----	0.662	-31.4		
N-butane -----	1.35	-28.3		
Iso-pentane -----	0.303	-28.7		
N-pentane -----	0.295	-28.5		
Hexanes + -----	0.177			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1233

Specific gravity, calculated: 0.704

Remarks: W69632 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 #: 804105 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Woolley 4-0-7 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 421635   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0260			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.036			
Nitrogen -----	0.67			
Carbon Dioxide -----	nd			
Methane -----	81.30	-49.3	-246	
Ethane -----	10.16	-33.5		
Ethylene -----	nd			
Propane -----	4.78	-29.1		
Propylene -----	nd			
Iso-butane -----	0.655	-31.3		
N-butane -----	1.42	-27.9		
Iso-pentane -----	0.370	-28.8		
N-pentane -----	0.339	-28.7		
Hexanes + -----	0.248			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1236

Specific gravity, calculated: 0.702

Remarks: W69472 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 #: 804106 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Woolley 4-0-7 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 421635   
 Date Sampled: 8/13/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0118			
Hydrogen -----	0.0795			
Argon -----	nd			
Oxygen -----	0.035			
Nitrogen -----	0.39			
Carbon Dioxide -----	1.66	2.3		
Methane -----	75.94	-47.2	-235	
Ethane -----	12.85	-32.3		
Ethylene -----	nd			
Propane -----	5.59	-28.9		
Propylene -----	nd			
Iso-butane -----	0.844	-31.4		
N-butane -----	1.91	-27.8		
Iso-pentane -----	0.466	-28.7		
N-pentane -----	0.215	-26.0		
Hexanes + -----	0.0062			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1260

Specific gravity, calculated: 0.741

Remarks: W69472 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 #: 804107 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Geist 2-4-32 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 276694   
 Date Sampled: 8/09/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0106			
Hydrogen -----	0.334			
Argon -----	nd			
Oxygen -----	0.071			
Nitrogen -----	0.47			
Carbon Dioxide -----	1.95	2.0		
Methane -----	74.43	-49.1	-251	
Ethane -----	13.29	-33.7		
Ethylene -----	0.0002			
Propane -----	6.03	-30.0		
Propylene -----	nd			
Iso-butane -----	0.732	-31.6		
N-butane -----	1.82	-28.6		
Iso-pentane -----	0.344	-28.8		
N-pentane -----	0.374	-28.6		
Hexanes + -----	0.142			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1266

Specific gravity, calculated: 0.751

Remarks: C26193 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 #: 804108 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: lone 4-4-2 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 416445   
 Date Sampled: 8/06/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0217			
Hydrogen -----	0.0204			
Argon -----	0.0066			
Oxygen -----	0.065			
Nitrogen -----	0.95			
Carbon Dioxide -----	0.063	3.6		
Methane -----	82.26	-49.8	-242	
Ethane -----	9.64	-35.1		
Ethylene -----	nd			
Propane -----	4.63	-30.6		
Propylene -----	nd			
Iso-butane -----	0.598	-32.1		
N-butane -----	1.07	-29.0		
Iso-pentane -----	0.256	-29.0		
N-pentane -----	0.192	-28.8		
Hexanes + -----	0.227			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1207

Specific gravity, calculated: 0.689

Remarks: W72058 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 #: 804109 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: lone 4-4-2 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 416445   
 Date Sampled: 8/06/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0064			
Hydrogen -----	0.111			
Argon -----	nd			
Oxygen -----	0.043			
Nitrogen -----	0.33			
Carbon Dioxide -----	2.43	3.2		
Methane -----	72.85	-47.0	-234	
Ethane -----	14.16	-31.6		
Ethylene -----	0.0002			
Propane -----	6.08	-27.8		
Propylene -----	nd			
Iso-butane -----	0.949	-30.8		
N-butane -----	2.03	-27.2		
Iso-pentane -----	0.494	-28.5		
N-pentane -----	0.444	-27.2		
Hexanes + -----	0.0739			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1286

Specific gravity, calculated: 0.769

Remarks: W72058 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 #: 804110 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: lone 4-2-10 /Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 419518   
 Date Sampled: 8/06/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0184			
Hydrogen -----	0.0171			
Argon -----	nd			
Oxygen -----	0.051			
Nitrogen -----	0.85			
Carbon Dioxide -----	0.006			
Methane -----	80.35	-50.2	-245	
Ethane -----	10.47	-35.2		
Ethylene -----	nd			
Propane -----	5.48	-30.6		
Propylene -----	nd			
Iso-butane -----	0.660	-32.0		
N-butane -----	1.32	-29.3		
Iso-pentane -----	0.294	-29.0		
N-pentane -----	0.255	-28.9		
Hexanes + -----	0.229			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1239

Specific gravity, calculated: 0.706

Remarks: W66666 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 #: 804111 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: lone 4-2-10 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 419518   
 Date Sampled: 8/06/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0170			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.046			
Nitrogen -----	0.53			
Carbon Dioxide -----	2.78	2.9		
Methane -----	79.44	-47.4	-230	
Ethane -----	11.08	-31.8		
Ethylene -----	0.0003			
Propane -----	3.48	-27.3		
Propylene -----	nd			
Iso-butane -----	0.534	-29.6		
N-butane -----	0.982	-26.8		
Iso-pentane -----	0.340	-28.1		
N-pentane -----	0.310	-27.5		
Hexanes + -----	0.460			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1189

Specific gravity, calculated: 0.716

Remarks: W66666 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 #: 804112 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: lone 6-0-2 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 414627   
 Date Sampled: 8/06/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0166			
Hydrogen -----	0.0300			
Argon -----	nd			
Oxygen -----	0.046			
Nitrogen -----	0.64			
Carbon Dioxide -----	0.010			
Methane -----	84.35	-48.5	-235	
Ethane -----	9.29	-33.5		
Ethylene -----	nd			
Propane -----	3.36	-28.9		
Propylene -----	nd			
Iso-butane -----	0.419	-31.3		
N-butane -----	0.779	-27.8		
Iso-pentane -----	0.281	-29.0		
N-pentane -----	0.242	-28.2		
Hexanes + -----	0.536			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1192

Specific gravity, calculated: 0.675

Remarks: W58480 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 #: 804113 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Ione 6-0-2 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 414627   
 Date Sampled: 8/06/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0083			
Hydrogen -----	0.769			
Argon -----	nd			
Oxygen -----	0.055			
Nitrogen -----	0.35			
Carbon Dioxide -----	2.56	3.8		
Methane -----	71.94	-47.4	-230	
Ethane -----	13.52	-31.5		
Ethylene -----	0.0003			
Propane -----	5.85	-28.1		
Propylene -----	nd			
Iso-butane -----	0.984	-30.9		
N-butane -----	2.09	-27.0		
Iso-pentane -----	0.681	-28.7		
N-pentane -----	0.691	-27.3		
Hexanes + -----	0.506			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1303

Specific gravity, calculated: 0.782

Remarks: W58480 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 #: 804114 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: lone 6-8-10 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 419791   
 Date Sampled: 8/06/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0197			
Hydrogen -----	0.0165			
Argon -----	nd			
Oxygen -----	0.053			
Nitrogen -----	0.86			
Carbon Dioxide -----	nd			
Methane -----	80.89	-50.4	-248	
Ethane -----	10.05	-35.5		
Ethylene -----	nd			
Propane -----	5.29	-31.1		
Propylene -----	nd			
Iso-butane -----	0.689	-32.5		
N-butane -----	1.41	-29.6		
Iso-pentane -----	0.325	-29.1		
N-pentane -----	0.250	-28.8		
Hexanes + -----	0.148			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1233

Specific gravity, calculated: 0.703

Remarks: W73313 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 #: 804115 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: lone 6-8-10 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 419791   
 Date Sampled: 8/06/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0127			
Hydrogen -----	0.0401			
Argon -----	0.0056			
Oxygen -----	0.044			
Nitrogen -----	0.62			
Carbon Dioxide -----	1.00	1.0		
Methane -----	80.43	-47.4	-245	
Ethane -----	10.99	-32.4		
Ethylene -----	0.0001			
Propane -----	4.26	-28.9		
Propylene -----	nd			
Iso-butane -----	0.556	-31.1		
N-butane -----	1.23	-28.4		
Iso-pentane -----	0.302	-28.9		
N-pentane -----	0.334	-28.1		
Hexanes + -----	0.180			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1213

Specific gravity, calculated: 0.703

Remarks: W73313 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 #: 804116 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Rasmussen 4-6-19 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 419433   
 Date Sampled: 8/04/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0145			
Hydrogen -----	0.352			
Argon -----	0.0055			
Oxygen -----	0.032			
Nitrogen -----	0.51			
Carbon Dioxide -----	1.32	1.0		
Methane -----	79.11	-48.3	-245	
Ethane -----	11.93	-33.5		
Ethylene -----	0.0004			
Propane -----	4.72	-29.6		
Propylene -----	nd			
Iso-butane -----	0.550	-31.7		
N-butane -----	1.16	-28.6		
Iso-pentane -----	0.156	-28.5		
N-pentane -----	0.122	-27.8		
Hexanes + -----	0.0195			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1204

Specific gravity, calculated: 0.701

Remarks: W69240 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 #: 804117 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Shaffer Newman 1-8-13 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 296095   
 Date Sampled: 8/11/2021 13:34 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0096			
Hydrogen -----	0.576			
Argon -----	0.0085			
Oxygen -----	0.18			
Nitrogen -----	0.61			
Carbon Dioxide -----	1.89	2.6		
Methane -----	75.93	-47.7	-236	
Ethane -----	12.78	-32.1		
Ethylene -----	0.0001			
Propane -----	5.31	-28.3		
Propylene -----	nd			
Iso-butane -----	0.658	-31.4		
N-butane -----	1.41	-27.5		
Iso-pentane -----	0.269	-28.6		
N-pentane -----	0.276	-27.7		
Hexanes + -----	0.0907			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1229

Specific gravity, calculated: 0.729

Remarks: W49984 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 #: 804118 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Shaffer Newman 1-8-13/ Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 296095   
 Date Sampled: 8/11/2021 13:30 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0477			
Hydrogen -----	nd			
Argon -----	0.0684			
Oxygen -----	1.58			
Nitrogen -----	6.60			
Carbon Dioxide -----	0.016			
Methane -----	79.92	-53.0	-233	
Ethane -----	6.17	-33.8		
Ethylene -----	nd			
Propane -----	3.74	-30.1		
Propylene -----	nd			
Iso-butane -----	0.523	-31.6		
N-butane -----	0.936	-29.0		
Iso-pentane -----	0.189	-28.7		
N-pentane -----	0.152	-28.4		
Hexanes + -----	0.0593			

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

Specific gravity, calculated: 0.686

Remarks: W49984 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 #: 804119 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Shaffer Newman 24-13 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 295524   
 Date Sampled: 8/11/2021 12:54 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0094			
Hydrogen -----	0.0481			
Argon -----	0.0111			
Oxygen -----	0.24			
Nitrogen -----	0.72			
Carbon Dioxide -----	1.89	2.1		
Methane -----	74.09	-47.5	-235	
Ethane -----	13.18	-31.6		
Ethylene -----	0.0002			
Propane -----	5.97	-28.1		
Propylene -----	nd			
Iso-butane -----	0.882	-31.0		
N-butane -----	2.02	-27.3		
Iso-pentane -----	0.445	-28.3		
N-pentane -----	0.425	-27.5		
Hexanes + -----	0.0671			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1272

Specific gravity, calculated: 0.759

Remarks: W49983 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 #: 804120 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Shaffer Newman 24-13 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 295524   
 Date Sampled: 8/11/2021 12:47 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0809			
Hydrogen -----	nd			
Argon -----	0.0356			
Oxygen -----	0.45			
Nitrogen -----	4.65			
Carbon Dioxide -----	0.012			
Methane -----	91.03	-57.8	-218	
Ethane -----	2.17	-34.0		
Ethylene -----	nd			
Propane -----	0.985	-30.2		
Propylene -----	nd			
Iso-butane -----	0.241	-32.2		
N-butane -----	0.218	-29.1		
Iso-pentane -----	0.0638	-28.9		
N-pentane -----	0.0381	-28.5		
Hexanes + -----	0.0271			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1007

Specific gravity, calculated: 0.605

Remarks: W49983 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 #: 804121 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Thomas 33-7 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 291136   
 Date Sampled: 8/03/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0114			
Hydrogen -----	0.0535			
Argon -----	nd			
Oxygen -----	0.056			
Nitrogen -----	0.44			
Carbon Dioxide -----	1.44	1.3		
Methane -----	77.05	-47.8	-242	
Ethane -----	11.92	-32.2		
Ethylene -----	0.0002			
Propane -----	5.17	-28.4		
Propylene -----	nd			
Iso-butane -----	0.735	-31.3		
N-butane -----	1.77	-27.6		
Iso-pentane -----	0.458	-28.7		
N-pentane -----	0.499	-28.0		
Hexanes + -----	0.396			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1265

Specific gravity, calculated: 0.742

Remarks: C17138 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 #: 804122 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wigget 12-13 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 295239   
 Date Sampled: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0588			
Hydrogen -----	nd			
Argon -----	0.0068			
Oxygen -----	0.043			
Nitrogen -----	1.95			
Carbon Dioxide -----	nd			
Methane -----	81.62	-52.7	-236	
Ethane -----	8.56	-34.1		
Ethylene -----	nd			
Propane -----	4.92	-29.9		
Propylene -----	nd			
Iso-butane -----	0.665	-31.6		
N-butane -----	1.33	-28.4		
Iso-pentane -----	0.322	-28.9		
N-pentane -----	0.303	-28.1		
Hexanes + -----	0.222			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1206

Specific gravity, calculated: 0.698

Remarks: W64313 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 #: 804123 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wigget 12-13 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 295239   
 Date Sampled: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0109			
Hydrogen -----	0.487			
Argon -----	nd			
Oxygen -----	0.040			
Nitrogen -----	0.48			
Carbon Dioxide -----	1.61	0.2		
Methane -----	75.10	-47.6	-232	
Ethane -----	12.22	-31.8		
Ethylene -----	nd			
Propane -----	5.59	-28.4		
Propylene -----	nd			
Iso-butane -----	0.890	-30.9		
N-butane -----	2.10	-27.2		
Iso-pentane -----	0.584	-28.8		
N-pentane -----	0.599	-27.6		
Hexanes + -----	0.287			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1283

Specific gravity, calculated: 0.756

Remarks: W64313 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 #: 804124 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wigget 13-2 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 206613   
 Date Sampled: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0625			
Hydrogen -----	0.0116			
Argon -----	0.0064			
Oxygen -----	0.042			
Nitrogen -----	1.93			
Carbon Dioxide -----	0.017			
Methane -----	85.90	-52.4	-235	
Ethane -----	6.69	-33.6		
Ethylene -----	nd			
Propane -----	3.44	-29.8		
Propylene -----	nd			
Iso-butane -----	0.427	-31.4		
N-butane -----	0.849	-28.5		
Iso-pentane -----	0.196	-28.8		
N-pentane -----	0.189	-28.2		
Hexanes + -----	0.238			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1146

Specific gravity, calculated: 0.660

Remarks: W768304 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 #: 804125 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wigget 13-2 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 206613   
 Date Sampled: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0266			
Hydrogen -----	0.0325			
Argon -----	nd			
Oxygen -----	0.048			
Nitrogen -----	0.86			
Carbon Dioxide -----	0.80	1.4		
Methane -----	75.73	-50.1	-234	
Ethane -----	11.51	-32.7		
Ethylene -----	0.0004			
Propane -----	6.82	-29.5		
Propylene -----	nd			
Iso-butane -----	1.00	-31.4		
N-butane -----	2.10	-28.0		
Iso-pentane -----	0.479	-28.5		
N-pentane -----	0.421	-27.6		
Hexanes + -----	0.177			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1293

Specific gravity, calculated: 0.754

Remarks: W768304 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 #: 804126 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wigget 2-13 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 418158   
 Date Sampled: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0581			
Hydrogen -----	nd			
Argon -----	0.0059			
Oxygen -----	0.042			
Nitrogen -----	1.85			
Carbon Dioxide -----	nd			
Methane -----	84.63	-52.0	-236	
Ethane -----	6.76	-34.0		
Ethylene -----	nd			
Propane -----	3.54	-29.8		
Propylene -----	nd			
Iso-butane -----	0.520	-31.7		
N-butane -----	1.19	-28.7		
Iso-pentane -----	0.444	-29.0		
N-pentane -----	0.464	-28.4		
Hexanes + -----	0.492			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1185

Specific gravity, calculated: 0.683

Remarks: W64312 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 #: 804127 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wigget 2-13 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 418158   
 Date Sampled: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0098			
Hydrogen -----	0.895			
Argon -----	nd			
Oxygen -----	0.043			
Nitrogen -----	0.36			
Carbon Dioxide -----	1.29	2.1		
Methane -----	74.00	-48.4	-240	
Ethane -----	13.00	-32.5		
Ethylene -----	0.0001			
Propane -----	6.06	-28.5		
Propylene -----	nd			
Iso-butane -----	0.896	-31.0		
N-butane -----	2.13	-27.3		
Iso-pentane -----	0.511	-28.6		
N-pentane -----	0.519	-27.3		
Hexanes + -----	0.290			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1294

Specific gravity, calculated: 0.756

Remarks: W64312 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 #: 804128 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wigget 2-4-13 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 418147   
 Date Sampled: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0116			
Hydrogen -----	0.198			
Argon -----	nd			
Oxygen -----	0.042			
Nitrogen -----	0.39			
Carbon Dioxide -----	1.94	2.1		
Methane -----	75.38	-48.1	-235	
Ethane -----	12.51	-32.1		
Ethylene -----	nd			
Propane -----	5.72	-28.7		
Propylene -----	nd			
Iso-butane -----	0.836	-31.0		
N-butane -----	1.87	-27.6		
Iso-pentane -----	0.436	-28.6		
N-pentane -----	0.418	-27.3		
Hexanes + -----	0.249			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1269

Specific gravity, calculated: 0.751

Remarks: W64317 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 #: 804129 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wigget 2-4-13 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 418147   
 Date Sampled: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0369			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.044			
Nitrogen -----	0.97			
Carbon Dioxide -----	nd			
Methane -----	80.39	-50.7	-241	
Ethane -----	9.80	-34.1		
Ethylene -----	nd			
Propane -----	5.50	-29.6		
Propylene -----	nd			
Iso-butane -----	0.716	-31.6		
N-butane -----	1.53	-28.6		
Iso-pentane -----	0.368	-29.0		
N-pentane -----	0.351	-28.0		
Hexanes + -----	0.292			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1246

Specific gravity, calculated: 0.712

Remarks: W64317 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 #: 804130 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wigget 22-13 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 418149   
 Date Sampled: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0111			
Hydrogen -----	0.809			
Argon -----	nd			
Oxygen -----	0.043			
Nitrogen -----	0.41			
Carbon Dioxide -----	1.45	3.4		
Methane -----	74.66	-48.0	-239	
Ethane -----	12.64	-32.7		
Ethylene -----	nd			
Propane -----	5.93	-28.5		
Propylene -----	nd			
Iso-butane -----	0.868	-31.2		
N-butane -----	1.99	-27.6		
Iso-pentane -----	0.490	-28.7		
N-pentane -----	0.480	-27.3		
Hexanes + -----	0.214			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1279

Specific gravity, calculated: 0.750

Remarks: W64314 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 #: 804131 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Wigget 22-13 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 418149   
 Date Sampled: 8/05/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0774			
Hydrogen -----	0.0242			
Argon -----	0.0129			
Oxygen -----	0.10			
Nitrogen -----	2.99			
Carbon Dioxide -----	0.006			
Methane -----	82.57	-54.1	-232	
Ethane -----	7.17	-33.9		
Ethylene -----	nd			
Propane -----	4.53	-30.4		
Propylene -----	nd			
Iso-butane -----	0.611	-31.7		
N-butane -----	1.17	-28.7		
Iso-pentane -----	0.261	-28.9		
N-pentane -----	0.245	-28.6		
Hexanes + -----	0.229			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1170

Specific gravity, calculated: 0.686

Remarks: W64314 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 #: 804132 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Geist 2-4-32 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 276694   
 Date Sampled: 8/09/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0386			
Hydrogen -----	nd			
Argon -----	0.0061			
Oxygen -----	0.046			
Nitrogen -----	1.45			
Carbon Dioxide -----	0.008			
Methane -----	80.91	-51.8	-248	
Ethane -----	10.00	-34.7		
Ethylene -----	nd			
Propane -----	4.98	-30.5		
Propylene -----	nd			
Iso-butane -----	0.561	-31.9		
N-butane -----	1.21	-28.9		
Iso-pentane -----	0.251	-28.9		
N-pentane -----	0.260	-28.7		
Hexanes + -----	0.283			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1217

Specific gravity, calculated: 0.699

Remarks: C26193 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 #: 804133 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Ione 6-8-2 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 416453   
 Date Sampled: 8/27/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0154			
Hydrogen -----	0.0324			
Argon -----	0.0054			
Oxygen -----	0.045			
Nitrogen -----	0.78			
Carbon Dioxide -----	nd			
Methane -----	78.77	-49.1	-242	
Ethane -----	11.32	-33.9		
Ethylene -----	nd			
Propane -----	5.60	-29.5		
Propylene -----	nd			
Iso-butane -----	0.800	-31.3		
N-butane -----	1.56	-27.7		
Iso-pentane -----	0.440	-28.8		
N-pentane -----	0.348	-27.6		
Hexanes + -----	0.286			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1266

Specific gravity, calculated: 0.723

Remarks: W66945 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 #: 804134 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Ione 6-8-2 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 416453   
 Date Sampled: 8/27/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0077			
Hydrogen -----	0.343			
Argon -----	nd			
Oxygen -----	0.027			
Nitrogen -----	0.31			
Carbon Dioxide -----	2.20	3.0		
Methane -----	71.97	-47.8	-241	
Ethane -----	14.05	-32.6		
Ethylene -----	0.0002			
Propane -----	6.31	-28.7		
Propylene -----	nd			
Iso-butane -----	0.961	-31.1		
N-butane -----	2.24	-27.2		
Iso-pentane -----	0.617	-28.6		
N-pentane -----	0.659	-27.2		
Hexanes + -----	0.306			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1313

Specific gravity, calculated: 0.783

Remarks: W66945 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 #: 804135 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Rasmussen 19-11 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 251191   
 Date Sampled: 8/30/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0200			
Hydrogen -----	0.0124			
Argon -----	nd			
Oxygen -----	0.032			
Nitrogen -----	0.62			
Carbon Dioxide -----	nd			
Methane -----	81.60	-48.6	-244	
Ethane -----	11.10	-33.5		
Ethylene -----	nd			
Propane -----	4.69	-28.7		
Propylene -----	nd			
Iso-butane -----	0.538	-31.3		
N-butane -----	0.986	-27.5		
Iso-pentane -----	0.183	-28.7		
N-pentane -----	0.144	-27.7		
Hexanes + -----	0.0700			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1211

Specific gravity, calculated: 0.686

Remarks: C762661 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 #: 804136 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Rasmussen 19-11 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 251191   
 Date Sampled: 8/30/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0111			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.022			
Nitrogen -----	0.45			
Carbon Dioxide -----	1.33	2.5		
Methane -----	76.10	-48.1	-243	
Ethane -----	12.47	-33.6		
Ethylene -----	nd			
Propane -----	5.46	-29.3		
Propylene -----	nd			
Iso-butane -----	0.742	-31.4		
N-butane -----	1.81	-28.3		
Iso-pentane -----	0.453	-29.2		
N-pentane -----	0.536	-28.4		
Hexanes + -----	0.616			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1286

Specific gravity, calculated: 0.753

Remarks: C762661 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 #: 804137 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Ruegge 3P-4H / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 454438   
 Date Sampled: 8/23/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0541			
Hydrogen -----	0.0525			
Argon -----	0.0400			
Oxygen -----	0.055			
Nitrogen -----	4.57			
Carbon Dioxide -----	nd			
Methane -----	93.32	-52.6	-255	
Ethane -----	1.88	-34.7		
Ethylene -----	0.0002			
Propane -----	0.0223	-29.0		
Propylene -----	nd			
Iso-butane -----	0.0010			
N-butane -----	0.0002			
Iso-pentane -----	0.0001			
N-pentane -----	0.0001			
Hexanes + -----	0.0091			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 981

Specific gravity, calculated: 0.583

Remarks: C10128 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 #: 804138 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Ruegge 3P-4H / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 454438   
 Date Sampled: 8/23/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0183			
Hydrogen -----	0.366			
Argon -----	0.0061			
Oxygen -----	0.032			
Nitrogen -----	0.96			
Carbon Dioxide -----	0.24	-4.3		
Methane -----	83.49	-50.5	-266	
Ethane -----	10.81	-35.0		
Ethylene -----	0.0044			
Propane -----	3.31	-30.8		
Propylene -----	nd			
Iso-butane -----	0.205	-31.6		
N-butane -----	0.278	-28.0		
Iso-pentane -----	0.0088			
N-pentane -----	0.0063			
Hexanes + -----	0.264			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1154

Specific gravity, calculated: 0.657

Remarks: C10128 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 #: 804139 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Vessels Minerals A1 / Surface Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 250888   
 Date Sampled: 9/07/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0552			
Hydrogen -----	nd			
Argon -----	0.0107			
Oxygen -----	0.022			
Nitrogen -----	2.56			
Carbon Dioxide -----	0.32	1.2		
Methane -----	82.71	-53.6	-225	
Ethane -----	8.00	-32.5		
Ethylene -----	nd			
Propane -----	3.73	-28.7		
Propylene -----	0.0002			
Iso-butane -----	0.568	-29.9		
N-butane -----	0.856	-27.4		
Iso-pentane -----	0.288	-28.1		
N-pentane -----	0.256	-27.4		
Hexanes + -----	0.625			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1175

Specific gravity, calculated: 0.689

Remarks: W46967 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 #: 804140 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Vessels Minerals A1 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 250888   
 Date Sampled: 9/07/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0098			
Hydrogen -----	0.0745			
Argon -----	nd			
Oxygen -----	0.039			
Nitrogen -----	0.39			
Carbon Dioxide -----	2.09	4.1		
Methane -----	71.93	-48.3	-242	
Ethane -----	12.87	-32.4		
Ethylene -----	0.0001			
Propane -----	6.37	-28.8		
Propylene -----	nd			
Iso-butane -----	0.981	-31.0		
N-butane -----	2.61	-27.9		
Iso-pentane -----	0.845	-28.9		
N-pentane -----	1.16	-28.3		
Hexanes + -----	0.630			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1351

Specific gravity, calculated: 0.806

Remarks: W46967 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 #: 804141 Job #: 48823 IS-94649 Co. Job#:   
 Sample Name: Vessels Minerals 12-30 / Production Casing Co. Lab#:   
 Company: Crestone Peak Resources   
 API/Well:   
 Container: IsoTube®   
 Field/Site Name: Bradenhead Testing   
 Location:   
 Formation:   
 Sampling Point: 285991   
 Date Sampled: 9/07/2021 Date Received: 9/17/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0121			
Hydrogen -----	0.647			
Argon -----	nd			
Oxygen -----	0.017			
Nitrogen -----	0.35			
Carbon Dioxide -----	1.87	2.6		
Methane -----	70.43	-48.3	-237	
Ethane -----	12.37	-32.5		
Ethylene -----	0.0029			
Propane -----	6.84	-29.4		
Propylene -----	nd			
Iso-butane -----	1.21	-31.5		
N-butane -----	3.08	-28.4		
Iso-pentane -----	1.12	-29.4		
N-pentane -----	1.42	-28.7		
Hexanes + -----	0.636			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1386

Specific gravity, calculated: 0.823

Remarks: W34687 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. %.