

Lab #: 785235 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Anderson Trust 1A / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 244196
 Date Sampled: 1/27/2021 13:40 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0428			
Hydrogen -----	nd			
Argon -----	0.0224			
Oxygen -----	0.46			
Nitrogen -----	3.02			
Carbon Dioxide -----	0.13	-11.9		
Methane -----	80.62	-53.4	-236	
Ethane -----	8.27	-34.1		
Ethylene -----	nd			
Propane -----	5.11	-30.3		
Propylene -----	nd			
Iso-butane -----	0.634	-31.8		
N-butane -----	1.28	-28.6		
Iso-pentane -----	0.219	-28.2		
N-pentane -----	0.195	-28.1		
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1174

Specific gravity, calculated: 0.696

Remarks: 16192494.1 9728

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 #: 785236 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Anderson Trust 2A / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 244296
 Date Sampled: 1/28/2021 9:35 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0252			
Hydrogen -----	nd			
Argon -----	0.228			
Oxygen -----	5.21			
Nitrogen -----	19.97			
Carbon Dioxide -----	0.14	-10.4		
Methane -----	61.08	-52.6	-241	
Ethane -----	7.67	-33.8		
Ethylene -----	nd			
Propane -----	4.33	-30.0		
Propylene -----	nd			
Iso-butane -----	0.440	-31.6		
N-butane -----	0.792	-28.5		
Iso-pentane -----	0.0723	-27.9		
N-pentane -----	0.0424	-27.3		
Hexanes + -----	0.0006			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 910

Specific gravity, calculated: 0.768

Remarks: 16192292 9728

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 #: 785237 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Bailey 42-12 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 283757
 Date Sampled: 12/30/2020 15:30 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0150			
Hydrogen -----	0.0143			
Argon -----	0.567			
Oxygen -----	12.74			
Nitrogen -----	47.83			
Carbon Dioxide -----	0.052	-12.6		
Methane -----	33.36	-49.8	-242	
Ethane -----	3.08	-33.3		
Ethylene -----	nd			
Propane -----	1.57	-30.0		
Propylene -----	nd			
Iso-butane -----	0.245	-31.9		
N-butane -----	0.382	-28.8		
Iso-pentane -----	0.0738	-28.4		
N-pentane -----	0.0558	-27.9		
Hexanes + -----	0.0184			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 459

Specific gravity, calculated: 0.869

Remarks: W49890 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 #: 785238 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Barb LTD B unit 1 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 242968
 Date Sampled: 1/28/2021 14:35 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0111			
Hydrogen -----	nd			
Argon -----	0.0304			
Oxygen -----	0.67			
Nitrogen -----	2.46			
Carbon Dioxide -----	2.07	2.5		
Methane -----	70.72	-47.9	-237	
Ethane -----	12.34	-31.4		
Ethylene -----	nd			
Propane -----	6.41	-28.5		
Propylene -----	nd			
Iso-butane -----	1.03	-31.2		
N-butane -----	2.61	-27.5		
Iso-pentane -----	0.869	-28.2		
N-pentane -----	0.772	-26.8		
Hexanes + -----	0.0115			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1287

Specific gravity, calculated: 0.795

Remarks: W768292 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 #: 785239 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Barb LTD B unit 1 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 242968
 Date Sampled: 1/28/2021 14:30 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0342			
Hydrogen -----	nd			
Argon -----	0.223			
Oxygen -----	5.11			
Nitrogen -----	19.71			
Carbon Dioxide -----	0.030			
Methane -----	62.17	-49.1	-237	
Ethane -----	7.44	-32.1		
Ethylene -----	nd			
Propane -----	3.52	-29.0		
Propylene -----	nd			
Iso-butane -----	0.433	-31.8		
N-butane -----	0.874	-28.0		
Iso-pentane -----	0.178	-28.5		
N-pentane -----	0.183	-27.8		
Hexanes + -----	0.0942			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 914

Specific gravity, calculated: 0.764

Remarks: W768292 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 #: 785240 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Branch 0-6-23 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 286189
 Date Sampled: 12/29/2020 16:20 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	0.763			
Oxygen -----	17.10			
Nitrogen -----	64.84			
Carbon Dioxide -----	0.46	2.0		
Methane -----	14.41	-45.6	-226	
Ethane -----	1.91	-29.6		
Ethylene -----	nd			
Propane -----	0.382	-25.5		
Propylene -----	nd			
Iso-butane -----	0.0306	-29.3		
N-butane -----	0.0529	-25.8		
Iso-pentane -----	0.0266	-27.8		
N-pentane -----	0.0263	-25.5		
Hexanes + -----	0.0029			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 194

Specific gravity, calculated: 0.942

Remarks: W31355 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 #: 785241 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Branch 0-6-23 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 286189
 Date Sampled: 12/29/2020 16:15 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0066			
Hydrogen -----	nd			
Argon -----	0.690			
Oxygen -----	15.50			
Nitrogen -----	57.93			
Carbon Dioxide -----	0.065	-11.9		
Methane -----	21.39	-47.6	-231	
Ethane -----	2.48	-31.2		
Ethylene -----	nd			
Propane -----	1.26	-28.2		
Propylene -----	nd			
Iso-butane -----	0.207	-30.6		
N-butane -----	0.331	-27.3		
Iso-pentane -----	0.0767	-27.8		
N-pentane -----	0.0504	-26.0		
Hexanes + -----	0.0158			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 316

Specific gravity, calculated: 0.920

Remarks: W31355 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 #: 785242 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Bury Grandell 42-23 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 414629
 Date Sampled: 1/29/2021 14:20 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0105			
Hydrogen -----	0.386			
Argon -----	0.0256			
Oxygen -----	0.60			
Nitrogen -----	2.21			
Carbon Dioxide -----	1.81	3.0		
Methane -----	71.21	-49.0	-246	
Ethane -----	13.12	-32.9		
Ethylene -----	0.0048			
Propane -----	6.90	-28.9		
Propylene -----	0.0001			
Iso-butane -----	0.911	-31.4		
N-butane -----	2.13	-28.0		
Iso-pentane -----	0.324	-28.0		
N-pentane -----	0.294	-27.7		
Hexanes + -----	0.0598			

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

Specific gravity, calculated: 0.770

Remarks: W69077 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 #: 785243 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Bury Crandell 42-23 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 414629
 Date Sampled: 1/29/2021 14:15 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0350			
Hydrogen -----	nd			
Argon -----	0.0701			
Oxygen -----	1.60			
Nitrogen -----	7.21			
Carbon Dioxide -----	0.012			
Methane -----	74.38	-51.2	-245	
Ethane -----	9.41	-33.4		
Ethylene -----	nd			
Propane -----	4.75	-29.9		
Propylene -----	nd			
Iso-butane -----	0.589	-31.9		
N-butane -----	1.27	-28.5		
Iso-pentane -----	0.265	-28.5		
N-pentane -----	0.263	-28.1		
Hexanes + -----	0.146			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1132

Specific gravity, calculated: 0.725

Remarks: W69077 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 #: 785244 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Bury Grandell 8-4-23 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 428841
 Date Sampled: 1/29/2021 14:10 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0099			
Hydrogen -----	0.935			
Argon -----	0.0094			
Oxygen -----	0.20			
Nitrogen -----	0.76			
Carbon Dioxide -----	1.85	3.1		
Methane -----	70.96	-48.8	-246	
Ethane -----	13.20	-32.7		
Ethylene -----	0.0016			
Propane -----	6.98	-29.3		
Propylene -----	nd			
Iso-butane -----	1.09	-31.6		
N-butane -----	2.74	-28.2		
Iso-pentane -----	0.561	-28.4		
N-pentane -----	0.553	-27.8		
Hexanes + -----	0.147			

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

Specific gravity, calculated: 0.784

Remarks: W68761 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 #: 785245 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Bury Grandell 8-4-23 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 428841
 Date Sampled: 1/29/2021 14:05 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0309			
Hydrogen -----	0.0852			
Argon -----	0.0358			
Oxygen -----	0.77			
Nitrogen -----	3.65			
Carbon Dioxide -----	0.009			
Methane -----	78.25	-51.0	-247	
Ethane -----	9.82	-33.7		
Ethylene -----	nd			
Propane -----	4.66	-30.0		
Propylene -----	nd			
Iso-butane -----	0.523	-32.2		
N-butane -----	1.19	-28.8		
Iso-pentane -----	0.372	-28.9		
N-pentane -----	0.379	-28.8		
Hexanes + -----	0.229			

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

Specific gravity, calculated: 0.711

Remarks: W68761 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 #: 785246 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Caldwell H unit 13-25 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 267051
 Date Sampled: 1/28/2021 10:10 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0176			
Hydrogen -----	0.126			
Argon -----	0.0082			
Oxygen -----	0.17			
Nitrogen -----	0.83			
Carbon Dioxide -----	1.49	1.5		
Methane -----	74.83	-49.3	-240	
Ethane -----	13.12	-33.0		
Ethylene -----	0.0002			
Propane -----	6.52	-29.9		
Propylene -----	nd			
Iso-butane -----	0.782	-31.7		
N-butane -----	1.67	-28.4		
Iso-pentane -----	0.227	-28.2		
N-pentane -----	0.181	-27.7		
Hexanes + -----	0.0245			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1257

Specific gravity, calculated: 0.743

Remarks: W42534 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 #: 785247 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Caldwell H unit 13-25 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 267051
 Date Sampled: 1/28/2021 10:05 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0524			
Hydrogen -----	0.0427			
Argon -----	0.0332			
Oxygen -----	0.67			
Nitrogen -----	4.26			
Carbon Dioxide -----	0.010			
Methane -----	79.29	-54.6	-235	
Ethane -----	6.73	-34.8		
Ethylene -----	nd			
Propane -----	5.55	-31.3		
Propylene -----	nd			
Iso-butane -----	0.756	-32.3		
N-butane -----	1.60	-29.5		
Iso-pentane -----	0.396	-28.6		
N-pentane -----	0.394	-28.9		
Hexanes + -----	0.217			

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

Specific gravity, calculated: 0.716

Remarks: W42534 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 #: 785248 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Canyon Creek 43-13 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 415313
 Date Sampled: 12/30/2020 10:45 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0164			
Hydrogen -----	0.0224			
Argon -----	0.0181			
Oxygen -----	0.22			
Nitrogen -----	1.36			
Carbon Dioxide -----	0.61	-2.4		
Methane -----	86.09	-46.7	-224	
Ethane -----	9.07	-30.5		
Ethylene -----	0.0010			
Propane -----	2.11	-27.7		
Propylene -----	nd			
Iso-butane -----	0.197	-29.7		
N-butane -----	0.247	-26.7		
Iso-pentane -----	0.0223	-27.6		
N-pentane -----	0.0121	-26.5		
Hexanes + -----	0.0034			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1104

Specific gravity, calculated: 0.638

Remarks: W70672 8503

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. All gas component carbon isotope values are reported on a scale defined by a two point calibration of LSVEC and NBS 19. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 785250 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Doniphan Shields 2 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 206609
 Date Sampled: 1/28/2021 13:15 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0308			
Hydrogen -----	nd			
Argon -----	0.219			
Oxygen -----	5.03			
Nitrogen -----	19.50			
Carbon Dioxide -----	0.025			
Methane -----	62.21	-52.2	-239	
Ethane -----	7.18	-33.8		
Ethylene -----	nd			
Propane -----	4.14	-30.4		
Propylene -----	nd			
Iso-butane -----	0.434	-31.9		
N-butane -----	0.871	-28.7		
Iso-pentane -----	0.161	-28.5		
N-pentane -----	0.143	-28.0		
Hexanes + -----	0.0522			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 921

Specific gravity, calculated: 0.765

Remarks: W768300 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 #: 785251 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Doniphan Shields 2 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 206609
 Date Sampled: 1/28/2021 13:10 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0117			
Hydrogen -----	0.0919			
Argon -----	0.0125			
Oxygen -----	0.26			
Nitrogen -----	0.95			
Carbon Dioxide -----	1.98	2.3		
Methane -----	74.35	-47.9	-237	
Ethane -----	12.76	-31.8		
Ethylene -----	0.0005			
Propane -----	5.76	-28.6		
Propylene -----	nd			
Iso-butane -----	0.880	-31.1		
N-butane -----	2.01	-27.9		
Iso-pentane -----	0.470	-28.4		
N-pentane -----	0.409	-27.4		
Hexanes + -----	0.0563			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1261

Specific gravity, calculated: 0.756

Remarks: W768300 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 #: 785252 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Doniphan Shields 12-11 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 289602
 Date Sampled: 12/30/2020 13:35 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0107			
Hydrogen -----	0.115			
Argon -----	0.0381			
Oxygen -----	0.85			
Nitrogen -----	3.02			
Carbon Dioxide -----	1.48	3.1		
Methane -----	71.35	-48.3	-241	
Ethane -----	12.16	-32.1		
Ethylene -----	nd			
Propane -----	6.06	-28.6		
Propylene -----	nd			
Iso-butane -----	1.01	-31.3		
N-butane -----	2.53	-27.7		
Iso-pentane -----	0.681	-28.7		
N-pentane -----	0.662	-27.5		
Hexanes + -----	0.0346			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1267

Specific gravity, calculated: 0.781

Remarks: W34888 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 #: 785254 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Doniphan Shields 32-11 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 291606
 Date Sampled: 12/30/2020 14:30 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0492			
Hydrogen -----	0.0889			
Argon -----	0.0814			
Oxygen -----	1.54			
Nitrogen -----	7.87			
Carbon Dioxide -----	0.013			
Methane -----	76.41	-52.9	-239	
Ethane -----	7.40	-34.0		
Ethylene -----	nd			
Propane -----	4.56	-30.3		
Propylene -----	nd			
Iso-butane -----	0.542	-31.9		
N-butane -----	0.938	-28.9		
Iso-pentane -----	0.223	-28.7		
N-pentane -----	0.202	-28.5		
Hexanes + -----	0.0815			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1092

Specific gravity, calculated: 0.707

Remarks: W46794 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 #: 785255 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Doniphan Shields 32-11 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 291606
 Date Sampled: 12/30/2020 14:25 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0090			
Hydrogen -----	0.0672			
Argon -----	0.0365			
Oxygen -----	0.85			
Nitrogen -----	2.93			
Carbon Dioxide -----	1.62	2.6		
Methane -----	71.00	-47.5	-238	
Ethane -----	13.47	-31.9		
Ethylene -----	0.0002			
Propane -----	6.17	-29.1		
Propylene -----	nd			
Iso-butane -----	0.931	-31.5		
N-butane -----	2.10	-27.7		
Iso-pentane -----	0.416	-28.3		
N-pentane -----	0.353	-27.5		
Hexanes + -----	0.0476			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1250

Specific gravity, calculated: 0.771

Remarks: W46794 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 #: 785258 Job #: 47090 IS-94649 Co. Job#:
 Sample Name: Grant Brothers C1 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 242745
 Date Sampled: 12/24/2020 11:30 Date Received: 3/01/2021 Date Reported: 3/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0080			
Hydrogen -----	nd			
Argon -----	0.677			
Oxygen -----	15.16			
Nitrogen -----	59.02			
Carbon Dioxide -----	0.045			
Methane -----	21.04	-50.0	-252	
Ethane -----	2.60	-34.4		
Ethylene -----	nd			
Propane -----	1.07	-30.2		
Propylene -----	nd			
Iso-butane -----	0.104	-32.0		
N-butane -----	0.209	-28.8		
Iso-pentane -----	0.0314	-28.4		
N-pentane -----	0.0257	-28.0		
Hexanes + -----	0.0128			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 299

Specific gravity, calculated: 0.916

Remarks: C762386 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. %.