

Lab #: 794238 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Barclay Crisman 2-8-20 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 286080
 Date Sampled: 5/17/2021 2:29 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0065			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	nd			
Nitrogen -----	0.35			
Carbon Dioxide -----	0.23	-3.2		
Methane -----	77.39	-47.3	-232	
Ethane -----	13.53	-30.1		
Ethylene -----	nd			
Propane -----	5.36	-26.4		
Propylene -----	nd			
Iso-butane -----	0.766	-30.4		
N-butane -----	1.53	-26.7		
Iso-pentane -----	0.331	-28.1		
N-pentane -----	0.328	-27.2		
Hexanes + -----	0.179			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1273

Specific gravity, calculated: 0.725

Remarks: W34314 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 #: 794239 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Barclay Crisman 2-8-20 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 286080
 Date Sampled: 5/17/2021 2:15 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0288			
Hydrogen -----	nd			
Argon -----	0.0093			
Oxygen -----	nd			
Nitrogen -----	1.16			
Carbon Dioxide -----	nd			
Methane -----	84.25	-50.1	-234	
Ethane -----	9.20	-32.3		
Ethylene -----	0.0002			
Propane -----	4.00	-28.3		
Propylene -----	nd			
Iso-butane -----	0.453	-31.1		
N-butane -----	0.659	-27.5		
Iso-pentane -----	0.102	-28.3		
N-pentane -----	0.0809	-27.5		
Hexanes + -----	0.0525			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1166

Specific gravity, calculated: 0.663

Remarks: W34314 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 #: 794240 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Barclay Crisman 23-20 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 251701
 Date Sampled: 5/17/2021 1:45 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0085			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.014			
Nitrogen -----	0.31			
Carbon Dioxide -----	2.32	4.3		
Methane -----	81.21	-47.5	-228	
Ethane -----	11.01	-30.7		
Ethylene -----	nd			
Propane -----	3.44	-26.7		
Propylene -----	nd			
Iso-butane -----	0.431	-30.3		
N-butane -----	0.772	-26.6		
Iso-pentane -----	0.168	-27.8		
N-pentane -----	0.162	-27.0		
Hexanes + -----	0.158			

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

Specific gravity, calculated: 0.692

Remarks: W768149 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 #: 794241 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Barclay Crisman 23-20 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 251701
 Date Sampled: 5/17/2021 1:35 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0238			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.018			
Nitrogen -----	1.00			
Carbon Dioxide -----	nd			
Methane -----	88.11	-50.7	-241	
Ethane -----	6.19	-34.6		
Ethylene -----	nd			
Propane -----	2.95	-29.1		
Propylene -----	nd			
Iso-butane -----	0.474	-31.7		
N-butane -----	0.834	-27.9		
Iso-pentane -----	0.174	-28.4		
N-pentane -----	0.133	-27.4		
Hexanes + -----	0.0942			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1138

Specific gravity, calculated: 0.644

Remarks: W768149 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 #: 794242 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Barclay Crisman 4-6-20 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 273435
 Date Sampled: 5/17/2021 12:45 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0091			
Hydrogen -----	0.0234			
Argon -----	nd			
Oxygen -----	0.015			
Nitrogen -----	0.33			
Carbon Dioxide -----	2.40	3.6		
Methane -----	77.50	-47.6	-230	
Ethane -----	12.09	-30.9		
Ethylene -----	0.0002			
Propane -----	4.70	-26.7		
Propylene -----	nd			
Iso-butane -----	0.684	-30.7		
N-butane -----	1.36	-26.6		
Iso-pentane -----	0.344	-27.7		
N-pentane -----	0.344	-27.3		
Hexanes + -----	0.200			

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

Specific gravity, calculated: 0.730

Remarks: C74839 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 #: 794243 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Barclay Crisman 4-6-20 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 273435
 Date Sampled: 5/17/2021 12:35 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0607			
Hydrogen -----	nd			
Argon -----	0.0277			
Oxygen -----	0.024			
Nitrogen -----	3.48			
Carbon Dioxide -----	nd			
Methane -----	83.03	-55.3	-245	
Ethane -----	6.40	-33.4		
Ethylene -----	nd			
Propane -----	4.80	-30.7		
Propylene -----	nd			
Iso-butane -----	0.759	-31.8		
N-butane -----	1.01	-29.9		
Iso-pentane -----	0.194	-29.0		
N-pentane -----	0.145	-28.7		
Hexanes + -----	0.0713			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1153

Specific gravity, calculated: 0.680

Remarks: C74839 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 #: 794244 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Brown 41-5 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 413191
 Date Sampled: 5/13/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0170			
Hydrogen -----	0.0545			
Argon -----	0.0351			
Oxygen -----	0.035			
Nitrogen -----	3.28			
Carbon Dioxide -----	0.014			
Methane -----	71.34	-51.2	-251	
Ethane -----	12.35	-34.8		
Ethylene -----	nd			
Propane -----	8.61	-30.4		
Propylene -----	nd			
Iso-butane -----	1.16	-32.2		
N-butane -----	2.49	-29.2		
Iso-pentane -----	0.360	-28.6		
N-pentane -----	0.242	-28.7		
Hexanes + -----	0.0126			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1307

Specific gravity, calculated: 0.776

Remarks: W56957 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 #: 794245 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Brown 41-5 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 413191
 Date Sampled: 5/13/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0227			
Hydrogen -----	nd			
Argon -----	0.0058			
Oxygen -----	0.012			
Nitrogen -----	1.33			
Carbon Dioxide -----	nd			
Methane -----	78.07	-52.9	-244	
Ethane -----	11.67	-33.6		
Ethylene -----	0.0001			
Propane -----	6.00	-30.3		
Propylene -----	nd			
Iso-butane -----	0.768	-32.0		
N-butane -----	1.40	-28.7		
Iso-pentane -----	0.268	-28.9		
N-pentane -----	0.256	-28.7		
Hexanes + -----	0.202			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1254

Specific gravity, calculated: 0.721

Remarks: W56957 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 #: 794246 Job #: 47856 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: 5/13/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0092			
Hydrogen -----	0.148			
Argon -----	nd			
Oxygen -----	0.015			
Nitrogen -----	0.34			
Carbon Dioxide -----	1.78	3.0		
Methane -----	71.86	-49.2	-243	
Ethane -----	13.11	-32.1		
Ethylene -----	nd			
Propane -----	6.61	-28.6		
Propylene -----	nd			
Iso-butane -----	1.05	-31.4		
N-butane -----	2.83	-27.8		
Iso-pentane -----	0.899	-29.3		
N-pentane -----	1.16	-28.8		
Hexanes + -----	0.190			

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

Specific gravity, calculated: 0.800

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 #: 794247 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Doniphan Shields 12-11 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 289602
 Date Sampled: 5/13/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.198			
Hydrogen -----	nd			
Argon -----	0.0249			
Oxygen -----	0.015			
Nitrogen -----	6.15			
Carbon Dioxide -----	nd			
Methane -----	91.18	-61.0	-213	
Ethane -----	1.22	-34.5		
Ethylene -----	nd			
Propane -----	0.646	-29.8		
Propylene -----	nd			
Iso-butane -----	0.157	-31.7		
N-butane -----	0.174	-28.9		
Iso-pentane -----	0.0626	-28.6		
N-pentane -----	0.0611	-28.3		
Hexanes + -----	0.109			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 983

Specific gravity, calculated: 0.601

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 #: 794248 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Dowdy 44-10 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 430093
 Date Sampled: 5/17/2021 11:10 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0078			
Hydrogen -----	0.269			
Argon -----	nd			
Oxygen -----	0.016			
Nitrogen -----	0.36			
Carbon Dioxide -----	2.08	3.2		
Methane -----	69.81	-49.6	-254	
Ethane -----	13.92	-33.5		
Ethylene -----	0.0015			
Propane -----	7.05	-29.0		
Propylene -----	nd			
Iso-butane -----	1.08	-31.9		
N-butane -----	3.02	-28.4		
Iso-pentane -----	0.989	-29.0		
N-pentane -----	1.17	-28.1		
Hexanes + -----	0.222			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1369

Specific gravity, calculated: 0.817

Remarks: W71557 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 #: 794249 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Dowdy 44-10 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 430093
 Date Sampled: 5/17/2021 11:00 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0233			
Hydrogen -----	nd			
Argon -----	0.0068			
Oxygen -----	0.017			
Nitrogen -----	1.19			
Carbon Dioxide -----	nd			
Methane -----	84.27	-53.0	-253	
Ethane -----	8.16	-36.2		
Ethylene -----	nd			
Propane -----	4.29	-31.4		
Propylene -----	nd			
Iso-butane -----	0.455	-32.6		
N-butane -----	0.819	-29.5		
Iso-pentane -----	0.185	-29.4		
N-pentane -----	0.201	-29.4		
Hexanes + -----	0.380			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1184

Specific gravity, calculated: 0.675

Remarks: W71557 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 #: 794250 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Echeverria 2L-2H / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 459169
 Date Sampled: 5/13/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0072			
Hydrogen -----	0.0261			
Argon -----	nd			
Oxygen -----	0.011			
Nitrogen -----	0.33			
Carbon Dioxide -----	1.96	4.0		
Methane -----	70.39	-49.4	-252	
Ethane -----	14.74	-33.3		
Ethylene -----	0.0026			
Propane -----	7.06	-29.3		
Propylene -----	nd			
Iso-butane -----	0.978	-31.9		
N-butane -----	2.65	-28.7		
Iso-pentane -----	1.59	-30.1		
N-pentane -----	0.149	-13.4		
Hexanes + -----	0.109			

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

Specific gravity, calculated: 0.803

Remarks: C82440 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 #: 794251 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Edith Ann Duckworth 4H-21H / Production Casir Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 434305
 Date Sampled: 5/18/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0098			
Hydrogen -----	0.0174			
Argon -----	nd			
Oxygen -----	0.010			
Nitrogen -----	0.33			
Carbon Dioxide -----	1.92	3.5		
Methane -----	71.52	-49.2	-247	
Ethane -----	14.92	-33.4		
Ethylene -----	0.0011			
Propane -----	7.12	-29.1		
Propylene -----	nd			
Iso-butane -----	0.952	-31.8		
N-butane -----	2.31	-28.3		
Iso-pentane -----	0.426	-28.6		
N-pentane -----	0.371	-27.9		
Hexanes + -----	0.0884			

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

Specific gravity, calculated: 0.780

Remarks: W75095 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 #: 794252 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Frederiksen 1B-28H-A368 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 433500
 Date Sampled: 5/13/2021 7:35 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0217			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.011			
Nitrogen -----	0.83			
Carbon Dioxide -----	nd			
Methane -----	78.87	-51.9	-261	
Ethane -----	11.12	-35.4		
Ethylene -----	nd			
Propane -----	6.24	-30.5		
Propylene -----	nd			
Iso-butane -----	0.724	-32.4		
N-butane -----	1.53	-29.0		
Iso-pentane -----	0.305	-28.6		
N-pentane -----	0.275	-28.2		
Hexanes + -----	0.0762			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1258

Specific gravity, calculated: 0.717

Remarks: W74072 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 #: 794253 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Grant Bros C unit 1 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 242745
 Date Sampled: 5/13/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0250			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.013			
Nitrogen -----	0.73			
Carbon Dioxide -----	nd			
Methane -----	81.29	-50.8	-252	
Ethane -----	10.34	-35.0		
Ethylene -----	nd			
Propane -----	5.08	-29.8		
Propylene -----	nd			
Iso-butane -----	0.608	-32.2		
N-butane -----	1.38	-28.8		
Iso-pentane -----	0.242	-28.7		
N-pentane -----	0.205	-29.5		
Hexanes + -----	0.0915			

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

Specific gravity, calculated: 0.696

Remarks: W762386 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 #: 794254 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: HWY 52 4B-32H / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 434579
 Date Sampled: 5/18/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0165			
Hydrogen -----	0.183			
Argon -----	nd			
Oxygen -----	nd			
Nitrogen -----	0.58			
Carbon Dioxide -----	1.31	3.6		
Methane -----	83.87	-50.2	-250	
Ethane -----	10.28	-33.0		
Ethylene -----	0.0027			
Propane -----	2.77	-28.4		
Propylene -----	nd			
Iso-butane -----	0.196	-31.1		
N-butane -----	0.248	-27.3		
Iso-pentane -----	0.0094			
N-pentane -----	0.0069			
Hexanes + -----	0.528			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1145

Specific gravity, calculated: 0.664

Remarks: C75960 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 #: 794255 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: HWY 52 4B-32H / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 434579
 Date Sampled: 5/18/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	0.0196			
Argon -----	nd			
Oxygen -----	0.017			
Nitrogen -----	0.30			
Carbon Dioxide -----	0.71	0.7		
Methane -----	62.89	-48.8	-245	
Ethane -----	19.84	-32.8		
Ethylene -----	0.0008			
Propane -----	10.95	-29.3		
Propylene -----	nd			
Iso-butane -----	1.49	-31.5		
N-butane -----	2.89	-27.9		
Iso-pentane -----	0.430	-28.7		
N-pentane -----	0.332	-27.5		
Hexanes + -----	0.127			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1451

Specific gravity, calculated: 0.846

Remarks: C75960 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 #: 794256 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Kugel 21-18 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 260647
 Date Sampled: 5/17/2021 8:10 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0242			
Hydrogen -----	0.0430			
Argon -----	nd			
Oxygen -----	0.015			
Nitrogen -----	0.48			
Carbon Dioxide -----	2.52	1.8		
Methane -----	82.78	-48.1	-225	
Ethane -----	10.07	-30.4		
Ethylene -----	0.0005			
Propane -----	2.70	-25.3		
Propylene -----	nd			
Iso-butane -----	0.416	-27.7		
N-butane -----	0.508	-24.5		
Iso-pentane -----	0.192	-27.3		
N-pentane -----	0.102	-25.1		
Hexanes + -----	0.150			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1137

Specific gravity, calculated: 0.678

Remarks: C762089 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 #: 794257 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Kugel 21-18 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 260647
 Date Sampled: 5/17/2021 7:45 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0269			
Hydrogen -----	nd			
Argon -----	0.0052			
Oxygen -----	0.021			
Nitrogen -----	0.86			
Carbon Dioxide -----	nd			
Methane -----	79.75	-51.2	-254	
Ethane -----	11.27	-33.9		
Ethylene -----	0.0002			
Propane -----	5.24	-30.0		
Propylene -----	nd			
Iso-butane -----	0.647	-32.0		
N-butane -----	1.45	-28.9		
Iso-pentane -----	0.289	-28.7		
N-pentane -----	0.298	-28.7		
Hexanes + -----	0.143			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1242

Specific gravity, calculated: 0.708

Remarks: C762089 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 #: 794258 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Libsack 8-6-27 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 286043
 Date Sampled: 5/17/2021 3:40 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0054			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.015			
Nitrogen -----	0.21			
Carbon Dioxide -----	2.90	4.9		
Methane -----	76.13	-46.3	-225	
Ethane -----	12.36	-29.3		
Ethylene -----	nd			
Propane -----	4.86	-25.4		
Propylene -----	nd			
Iso-butane -----	0.809	-29.7		
N-butane -----	1.57	-25.6		
Iso-pentane -----	0.473	-28.3		
N-pentane -----	0.441	-26.7		
Hexanes + -----	0.226			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1242

Specific gravity, calculated: 0.748

Remarks: W28465 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 #: 794259 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Libsack 8-6-27 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 286043
 Date Sampled: 5/17/2021 3:25 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0245			
Hydrogen -----	0.213			
Argon -----	0.0097			
Oxygen -----	0.021			
Nitrogen -----	1.37			
Carbon Dioxide -----	nd			
Methane -----	78.96	-50.9	-238	
Ethane -----	10.40	-33.3		
Ethylene -----	nd			
Propane -----	6.03	-28.9		
Propylene -----	nd			
Iso-butane -----	0.867	-30.9		
N-butane -----	1.36	-27.3		
Iso-pentane -----	0.324	-28.4		
N-pentane -----	0.249	-27.1		
Hexanes + -----	0.176			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1245

Specific gravity, calculated: 0.715

Remarks: W28465 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 #: 794260 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Oster 43-28 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 270827
 Date Sampled: 5/14/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0113			
Hydrogen -----	2.55			
Argon -----	nd			
Oxygen -----	0.014			
Nitrogen -----	0.30			
Carbon Dioxide -----	0.035			
Methane -----	82.48	-45.2	-205	
Ethane -----	9.24	-28.0		
Ethylene -----	nd			
Propane -----	2.94	-26.0		
Propylene -----	nd			
Iso-butane -----	0.567	-29.1		
N-butane -----	0.981	-25.2		
Iso-pentane -----	0.369	-27.5		
N-pentane -----	0.261	-25.6		
Hexanes + -----	0.251			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1172

Specific gravity, calculated: 0.657

Remarks: W46972 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 #: 794261 Job #: 47856 IS-94649 Co. Job#:
 Sample Name: Oster 43-28 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 270827
 Date Sampled: 5/14/2021 Date Received: 6/02/2021 Date Reported: 6/21/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0102			
Hydrogen -----	0.0557			
Argon -----	nd			
Oxygen -----	0.014			
Nitrogen -----	0.42			
Carbon Dioxide -----	2.45	4.5		
Methane -----	79.57	-46.3	-216	
Ethane -----	10.49	-28.3		
Ethylene -----	nd			
Propane -----	3.91	-26.0		
Propylene -----	nd			
Iso-butane -----	0.716	-29.5		
N-butane -----	1.12	-25.5		
Iso-pentane -----	0.507	-27.6		
N-pentane -----	0.504	-26.1		
Hexanes + -----	0.233			

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

Specific gravity, calculated: 0.720

Remarks: W46972 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. %.