

Lab #: 808241 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Branch 0-6-23 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 286189
 Date Sampled: 9/21/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0216			
Hydrogen -----	nd			
Argon -----	0.0091			
Oxygen -----	0.093			
Nitrogen -----	1.26			
Carbon Dioxide -----	0.017			
Methane -----	82.27	-48.8	-232	
Ethane -----	9.21	-32.1		
Ethylene -----	nd			
Propane -----	4.47	-28.5		
Propylene -----	nd			
Iso-butane -----	0.713	-30.8		
N-butane -----	1.18	-27.4		
Iso-pentane -----	0.319	-28.2		
N-pentane -----	0.240	-26.5		
Hexanes + -----	0.196			

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

Specific gravity, calculated: 0.691

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 #: 808242 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Branch 0-6-23 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 286189
 Date Sampled: 9/21/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0065			
Hydrogen -----	0.0537			
Argon -----	nd			
Oxygen -----	0.031			
Nitrogen -----	0.27			
Carbon Dioxide -----	2.56	2.9		
Methane -----	75.86	-46.2	-230	
Ethane -----	12.00	-30.2		
Ethylene -----	0.0007			
Propane -----	4.97	-26.7		
Propylene -----	nd			
Iso-butane -----	0.855	-29.9		
N-butane -----	1.77	-26.1		
Iso-pentane -----	0.620	-28.0		
N-pentane -----	0.634	-26.7		
Hexanes + -----	0.374			

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

Specific gravity, calculated: 0.757

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 #: 808243 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Deason 4-4-36 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 425281
 Date Sampled: 9/24/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0120			
Hydrogen -----	0.113			
Argon -----	nd			
Oxygen -----	0.025			
Nitrogen -----	0.38			
Carbon Dioxide -----	1.60	2.1		
Methane -----	72.39	-48.5	-244	
Ethane -----	13.36	-33.3		
Ethylene -----	0.0001			
Propane -----	7.72	-30.2		
Propylene -----	nd			
Iso-butane -----	1.14	-31.9		
N-butane -----	2.85	-28.8		
Iso-pentane -----	0.314	-27.8		
N-pentane -----	0.0926	-25.9		
Hexanes + -----	0.0020			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1317

Specific gravity, calculated: 0.776

Remarks: W71123 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 #: 808244 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Deason 4-4-36 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 425281
 Date Sampled: 9/24/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0302			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.048			
Nitrogen -----	1.03			
Carbon Dioxide -----	nd			
Methane -----	82.11	-51.3	-252	
Ethane -----	9.62	-35.0		
Ethylene -----	nd			
Propane -----	4.83	-30.5		
Propylene -----	nd			
Iso-butane -----	0.535	-32.0		
N-butane -----	1.17	-29.0		
Iso-pentane -----	0.237	-28.8		
N-pentane -----	0.223	-28.8		
Hexanes + -----	0.162			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1209

Specific gravity, calculated: 0.689

Remarks: W71123 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 #: 808245 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Doniphan Shields 32-11 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 291606
 Date Sampled: 9/27/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0092			
Hydrogen -----	0.133			
Argon -----	nd			
Oxygen -----	0.024			
Nitrogen -----	0.32			
Carbon Dioxide -----	1.60	2.4		
Methane -----	71.69	-47.7	-241	
Ethane -----	13.88	-32.5		
Ethylene -----	0.0002			
Propane -----	6.56	-29.2		
Propylene -----	nd			
Iso-butane -----	1.08	-31.5		
N-butane -----	2.70	-28.1		
Iso-pentane -----	0.797	-28.5		
N-pentane -----	0.889	-27.9		
Hexanes + -----	0.313			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1349

Specific gravity, calculated: 0.796

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 #: 808246 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Doniphan Shields 32-11 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 291606
 Date Sampled: 9/27/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0444			
Hydrogen -----	0.0535			
Argon -----	0.0121			
Oxygen -----	0.17			
Nitrogen -----	1.71			
Carbon Dioxide -----	0.013			
Methane -----	80.27	-52.5	-242	
Ethane -----	8.67	-34.5		
Ethylene -----	nd			
Propane -----	5.83	-30.5		
Propylene -----	nd			
Iso-butane -----	0.784	-31.9		
N-butane -----	1.65	-29.1		
Iso-pentane -----	0.333	-28.7		
N-pentane -----	0.302	-28.8		
Hexanes + -----	0.157			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1230

Specific gravity, calculated: 0.712

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 #: 808247 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Doniphan Shields 21-11 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 272864
 Date Sampled: 9/27/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0084			
Hydrogen -----	0.208			
Argon -----	nd			
Oxygen -----	0.019			
Nitrogen -----	0.55			
Carbon Dioxide -----	0.092	1.0		
Methane -----	61.81	-52.8	-247	
Ethane -----	15.03	-34.7		
Ethylene -----	nd			
Propane -----	14.34	-31.1		
Propylene -----	nd			
Iso-butane -----	2.02	-32.1		
N-butane -----	4.52	-29.2		
Iso-pentane -----	0.704	-28.4		
N-pentane -----	0.519	-27.8		
Hexanes + -----	0.177			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1534

Specific gravity, calculated: 0.891

Remarks: W19536 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 #: 808248 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Doniphan Shields 21-11 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 272864
 Date Sampled: 9/27/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.120			
Hydrogen -----	nd			
Argon -----	0.0164			
Oxygen -----	0.044			
Nitrogen -----	3.81			
Carbon Dioxide -----	0.011			
Methane -----	86.07	-56.9	-226	
Ethane -----	4.66	-34.5		
Ethylene -----	nd			
Propane -----	3.08	-30.8		
Propylene -----	nd			
Iso-butane -----	0.435	-32.1		
N-butane -----	0.921	-29.2		
Iso-pentane -----	0.243	-28.7		
N-pentane -----	0.276	-28.9		
Hexanes + -----	0.310			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1114

Specific gravity, calculated: 0.659

Remarks: W19536 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 #: 808249 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Dream Weaver South 3B-21H / Production Casi Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 457612
 Date Sampled: 9/15/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0129			
Hydrogen -----	0.0389			
Argon -----	nd			
Oxygen -----	0.022			
Nitrogen -----	0.43			
Carbon Dioxide -----	1.39	2.3		
Methane -----	75.24	-48.0	-246	
Ethane -----	12.76	-32.8		
Ethylene -----	nd			
Propane -----	5.60	-29.5		
Propylene -----	nd			
Iso-butane -----	0.801	-31.8		
N-butane -----	1.92	-28.4		
Iso-pentane -----	0.535	-28.9		
N-pentane -----	0.576	-28.5		
Hexanes + -----	0.670			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1299

Specific gravity, calculated: 0.762

Remarks: C81001 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 #: 808250 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Dream Weaver South 3H-21H / Production Capi Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 457511
 Date Sampled: 9/15/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0068			
Hydrogen -----	0.442			
Argon -----	0.0094			
Oxygen -----	nd			
Nitrogen -----	40.59			
Carbon Dioxide -----	0.035			
Methane -----	46.24	-49.8	-248	
Ethane -----	7.32	-34.1		
Ethylene -----	0.0006			
Propane -----	3.01	-29.7		
Propylene -----	nd			
Iso-butane -----	0.403	-31.9		
N-butane -----	0.965	-28.5		
Iso-pentane -----	0.248	-28.8		
N-pentane -----	0.285	-28.6		
Hexanes + -----	0.443			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 764

Specific gravity, calculated: 0.825

Remarks: C81103 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 #: 808251 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Prosper Farms 4-65 11-12 3BH / Production Ca Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 456549
 Date Sampled: 9/08/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0105			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.031			
Nitrogen -----	0.97			
Carbon Dioxide -----	2.32	1.6		
Methane -----	69.04	-51.9	-285	
Ethane -----	13.82	-36.7		
Ethylene -----	nd			
Propane -----	8.64	-31.9		
Propylene -----	nd			
Iso-butane -----	1.01	-32.6		
N-butane -----	2.87	-29.9		
Iso-pentane -----	0.499	-28.9		
N-pentane -----	0.548	-29.4		
Hexanes + -----	0.239			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1348

Specific gravity, calculated: 0.814

Remarks: C22303 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 #: 808252 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Prosper Farms 4-65 11-12 3BH / Surface Casin Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 456549
 Date Sampled: 9/08/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0063			
Hydrogen -----	0.0568			
Argon -----	nd			
Oxygen -----	0.036			
Nitrogen -----	0.64			
Carbon Dioxide -----	0.89	0.1		
Methane -----	53.46	-52.3	-287	
Ethane -----	20.04	-37.2		
Ethylene -----	nd			
Propane -----	15.91	-32.3		
Propylene -----	nd			
Iso-butane -----	1.90	-32.6		
N-butane -----	5.14	-29.8		
Iso-pentane -----	0.815	-29.2		
N-pentane -----	0.848	-29.8		
Hexanes + -----	0.262			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1618

Specific gravity, calculated: 0.957

Remarks: C22303 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 #: 808253 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Libsack 43-27 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 270165
 Date Sampled: 9/21/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	0.114			
Argon -----	nd			
Oxygen -----	0.023			
Nitrogen -----	0.20			
Carbon Dioxide -----	2.77	3.5		
Methane -----	74.73	-45.6	-226	
Ethane -----	12.19	-29.4		
Ethylene -----	0.0014			
Propane -----	5.16	-26.1		
Propylene -----	nd			
Iso-butane -----	0.940	-29.7		
N-butane -----	1.99	-25.9		
Iso-pentane -----	0.699	-27.7		
N-pentane -----	0.734	-25.9		
Hexanes + -----	0.444			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1282

Specific gravity, calculated: 0.771

Remarks: W10351 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 #: 808254 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Libsack 43-27 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 270165
 Date Sampled: 9/21/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0193			
Hydrogen -----	0.142			
Argon -----	nd			
Oxygen -----	0.020			
Nitrogen -----	0.90			
Carbon Dioxide -----	nd			
Methane -----	84.18	-49.3	-238	
Ethane -----	8.67	-33.3		
Ethylene -----	nd			
Propane -----	3.59	-29.1		
Propylene -----	nd			
Iso-butane -----	0.570	-31.0		
N-butane -----	1.02	-27.5		
Iso-pentane -----	0.317	-28.4		
N-pentane -----	0.269	-27.1		
Hexanes + -----	0.302			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1190

Specific gravity, calculated: 0.676

Remarks: W10351 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 #: 808255 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Rasmussen 19-12 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 251192
 Date Sampled: 9/27/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0224			
Hydrogen -----	0.172			
Argon -----	0.0233			
Oxygen -----	0.026			
Nitrogen -----	2.42			
Carbon Dioxide -----	0.034			
Methane -----	77.38	-48.7	-244	
Ethane -----	11.31	-33.2		
Ethylene -----	0.0014			
Propane -----	3.89	-29.6		
Propylene -----	0.0001			
Iso-butane -----	0.522	-32.0		
N-butane -----	1.83	-28.7		
Iso-pentane -----	0.843	-30.0		
N-pentane -----	0.943	-28.1		
Hexanes + -----	0.584			

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

Specific gravity, calculated: 0.739

Remarks: C762537 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 #: 808256 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Rasmussen 19-12 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 251192
 Date Sampled: 9/27/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0748			
Hydrogen -----	nd			
Argon -----	0.0161			
Oxygen -----	0.087			
Nitrogen -----	2.86			
Carbon Dioxide -----	nd			
Methane -----	85.82	-55.9	-240	
Ethane -----	4.94	-36.3		
Ethylene -----	0.0002			
Propane -----	4.14	-32.1		
Propylene -----	nd			
Iso-butane -----	0.578	-32.4		
N-butane -----	0.915	-30.3		
Iso-pentane -----	0.214	-28.8		
N-pentane -----	0.177	-29.4		
Hexanes + -----	0.176			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1136

Specific gravity, calculated: 0.664

Remarks: C762537 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 #: 808257 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Ray Nelson 4-6-32 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 296664
 Date Sampled: 9/15/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0149			
Hydrogen -----	0.0102			
Argon -----	nd			
Oxygen -----	0.021			
Nitrogen -----	0.47			
Carbon Dioxide -----	1.63	2.1		
Methane -----	77.14	-48.1	-245	
Ethane -----	12.12	-32.9		
Ethylene -----	0.0003			
Propane -----	5.28	-29.5		
Propylene -----	nd			
Iso-butane -----	0.726	-31.3		
N-butane -----	1.72	-28.4		
Iso-pentane -----	0.378	-28.6		
N-pentane -----	0.411	-28.3		
Hexanes + -----	0.0797			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1249

Specific gravity, calculated: 0.734

Remarks: W46702 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 #: 808258 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Ray Nelson 4-6-32 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 296664
 Date Sampled: 9/15/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0294			
Hydrogen -----	nd			
Argon -----	0.0979			
Oxygen -----	0.045			
Nitrogen -----	6.95			
Carbon Dioxide -----	nd			
Methane -----	75.90	-53.7	-275	
Ethane -----	8.51	-33.3		
Ethylene -----	0.0012			
Propane -----	4.53	-29.5		
Propylene -----	0.0008			
Iso-butane -----	0.822	-31.4		
N-butane -----	1.78	-28.2		
Iso-pentane -----	0.528	-28.6		
N-pentane -----	0.516	-28.1		
Hexanes + -----	0.285			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1177

Specific gravity, calculated: 0.734

Remarks: W46702 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 #: 808259 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Ross 12-19 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 422591
 Date Sampled: 9/28/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0210			
Hydrogen -----	0.119			
Argon -----	nd			
Oxygen -----	0.021			
Nitrogen -----	0.61			
Carbon Dioxide -----	1.73	2.6		
Methane -----	77.35	-48.6	-239	
Ethane -----	11.52	-32.8		
Ethylene -----	nd			
Propane -----	5.04	-29.1		
Propylene -----	nd			
Iso-butane -----	0.767	-31.0		
N-butane -----	1.78	-28.1		
Iso-pentane -----	0.466	-28.8		
N-pentane -----	0.452	-28.3		
Hexanes + -----	0.124			

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

Specific gravity, calculated: 0.735

Remarks: W68762 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 #: 808260 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Ross 12-19 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 422591
 Date Sampled: 9/28/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0564			
Hydrogen -----	nd			
Argon -----	0.0080			
Oxygen -----	0.055			
Nitrogen -----	2.14			
Carbon Dioxide -----	0.33	3.4		
Methane -----	82.72	-53.7	-234	
Ethane -----	7.10	-34.1		
Ethylene -----	nd			
Propane -----	4.43	-31.1		
Propylene -----	nd			
Iso-butane -----	0.847	-32.3		
N-butane -----	1.28	-29.9		
Iso-pentane -----	0.375	-29.1		
N-pentane -----	0.337	-29.4		
Hexanes + -----	0.318			

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

Specific gravity, calculated: 0.696

Remarks: W68762 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 #: 808261 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Ross 0-2-19 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 422598
 Date Sampled: 9/28/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0097			
Hydrogen -----	1.22			
Argon -----	nd			
Oxygen -----	0.025			
Nitrogen -----	0.36			
Carbon Dioxide -----	1.67	1.8		
Methane -----	73.04	-48.9	-246	
Ethane -----	13.54	-33.6		
Ethylene -----	nd			
Propane -----	6.23	-29.8		
Propylene -----	nd			
Iso-butane -----	0.818	-31.7		
N-butane -----	2.03	-28.1		
Iso-pentane -----	0.410	-29.5		
N-pentane -----	0.447	-28.3		
Hexanes + -----	0.203			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1282

Specific gravity, calculated: 0.755

Remarks: W69080 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 #: 808262 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Ross 0-2-19 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 422598
 Date Sampled: 9/28/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0569			
Hydrogen -----	nd			
Argon -----	0.0132			
Oxygen -----	0.043			
Nitrogen -----	2.14			
Carbon Dioxide -----	0.077	2.6		
Methane -----	82.10	-52.7	-245	
Ethane -----	8.26	-34.4		
Ethylene -----	nd			
Propane -----	4.40	-30.3		
Propylene -----	nd			
Iso-butane -----	0.684	-31.9		
N-butane -----	1.24	-28.8		
Iso-pentane -----	0.352	-28.8		
N-pentane -----	0.351	-28.7		
Hexanes + -----	0.285			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1197

Specific gravity, calculated: 0.695

Remarks: W69080 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 #: 808263 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Williams 33-18 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 288212
 Date Sampled: 9/16/2021 12:11 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0144			
Hydrogen -----	0.430			
Argon -----	nd			
Oxygen -----	0.031			
Nitrogen -----	0.49			
Carbon Dioxide -----	1.49	0.6		
Methane -----	72.99	-49.0	-246	
Ethane -----	13.56	-33.7		
Ethylene -----	nd			
Propane -----	6.40	-29.5		
Propylene -----	nd			
Iso-butane -----	0.898	-31.5		
N-butane -----	2.20	-28.0		
Iso-pentane -----	0.517	-28.6		
N-pentane -----	0.588	-28.2		
Hexanes + -----	0.393			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1311

Specific gravity, calculated: 0.772

Remarks: W32985 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 #: 808264 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Wardell 6-4-7 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 286099
 Date Sampled: 9/07/2021 16:00 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0134			
Hydrogen -----	0.158			
Argon -----	0.0061			
Oxygen -----	0.042			
Nitrogen -----	0.62			
Carbon Dioxide -----	1.18	1.6		
Methane -----	78.63	-48.8	-253	
Ethane -----	12.66	-33.7		
Ethylene -----	0.0001			
Propane -----	5.04	-29.6		
Propylene -----	nd			
Iso-butane -----	0.490	-31.4		
N-butane -----	0.909	-28.0		
Iso-pentane -----	0.0704	-27.7		
N-pentane -----	0.0456	-27.4		
Hexanes + -----	0.135			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1208

Specific gravity, calculated: 0.703

Remarks: W30225 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 #: 808265 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Wardell 6-4-7 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 286099
 Date Sampled: 9/07/2021 16:00 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0440			
Hydrogen -----	nd			
Argon -----	0.0082			
Oxygen -----	0.058			
Nitrogen -----	1.36			
Carbon Dioxide -----	nd			
Methane -----	85.03	-52.3	-253	
Ethane -----	7.64	-36.3		
Ethylene -----	0.0002			
Propane -----	3.34	-31.4		
Propylene -----	0.0001			
Iso-butane -----	0.473	-32.5		
N-butane -----	1.21	-29.0		
Iso-pentane -----	0.312	-28.7		
N-pentane -----	0.317	-28.5		
Hexanes + -----	0.207			

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

Specific gravity, calculated: 0.671

Remarks: W30225 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 #: 808266 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Billings 2F-18H / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 431279
 Date Sampled: 9/30/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	2.63			
Argon -----	0.0449			
Oxygen -----	0.029			
Nitrogen -----	3.28			
Carbon Dioxide -----	nd			
Methane -----	93.93	-48.4	-307	
Ethane -----	0.0292	-33.5		
Ethylene -----	0.0003			
Propane -----	0.0241	-30.0		
Propylene -----	0.0002			
Iso-butane -----	0.0043			
N-butane -----	0.0117	-28.4		
Iso-pentane -----	0.0033			
N-pentane -----	0.0034			
Hexanes + -----	0.0083			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 963

Specific gravity, calculated: 0.556

Remarks: W74115 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 #: 808267 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Billings 2F-18H / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 431279
 Date Sampled: 9/30/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0244			
Hydrogen -----	0.696			
Argon -----	nd			
Oxygen -----	0.023			
Nitrogen -----	0.70			
Carbon Dioxide -----	1.08	-0.4		
Methane -----	82.95	-52.1	-263	
Ethane -----	10.81	-35.1		
Ethylene -----	0.0131			
Propane -----	2.75	-30.0		
Propylene -----	0.0001			
Iso-butane -----	0.178	-31.6		
N-butane -----	0.412	-28.2		
Iso-pentane -----	0.111	-27.9		
N-pentane -----	0.133	-27.9		
Hexanes + -----	0.122			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1141

Specific gravity, calculated: 0.659

Remarks: W74115 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 #: 808268 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Billings 2F-18H / Intermediate Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 431279
 Date Sampled: 9/30/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	0.0229			
Oxygen -----	0.45			
Nitrogen -----	1.71			
Carbon Dioxide -----	0.043			
Methane -----	97.74	-45.1	-299	
Ethane -----	0.0113			
Ethylene -----	0.0001			
Propane -----	0.0062			
Propylene -----	0.0003			
Iso-butane -----	0.0009			
N-butane -----	0.0025			
Iso-pentane -----	0.0009			
N-pentane -----	0.0013			
Hexanes + -----	0.0103			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 992

Specific gravity, calculated: 0.565

Remarks: W74115 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 #: 808269 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Oster 1 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 243296
 Date Sampled: 9/28/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0320			
Hydrogen -----	0.0276			
Argon -----	0.0130			
Oxygen -----	0.13			
Nitrogen -----	1.25			
Carbon Dioxide -----	0.15	3.7		
Methane -----	73.47	-46.6	-222	
Ethane -----	10.50	-28.8		
Ethylene -----	nd			
Propane -----	7.30	-25.6		
Propylene -----	nd			
Iso-butane -----	1.74	-29.9		
N-butane -----	3.37	-25.2		
Iso-pentane -----	0.833	-27.3		
N-pentane -----	0.745	-25.5		
Hexanes + -----	0.438			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1371

Specific gravity, calculated: 0.798

Remarks: C763104 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 #: 808270 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Oster 1 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 243296
 Date Sampled: 9/28/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0105			
Hydrogen -----	0.0516			
Argon -----	0.0450			
Oxygen -----	0.021			
Nitrogen -----	3.86			
Carbon Dioxide -----	3.70	2.7		
Methane -----	79.71	-43.9	-203	
Ethane -----	7.93	-27.7		
Ethylene -----	0.0001			
Propane -----	2.59	-25.4		
Propylene -----	nd			
Iso-butane -----	0.497	-28.5		
N-butane -----	0.774	-25.1		
Iso-pentane -----	0.306	-27.6		
N-pentane -----	0.239	-26.0		
Hexanes + -----	0.264			

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

Specific gravity, calculated: 0.705

Remarks: C763104 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 #: 808271 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Oster 43-28 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 270827
 Date Sampled: 9/28/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0145			
Hydrogen -----	0.484			
Argon -----	0.0052			
Oxygen -----	0.030			
Nitrogen -----	0.64			
Carbon Dioxide -----	0.009			
Methane -----	79.91	-47.4	-228	
Ethane -----	10.13	-31.0		
Ethylene -----	nd			
Propane -----	4.90	-27.5		
Propylene -----	nd			
Iso-butane -----	0.888	-30.2		
N-butane -----	1.65	-26.6		
Iso-pentane -----	0.500	-27.8		
N-pentane -----	0.464	-26.3		
Hexanes + -----	0.377			

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

Specific gravity, calculated: 0.716

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 #: 808272 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Oster 43-28 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 270827
 Date Sampled: 9/28/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0097			
Hydrogen -----	0.0638			
Argon -----	nd			
Oxygen -----	0.020			
Nitrogen -----	0.41			
Carbon Dioxide -----	2.54	3.1		
Methane -----	79.72	-44.9	-213	
Ethane -----	10.29	-28.5		
Ethylene -----	nd			
Propane -----	3.82	-25.9		
Propylene -----	nd			
Iso-butane -----	0.708	-29.4		
N-butane -----	1.13	-25.3		
Iso-pentane -----	0.504	-27.7		
N-pentane -----	0.501	-26.2		
Hexanes + -----	0.280			

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

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. %.

Lab #: 808273 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Ross 2-4-19 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 422594
 Date Sampled: 9/28/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0122			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.020			
Nitrogen -----	0.42			
Carbon Dioxide -----	0.95	2.9		
Methane -----	76.85	-47.8	-242	
Ethane -----	13.32	-32.9		
Ethylene -----	nd			
Propane -----	5.42	-29.4		
Propylene -----	nd			
Iso-butane -----	0.671	-31.6		
N-butane -----	1.55	-28.0		
Iso-pentane -----	0.324	-28.8		
N-pentane -----	0.357	-28.2		
Hexanes + -----	0.102			

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

Specific gravity, calculated: 0.730

Remarks: W68763 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 #: 808274 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Wardell B unit 1 / Production Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 245049
 Date Sampled: 9/29/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0124			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.018			
Nitrogen -----	0.35			
Carbon Dioxide -----	3.11	2.2		
Methane -----	80.79	-46.5	-222	
Ethane -----	9.92	-31.4		
Ethylene -----	0.0003			
Propane -----	3.57	-27.5		
Propylene -----	nd			
Iso-butane -----	0.560	-29.8		
N-butane -----	0.869	-25.8		
Iso-pentane -----	0.310	-27.9		
N-pentane -----	0.220	-26.3		
Hexanes + -----	0.270			

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

Specific gravity, calculated: 0.706

Remarks: W768391 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 #: 808275 Job #: 49209 IS-94649 Co. Job#:
 Sample Name: Wardell B unit 1 / Surface Casing Co. Lab#:
 Company: Civitas - Crestone Peak
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 245049
 Date Sampled: 9/29/2021 Date Received: 11/01/2021 Date Reported: 11/29/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0116			
Hydrogen -----	0.0499			
Argon -----	0.0368			
Oxygen -----	0.87			
Nitrogen -----	3.49			
Carbon Dioxide -----	2.67	2.2		
Methane -----	76.85	-46.9	-224	
Ethane -----	9.56	-31.6		
Ethylene -----	0.0003			
Propane -----	3.72	-27.8		
Propylene -----	nd			
Iso-butane -----	0.622	-30.1		
N-butane -----	1.05	-26.3		
Iso-pentane -----	0.399	-28.0		
N-pentane -----	0.295	-26.4		
Hexanes + -----	0.373			

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

Specific gravity, calculated: 0.728

Remarks: W768391 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. %.