

Lab #: 792568 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: AA 12-8 / Production Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 267878
 Date Sampled: 4/27/2021 7:30 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0060			
Hydrogen -----	0.442			
Argon -----	nd			
Oxygen -----	nd			
Nitrogen -----	0.20			
Carbon Dioxide -----	3.07	4.1		
Methane -----	74.85	-46.9	-219	
Ethane -----	12.05	-29.1		
Ethylene -----	nd			
Propane -----	4.83	-25.9		
Propylene -----	nd			
Iso-butane -----	0.933	-29.3		
N-butane -----	1.86	-25.2		
Iso-pentane -----	0.715	-27.7		
N-pentane -----	0.698	-25.6		
Hexanes + -----	0.349			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1264

Specific gravity, calculated: 0.764

Remarks: 16193190.1 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 #: 792569 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: AA 12-8 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 267878
 Date Sampled: 4/27/2021 7:30 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0146			
Hydrogen -----	nd			
Argon -----	0.0071			
Oxygen -----	0.12			
Nitrogen -----	1.01			
Carbon Dioxide -----	0.009			
Methane -----	86.12	-49.9	-235	
Ethane -----	8.17	-34.5		
Ethylene -----	nd			
Propane -----	3.32	-29.0		
Propylene -----	nd			
Iso-butane -----	0.351	-31.1		
N-butane -----	0.465	-27.6		
Iso-pentane -----	0.117	-28.9		
N-pentane -----	0.0845	-27.4		
Hexanes + -----	0.214			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1148

Specific gravity, calculated: 0.652

Remarks: 16193190.1 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 #: 792570 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: Kennedy 31-21 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 276483
 Date Sampled: 5/05/2021 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0203			
Hydrogen -----	0.407			
Argon -----	nd			
Oxygen -----	0.028			
Nitrogen -----	0.45			
Carbon Dioxide -----	2.06	3.2		
Methane -----	79.31	-49.0	-235	
Ethane -----	11.23	-31.4		
Ethylene -----	0.0002			
Propane -----	4.08	-28.4		
Propylene -----	nd			
Iso-butane -----	0.525	-30.6		
N-butane -----	1.10	-27.8		
Iso-pentane -----	0.269	-28.5		
N-pentane -----	0.283	-28.3		
Hexanes + -----	0.237			

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

Specific gravity, calculated: 0.708

Remarks: W37747 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 #: 792571 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: Kennedy 31-21 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 276483
 Date Sampled: 5/05/2021 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0518			
Hydrogen -----	nd			
Argon -----	0.0086			
Oxygen -----	0.031			
Nitrogen -----	1.61			
Carbon Dioxide -----	nd			
Methane -----	83.70	-53.9	-247	
Ethane -----	7.57	-34.5		
Ethylene -----	nd			
Propane -----	4.26	-31.6		
Propylene -----	nd			
Iso-butane -----	0.688	-32.5		
N-butane -----	1.22	-29.8		
Iso-pentane -----	0.329	-29.5		
N-pentane -----	0.272	-29.5		
Hexanes + -----	0.264			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1191

Specific gravity, calculated: 0.684

Remarks: W37747 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 #: 792572 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: Kennedy 4-2-21 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 301839
 Date Sampled: 5/05/2021 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0127			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.033			
Nitrogen -----	0.55			
Carbon Dioxide -----	1.21	2.5		
Methane -----	78.82	-49.4	-251	
Ethane -----	11.41	-33.3		
Ethylene -----	nd			
Propane -----	4.67	-29.3		
Propylene -----	nd			
Iso-butane -----	0.594	-31.8		
N-butane -----	1.45	-28.4		
Iso-pentane -----	0.359	-28.9		
N-pentane -----	0.418	-28.9		
Hexanes + -----	0.473			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1243

Specific gravity, calculated: 0.725

Remarks: W50113 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 #: 792573 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: Kennedy 4-2-21 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 301839
 Date Sampled: 5/05/2021 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0343			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.035			
Nitrogen -----	1.44			
Carbon Dioxide -----	0.24	0.0		
Methane -----	79.47	-51.7	-245	
Ethane -----	10.88	-33.5		
Ethylene -----	nd			
Propane -----	4.62	-29.1		
Propylene -----	nd			
Iso-butane -----	0.614	-32.0		
N-butane -----	1.39	-28.8		
Iso-pentane -----	0.379	-29.6		
N-pentane -----	0.433	-29.5		
Hexanes + -----	0.466			

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

Specific gravity, calculated: 0.716

Remarks: W50113 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 #: 792574 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: Kennedy 8-0-21 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 418859
 Date Sampled: 5/05/2021 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0193			
Hydrogen -----	0.0431			
Argon -----	nd			
Oxygen -----	0.023			
Nitrogen -----	0.61			
Carbon Dioxide -----	1.66	2.2		
Methane -----	77.98	-48.9	-234	
Ethane -----	11.75	-31.6		
Ethylene -----	0.0020			
Propane -----	4.57	-28.4		
Propylene -----	0.0001			
Iso-butane -----	0.592	-31.8		
N-butane -----	2.02	-28.3		
Iso-pentane -----	0.438	-29.3		
N-pentane -----	0.285	-28.0		
Hexanes + -----	0.0110			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1232

Specific gravity, calculated: 0.726

Remarks: W62419 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 #: 792575 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: Kennedy 8-0-21 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 418859
 Date Sampled: 5/05/2021 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0776			
Hydrogen -----	nd			
Argon -----	0.0083			
Oxygen -----	0.016			
Nitrogen -----	2.95			
Carbon Dioxide -----	nd			
Methane -----	85.84	-57.3	-237	
Ethane -----	4.47	-34.4		
Ethylene -----	nd			
Propane -----	3.93	-32.1		
Propylene -----	nd			
Iso-butane -----	0.759	-32.5		
N-butane -----	1.17	-30.3		
Iso-pentane -----	0.314	-28.9		
N-pentane -----	0.257	-29.0		
Hexanes + -----	0.204			

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

Specific gravity, calculated: 0.670

Remarks: W62419 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 #: 792576 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: Pratt 4-2-29 / Production Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 420035
 Date Sampled: 5/05/2021 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0111			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.017			
Nitrogen -----	0.41			
Carbon Dioxide -----	2.07	2.8		
Methane -----	76.41	-48.4	-239	
Ethane -----	12.25	-31.1		
Ethylene -----	nd			
Propane -----	5.07	-29.1		
Propylene -----	nd			
Iso-butane -----	0.859	-31.3		
N-butane -----	2.10	-27.9		
Iso-pentane -----	0.416	-29.3		
N-pentane -----	0.383	-28.5		
Hexanes + -----	0.0077			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1252

Specific gravity, calculated: 0.743

Remarks: 16192027.1 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 #: 792577 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: Pratt 4-2-29 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 420035
 Date Sampled: 5/05/2021 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0179			
Hydrogen -----	0.0102			
Argon -----	nd			
Oxygen -----	0.053			
Nitrogen -----	0.87			
Carbon Dioxide -----	nd			
Methane -----	85.10	-51.2	-247	
Ethane -----	8.88	-34.1		
Ethylene -----	nd			
Propane -----	3.47	-29.1		
Propylene -----	nd			
Iso-butane -----	0.374	-31.9		
N-butane -----	0.764	-28.8		
Iso-pentane -----	0.165	-28.7		
N-pentane -----	0.153	-28.1		
Hexanes + -----	0.140			

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

Specific gravity, calculated: 0.660

Remarks: 16192027.1 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 #: 792578 Job #: 47735 IS-94649 Co. Job#:
 Sample Name: Wise F1 / Surface Casing Co. Lab#:
 Company: Crestone Peak Resources
 API/Well:
 Container: IsoTube®
 Field/Site Name: Bradenhead Testing
 Location:
 Formation:
 Sampling Point: 206709
 Date Sampled: 5/10/2021 Date Received: 5/19/2021 Date Reported: 6/17/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.154			
Hydrogen -----	0.0318			
Argon -----	0.0187			
Oxygen -----	0.023			
Nitrogen -----	5.70			
Carbon Dioxide -----	nd			
Methane -----	91.07	-61.2	-211	
Ethane -----	1.64	-33.5		
Ethylene -----	nd			
Propane -----	0.860	-29.8		
Propylene -----	0.0001			
Iso-butane -----	0.131	-31.6		
N-butane -----	0.177	-28.6		
Iso-pentane -----	0.0490	-28.4		
N-pentane -----	0.0519	-27.3		
Hexanes + -----	0.0981			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 993

Specific gravity, calculated: 0.602

Remarks: W768320 8503

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