

Lab #: 488145      Job #: 28029      IS-75758      Co. Job#:   
 Sample Name: 20150123-D31 12DBX (Production)      Co. Lab#:   
 Company: Encana Oil & Gas   
 API/Well:   
 Container: Cali-5-Bond Bag   
 Field/Site Name: D31 12DBX stray gas   
 Location: D31 595   
 Formation:   
 Sampling Point:   
 Date Sampled: 1/23/2015      Date Received: 1/30/2015      Date Reported: 3/12/2015

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	0.0829			
Oxygen -----	2.47			
Nitrogen -----	9.07			
Carbon Dioxide -----	1.52			
Methane -----	78.91	-37.78	-176.2	
Ethane -----	5.52	-26.46		
Ethylene -----	0.0002			
Propane -----	1.39	-23.52		
Propylene -----	nd			
Iso-butane -----	0.379	-23.84		
N-butane -----	0.193	-22.43		
Iso-pentane -----	0.118			
N-pentane -----	0.0696			
Hexanes + -----	0.277			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 973

Specific gravity, calculated: 0.679

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 488146      Job #: 28029      IS-75758      Co. Job#:   
 Sample Name: 20150123-D31 12DBX (Braden)      Co. Lab#:   
 Company: Encana Oil & Gas   
 API/Well:   
 Container: Cali-5-Bond Bag   
 Field/Site Name: D31 12DBX stray gas   
 Location: D31 595   
 Formation:   
 Sampling Point:   
 Date Sampled: 1/23/2015      Date Received: 1/30/2015      Date Reported: 3/12/2015

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0105			
Hydrogen -----	nd			
Argon -----	0.0292			
Oxygen -----	0.79			
Nitrogen -----	3.12			
Carbon Dioxide -----	0.22			
Methane -----	88.43	-36.37	-176.0	
Ethane -----	4.12	-29.85		
Ethylene -----	0.0002			
Propane -----	1.90	-30.14		
Propylene -----	nd			
Iso-butane -----	0.346	-28.71		
N-butane -----	0.546	-30.55		
Iso-pentane -----	0.169			
N-pentane -----	0.136			
Hexanes + -----	0.187			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1069

Specific gravity, calculated: 0.635

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 488147 Job #: 28029 IS-75758 Co. Job#:   
 Sample Name: 20150123-D31 12DBX (Surface) Co. Lab#:   
 Company: Encana Oil & Gas   
 API/Well:   
 Container: Cali-5-Bond Bag   
 Field/Site Name: D31 12DBX stray gas   
 Location: D31 595   
 Formation:   
 Sampling Point:   
 Date Sampled: 1/23/2015 Date Received: 1/30/2015 Date Reported: 3/12/2015

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0118			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.052			
Nitrogen -----	0.41			
Carbon Dioxide -----	0.005			
Methane -----	92.29	-36.25	-172.0	
Ethane -----	3.93	-30.69		
Ethylene -----	0.0002			
Propane -----	1.98	-31.05		
Propylene -----	nd			
Iso-butane -----	0.331	-29.64		
N-butane -----	0.580	-31.10		
Iso-pentane -----	0.161			
N-pentane -----	0.133			
Hexanes + -----	0.119			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1103

Specific gravity, calculated: 0.616

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.