

Lab #: 637780 Job #: 36618 IS-99404 Co. Job#: \_\_\_\_\_  
 Sample Name: Mary Belle Smith 28 #2 Alt (239295) Co. Lab#: \_\_\_\_\_  
 Company: Approach Environmental, LLC Cylinder: 3043  
 API/Well: \_\_\_\_\_  
 Container: Cylinder  
 Field/Site Name: LDNR Emergency Gas Sampling  
 Location: DeSoto Parish, LA  
 Formation: \_\_\_\_\_  
 Sampling Point: \_\_\_\_\_  
 Date Sampled: 11/09/2017 14:20 Date Received: 11/15/2017 Date Reported: 1/03/2018

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	nd			
Oxygen -----	0.026			
Nitrogen -----	0.14			
Carbon Dioxide -----	2.00			
Methane -----	92.13	-39.51	-158.1	
Ethane -----	3.80	-27.12		
Ethylene -----	nd			
Propane -----	0.927	-24.94		
Propylene -----	nd			
Iso-butane -----	0.240			
N-butane -----	0.234			
Iso-pentane -----	0.145			
N-pentane -----	0.0748			
Hexanes + -----	0.288			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1064

Specific gravity, calculated: 0.620

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 #: 637781 Job #: 36618 IS-99404 Co. Job#: \_\_\_\_\_  
 Sample Name: Sampson Est 33 #1 (229084) Co. Lab#: \_\_\_\_\_  
 Company: Approach Environmental, LLC Cylinder: 3053  
 API/Well: \_\_\_\_\_  
 Container: Cylinder  
 Field/Site Name: LDNR Emergency Gas Sampling  
 Location: DeSoto Parish, LA  
 Formation: \_\_\_\_\_  
 Sampling Point: \_\_\_\_\_  
 Date Sampled: 11/09/2017 13:55 Date Received: 11/15/2017 Date Reported: 1/03/2018

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0403			
Hydrogen -----	nd			
Argon -----	0.0074			
Oxygen -----	nd			
Nitrogen -----	2.55			
Carbon Dioxide -----	0.92			
Methane -----	95.81	-31.68	-119.3	
Ethane -----	0.410	-23.09		
Ethylene -----	nd			
Propane -----	0.0325			
Propylene -----	nd			
Iso-butane -----	0.0133			
N-butane -----	0.0142			
Iso-pentane -----	0.0069			
N-pentane -----	0.0124			
Hexanes + -----	0.188			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 990

Specific gravity, calculated: 0.581

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 #: 637782      Job #: 36618      IS-99404      Co. Job#: \_\_\_\_\_  
 Sample Name: J B Barr 28 #2 (229457)      Co. Lab#: \_\_\_\_\_  
 Company: Approach Environmental, LLC      Cylinder: 3063  
 API/Well: \_\_\_\_\_  
 Container: Cylinder  
 Field/Site Name: LDNR Emergency Gas Sampling  
 Location: DeSoto Parish, LA  
 Formation: \_\_\_\_\_  
 Sampling Point: \_\_\_\_\_  
 Date Sampled: 11/09/2017 13:25      Date Received: 11/15/2017      Date Reported: 1/03/2018

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0295			
Hydrogen -----	nd			
Argon -----	0.0060			
Oxygen -----	nd			
Nitrogen -----	2.76			
Carbon Dioxide -----	0.14			
Methane -----	93.06	-38.37	-149.7	
Ethane -----	2.51	-25.06		
Ethylene -----	nd			
Propane -----	0.784	-24.07		
Propylene -----	nd			
Iso-butane -----	0.225			
N-butane -----	0.232			
Iso-pentane -----	0.100			
N-pentane -----	0.0595			
Hexanes + -----	0.0914			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1034

Specific gravity, calculated: 0.598

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 #: 637783 Job #: 36618 IS-99404 Co. Job#: \_\_\_\_\_  
 Sample Name: Wanamaker #1 (158504) Co. Lab#: \_\_\_\_\_  
 Company: Approach Environmental, LLC Cylinder: 3073  
 API/Well: \_\_\_\_\_  
 Container: Cylinder  
 Field/Site Name: LDNR Emergency Gas Sampling  
 Location: DeSoto Parish, LA  
 Formation: \_\_\_\_\_  
 Sampling Point: \_\_\_\_\_  
 Date Sampled: 11/09/2017 14:45 Date Received: 11/15/2017 Date Reported: 1/03/2018

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{15}\text{N}$ ‰
Carbon Monoxide -----	nd			
Helium -----	0.0303			
Hydrogen -----	2.75			
Argon -----	0.0058			
Oxygen -----	nd			
Nitrogen -----	2.16			
Carbon Dioxide -----	0.008			
Methane -----	91.80	-38.74	-155.2	
Ethane -----	2.12	-25.03		
Ethylene -----	0.0001			
Propane -----	0.601	-24.23		
Propylene -----	nd			
Iso-butane -----	0.154			
N-butane -----	0.160			
Iso-pentane -----	0.0667			
N-pentane -----	0.0420			
Hexanes + -----	0.104			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1012

Specific gravity, calculated: 0.575

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. %.