



Certificate of Analysis
 Number: 2500-19050084-001A

Windsor Laboratory
 208 Main Street – Unit A
 Windsor, CO 80550

Kristy Johnson
 Sandridge
 123 Robert Skerr Ave.
 Oklahoma City, OK 73102

May 21, 2019

Station Name: Peters 0781 10-13H12
 Sample Point:
 Meter Number: CO04R0055
 Cylinder No: 2500-00487
 Analyzed: 05/16/2019 11:54:23 by James Lowe

Sampled By: MK
 Sample Of: Gas Spot
 Sample Date: 05/15/2019 08:36
 Sample Conditions: 153.96 psig, @ 74.70 °F
 Method: GPA 2286

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.73 psia		
Nitrogen	1.017	0.995		GPM TOTAL C2+	10.064
Carbon Dioxide	2.215	3.405		GPM TOTAL C3+	7.795
Methane	64.400	36.085		GPM TOTAL iC5+	2.917
Ethane	8.427	8.850	2.269		
Propane	10.426	16.058	2.892		
Iso-butane	1.316	2.672	0.434		
n-Butane	4.890	9.927	1.552		
Iso-pentane	1.334	3.362	0.491		
n-Pentane	1.593	4.014	0.581		
Hexanes Plus	4.382	14.632	1.845		
	100.000	100.000	10.064		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.9940	3.2773
Calculated Molecular Weight	28.63	94.92
Compressibility Factor	0.9931	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.73 psia & 60°F		
Real Gas Dry BTU	1621	5129
Water Sat. Gas Base BTU	1592	5039
VOC Weight Fraction	0.5067	

Comments: H2S Field Content 120+ ppm

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.



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Nitrogen	1.017	0.995		GPM TOTAL C2+	10.064
Carbon Dioxide	2.215	3.405		GPM TOTAL C3+	7.795
Methane	64.400	36.085		GPM TOTAL iC5+	2.917
Ethane	8.427	8.850	2.269		
Propane	10.426	16.058	2.892		
Iso-Butane	1.316	2.672	0.434		
n-Butane	4.890	9.927	1.552		
Iso-Pentane	1.334	3.362	0.491		
n-Pentane	1.593	4.014	0.581		
Hexanes	1.534	4.543	0.620		
Heptanes Plus	2.848	10.089	1.225		
	100.000	100.000	10.064		

Calculated Physical Properties	Total	C7+
Relative Density Real Gas	0.9940	3.4658
Calculated Molecular Weight	28.63	100.38
Compressibility Factor	0.9931	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.73 psia & 60°F		
Real Gas Dry BTU	1621	5372
Water Sat. Gas Base BTU	1592	5279
VOC Weight Fraction	0.5067	

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Analytical Data

Components	Mol. %	Wt. %	GPM at 14.73 psia
Nitrogen	1.017	0.995	
Carbon Dioxide	2.215	3.405	
Methane	64.400	36.085	
Ethane	8.427	8.850	2.269
Propane	10.426	16.058	2.892
Iso-Butane	1.316	2.672	0.434
n-Butane	4.890	9.927	1.552
Iso-Pentane	1.334	3.362	0.491
n-Pentane	1.593	4.014	0.581
i-Hexanes	0.935	2.744	0.372
n-Hexane	0.599	1.799	0.248
Benzene	0.055	0.150	0.015
Cyclohexane	0.197	0.580	0.067
i-Heptanes	1.158	3.746	0.465
n-Heptane	0.230	0.811	0.107
Toluene	0.075	0.237	0.025
i-Octanes	0.628	2.357	0.290
n-Octane	0.096	0.387	0.050
2,2,4-Trimethylpentane	0.013	0.055	0.007
Ethylbenzene	0.034	0.117	0.013
Xylenes	0.055	0.218	0.021
i-Nonanes	0.191	0.812	0.100
n-Nonane	0.038	0.171	0.021
Decane Plus	0.078	0.448	0.044
	100.000	100.000	10.064

Calculated Physical Properties	Total	C10+
Calculated Molecular Weight	28.63	135.74
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.73 psia & 60°F		
Real Gas Dry BTU	1620.6	7280.9
Water Sat. Gas Base BTU	1592.4	7104.5
Relative Density Real Gas	0.9940	4.6869
Compressibility Factor	0.9931	

Comments: H2S Field Content 120+ ppm

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