



Sample Matrix: Gas
 Sample Type: Spot
 Preservative: none
 Sample Container: 500 ml Cylinder
 # 1059
 Method(s): ASTM D 1945
 Gas Analysis by Gas
 Chromatography
 GPA 2145-09 - Calculations/
 Physical Constants
 GPA 2172 - Calculation of
 Gross Heating Value

Client: Gas Analysis
 Project Location: Kinder Morgan
 Sample Id.: DC 13
 Sample Temp.: 78□
 Atmospheric Temp.: 70□
 Pressure: 380 psig
 Field Data: N/A
 Sample Date: 08/15/17 Time: 14:30
 Sampled By: Rick
 Analysis Date: 08/21/17
 Analysis By: Jana Spence

Lab #: 2220:170818M003
 Quality Control Report: 4813

Analytical Results

<u>Gas Composition</u>	<u>Mol %</u>	<u>GPM</u>
Nitrogen (N2):	3.7590	0.4156
Carbon Dioxide (CO2):	95.3745	16.3584
<u>Hydrocarbon Composition</u>	<u>Mol %</u>	<u>GPM</u>
Methane (CH4):	0.8496	0.1448
Ethane (C2H6):	0.0068	0.0018
Propane (C3H8):	0.0028	0.0008
Iso-Butane (C4H10):	0.0018	0.0006
N-Butane (C4H10):	0.0022	0.0007
Iso-Pentane (C5H12):	0.0010	0.0004
N-Pentane (C5H12):	0.0012	0.0004
Hexane+ (C6H14):	0.0011	0.0005
Totals	100.0000	16.9240

Comments - Additional Data

BTU -dry (BTU/ft ³):	9.1	Z-Comp. Factor-dry:	0.99476
BTU -water vapor sat.(BTU/ft ³):	9.0	Z-Comp. Factor-water vapor sat.:	0.99430
Specific Gravity -dry:	1.4978	14.73 psi Pressure Base	
Specific Gravity-water vapor sat.:	1.4832		
<u>Gasoline Content (GPM)</u>			
Ethane & Heavier	0.0052	Butane & Heavier	0.0026
Propane & Heavier	0.0033	Pentane & Heavier	0.0013

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Analytical Results (cont.)

<u>Gas Composition</u>		
	<u>ppm vol.</u>	<u>Grains/100 ft³</u>
Hydrogen Sulfide	0.29	0.018
Carbonyl Sulfide	0.16	0.010
Methyl Mercaptan	0.02	0.001
Ethyl Mercaptan	0.02	0.001
Dimethyl Sulfide	0.04	0.002
Carbon Disulfide	0.01	0.000
2-Propanethiol	0.01	0.000
Tert-butyl Mercaptan	0.12	0.007
1-Propanethiol	0.00	0.000
Thiophene	0.01	0.001
N-Butanethiol+Diethyl Sulfide	0.03	0.002
Methyl Ethyl Sulfide	0.01	0.000
2-Methyl-1-Propanethiol	0.01	0.001
1-Methyl-1-Propanethiol	0.00	0.000
Total Sulfur	0.73	0.046