



# Certificate of Analysis

Number: 2500-19030094-001A

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

Tony Walton  
Bonanza Creek  
4301 Industrial Parkway  
Evans, CO 80620

Mar. 25, 2019

Station Name: LH 14-11 FLARE  
Station Number: 63004500  
Station Location: LH 14-11 Flare  
Cylinder No: 2500-00471  
Analyzed: 03/25/2019 09:31:13 by James Lowe

Sampled By: Ron Cole  
Sample Of: Gas Spot  
Sample Date: 03/22/2019  
Sample Conditions: 7.11 psia, @ 50.31 °F  
Method: GPA-2261M

## Analytical Data

Components	Mol. %	Wt. %	GPM at 14.73 psia		
Nitrogen	0.486	0.496		GPM TOTAL C2+	11.629
Carbon Dioxide	2.152	3.449		GPM TOTAL C3+	7.135
Methane	56.904	33.243		GPM TOTAL iC5+	0.945
Ethane	16.701	18.288	4.494		
Propane	14.560	23.380	4.036		
Iso-butane	1.660	3.514	0.547		
n-Butane	5.066	10.723	1.607		
Iso-pentane	0.902	2.370	0.332		
n-Pentane	1.027	2.698	0.375		
Hexanes Plus	0.542	1.839	0.238		
	100.000	100.000	11.629		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.9539	3.2176
Calculated Molecular Weight	27.46	93.19
Compressibility Factor	0.9936	
<b>GPA 2172-09 Calculation:</b>		
<b>Calculated Gross BTU per ft<sup>3</sup> @ 14.73 psia &amp; 60°F</b>		
Real Gas Dry BTU	1575	5141
Water Sat. Gas Base BTU	1548	5052

Hydrocarbon Laboratory Manager

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

# Field Tags

(WO# 19030094)



Emergency Contact Number: 800-424-9300

Cylinder #: 2500-00471  
 Company: BC System: \_\_\_\_\_  
 Location: LH 14-11 FLR Sample of: ☒ Gas ☐ Oil ☐ Condensate  
 Station: LH 14-11 FLR Station No.: 43004500  
 Sample Point: \_\_\_\_\_ Type: ☒ Spot ☐ Composite  
 Source Press.: 2.11 PSIG Source Temp.: 50.31 Ambient Temp.: 40  
 Sampled By: Pen Col Company: EA46  
 Date/Time Off: 3-22-19 AM/PM On: 3-22-19 AM/PM  
 Sample Pressure: 2.11 ☐ PSIG ☒ PSIA Sample Temp.: 50.31 F°  
 H<sub>2</sub>O Cont.: \_\_\_\_\_ LBS/MMSCF H<sub>2</sub>S Cont.: \_\_\_\_\_ ☐ PPM ☐ GRAINS ☐ %  
 % Outage: \_\_\_\_\_ Remarks: \_\_\_\_\_

WO# 19030094



Emergency Contact Number: 800-424-9300

Cylinder #: 2500-00477  
 Company: BC System: \_\_\_\_\_  
 Location: CV 7-42-30, 31, 24 Sample of: ☒ Gas ☐ Oil ☐ Condensate  
 Station: CV 7-42-30 24 Station No.: \_\_\_\_\_  
 Sample Point: \_\_\_\_\_ Type: ☒ Spot ☐ Composite  
 Source Press.: 99.6 Source Temp.: 44.0 Ambient Temp.: 48  
 Sampled By: Pen Col Company: EA46  
 Date/Time Off: 3-22-19 AM/PM On: 3-22-19 AM/PM  
 Sample Pressure: 99.6 ☒ PSIG ☒ PSIA Sample Temp.: 44.0 F°  
 H<sub>2</sub>O Cont.: \_\_\_\_\_ LBS/MMSCF H<sub>2</sub>S Cont.: 5 ☒ PPM ☐ GRAINS ☐ %  
 % Outage: \_\_\_\_\_ Remarks: \_\_\_\_\_



Emergency Contact Number: 800-424-9300

Cylinder #: 2500-00004  
 Company: BC System: \_\_\_\_\_  
 Location: CV 7-42-27, 34 24 Sample of: ☒ Gas ☐ Oil ☐ Condensate  
 Station: CV 7-42 34-24 Station No.: 43010010  
 Sample Point: \_\_\_\_\_ Type: ☒ Spot ☐ Composite  
 Source Press.: 24.5 Source Temp.: 46.1 Ambient Temp.: 47  
 Sampled By: Pen Col Company: EA46  
 Date/Time Off: 3-22-19 AM/PM On: 3-22-19 AM/PM  
 Sample Pressure: 24.5 ☒ PSIG ☒ PSIA Sample Temp.: 46.1 F°  
 H<sub>2</sub>O Cont.: \_\_\_\_\_ LBS/MMSCF H<sub>2</sub>S Cont.: 3.75 P ☒ PPM ☐ GRAINS ☐ %  
 % Outage: \_\_\_\_\_ Remarks: \_\_\_\_\_



Emergency Contact Number: 800-424-9300

Cylinder #: 2500-00001  
 Company: BC System: \_\_\_\_\_  
 Location: CV 7-42-24, 35-24 Pst Sample of: ☒ Gas ☐ Oil ☐ Condensate  
 Station: CV 7-42-35 24 Station No.: 41010019  
 Sample Point: \_\_\_\_\_ Type: ☒ Spot ☐ Composite  
 Source Press.: 13.6 Source Temp.: 50.4 Ambient Temp.: 55  
 Sampled By: Pen Col Company: EA46  
 Date/Time Off: 3-22-19 AM/PM On: 3-22-19 AM/PM  
 Sample Pressure: 13.6 ☒ PSIG ☐ PSIA Sample Temp.: 50.4 F°  
 H<sub>2</sub>O Cont.: \_\_\_\_\_ LBS/MMSCF H<sub>2</sub>S Cont.: 1 PPM ☐ PPM ☐ GRAINS ☐ %  
 % Outage: \_\_\_\_\_ Remarks: \_\_\_\_\_

# Chain of Custody

(WO# 19030094)

**SPL, Inc.**

**970-460-0741**