



# Certificate of Analysis

Number: 2500-22010084-002A

Greeley Laboratory  
2881 S. 31st Ave  
Unit 6-8  
Greeley, CO 80631

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Jan. 21, 2022

Station Name: Guthrie  
Method: GPA 2286  
Analyzed: 01/19/2022 08:55:29 by RHJ

Sampled By:  
Sample Of: Gas Spot  
Sample Date: 01/07/2022  
Sample Conditions:

## Analytical Data

| Components             | Mol. %   | Wt. %    | GPM at<br>14.73 psia |
|------------------------|----------|----------|----------------------|
| Hydrogen Sulfide       | 0.0000   | 0.0000   |                      |
| Nitrogen               | 7.1079   | 8.9481   |                      |
| Carbon Dioxide         | 0.2196   | 0.4343   |                      |
| Methane                | 74.5885  | 53.7731  |                      |
| Ethane                 | 6.3941   | 8.6401   | 1.7157               |
| Propane                | 6.2537   | 12.3924  | 1.7286               |
| Iso-Butane             | 1.1328   | 2.9588   | 0.3720               |
| n-Butane               | 2.3835   | 6.2256   | 0.7539               |
| Iso-Pentane            | 0.6376   | 2.0673   | 0.2339               |
| n-Pentane              | 0.6905   | 2.2388   | 0.2511               |
| i-Hexanes              | 0.2351   | 0.8905   | 0.0940               |
| n-Hexane               | 0.1451   | 0.5621   | 0.0598               |
| Benzene                | 0.0050   | 0.0175   | 0.0014               |
| Cyclohexane            | 0.0416   | 0.1574   | 0.0142               |
| i-Heptanes             | 0.1239   | 0.5051   | 0.0489               |
| n-Heptane              | 0.0123   | 0.0556   | 0.0057               |
| Toluene                | 0.0034   | 0.0141   | 0.0011               |
| i-Octanes              | 0.0235   | 0.1098   | 0.0103               |
| n-Octane               | 0.0009   | 0.0046   | 0.0005               |
| 2,2,4-Trimethylpentane | 0.0007   | 0.0034   | 0.0003               |
| Ethylbenzene           | 0.0000   | 0.0000   | 0.0000               |
| Xylenes                | 0.0000   | 0.0000   | 0.0000               |
| i-Nonanes              | 0.0003   | 0.0014   | 0.0001               |
| n-Nonane               | 0.0000   | 0.0000   | 0.0000               |
| Decane Plus            | 0.0000   | 0.0000   | 0.0000               |
|                        | 100.0000 | 100.0000 | 5.2915               |

**Calculated Physical Properties**  
Calculated Molecular Weight 22.25  
**GPA 2172 Calculation:**  
**Calculated Gross BTU per ft<sup>3</sup> @ 14.73 psia & 60°F**  
Real Gas Dry BTU 1227.0  
Water Sat. Gas Base BTU 1205.6  
Relative Density Real Gas 0.7708  
Compressibility Factor 0.9964

**Comments:** H2S Field Content 0 ppm

Data reviewed by: Ryleigh Jacobs, Laboratory Analyst

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