



# TECHNOLOGY LABORATORY, INC.

Centre Professional Office Park

1012 Centre Avenue  
Fort Collins, Colorado 80526  
(970)-490-1414

## Extended Natural Gas Analysis (DHA)

Whiting Oil & Gas Corp.  
1700 Broadway  
Denver, CO 80290-2300

Sampled: 01/27/15  
Received 01/27/15  
Analyzed 02/18/15

Customer Contact: Dan Holmen

Sample ID: Gas  
Well #: Horsetail 02D-0204  
Lab ID: B2575-03  
Sampled By: Whiting  
Analyzed By: Bill Emery

Field: Redtail  
Cylinder: 150 SS  
Sep. Temperature °F: 150.0  
Line Pressure (psig): 32.0  
Sampling Method: ASTM

<u>COMPONENT</u>	<u>Mole %</u>	<u>Weight %</u>
Helium	0.000	0.000
Hydrogen	0.000	0.000
Carbon Dioxide	4.353	5.156
Nitrogen	0.634	0.478
Methane	26.336	11.371
Ethane	3.675	2.974
Propane	61.822	73.368
Isobutane	0.865	1.353
n-Butane	0.409	0.640
Isopentane	0.163	0.317
n-Pentane	0.338	0.656
Cyclopentane	0.074	0.139
n-Hexane	0.202	0.469
Cyclohexane	0.067	0.151
Other Hexanes	0.312	0.722
Heptanes	0.227	0.610
Methycyclohexane	0.061	0.161
2,2,4- Trimethylpentane	0.000	0.000
Benzene	0.048	0.101
Toluene	0.048	0.118
Ethylbenzene	0.020	0.057
Xylenes	0.055	0.157
C8+ heavies	0.291	1.003
Subtotal	100.000	100.000
Oxygen/Argon	0.000	0.0000
Total:	100.000	100.000

Analytical Methods: ASTM D1945 & D6730 (DHA)

Hydrogen Sulfide Below 2 ppmv  
Gross Wet Real BTU/scf at 60°F & 14.696 psia: 2007.9  
Gross Dry Real BTU/scf at 60°F & 14.696 psia: 1972.9  
Relative Density (AIR=1): 1.273

*Bea Batters*

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