



# 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: 04/22/15  
Received 04/22/15  
Analyzed 05/19/15

Customer Contact: Dan Holmen

Sample ID: Gas  
Well #: TwoMile 15 - 1033 AH  
Lab ID: B3023-19  
Sampled By: TLI  
Analyzed By: Bill Emery

Field: Redtail  
Cylinder: 150 SS  
Sep. Temperature °F: 120  
Line Pressure (psig): 50  
Sampling Method: ASTM

<u>COMPONENT</u>	<u>Mole %</u>	<u>Weight %</u>
Helium	0.000	0.000
Hydrogen	0.000	0.000
Carbon Dioxide	2.818	4.948
Nitrogen	2.670	2.984
Methane	72.269	46.260
Ethane	7.474	8.967
Propane	7.548	13.280
Isobutane	0.866	2.008
n-Butane	3.212	7.449
Isopentane	0.763	2.197
n-Pentane	1.032	2.971
Cyclopentane	0.132	0.369
n-Hexane	0.323	1.111
Cyclohexane	0.095	0.318
Other Hexanes	0.571	1.959
Heptanes	0.438	1.746
Methycyclohexane	0.124	0.485
2,2,4- Trimethylpentane	0.000	0.000
Benzene	0.042	0.131
Toluene	0.051	0.185
Ethylbenzene	0.006	0.025
Xylenes	0.026	0.110
C8+ heavies	0.489	2.497
Subtotal	100.948	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: 1358.4  
Gross Dry Real BTU/scf at 60°F & 14.696 psia: 1334.7  
Relative Density (AIR=1): 0.847

*Beir Batters*

TECHNOLOGY LABORATORY, INC.



Technology Laboratory, Inc.  
1012 CENTRE AVENUE

FORT COLLINS, CO 80526

970-490-1414

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sales@techlabusa.com

TLI WORK ORDER # \_B3023

## PETROLEUM INDUSTRY REQUEST FOR ANALYSIS

Company Name  
Whiting Oil & Gas

Customer Contact  
Dan Holmen

Field Location  
Redtail

LAB #	Sample Name	Date Sampled
17	TwoMile 15-1033 AH	4/22/2015
18	TwoMile 15-1033 AH	4/22/2015
19	TwoMile 15-1033 AH	4/22/2015
20	TwoMile 15-1033 AH	4/22/2015

Sample Matrix: Water (W) or Oil (O)  
or Natural Gas (NG) or Vapor (V)

Container Type: Stainless Steel  
Cylinder (SS) or Liter Plastic (L)  
Tedlar (T) or Bottle Vac (BV)

Cylinder Number

Pressure (psi)

Temperature °F

Methane in Water

Oil Field Water Analysis & TSS

Scale Analysis (Quantitative I.D. of  
Inorganic Deposits)

Extended Hydrocarbon Analysis  
(DHA) (D6730)

Natural Gas Analysis (D1945)

Gravity (API) / Specific Gravity /  
Reid Vapor Pressure (RVP)

Simulated Distillation

C1 - C30 (Carbon Chain Analysis)

Pour Point / Cloud Point

Asphaltene / Paraffin

Viscosity

Sulfur

Metals

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TURN AROUND TIME

☒ Normal (20 Working Days)

☐ Other (Call for Surcharge)

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Company: TLI

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