



Client:	Encana-CO	Analysis Date:	1/29/2016
Sample ID:	Duckworth 33-16	Date Sampled:	01/27/2016
Unique #:	NI	Purpose:	Bradenhead
Sample Temperature:	NI DEG F	Sample Pressure:	NI PSI
Sampled By:	Chris Overman	Type Sample:	SPOT
County:	NI		

<u>Components</u>	<u>Mole %</u>	<u>Weight %</u>	<u>Liq. Vol. %</u>
Carbon Dioxide.....	0.0000	0.000	0.000
Nitrogen.....	1.0220	1.417	0.595
Methane.....	80.5385	63.969	72.304
Ethane.....	11.0807	16.496	15.693
Propane.....	5.1780	11.305	7.554
iso-Butane.....	0.5292	1.523	0.917
n-Butane.....	1.1173	3.215	1.865
iso-Pentane.....	0.1947	0.695	0.377
n-Pentane.....	0.1702	0.608	0.327
Cyclopentane.....	0.0086	0.030	0.014
n-Hexane.....	0.0282	0.120	0.061
Cyclohexane.....	0.0161	0.067	0.029
Other Hexanes	0.0434	0.185	0.094
Heptanes.....	0.0292	0.145	0.071
Methylcyclohexane.....	0.0102	0.050	0.022
2,2,4-Trimethylpentane...	0.0003	0.002	0.001
Benzene.....	0.0081	0.031	0.012
Toluene.....	0.0055	0.025	0.010
Ethylbenzene.....	0.0016	0.008	0.003
Xylenes.....	0.0029	0.015	0.006
Octanes.....	0.0079	0.045	0.021
Nonanes.....	0.0047	0.030	0.014
Decanes+.....	0.0027	0.019	0.009
Totals	100.000	100.000	100.000

ADDITIONAL BTEX DATA

Components	Mole %	Weight %	Liq. Vol. %
Cyclopentane	0.009	0.030	0.014
Cyclohexane	0.016	0.067	0.029
2-Methylpentane	0.027	0.116	0.059
3-Methylpentane	0.016	0.069	0.035
n-Hexane	0.028	0.120	0.061
Methylcyclohexane	0.010	0.050	0.022
2,2,4-Trimethylpentane	0.000	0.002	0.001
Benzene	0.008	0.031	0.012
Toluene	0.005	0.025	0.010
Ethylbenzene	0.002	0.008	0.003
m-Xylene	0.000	0.002	0.001
p-Xylene	0.002	0.010	0.004
o-Xylene	0.000	0.002	0.001

SPECIFIC GRAVITY @ 60/60 F, calculated.....	0.6974
TOTAL GPM (Ethane Inclusive).....	5.100
CALCULATED BTU / REAL CF @ 14.73 PSIA, dry basis.....	1223.036
CALCULATED BTU / REAL CF @ 14.73 PSIA, wet basis.....	1202.513
AVERAGE MOLECULAR WEIGHT.....	20.198
MOLAR MASS RATIO.....	0.6970
RELATIVE DENSITY (G x Z (Air) / Z), calculated.....	0.6997
IDEAL GROSS HEATING VALUE, BTU / IDEAL CF @ 14.696 PSIA.....	1216.213
COMPRESSIBILITY FACTOR (Z).....	0.99671
PROPANE GPM	1.4229
BUTANE GPM	0.5240
GASOLINE GPM (PENTANE AND HEAVIER)	0.1973
VOC WEIGHT FRACTION	0.181

NOTATION: ALL CALCULATIONS PERFORMED USING PHYSICAL CONSTANTS FROM GPA 2145-09, THE TABLES OF PHYSICAL CONSTANTS FOR HYDROCARBONS AND OTHER COMPOUNDS OF INTEREST TO THE NATURAL GAS INDUSTRY.