



SPL, Inc.
2881 31st Ave. Units 6-9
Greeley, CO 80634
970-460-0055

Client:	Boomtown Oil	Analysis Date:	1/10/2020
Sample ID:	Motu East	Date Sampled:	1/9/2020
Unique #:	Not Indicated	Purpose:	Not Indicated
Sample Temperature:	53 DEG F	Sample Pressure:	41 PSI
Sampled By:	Fred Cox	Type Sample:	Spot
		County:	Weld

Components	Mole%	Weight%	Liq. Vol. %
Nitrogen	1.3340	1.4598	0.7149
Carbon Dioxide	2.1995	3.7813	1.8284
Methane	65.8349	41.2566	54.3652
Ethane	10.4419	12.2648	13.6023
Propane	11.9329	20.5544	16.0134
iso-Butane	1.3564	3.0795	2.1620
n-Butane	4.3034	9.7705	6.6085
iso-Pentane	0.8979	2.5306	1.5995
n-Pentane	0.8639	2.4349	1.5254
Cyclopentane	0.0486	0.1331	0.0701
n-Hexane	0.1437	0.4837	0.2878
Cyclohexane	0.0636	0.2090	0.1053
Other Hexanes	0.2429	0.7157	0.3941
Heptanes	0.1970	0.7710	0.4426
Methylcyclohexane	0.0379	0.1452	0.0741
2,2,4-Trimethylpentane	0.0042	0.0188	0.0106
Benzene	0.0308	0.0938	0.0419
Toluene	0.0166	0.0598	0.0271
Ethylbenzene	0.0026	0.0108	0.0049
Xylenes	0.0064	0.0263	0.0118
Octanes	0.0163	0.0728	0.0407
Nonanes	0.0168	0.0843	0.0461
Decanes+	0.0078	0.0433	0.0233
Total:	100.0000	100.0000	100.0000

ADDITIONAL BTEX DATA

Components	Mole%	Weight%	Liq. Vol. %
Cyclopentane	0.049	0.133	0.0701
Cyclohexane	0.064	0.209	0.1053
2-Methylpentane	0.153	0.450	0.2480
3-Methylpentane	0.090	0.265	0.1461
n-Hexane	0.144	0.484	0.2878
Methylcyclohexane	0.038	0.145	0.0741
2,2,4-Trimethylpentane	0.004	0.019	0.0106
Benzene	0.031	0.094	0.0419
Toluene	0.017	0.060	0.0271
Ethylbenzene	0.003	0.011	0.0049
m-Xylene	0.001	0.004	0.0019
p-Xylene	0.004	0.018	0.0080
o-Xylene	0.001	0.004	0.0019

SAMPLE CHARACTERISTICS

SPECIFIC GRAVITY @ 60/60 F, calculated	0.8839
TOTAL GPM (Ethane Inclusive)	8.81
CALCULATED BTU / REAL CF @ 14.73 PSIA, dry basis	1454.92
CALCULATED BTU / REAL CF @ 14.73 PSIA, wet basis	1429.60
AVERAGE MOLECULAR WEIGHT	25.60
MOLAR MASS RATIO	0.8828
RELATIVE DENSITY (G x Z (Air) / Z), calculated	0.8883
IDEAL GROSS HEATING VALUE, BTU / IDEAL CF @ 14.696 PSIA	1443.73
COMPRESSIBILITY FACTOR (Z)	0.9946

PROPANE GPM	3.279
BUTANE GPM	1.796
GASOLINE GPM (PENTANE AND HEAVIER)	0.949
TOTAL ACID GAS MOLE %	2.200
VOC WEIGHT FRACTION	0.4111

NOTATION: ALL CALCULATIONS PERFORMED USING PHYSICAL CONSTANTS FROM GPA 2145-16, THE TABLES OF PHYSICAL CONSTANTS FOR HYDROCARBONS AND OTHER COMPOUNDS OF INTEREST TO THE NATURAL GAS INDUSTRY.