



**EXTENDED HYDROCARBON LIQUID STUDY
 CERTIFICATE OF ANALYSIS**

Company:	Synergy Resources	Sample Name:	Wolfson #26-6 Unpressurized Liquid
Sample Date:	5/25/2016	Sample Number:	16052709-07
Sample Facility:	Wolfson #26-6	Date Tested:	6/1/2016
Sample Equipment:	Bradenhead	Test Method:	GPA 2186M
Sample Location:	Not Indicated	Date Reported:	6/2/2016
Sample Pressure:	Ambient		
Sample Temperature:	72°F		
Sampling Method:	GPA-2174		
Type Sample:	Spot		

Components	Mole %	Weight %	Liq. Vol. %
Carbon Dioxide	0.000	0.000	0.000
Nitrogen	0.946	0.165	0.153
Methane	0.008	0.001	0.002
Ethane	0.626	0.117	0.246
Propane	2.108	0.579	0.854
iso-Butane	1.224	0.443	0.589
n-Butane	5.141	1.908	2.437
iso-Pentane	2.323	1.043	1.249
n-Pentane	1.703	0.765	0.908
2-Methylpentane	2.056	1.103	1.262
3-Methylpentane	0.819	0.440	0.503
Heptanes	6.868	4.285	4.731
Octanes	6.474	4.604	4.933
Nonanes	4.473	3.516	3.359
Decanes+	56.627	75.903	73.840
Benzene	0.287	0.140	0.118
Toluene	1.719	0.986	0.846
Ethylbenzene	0.264	0.175	0.150
m-Xylene	1.820	1.203	1.036
p-Xylene	0.294	0.194	0.167
o-Xylene	0.544	0.359	0.304
n-Hexane	3.111	1.669	1.881
2,2,4-Trimethylpentane	0.565	0.402	0.432
Totals	100.000	100.000	100.000

**TOTAL C31+ EXTENDED REPORT
CERTIFICATE OF ANALYSIS**

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p-Xylene	0.294	0.194	0.167
o-Xylene	0.544	0.359	0.304
Nonanes	4.473	3.516	3.359
Decanes	4.049	3.536	3.237
Undecanes (C11)	5.770	5.110	5.239
Dodecanes (C12)	7.828	7.757	7.845
Tridecanes (C13)	4.548	4.728	4.718
Tetradecanes (C14)	4.738	5.853	5.794
Pentadecanes (C15)	6.444	8.526	8.359
Hexadecanes (C16)	3.113	4.390	4.272
Heptadecanes (C17)	3.663	5.485	5.310
Octadecanes (C18)	2.690	4.262	4.105
Nonadecanes (C19)	2.275	3.803	3.663
Eicosanes (C20)	3.122	5.492	5.229
Heneicoanes (C21)	1.867	3.447	3.271
Docosanes (C22)	2.031	3.928	3.712
Tricosanes (C23)	1.815	3.668	3.528
Tetracosanes (C24)	1.135	2.393	2.247
Pentacosanes (C25)	0.637	1.398	1.313
Hexacosanes (C26)	0.579	1.323	1.236
Heptacosanes (C27)	0.121	0.286	0.275
Octacosanes (C28)	0.080	0.197	0.189
Nonacosanes (C29)	0.050	0.128	0.119
Triacosanes (C30)	0.043	0.113	0.105
Hentriacontanes Plus (C31+)	0.029	0.080	0.074
Totals	100.000	100.000	100.000

SAMPLE CHARACTERISTICS

RELATIVE SPECIFIC GRAVITY, calculated	0.74836
API GRAVITY AT 60/60 F, calculated	57.6
TRUE VAPOR PRESSURE AT 100 F, PSIA, calculated	61.676
AVERAGE MOLECULAR WEIGHT	160.602
AVERAGE BOILING POINT, F, calculated	365.068
RELATIVE SPECIFIC GRAVITY OF DECANES+ (C10+) FRACTION, calculated	0.76543
AVERAGE MOLECULAR WEIGHT OF DECANES+ (C10+) FRACTION, calculated	198.605
BTU / GALLON OF LIQUID AT 14.73 PSIA, calculated	73,199.76
LBS / GALLON OF LIQUID, calculated	6.239
CUBIC FEET OF GAS / GALLON OF LIQUID, as Ideal Gas, calculated	10.250

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.