



**EXTENDED HYDROCARBON LIQUID STUDY
 CERTIFICATE OF ANALYSIS**

Company:	Synergy Resources	Sample Name:	Wolfson #26-2 Unpressurized Liquid
Sample Date:	5/25/2016	Sample Number:	16052709-02
Sample Facility:	Wolfson #26-2	Date Tested:	6/1/2016
Sample Equipment:	Sep sight glass	Test Method:	GPA 2186M
Sample Location:	Not Indicated	Date Reported:	6/2/2016
Sample Pressure:	Ambient		
Sample Temperature:	53°F		
Sampling Method:	GPA-2174		
Type Sample:	Spot		

Components	Mole %	Weight %	Liq. Vol. %
Carbon Dioxide	0.000	0.000	0.000
Nitrogen	0.023	0.004	0.004
Methane	0.008	0.001	0.002
Ethane	0.520	0.104	0.217
Propane	2.812	0.826	1.209
iso-Butane	3.468	1.343	1.771
n-Butane	8.177	3.170	4.027
iso-Pentane	4.033	1.939	2.302
n-Pentane	2.291	1.101	1.296
2-Methylpentane	2.816	1.617	1.834
3-Methylpentane	1.122	0.644	0.731
Heptanes	3.770	2.517	2.756
Octanes	6.149	4.680	4.973
Nonanes	6.423	5.403	5.119
Decanes+	51.325	72.114	69.482
Benzene	0.286	0.149	0.125
Toluene	1.078	0.662	0.563
Ethylbenzene	0.125	0.088	0.075
m-Xylene	2.019	1.428	1.219
p-Xylene	0.326	0.231	0.197
o-Xylene	0.517	0.366	0.307
n-Hexane	2.414	1.386	1.549
2,2,4-Trimethylpentane	0.298	0.227	0.242
Totals	100.000	100.000	100.000

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

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p-Xylene	0.326	0.231	0.197
o-Xylene	0.517	0.366	0.307
Nonanes	6.423	5.403	5.119
Decanes	5.858	5.475	4.970
Undecanes (C11)	5.402	5.120	5.206
Dodecanes (C12)	6.290	6.668	6.688
Tridecanes (C13)	3.593	3.998	3.956
Tetradecanes (C14)	4.499	5.946	5.838
Pentadecanes (C15)	6.351	8.990	8.744
Hexadecanes (C16)	2.072	3.126	3.017
Heptadecanes (C17)	3.016	4.831	4.639
Octadecanes (C18)	2.603	4.415	4.217
Nonadecanes (C19)	2.229	3.989	3.810
Eicosanes (C20)	2.253	4.241	4.005
Heneicoanes (C21)	1.979	3.910	3.680
Docosanes (C22)	2.085	4.315	4.044
Tricosanes (C23)	1.293	2.797	2.668
Tetracosanes (C24)	0.559	1.262	1.175
Pentacosanes (C25)	0.624	1.466	1.365
Hexacosanes (C26)	0.387	0.947	0.877
Heptacosanes (C27)	0.053	0.135	0.129
Octacosanes (C28)	0.112	0.295	0.281
Nonacosanes (C29)	0.023	0.063	0.058
Triacosanes (C30)	0.023	0.065	0.060
Hentriacontanes Plus (C31+)	0.021	0.060	0.055
Totals	100.000	100.000	100.000

SAMPLE CHARACTERISTICS

RELATIVE SPECIFIC GRAVITY, calculated	0.74220
API GRAVITY AT 60/60 F, calculated	59.1
TRUE VAPOR PRESSURE AT 100 F, PSIA, calculated	19.683
AVERAGE MOLECULAR WEIGHT	150.083
AVERAGE BOILING POINT, F, calculated	335.556
RELATIVE SPECIFIC GRAVITY OF DECANES+ (C10+) FRACTION, calculated	0.76745
AVERAGE MOLECULAR WEIGHT OF DECANES+ (C10+) FRACTION, calculated	194.428
BTU / GALLON OF LIQUID AT 14.73 PSIA, calculated	78,496.95
LBS / GALLON OF LIQUID, calculated	6.188
CUBIC FEET OF GAS / GALLON OF LIQUID, as Ideal Gas, calculated	11.300

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.