

# QUESTAR APPLIED TECHNOLOGY

1210 D. Street, Rock Springs, Wyoming 82901

(307) 352-7292

LIMS ID:	N/A	Description:	Case 2-31-B4 Tank 81942
Analysis Date/Time:	7/20/2010 8:46 AM	Field:	Duchesne Co.
Analyst Initials:	AST	ML#:	EI Paso
Instrument ID:	Instrument 1	GC Method:	Quesbtex
Data File:	QPC55.D		
Date Sampled:	7/19/2010		

Component	Mol%	Wt%	LV%
Methane	3.0647	1.3682	3.2400
Ethane	3.1351	2.6235	5.2439
Propane	4.4713	5.4869	7.6893
Isobutane	1.2888	2.0846	2.6311
n-Butane	3.5705	5.7752	7.0253
Neopentane	0.0097	0.0194	0.0231
Isopentane	1.7278	3.4691	3.9469
n-Pentane	2.4540	4.9272	5.5469
2,2-Dimethylbutane	0.0355	0.0852	0.0925
2,3-Dimethylbutane	0.2123	0.5091	0.5428
2-Methylpentane	0.7783	1.8666	2.0157
3-Methylpentane	0.4125	0.9893	1.0504
n-Hexane	1.5798	3.7887	4.0533
Heptanes	2.5709	6.7011	6.4163
Octanes	0.2453	0.7765	0.7625
Nonanes	0.0597	0.2024	0.1905
Decanes plus	0.0007	0.0029	0.0028
Nitrogen	63.0063	49.1186	43.1113
Carbon Dioxide	0.2231	0.2733	0.2373
Oxygen	11.1537	9.9322	6.1781
Hydrogen Sulfide	0.0000	0.0000	0.0000
Total	100.0000	100.0000	100.0000

Global Properties	Units	
Gross BTU/Real CF	821.3	BTU/SCF at 60°F and 14.73 psia
Sat. Gross BTU/Real CF	808.1	BTU/SCF at 60°F and 14.73 psia
Gas Compressibility (Z)	0.9962	
Specific Gravity	1.2451	air=1
Avg Molecular Weight	35.934	gm/mole
Propane GPM	1.225417	gal/MCF
Butane GPM	1.543431	gal/MCF
Gasoline GPM	3.787513	gal/MCF
26# Gasoline GPM	4.913727	gal/MCF
Total GPM	6.559812	gal/MCF
Base Mol%	92.467	%v/v

\*\*\*Oxygen detected in sample: may require a rerun or a resample.

Sample Temperature:	N/A	°F	
Sample Pressure:	Atmos/24	psig	

Reviewed By: \_\_\_\_\_

Component	Mol%	Wt%	LV%
Benzene	0.1512	0.3287	0.2640
Toluene	0.1232	0.3159	0.2574
Ethylbenzene	0.0031	0.0093	0.0076
M&P Xylene	0.0123	0.0363	0.0297
O-Xylene	0.0022	0.0066	0.0053
2,2,4-Trimethylpentane	0.0706	0.2244	0.2213
Cyclopentane	0.0000	0.0000	0.0000
Cyclohexane	0.4425	1.0363	0.9398
Methylcyclohexane	0.3855	1.0532	0.9668
Description:	Case 2-31-B4 Tank 81942		

#### GRI GlyCalc Information

Component	Mol%	Wt%	LV%
Carbon Dioxide	0.2231	0.2733	0.2373
Hydrogen Sulfide	0.0000	0.0000	0.0000
Nitrogen	63.0063	49.1186	43.1113
Methane	3.0647	1.3682	3.2400
Ethane	3.1351	2.6235	5.2439
Propane	4.4713	5.4869	7.6893
Isobutane	1.2888	2.0846	2.6311
n-Butane	3.5705	5.7752	7.0253
Isopentane	1.7375	3.4885	3.9700
n-Pentane	2.4540	4.9272	5.5469
Cyclopentane	0.0000	0.0000	0.0000
n-Hexane	1.5798	3.7887	4.0533
Cyclohexane	0.4425	1.0363	0.9398
Other Hexanes	1.4386	3.4502	3.7014
Heptanes	1.3979	3.7426	3.7670
Methylcyclohexane	0.3855	1.0532	0.9668
2,2,4 Trimethylpentane	0.0706	0.2244	0.2213
Benzene	0.1512	0.3287	0.2640
Toluene	0.1232	0.3159	0.2574
Ethylbenzene	0.0031	0.0093	0.0076
Xylenes	0.0145	0.0429	0.0350
C8+ Heavies	0.2881	0.9296	0.9132
Subtotal	88.8463	90.0678	93.8219
Oxygen	11.1537	9.9322	6.1781
Total	100.0000	100.0000	100.0000

# QUESTAR APPLIED TECHNOLOGY

1210 D. Street, Rock Springs, Wyoming 82901

(307) 352-7292

LIMS ID:	N/A	Description:	Knight 14-30
Analysis Date/Time:	7/20/2010 7:43 AM	Field:	Uintah Co
Analyst Initials:	AST	ML#:	El Paso
Instrument ID:	Instrument 1	GC Method:	Quesbtex
Data File:	QPC54.D		
Date Sampled:	7/19/2010		

Component	Mol%	Wt%	LV%
Methane	40.0669	21.2433	37.3610
Ethane	5.2694	5.2365	7.7735
Propane	5.4758	7.9801	8.3056
Isobutane	1.2558	2.4122	2.2612
n-Butane	3.1755	6.0997	5.5108
Neopentane	0.0160	0.0382	0.0338
Isopentane	1.6104	3.8398	3.2446
n-Pentane	1.7855	4.2574	3.5596
2,2-Dimethylbutane	0.0113	0.0322	0.0260
2,3-Dimethylbutane	0.1941	0.5528	0.4377
2-Methylpentane	0.7147	2.0354	1.6324
3-Methylpentane	0.3212	0.9146	0.7213
n-Hexane	0.9172	2.6121	2.0755
Heptanes	1.8844	5.8734	4.1651
Octanes	0.3477	1.3070	0.9544
Nonanes	0.0604	0.2443	0.1717
Decanes plus	0.0026	0.0122	0.0088
Nitrogen	30.0213	27.7940	18.1177
Carbon Dioxide	0.6296	0.9157	0.5907
Oxygen	6.2402	6.5991	3.0486
Hydrogen Sulfide	0.0000	0.0000	0.0000
<b>Total</b>	<b>100.0000</b>	<b>100.0000</b>	<b>100.0000</b>

Global Properties	Units	
Gross BTU/Real CF	1147.8	BTU/SCF at 60°F and 14.73 psia
Sat. Gross BTU/Real CF	1129.0	BTU/SCF at 60°F and 14.73 psia
Gas Compressibility (Z)	0.9954	
Specific Gravity	1.0464	air=1
Avg Molecular Weight	30.259	gm/mole
Propane GPM	1.500713	gal/MCF
Butane GPM	1.408450	gal/MCF
Gasoline GPM	2.889876	gal/MCF
26# Gasoline GPM	3.900758	gal/MCF
Total GPM	5.811367	gal/MCF
Base Mol%	96.553	%v/v

\*\*\*Oxygen detected in sample: may require a rerun or a resample.

Sample Temperature:	N/A	°F
Sample Pressure:	Atmos/24	psig

Reviewed By: \_\_\_\_\_

Component	Mol%	Wt%	LV%
Benzene	0.0710	0.1834	0.1094
Toluene	0.1007	0.3066	0.1855
Ethylbenzene	0.0021	0.0074	0.0044
M&P Xylene	0.0119	0.0416	0.0253
O-Xylene	0.0018	0.0063	0.0038
2,2,4-Trimethylpentane	0.1117	0.4219	0.3090
Cyclopentane	0.0000	0.0000	0.0000
Cyclohexane	0.2599	0.7230	0.4870
Methylcyclohexane	0.2876	0.9333	0.6362
Description:	Knight 14-30		

GRI GlyCalc Information

Component	Mol%	Wt%	LV%
Carbon Dioxide	0.6296	0.9157	0.5907
Hydrogen Sulfide	0.0000	0.0000	0.0000
Nitrogen	30.0213	27.7940	18.1177
Methane	40.0669	21.2433	37.3610
Ethane	5.2694	5.2365	7.7735
Propane	5.4758	7.9801	8.3056
Isobutane	1.2558	2.4122	2.2612
n-Butane	3.1755	6.0997	5.5108
Isopentane	1.6264	3.8780	3.2784
n-Pentane	1.7855	4.2574	3.5596
Cyclopentane	0.0000	0.0000	0.0000
n-Hexane	0.9172	2.6121	2.0755
Cyclohexane	0.2599	0.7230	0.4870
Other Hexanes	1.2413	3.5350	2.8174
Heptanes	1.0535	3.3052	2.4380
Methylcyclohexane	0.2876	0.9333	0.6362
2,2,4 Trimethylpentane	0.1117	0.4219	0.3090
Benzene	0.0710	0.1834	0.1094
Toluene	0.1007	0.3066	0.1855
Ethylbenzene	0.0021	0.0074	0.0044
Xylenes	0.0137	0.0479	0.0291
C8+ Heavies	0.3949	1.5082	1.1014
Subtotal	93.7598	93.4009	96.9514
Oxygen	6.2402	6.5991	3.0486
Total	100.0000	100.0000	100.0000

# QUESTAR APPLIED TECHNOLOGY

1210 D. Street, Rock Springs, Wyoming 82901

(307) 352-7292

LIMS ID:	N/A	Description:	Meek 3-32 A4 Tank 332142
Analysis Date/Time:	7/20/2010 12:51 PM	Field:	Duchesne Co
Analyst Initials:	AST	ML#:	El Paso
Instrument ID:	Instrument 1	GC Method:	Quesbtex
Data File:	QPC58.D		
Date Sampled:	7/19/2010		

Component	Mol%	Wt%	LV%
Methane	19.1207	6.8122	12.0899
Ethane	14.5807	9.7366	14.5856
Propane	19.1531	18.7563	19.6993
Isobutane	4.4676	5.7666	5.4549
n-Butane	13.4059	17.3037	15.7756
Neopentane	0.0512	0.0821	0.0732
Isopentane	4.7187	7.5605	6.4467
n-Pentane	6.3034	10.0997	8.5213
2,2-Dimethylbutane	0.1183	0.2265	0.1844
2,3-Dimethylbutane	0.4042	0.7735	0.6181
2-Methylpentane	1.2430	2.3788	1.9252
3-Methylpentane	0.7237	1.3849	1.1020
n-Hexane	2.7691	5.2994	4.2490
Heptanes	3.5371	7.1083	4.9955
Octanes	0.2012	0.5085	0.3752
Nonanes	0.0559	0.1513	0.1073
Decanes plus	0.0046	0.0144	0.0104
Nitrogen	7.1641	4.4568	2.9317
Carbon Dioxide	0.6548	0.6400	0.4165
Oxygen	1.3227	0.9399	0.4382
Hydrogen Sulfide	0.0000	0.0000	0.0000
Total	100.0000	100.0000	100.0000

Global Properties	Units	
Gross BTU/Real CF	2444.9	BTU/SCF at 60°F and 14.73 psia
Sat. Gross BTU/Real CF	2404.1	BTU/SCF at 60°F and 14.73 psia
Gas Compressibility (Z)	0.9817	
Specific Gravity	1.5731	air=1
Avg Molecular Weight	45.030	gm/mole
Propane GPM	5.249150	gal/MCF
Butane GPM	5.673796	gal/MCF
Gasoline GPM	7.520616	gal/MCF
26# Gasoline GPM	11.740820	gal/MCF
Total GPM	18.448208	gal/MCF
Base Mol%	98.515	%v/v

\*\*\*Oxygen detected in sample: may require a rerun or a resample.

Sample Temperature:	N/A	°F
Sample Pressure:	Atmos/24	psig

Reviewed By: \_\_\_\_\_

Component	Mol%	Wt%	LV%
Benzene	0.7452	1.2927	0.7781
Toluene	0.1296	0.2651	0.1619
Ethylbenzene	0.0024	0.0056	0.0034
M&P Xylene	0.0102	0.0239	0.0147
O-Xylene	0.0024	0.0056	0.0034
2,2,4-Trimethylpentane	0.0445	0.1128	0.0834
Cyclopentane	0.0000	0.0000	0.0000
Cyclohexane	0.6225	1.1634	0.7907
Methylcyclohexane	0.3357	0.7320	0.5036
Description:	Meek 3-32 A4 Tank 332142		

GRI GlyCalc Information

Component	Mol%	Wt%	LV%
Carbon Dioxide	0.6548	0.6400	0.4165
Hydrogen Sulfide	0.0000	0.0000	0.0000
Nitrogen	7.1641	4.4568	2.9317
Methane	19.1207	6.8122	12.0899
Ethane	14.5807	9.7366	14.5856
Propane	19.1531	18.7563	19.6993
Isobutane	4.4676	5.7666	5.4549
n-Butane	13.4059	17.3037	15.7756
Isopentane	4.7699	7.6426	6.5199
n-Pentane	6.3034	10.0997	8.5213
Cyclopentane	0.0000	0.0000	0.0000
n-Hexane	2.7691	5.2994	4.2490
Cyclohexane	0.6225	1.1634	0.7907
Other Hexanes	2.4892	4.7637	3.8297
Heptanes	1.6596	3.5423	2.6778
Methylcyclohexane	0.3357	0.7320	0.5036
2,2,4 Trimethylpentane	0.0445	0.1128	0.0834
Benzene	0.7452	1.2927	0.7781
Toluene	0.1296	0.2651	0.1619
Ethylbenzene	0.0024	0.0056	0.0034
Xylenes	0.0126	0.0295	0.0181
C8+ Heavies	0.2467	0.6391	0.4714
Subtotal	98.6773	99.0601	99.5618
Oxygen	1.3227	0.9399	0.4382
Total	100.0000	100.0000	100.0000

# QUESTAR APPLIED TECHNOLOGY

1210 D. Street, Rock Springs, Wyoming 82901

(307) 352-7292

LIMS ID:	N/A	Description:	Rust 1-36 A4 Tank 82435
Analysis Date/Time:	7/20/2010 10:21 AM	Field:	Duchesne Co
Analyst Initials:	AST	ML#:	El Paso
Instrument ID:	Instrument 1	GC Method:	Quesbtex
Data File:	QPC56.D		
Date Sampled:	7/19/2010		

Component	Mol%	Wt%	LV%
Methane	15.8662	7.2665	14.6896
Ethane	8.1157	6.9667	11.8874
Propane	7.8296	9.8563	11.7913
Isobutane	1.6362	2.7149	2.9253
n-Butane	4.4095	7.3165	7.5979
Neopentane	0.0172	0.0354	0.0360
Isopentane	1.8936	3.9003	3.7882
n-Pentane	2.1120	4.3501	4.1806
2,2-Dimethylbutane	0.0566	0.1393	0.1292
2,3-Dimethylbutane	0.1998	0.4916	0.4475
2-Methylpentane	0.6366	1.5661	1.4437
3-Methylpentane	0.3903	0.9601	0.8703
n-Hexane	1.2886	3.1701	2.8953
Heptanes	2.5577	6.7641	5.4756
Octanes	0.3134	1.0181	0.8563
Nonanes	0.0659	0.2308	0.1869
Decanes plus	0.0019	0.0078	0.0064
Nitrogen	43.9972	35.1850	26.3633
Carbon Dioxide	0.5639	0.7085	0.5253
Oxygen	8.0481	7.3518	3.9039
Hydrogen Sulfide	0.0000	0.0000	0.0000
Total	100.0000	100.0000	100.0000

Global Properties	Units	
Gross BTU/Real CF	1139.4	BTU/SCF at 60°F and 14.73 psia
Sat. Gross BTU/Real CF	1120.8	BTU/SCF at 60°F and 14.73 psia
Gas Compressibility (Z)	0.9947	
Specific Gravity	1.2180	air=1
Avg Molecular Weight	35.029	gm/mole
Propane GPM	2.145801	gal/MCF
Butane GPM	1.920652	gal/MCF
Gasoline GPM	3.559772	gal/MCF
26# Gasoline GPM	4.951405	gal/MCF
Total GPM	7.631267	gal/MCF
Base Mol%	95.160	%v/v

\*\*\*Oxygen detected in sample: may require a rerun or a resample.

Sample Temperature:	N/A	°F
Sample Pressure:	Atmos/24	psig

Reviewed By: \_\_\_\_\_

Component	Mol%	Wt%	LV%
Benzene	0.3472	0.7743	0.5309
Toluene	0.1517	0.3990	0.2775
Ethylbenzene	0.0029	0.0087	0.0060
M&P Xylene	0.0112	0.0338	0.0236
O-Xylene	0.0022	0.0067	0.0046
2,2,4-Trimethylpentane	0.0384	0.1253	0.1055
Cyclopentane	0.0000	0.0000	0.0000
Cyclohexane	0.3791	0.9108	0.7051
Methylcyclohexane	0.3491	0.9787	0.7669
Description:	Rust 1-36 A4 Tank 82435		

#### GRI GlyCalc Information

Component	Mol%	Wt%	LV%
Carbon Dioxide	0.5639	0.7085	0.5253
Hydrogen Sulfide	0.0000	0.0000	0.0000
Nitrogen	43.9972	35.1850	26.3633
Methane	15.8662	7.2665	14.6896
Ethane	8.1157	6.9667	11.8874
Propane	7.8296	9.8563	11.7913
Isobutane	1.6362	2.7149	2.9253
n-Butane	4.4095	7.3165	7.5979
Isopentane	1.9108	3.9357	3.8242
n-Pentane	2.1120	4.3501	4.1806
Cyclopentane	0.0000	0.0000	0.0000
n-Hexane	1.2886	3.1701	2.8953
Cyclohexane	0.3791	0.9108	0.7051
Other Hexanes	1.2833	3.1571	2.8907
Heptanes	1.2922	3.5760	3.0897
Methylcyclohexane	0.3491	0.9787	0.7669
2,2,4 Trimethylpentane	0.0384	0.1253	0.1055
Benzene	0.3472	0.7743	0.5309
Toluene	0.1517	0.3990	0.2775
Ethylbenzene	0.0029	0.0087	0.0060
Xylenes	0.0134	0.0405	0.0282
C8+ Heavies	0.3649	1.2075	1.0154
Subtotal	91.9519	92.6482	96.0961
Oxygen	8.0481	7.3518	3.9039
Total	100.0000	100.0000	100.0000



# QUESTAR APPLIED TECHNOLOGY

1210 D. Street, Rock Springs, Wyoming 82901

(307) 352-7292

LIMS ID:	N/A	Description:	Sprousel Bowden 2-18B1
Analysis Date/Time:	7/20/2010 1:42 PM	Field:	Duchesne Co
Analyst Initials:	AST	ML#:	EI Paso
Instrument ID:	Instrument 1	GC Method:	Quesbtex
Data File:	QPC59.D		
Date Sampled:	7/19/2010		

Component	Mol%	Wt%	LV%
Methane	23.8146	9.1284	15.5095
Ethane	18.0260	12.9508	18.5730
Propane	18.2781	19.2579	19.3632
Isobutane	4.1334	5.7401	5.1983
n-Butane	10.2421	14.2233	12.4141
Neopentane	0.0372	0.0641	0.0548
Isopentane	4.0682	7.0130	5.7248
n-Pentane	5.3453	9.2145	7.4428
2,2-Dimethylbutane	0.0927	0.1910	0.1488
2,3-Dimethylbutane	0.3551	0.7312	0.5594
2-Methylpentane	1.2081	2.4875	1.9272
3-Methylpentane	0.6842	1.4088	1.0732
n-Hexane	2.5649	5.2811	4.0537
Heptanes	2.5501	5.6099	3.8046
Octanes	0.2135	0.5807	0.4099
Nonanes	0.0454	0.1321	0.0892
Decanes plus	0.0065	0.0220	0.0153
Nitrogen	6.7286	4.5036	2.8361
Carbon Dioxide	0.8092	0.8509	0.5302
Oxygen	0.7968	0.6091	0.2719
Hydrogen Sulfide	0.0000	0.0000	0.0000
Total	100.0000	100.0000	100.0000

Global Properties	Units	
Gross BTU/Real CF	2282.2	BTU/SCF at 60°F and 14.73 psia
Sat. Gross BTU/Real CF	2244.0	BTU/SCF at 60°F and 14.73 psia
Gas Compressibility (Z)	0.9843	
Specific Gravity	1.4531	air=1
Avg Molecular Weight	41.854	gm/mole
Propane GPM	5.009346	gal/MCF
Butane GPM	4.569838	gal/MCF
Gasoline GPM	6.436336	gal/MCF
26# Gasoline GPM	9.666890	gal/MCF
Total GPM	16.025388	gal/MCF
Base Mol%	97.692	%v/v

\*\*\*Oxygen detected in sample: may require a rerun or a resample.

Sample Temperature:	N/A	°F
Sample Pressure:	Atmos/24	psig

Reviewed By: \_\_\_\_\_

Component	Mol%	Wt%	LV%
Benzene	0.2796	0.5217	0.3006
Toluene	0.1370	0.3017	0.1764
Ethylbenzene	0.0016	0.0041	0.0024
M&P Xylene	0.0100	0.0254	0.0149
O-Xylene	0.0019	0.0049	0.0028
2,2,4-Trimethylpentane	0.0499	0.1361	0.0963
Cyclopentane	0.0000	0.0000	0.0000
Cyclohexane	0.4528	0.9105	0.5924
Methylcyclohexane	0.3473	0.8146	0.5365
Description:	Sprousel Bowden 2-18B1		

#### GRI GlyCalc Information

Component	Mol%	Wt%	LV%
Carbon Dioxide	0.8092	0.8509	0.5302
Hydrogen Sulfide	0.0000	0.0000	0.0000
Nitrogen	6.7286	4.5036	2.8361
Methane	23.8146	9.1284	15.5095
Ethane	18.0260	12.9508	18.5730
Propane	18.2781	19.2579	19.3632
Isobutane	4.1334	5.7401	5.1983
n-Butane	10.2421	14.2233	12.4141
Isopentane	4.1054	7.0771	5.7796
n-Pentane	5.3453	9.2145	7.4428
Cyclopentane	0.0000	0.0000	0.0000
n-Hexane	2.5649	5.2811	4.0537
Cyclohexane	0.4528	0.9105	0.5924
Other Hexanes	2.3401	4.8185	3.7086
Heptanes	1.2835	2.9253	2.1024
Methylcyclohexane	0.3473	0.8146	0.5365
2,2,4 Trimethylpentane	0.0499	0.1361	0.0963
Benzene	0.2796	0.5217	0.3006
Toluene	0.1370	0.3017	0.1764
Ethylbenzene	0.0016	0.0041	0.0024
Xylenes	0.0119	0.0303	0.0177
C8+ Heavies	0.2519	0.7004	0.4943
Subtotal	99.2032	99.3909	99.7281
Oxygen	0.7968	0.6091	0.2719
Total	100.0000	100.0000	100.0000