CRUDE OIL ASSAY

PROJECT NO. :	201408008	ANALYSIS NO. :	10
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	AUGUST 7, 2014
ACCOUNT NO. :		SAMPLE DATE :	AUGUST 1, 2014
PRODUCER :		CYLINDER NO. :	1L GLASS JAR
LEASE NO. :		SAMPLED BY :	GALE MCENDREE
NAME/DESCRIP :	TANK BATTERY 14:50		EMPACT
	TIMBRO RANCH 1-31-10-59		
FIELD DATA		SAMPLE TEMP. :	105
SAMPLE PRES. :		AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; TK #13101		

SPECIFICATION		TEST METHOD	UNITS	RESULTS
API GRAVITY			API 60/60	30.7
RVP @100 DEG F		D323	PSIG	5.4
TOTAL SULFUR		D2622	WT %	0.618
TOTAL CHLORIDE		D4929	ug/g	N/A
ORGANIC CHLORIDE		D4929	ug/g	N/A
FLASH POINT		D93	° F	N/A
HEATING VALUE		D4809	BTU/ LB	N/A
VISUAL APPEARANCE				BLACK
BS&W		D96		
Crude Oil			VOL %	N/A
Water			VOL %	N/A
Emulsion			VOL %	N/A
Sediment			VOL %	N/A
DISTILLATION:		D86		
INITIAL POINT			DEG F	N/A
50%			DEG F	N/A
90%			DEG F	N/A
END POINT			DEG F	N/A
DISTILLATION:	@TEMP	D445		
Average Centipoise	20°C			N/A
Average Centipoise	30°C			N/A
Average Centipoise	80°C			N/A
Kinetic Viscosity	20°C		cSt (mm2/s)	N/A
Kinetic Viscosity	30°C		cSt (mm2/s)	N/A
Kinetic Viscosity	80°C		cSt (mm2/s)	N/A

ND: NOT DETECTED

N/A: NO TEST PREFORMED FOR THIS PARAMETER

EMPACT ANALYTICAL SYSTEMS INC.
365 S. MAIN ST.
BRIGHTON, CO
80601

303-637-0150

EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

MAIN PAGE

PROJECT NO. :	201408008	ANALYSIS NO. :	11
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	AUGUST 5, 2014
ACCOUNT NO. :		SAMPLE DATE :	AUGUST 1, 2014
PRODUCER :		CYLINDER NO. :	5054
LEASE NO. :		SAMPLED BY :	GALE MCENDREE
NAME/DESCRIP :	SEPARATOR 14:30		EMPACT
	TIMBRO RANCH 1-31-10-59		
FIELD DATA		SAMPLE TEMP. :	178
SAMPLE PRES. :	20	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE		

COMPONENT	MOLE %	MASS %	VOL %
ALCOHOLS	0.0052	0.0030	0.0029
NITROGEN (AIR)	0.0180	0.0043	0.0040
CARBON DIOXIDE	0.0420	0.0157	0.0144
METHANE	0.1490	0.0203	0.0509
ETHANE	0.2470	0.0631	0.1331
PROPANE	0.8720	0.3268	0.4843
I-BUTANE	0.2240	0.1106	0.1476
N-BUTANE	1.2220	0.6036	0.7766
I-PENTANE	0.5647	0.3463	0.4167
N-PENTANE	0.9940	0.6095	0.7256
HEXANES PLUS	95.6621	97.8968	97.2439
TOTALS	100.0000	100.0000	100.0000

BTEX COMPONENTS	**MOLE%**	**MASS%**
BENZENE	1.2800	0.8497
TOLUENE	2.8704	2.2477
ETHYLBENZENE	0.9558	0.8624
XYLENE	2.4412	2.2027
TOTAL BTEX	7.5474	6.1625

(CALC: GPA STD 2145-94 & TP-17 @14.696 & 60 F)

	TOTAL SAMPLE	**C6+ FRACTION**	
Specific Gravity (H2O=1) =	0.752	0.7568	60/60
API Gravity =	56.66	55.47	60/60
Molecular Weight =	117.67	121.128	
Absolute Density =	6.27	6.31	LBS/GAL
Heating Value Liq. Idl Gas=	127186	128130	BTU/GAL
Vapor/Liquid =	20.32	19.91	CUFT/GAL
Vapor Pressure =	13.57	1.47	PSIA @100 F

**(DETAILED HYDROCARBON ANALYSIS/NJ 1993) ; ASTM D6730*

EMPACT ANALYTICAL SYSTEMS INC.
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303-637-0150

EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

E & P TANK / GLYCALC INFORMATION

PROJECT NO. :	201408008	ANALYSIS NO. :	11
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	AUGUST 5, 2014
ACCOUNT NO. :		SAMPLE DATE :	AUGUST 1, 2014
PRODUCER :		CYLINDER NO. :	5054
LEASE NO. :		SAMPLED BY :	GALE MCENDREE
NAME/DESCRIP :	SEPARATOR 14:30		EMPACT
	TIMBRO RANCH 1-31-10-59		
FIELD DATA		SAMPLE TEMP. :	178
SAMPLE PRES. :	20	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE		

COMPONENT	Mole %		Wt %		LV %	
CARBON DIOXIDE	0.0420		0.0157		0.0144	
NITROGEN (AIR)	0.0180		0.0043		0.0040	
METHANE	0.1490		0.0203		0.0509	
ETHANE	0.2470		0.0631		0.1331	
PROPANE	0.8720		0.3268		0.4843	
I-BUTANE	0.2240		0.1106		0.1476	
N-BUTANE	1.2220		0.6036		0.7766	
I-PENTANE	0.5647		0.3463		0.4167	
N-PENTANE	0.9940		0.6095		0.7256	
CYCLOPENTANE (N-C5)	1.3351		0.7957		0.7865	
N-HEXANE	5.8295		4.2683		4.8326	
CYCLOHEXANE (OTHER C6)	2.4236		1.7334		1.6624	
OTHER HEXANES	9.0512		6.5582		7.0330	
OTHER HEPTANES	12.5865		10.6426		11.2342	
METHYLCYCLOHEXANE (OTHER C7)	3.5888		2.9947		2.9046	
2,2,4 TRIMETHYLPENTANE	0.7187		0.5997		0.5980	
BENZENE	1.2800		0.8497		0.7231	
TOLUENE	2.8704		2.2477		1.9318	
ETHYLBENZENE	0.9558		0.8624		0.7411	
XYLENES	2.4412		2.2027		1.8950	
OTHER OCTANES	11.1414		10.8182		10.9884	
OCTANES PLUS	----	56.6970	----	67.8065	----	66.1357
NONANES	11.3515		12.2083		12.0672	
DECANES PLUS	30.0884		41.1152		39.8460	
SUB TOTAL	99.9948		99.9970		99.9971	
ALCOHOLS	0.0052		0.0030		0.0029	
TOTAL	100.0000		100.0000		100.0000	

API Gravity =	**56.66**	60/60
Vapor Pressure =	**13.57**	PSIA & 100 F
Average Molecular Weight of Decanes plus =	**160.79**	
Average Specific Gravity of Decanes plus =	**0.7740**	

EMPACT ANALYTICAL SYSTEMS INC.
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303-637-0150

EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

BY CARBON NUMBER

PROJECT NO. :	201408008	ANALYSIS NO. :	11
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	AUGUST 5, 2014
ACCOUNT NO. :		SAMPLE DATE :	AUGUST 1, 2014
PRODUCER :		CYLINDER NO. :	5054
LEASE NO. :		SAMPLED BY :	GALE MCENDREE
NAME/DESCRIP :	SEPARATOR 14:30		EMPACT
	TIMBRO RANCH 1-31-10-59		
FIELD DATA		SAMPLE TEMP. :	178
SAMPLE PRES. :	20	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE		

COMPONENT / CARBON NUMBER		MOLE%	MASS %	VOLUME %
ALCOHOLS		0.0052	0.0030	0.0029
NITROGEN		0.0180	0.0043	0.0040
CARBON DIOXIDE		0.0420	0.0157	0.0144
	C1	0.1490	0.0203	0.0509
	C2	0.2470	0.0631	0.1331
	C3	0.8720	0.3268	0.4843
	C4	1.4460	0.7142	0.9242
	C5	2.8938	1.7515	1.9288
	C6	18.5843	13.4096	14.2511
	C7	19.0457	15.8850	16.0706
	C8	15.2571	14.4830	14.2225
	C9	11.3515	12.2083	12.0672
	C10	11.6400	13.6035	13.2229
	C11	6.1529	7.7811	7.3736
	C12	3.6364	5.0009	4.8707
	C13	2.9785	4.5508	4.4474
	C14	2.4658	4.1574	4.0925
	C15	1.8571	3.3526	3.2622
	C16	1.0603	2.0405	1.9727
	C17	0.1888	0.3858	0.3718
	C18	0.0663	0.1434	0.1378
	C19	0.0250	0.0571	0.0545
	C20	0.0130	0.0312	0.0296
	C21	0.0038	0.0096	0.0091
	C22	0.0005	0.0013	0.0012
	C23	0.0000	0.0000	0.0000
	C24	0.0000	0.0000	0.0000
	C25	0.0000	0.0000	0.0000
	C26	0.0000	0.0000	0.0000
	C27	0.0000	0.0000	0.0000
	C28	0.0000	0.0000	0.0000
	C29	0.0000	0.0000	0.0000
	C30+	0.0000	0.0000	0.0000
	Total	100.0000	100.0000	100.0000

EMPACT ANALYTICAL SYSTEMS INC.
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303-637-0150

EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

DHA COMPONENT LIST

PROJECT NO. :	201408008	ANALYSIS NO. :	11
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	AUGUST 5, 2014
ACCOUNT NO. :		SAMPLE DATE :	AUGUST 1, 2014
PRODUCER :		CYLINDER NO. :	5054
LEASE NO. :		SAMPLED BY :	GALE MCENDREE
NAME/DESCRIP :	SEPARATOR 14:30		EMPACT
	TIMBRO RANCH 1-31-10-59		
FIELD DATA		SAMPLE TEMP. :	178
SAMPLE PRES. :	20	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE		

COMPONENT	PIANO #	MOLE %	MASS %	VOL %
Nitrogen	NHC	0.0180	0.0043	0.0040
Carbon Dioxide	NHC	0.0420	0.0157	0.0144
Methane	P1	0.1490	0.0203	0.0509
Ethane	P2	0.2470	0.0631	0.1331
Propane	P3	0.8720	0.3268	0.4843
i-Butane	I4	0.2240	0.1106	0.1476
n-Butane	P4	1.2220	0.6036	0.7766
2,2-Dimethylpropane	I5	0.0057	0.0035	0.0044
Ethanol	X2	0.0013	0.0005	0.0005
i-Pentane	I5	0.5590	0.3428	0.4123
n-Pentane	P5	0.9940	0.6095	0.7256
t-Butanol	X4	0.0039	0.0025	0.0024
2,2-Dimethylbutane	I6	0.0237	0.0174	0.0200
Cyclopentane	N5	1.3351	0.7957	0.7865
2,3-Dimethylbutane	I6	0.2637	0.1931	0.2175
2-Methylpentane	I6	2.8664	2.0994	2.3982
3-Methylpentane	I6	1.7620	1.2905	1.4496
n-Hexane	P6	5.8295	4.2683	4.8326
2,2-Dimethylpentane	I7	0.0083	0.0071	0.0078
Methylcyclopentane	N6	4.1354	2.9578	2.9477
2,4-Dimethylpentane	I7	0.1785	0.1520	0.1689
2,2,3-Trimethylbutane	I7	0.0061	0.0052	0.0056
Benzene	A6	1.2800	0.8497	0.7231
3,3-Dimethylpentane	I7	0.0120	0.0102	0.0110
Cyclohexane	N6	2.4236	1.7334	1.6624
2-Methylhexane	I7	1.1212	0.9548	1.0514
2,3-Dimethylpentane	I7	0.6497	0.5533	0.5919
1,1-Dimethylcyclopentane	N7	0.1980	0.1652	0.1635
3-Methylhexane	I7	1.6014	1.3637	1.4791
1c,3-Dimethylcyclopentane	N7	0.7830	0.6534	0.6550
1t,3-Dimethylcyclopentane	N7	0.7187	0.5997	0.5980
3-Ethylpentane	I7	0.1159	0.0987	0.1053
1t,2-Dimethylcyclopentane	N7	1.7013	1.4197	1.4108
2,2,4-Trimethylpentane	I8	0.0354	0.0344	0.0370
n-Heptane	P7	4.4224	3.7659	4.1115
1c,2-Dimethylcyclopentane	N7	0.1525	0.1273	0.1231
Methylcyclohexane	N7	3.5888	2.9947	2.9046
2,2-Dimethylhexane	I8	0.1955	0.1898	0.2037
Ethylcyclopentane	N7	0.8725	0.7281	0.7095
2,5-Dimethylhexane	I8	0.1081	0.1049	0.1129
2,2,3-Trimethylpentane	I8	0.0436	0.0423	0.0441
2,4-Dimethylhexane	I8	0.2069	0.2009	0.2151

1c,2t,4-Trimethylcyclopentane	N8	0.3890	0.3710	0.3630
3,3-Dimethylhexane	I8	0.0315	0.0306	0.0322
2,3,4-Trimethylpentane	I8	0.1071	0.1040	0.1079
2,3,3-Trimethylpentane	I8	0.0035	0.0034	0.0035
Toluene	A7	2.8704	2.2477	1.9318
2,3-Dimethylhexane	I8	0.1909	0.1853	0.1944
2-Methyl-3-ethylpentane	I8	0.1611	0.1564	0.1623
1,1,2-Trimethylcyclopentane	N8	0.0033	0.0031	0.0030
2-Methylheptane	I8	1.3261	1.2874	1.3749
4-Methylheptane	I8	0.3981	0.3865	0.4028
3-Methyl-3-ethylpentane	I8	0.0975	0.0946	0.0972
3,4-Dimethylhexane	I8	0.0454	0.0441	0.0458
1c,2c,4-Trimethylcyclopentane	N8	0.0261	0.0249	0.0241
1c,3-Dimethylcyclohexane	N8	0.0265	0.0253	0.0247
3-Methylheptane	I8	0.5164	0.5013	0.5307
1c,2t,3-Trimethylcyclopentane	N8	0.9659	0.9211	0.8931
3-Ethylhexane	I8	0.1670	0.1621	0.1698
1t,4-Dimethylcyclohexane	N8	0.3431	0.3272	0.3205
1,1-Dimethylcyclohexane	N8	0.1065	0.1016	0.0972
3c-Ethylmethylcyclopentane	N8	0.0021	0.0020	0.0019
3t-Ethylmethylcyclopentane	N8	0.2823	0.2692	0.2623
2t-Ethylmethylcyclopentane	N8	0.2377	0.2267	0.2202
1,1-Methylethylcyclopentane	N8	0.8341	0.7954	0.7610
2,2,4-Trimethylhexane	I9	0.0301	0.0328	0.0342
1t,2-Dimethylcyclohexane	N8	0.5162	0.4923	0.4741
1t,3-Dimethylcyclohexane	N8	0.0050	0.0048	0.0046
UnknownC7s	U7	0.0450	0.0383	0.0418
n-Octane	P8	2.6060	2.5299	2.6890
1c,4-Dimethylcyclohexane	N8	0.7469	0.7123	0.6798
i-Propylcyclopentane	I8	0.0904	0.0862	0.0829
2,4,4-Trimethylhexane	I9	0.0178	0.0194	0.0201
2,2,3,4-Tetramethylpentane	I9	0.0193	0.0210	0.0218
2,3,4-Trimethylhexane	I9	0.0165	0.0180	0.0186
1c,2-Dimethylcyclohexane	N8	0.1621	0.1546	0.1451
2,3,5-Trimethylhexane	I9	0.0877	0.0956	0.0989
2,2-Dimethylheptane	I9	0.0143	0.0156	0.0164
1,1,4-Trimethylcyclohexane	N9	1.0776	1.1561	1.1191
2,2,3-Trimethylhexane	I9	0.4068	0.4434	0.4542
2,4-Dimethylheptane	I9	0.0597	0.0651	0.0680
4,4-Dimethylheptane	I9	0.0418	0.0456	0.0476
Ethylcyclohexane	N8	0.6156	0.5870	0.5568
n-Propylcyclopentane	N8	0.2347	0.2238	0.2153
1c,3c,5-Trimethylcyclohexane	N9	0.0322	0.0345	0.0334
2,5-Dimethylheptane	I9	0.0993	0.1082	0.1128
3,3-Dimethylheptane	I9	0.1016	0.1107	0.1154
3,5-Dimethylheptane	I9	0.0657	0.0716	0.0746
2,6-Dimethylheptane	I9	0.0651	0.0710	0.0748
1,1,3-Trimethylcyclohexane	N9	0.0792	0.0850	0.0823
Ethylbenzene	A8	0.9558	0.8624	0.7411
1c,2t,4t-Trimethylcyclohexane	N9	0.3228	0.3463	0.3288
2,3-Dimethylheptane	I9	0.1610	0.1755	0.1806
1,3-Dimethylbenzene (m-Xylene)	A8	0.7985	0.7205	0.6227
1,4-Dimethylbenzene (p-Xylene)	A8	0.8415	0.7593	0.6584
3,4-Dimethylheptane	I9	0.1072	0.1168	0.1193
3,4-Dimethylheptane (2)	I9	0.1390	0.1515	0.1548
4-Ethylheptane	I9	0.0724	0.0789	0.0824
4-Methyloctane	I9	0.3402	0.3708	0.3844
2-Methyloctane	I9	0.4262	0.4646	0.4864
1c,2t,4c-Trimethylcyclohexane	I9	0.0780	0.0850	0.0875
3-Ethylheptane	I9	0.0549	0.0598	0.0615
3-Methyloctane	I9	0.4987	0.5436	0.5634
3,3-Diethylpentane	I9	0.0438	0.0477	0.0472
1c,2t,3-Trimethylcyclohexane	N9	0.1111	0.1192	0.1132
1,1,2-Trimethylcyclohexane	N9	0.0245	0.0263	0.0250
1,2-Dimethylbenzene (o-Xylene)	A8	0.8012	0.7229	0.6139
i-Butylcyclopentane	N9	0.2855	0.3063	0.2931
UnknownC8s	U8	0.0325	0.0315	0.0335
n-Nonane	P9	1.9077	2.0794	2.1646
1,1-Methylethylcyclohexane	N9	0.4623	0.5039	0.5261
i-Propylbenzene	A9	0.4449	0.4544	0.3932
i-Propylcyclohexane	N9	0.0940	0.1009	0.0940
2,2-Dimethyloctane	I10	0.0497	0.0601	0.0607
2,4-Dimethyloctane	I10	0.0949	0.1148	0.1160
2,6-Dimethyloctane	I10	0.0078	0.0094	0.0098

2,5-Dimethyloctane	I10	0.0448	0.0542	0.0548
n-Butylcyclopentane	N9	0.2363	0.2817	0.2635
3,3-Dimethyloctane	I10	0.0479	0.0579	0.0585
n-Propylbenzene	A9	0.4566	0.4664	0.4036
3,6-Dimethyloctane	I10	0.2214	0.2677	0.2705
3-Methyl-5-ethylheptane	I10	0.4992	0.5441	0.5601
1,3-Methylethylbenzene	A9	0.2687	0.2745	0.2356
1,4-Methylethylbenzene	A9	0.2281	0.2330	0.2000
1,3,5-Trimethylbenzene	A9	0.1782	0.1820	0.1573
2,3-Dimethyloctane	I10	0.0957	0.1157	0.1169
5-Methylnonane	I10	0.2275	0.2751	0.2806
1,2-Methylethylbenzene	A9	0.3809	0.3891	0.3322
2-Methylnonane	I10	0.0629	0.0761	0.0783
3-Ethyloctane	I10	0.0590	0.0713	0.0720
3-Methylnonane	I10	0.2568	0.3105	0.3163
1,2,4-Trimethylbenzene	A9	0.0599	0.0612	0.0522
t-Butylbenzene	A10	0.2312	0.2637	0.2276
i-Butylcyclohexane	N10	0.2698	0.3216	0.2961
1t-Methyl-2-n-propylcyclohexane	I10	0.0685	0.0747	0.0769
i-Butylbenzene	A10	0.0923	0.1053	0.0923
sec-Butylbenzene	A10	0.0383	0.0437	0.0379
UnknownC9s	U9	1.5218	1.6588	1.7268
n-Decane	P10	1.5844	1.9158	1.9607
1,2,3-Trimethylbenzene	A9	0.2321	0.2371	0.1983
1,3-Methyl-i-propylbenzene	A10	0.1152	0.1177	0.1005
1,4-Methyl-i-propylbenzene	A10	0.1587	0.1621	0.1384
Sec-Butylcyclohexane	N10	0.4464	0.5322	0.4894
1,2-Methyl-i-propylbenzene	A10	0.2185	0.2492	0.2125
3-Ethylnonane	I10	0.0572	0.0692	0.0712
1,3-Diethylbenzene	A10	0.2240	0.2555	0.2211
1,3-Methyl-n-propylbenzene	A10	0.1170	0.1335	0.1159
1,4-Diethylbenzene	A10	0.2123	0.2422	0.2101
1,4-Methyl-n-propylbenzene	A10	0.1121	0.1279	0.1114
n-Butylbenzene	A10	0.0885	0.1009	0.0875
1,3-Dimethyl-5-ethylbenzene	A10	0.0712	0.0812	0.0702
1,2-Diethylbenzene	A10	0.1735	0.1979	0.1682
1,2-Methyl-n-propylbenzene	A10	0.1543	0.1760	0.1506
1,4-Dimethyl-2-ethylbenzene	A10	0.1929	0.2200	0.1875
1,3-Dimethyl-4-ethylbenzene	A10	0.0940	0.1072	0.0915
1,2-Dimethyl-4-ethylbenzene	A10	0.3332	0.3801	0.3250
1,3-Dimethyl-2-ethylbenzene	A10	0.0408	0.0465	0.0390
1t,2c,4-Trimethylcyclopentane	A10	0.5216	0.4974	0.4971
1,2-Dimethyl-3-ethylbenzene	A10	0.0397	0.0453	0.0380
1,2-Ethyl-i-propylbenzene	A10	0.0452	0.0516	0.0440
1,4-Methyl-t-butylbenzene	A11	0.2704	0.3084	0.2630
UnknownC10s	U10	3.8502	4.6555	4.7647
n-Undecane	P11	1.2551	1.6673	1.6828
1,4-Ethyl-i-propylbenzene	A11	0.0481	0.0549	0.0468
1,2,4,5-Tetramethylbenzene	A11	0.0516	0.0589	0.0497
1,2-Methyl-n-butylbenzene	A11	0.0876	0.0999	0.0852
1,2,3,5-Tetramethylbenzene	A11	0.1431	0.1632	0.1371
1,2-Methyl-t-butylbenzene	A11	0.1152	0.1314	0.1121
5-Methylindan	A11	0.0325	0.0470	0.0469
4-Methylindan	A11	0.0117	0.0169	0.0169
1,2-Ethyl-n-propylbenzene	A11	0.1708	0.1948	0.1661
2-Methylindan	A11	0.0968	0.1401	0.1399
1,3-Methyl-n-butylbenzene	A11	0.1195	0.1363	0.1162
1,3-Di-i-propylbenzene	A11	0.0525	0.0599	0.0511
sec-Pentylbenzene	A11	0.2087	0.2381	0.2031
n-Pentylbenzene	A11	0.0930	0.1172	0.1021
1t-M-2-(4MP)cyclopentane	P12	0.0148	0.0214	0.0214
1,2-Di-n-propylbenzene	A11	0.1332	0.1519	0.1296
1,4-Di-i-propylbenzene	A11	0.3125	0.3565	0.3040
Tetrahydronaphthalene	A10	0.0141	0.0161	0.0137
t-Decahydronaphthalene	A10	0.2513	0.2867	0.2445
Naphthalene	A10	0.1560	0.1699	0.1449
1-t-Butyl-3,5-dimethylbenzene	A12	0.0635	0.0724	0.0617
1,4-Ethyl-t-butylbenzene	A11	0.0933	0.1064	0.0907
UnknownC11s	U11	2.3261	3.0900	3.1187
n-Dodecane	P12	1.0339	1.4967	1.4940
1,3-Di-n-propylbenzene	A12	0.0702	0.0801	0.0683
1,3,5-Triethylbenzene	A12	0.0451	0.0461	0.0398
1,2,4-Triethylbenzene	A12	0.3911	0.3995	0.3409
1,4-Methyl-n-pentylbenzene	A12	0.0942	0.1075	0.0917

n-Hexylbenzene	A12	0.1104	0.1523	0.1328
1,2,3,4,5-Pentamethylbenzene	A13	0.2721	0.3104	0.2647
2-Methylnaphthalene	A11	0.2833	0.3424	0.2920
1-Methylnaphthalene	A11	0.2479	0.2996	0.2196
UnknownC12s	U12	1.8132	2.6249	2.6201
n-Tridecane	P13	0.9287	1.4551	1.4353
UnknownC13s	U13	1.7777	2.7853	2.7474
n-Tetradecane	P14	0.7266	1.2251	1.2060
UnknownC14s	U14	1.7392	2.9323	2.8865
n-Pentadecane	P15	0.4227	0.7631	0.7425
UnknownC15s	U15	1.4344	2.5895	2.5197
n-Hexadecane	P16	0.1642	0.3160	0.3055
UnknownC16s	U16	0.8961	1.7245	1.6672
n-Heptadecane	P17	0.0300	0.0613	0.0591
UnknownC17s	U17	0.1588	0.3245	0.3127
n-Octadecane	P18	0.0274	0.0593	0.0570
UnknownC18s	U18	0.0389	0.0841	0.0808
n-Nonadecane	P19	0.0250	0.0571	0.0545
n-Eicosane	P20	0.0130	0.0312	0.0296
n-Heneicosane	P21	0.0038	0.0096	0.0091
n-Docosane	P22	0.0005	0.0013	0.0012
TOTAL		100.0000	100.0000	100.0000

EMPACT ANALYTICAL SYSTEMS INC.
365 S. MAIN ST.
BRIGHTON, CO
80601

303-637-0150

EXTENDED NATURAL GAS ANALYSIS (*DHA)

MAIN PAGE

PROJECT NO. :	201408008	ANALYSIS NO. :	12
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	AUGUST 7, 2014
ACCOUNT NO. :		SAMPLE DATE :	AUGUST 1, 2014
PRODUCER :		CYLINDER NO. :	0437
LEASE NO. :		SAMPLED BY :	GALE MCENDREE - EMPACT
NAME/DESCRIP :	SALES GAS 14:40 TIMBRO RANCH 1-31-10-59		
FIELD DATA		SAMPLE TEMP. :	178
SAMPLE PRES. :	20	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE; LENGTH OF H2S STAIN @ 1 PPM (1-7PPM) 14:45		

COMPONENT	MOLE %	MASS %	GPM @ 14.650	GPM @ 14.730
ALCOHOLS	0.0019	0.0040		
HELIUM	0.01	0.00	---	---
HYDROGEN	0.10	0.01	---	---
OXYGEN/ARGON	0.10	0.10	---	---
NITROGEN	1.37	1.23	---	---
CARBON DIOXIDE	2.86	4.05	---	---
METHANE	53.67780	27.70870	---	---
ETHANE	11.5084	11.1349	3.0818	3.0986
PROPANE	14.3268	20.3282	3.9521	3.9737
I-BUTANE	1.7757	3.3210	0.5822	0.5854
N-BUTANE	6.9184	12.9390	2.1843	2.1963
I-PENTANE	1.8263	4.2251	0.6525	0.6560
N-PENTANE	2.3154	5.3754	0.8402	0.8448
HEXANES PLUS	3.2093	9.5737	1.3204	1.3275
TOTALS	100.00000	100.00000	12.6135	12.6823

BTEX COMPONENTS	MOLE%	WT%
BENZENE	0.1183	0.2974
TOLUENE	0.0780	0.2313
ETHYLBENZENE	0.0101	0.0345
XYLENES	0.0187	0.0639
TOTAL BTEX	0.2251	0.6271

	BTU @	14.650	14.730
LOW	NET DRY REAL :	1575.7 **/scf**	1584.3 **/scf**
	NET WET REAL :	1548.2 **/scf**	1556.8 **/scf**
HIGH	GROSS DRY REAL :	1721.8 **/scf**	1731.2 **/scf**
	GROSS WET REAL :	1691.7 **/scf**	1701.1 **/scf**
	NET DRY REAL :	19279.8 **/lb**	19385.1 **/lb**
	GROSS DRY REAL :	21069.3 **/lb**	21184.4 **/lb**
	RELATIVE DENSITY (AIR=1):		1.0716
	COMPRESSIBILITY FACTOR :		0.99306

(CALC: GPA STD 2145 & TP-17 @14.696 & 60 F)

**(DETAILED HYDROCARBON ANALYSIS/NJ 1993) ; ASTM D6730*

EMPACT ANALYTICAL SYSTEMS INC.
365 S. MAIN ST.
BRIGHTON, CO
80601

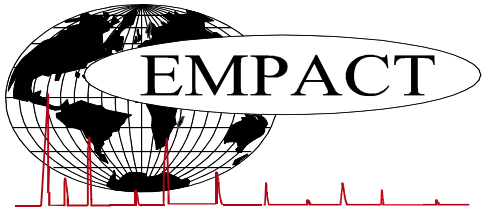
303-637-0150

EXTENDED NATURAL GAS ANALYSIS (*DHA)

GLYCALC INFORMATION

PROJECT NO. :	201408008	ANALYSIS NO. :	12
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	AUGUST 7, 2014
ACCOUNT NO. :		SAMPLE DATE :	AUGUST 1, 2014
PRODUCER :		CYLINDER NO. :	0437
LEASE NO. :		SAMPLED BY :	GALE MCENDREE - EMPACT
NAME/DESCRIP :	SALES GAS 14:40 TIMBRO RANCH 1-31-10-59		
FIELD DATA		SAMPLE TEMP. :	178
SAMPLE PRES. :	20	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE; LENGTH OF H2S STAIN @ 1 PPM (1-7PPM) 14:45		

Componet	Mole %	Wt %
Helium	0.01	0.00
Hydrogen	0.10	0.01
Carbon Dioxide	2.86	4.05
Nitrogen	1.37	1.23
Methane	53.67780	27.70870
Ethane	11.5084	11.1349
Propane	14.3268	20.3282
Isobutane	1.7757	3.3210
n-Butane	6.9184	12.9390
Isopentane	1.5978	3.7094
n-Pentane	2.3154	5.3754
Cyclopentane	0.2285	0.5157
n-Hexane	0.6296	1.7458
Cyclohexane	0.1694	0.4588
Other Hexanes	1.0891	2.9950
Heptanes	0.6064	1.9415
Methycyclohexane	0.1277	0.4034
2,2,4 Trimethylpentane	0.0009	0.0033
Benzene	0.1183	0.2974
Toluene	0.0780	0.2313
Ethylbenzene	0.0101	0.0345
Xylenes	0.0187	0.0639
C8+ Heavies	0.3611	1.3988
Subtotal	99.89810	99.89600
Oxygen/Argon	0.10	0.10
Alcohols	0.0019	0.0040
Total	100.00000	100.00000



EXTENDED NATURAL GAS ANALYSIS (*DHA)

DHA COMPONENT LIST

PROJECT NO. :	201408008	ANALYSIS NO. :	12
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	AUGUST 7, 2014
ACCOUNT NO. :		SAMPLE DATE :	AUGUST 1, 2014
PRODUCER :		CYLINDER NO. :	0437
LEASE NO. :		SAMPLED BY :	GALE MCENDREE - EMPACT
NAME/DESCRIP :	SALES GAS 14:40 TIMBRO RANCH 1-31-10-59		
FIELD DATA		SAMPLE TEMP. :	178
SAMPLE PRES. :	20	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE; LENGTH OF H2S STAIN @ 1 PPM (1-7PPM) 14:45		

COMPONENT	PIANO #	MOLE %	MASS %	GPM @ 14.650	GPM @ 14.730
Helium	---	0.01	0.00	---	---
Hydrogen	---	0.10	0.01	---	---
Oxygen/Argon	---	0.10	0.10	---	---
Nitrogen	---	1.37	1.23	---	---
Carbon Dioxide	---	2.86	4.05	---	---
Methane	P1	53.67780	27.70870	---	---
Ethane	P2	11.5084	11.1349	3.082	3.099
Propane	P3	14.3268	20.3282	3.952	3.974
i-Butane	I4	1.7757	3.3210	0.582	0.585
n-Butane	P4	6.9184	12.9390	2.184	2.196
2,2-Dimethylpropane	I5	0.0044	0.0102	0.002	0.002
Ethanol	X2	0.0003	0.0005	0.000	0.000
i-Pentane	I5	1.5934	3.6992	0.583	0.586
Acetone	X3	0.0005	0.0009	0.000	0.000
i-Propanol	X3	0.0002	0.0004	0.000	0.000
n-Pentane	P5	2.3152	5.3749	0.840	0.845
t-Butanol	X4	0.0009	0.0022	0.000	0.000
2,2-Dimethylbutane	I6	0.0047	0.0130	0.002	0.002
Cyclopentane	N5	0.2285	0.5157	0.067	0.068
2,3-Dimethylbutane	I6	0.0480	0.1331	0.020	0.020
2-Methylpentane	I6	0.4230	1.1730	0.176	0.177
3-Methylpentane	I6	0.2260	0.6267	0.092	0.093
UnknownC5s	U5	0.0002	0.0005	0.000	0.000
n-Hexane	P6	0.6296	1.7458	0.259	0.260
2,2-Dimethylpentane	I7	0.0012	0.0039	0.001	0.001
Methylcyclopentane	N6	0.3873	1.0489	0.138	0.138
2,4-Dimethylpentane	I7	0.0146	0.0471	0.007	0.007
2,2,3-Trimethylbutane	I7	0.0004	0.0013	0.000	0.000
Benzene	A6	0.1183	0.2974	0.033	0.033
3,3-Dimethylpentane	I7	0.0011	0.0035	0.000	0.000
Cyclohexane	N6	0.1694	0.4588	0.058	0.059
2-Methylhexane	I7	0.0703	0.2267	0.033	0.033
2,3-Dimethylpentane	I7	0.0357	0.1151	0.016	0.016
1,1-Dimethylcyclopentane	N7	0.0106	0.0335	0.004	0.004
3-Methylhexane	I7	0.0848	0.2734	0.039	0.039
1c,3-Dimethylcyclopentane	N7	0.0426	0.1346	0.020	0.020
1t,3-Dimethylcyclopentane	N7	0.0383	0.1210	0.018	0.018
3-Ethylpentane	I7	0.0056	0.0181	0.003	0.003
1t,2-Dimethylcyclopentane	N7	0.0857	0.2708	0.039	0.039
2,2,4-Trimethylpentane	I8	0.0009	0.0033	0.000	0.000
UnknownC6s	U6	0.0001	0.0003	0.000	0.000

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n-Heptane	P7	0.1804	0.5816	0.083	0.084
1c,2-Dimethylcyclopentane	N7	0.0053	0.0167	0.002	0.002
Methylcyclohexane	N7	0.1277	0.4034	0.051	0.052
2,2-Dimethylhexane	I8	0.0062	0.0228	0.003	0.003
Ethylcyclopentane	N7	0.0295	0.0932	0.012	0.012
2,5-Dimethylhexane	I8	0.0039	0.0144	0.002	0.002
2,2,3-Trimethylpentane	I8	0.0007	0.0026	0.000	0.000
2,4-Dimethylhexane	I8	0.0065	0.0239	0.003	0.003
1c,2t,4-Trimethylcyclopentane	N8	0.0117	0.0423	0.005	0.005
3,3-Dimethylhexane	I8	0.0006	0.0022	0.000	0.000
1t,2c,4-Trimethylcyclopentane	N8	0.0146	0.0527	0.007	0.007
2,3,4-Trimethylpentane	I8	0.0028	0.0103	0.001	0.001
2,3,3-Trimethylpentane	I8	0.0001	0.0004	0.000	0.000
Toluene	A7	0.0780	0.2313	0.026	0.026
2,3-Dimethylhexane	I8	0.0050	0.0184	0.003	0.003
2-Methyl-3-ethylpentane	I8	0.0036	0.0132	0.002	0.002
2-Methylheptane	I8	0.0297	0.1092	0.015	0.015
4-Methylheptane	I8	0.0090	0.0331	0.005	0.005
3-Methyl-3-ethylpentane	I8	0.0006	0.0022	0.000	0.000
3,4-Dimethylhexane	I8	0.0008	0.0029	0.000	0.000
1c,2c,4-Trimethylcyclopentane	N8	0.0006	0.0022	0.000	0.000
1c,3-Dimethylcyclohexane	N8	0.0006	0.0022	0.000	0.000
3-Methylheptane	I8	0.0107	0.0393	0.005	0.005
1c,2t,3-Trimethylcyclopentane	N8	0.0185	0.0668	0.009	0.009
3-Ethylhexane	I8	0.0035	0.0129	0.002	0.002
1t,4-Dimethylcyclohexane	N8	0.0056	0.0202	0.003	0.003
1,1-Dimethylcyclohexane	N8	0.0021	0.0076	0.001	0.001
3t-Ethylmethylcyclopentane	N8	0.0053	0.0191	0.003	0.003
2t-Ethylmethylcyclopentane	N8	0.0046	0.0166	0.002	0.002
1,1-Methylethylcyclopentane	N8	0.0151	0.0545	0.008	0.008
2,2,4-Trimethylhexane	I9	0.0005	0.0021	0.000	0.000
1t,2-Dimethylcyclohexane	N8	0.0085	0.0307	0.004	0.004
1t,3-Dimethylcyclohexane	N8	0.0001	0.0004	0.000	0.000
UnknownC7s	U7	0.0003	0.0010	0.000	0.000
n-Octane	P8	0.0429	0.1577	0.022	0.022
1c,4-Dimethylcyclohexane	N8	0.0065	0.0235	0.003	0.003
i-Propylcyclopentane	I8	0.0015	0.0054	0.001	0.001
2,4,4-Trimethylhexane	I9	0.0003	0.0012	0.000	0.000
2,3,5-Trimethylhexane	I9	0.0007	0.0029	0.000	0.000
2,2,3,4-Tetramethylpentane	I9	0.0003	0.0012	0.000	0.000
2,3,4-Trimethylhexane	I9	0.0002	0.0008	0.000	0.000
1c,2-Dimethylcyclohexane	N8	0.0027	0.0098	0.001	0.001
2,2-Dimethylheptane	I9	0.0002	0.0008	0.000	0.000
1,1,4-Trimethylcyclohexane	N9	0.0128	0.0520	0.007	0.007
2,2,3-Trimethylhexane	I9	0.0048	0.0198	0.002	0.002
2,4-Dimethylheptane	I9	0.0010	0.0041	0.001	0.001
4,4-Dimethylheptane	I9	0.0004	0.0016	0.000	0.000
Ethylcyclohexane	N8	0.0069	0.0249	0.003	0.003
n-Propylcyclopentane	N8	0.0025	0.0090	0.001	0.001
1c,3c,5-Trimethylcyclohexane	N9	0.0004	0.0016	0.000	0.000
2,5-Dimethylheptane	I9	0.0010	0.0041	0.001	0.001
3,3-Dimethylheptane	I9	0.0010	0.0041	0.001	0.001
3,5-Dimethylheptane	I9	0.0008	0.0033	0.000	0.000
2,6-Dimethylheptane	I9	0.0009	0.0037	0.000	0.000
1,1,3-Trimethylcyclohexane	N9	0.0024	0.0098	0.001	0.001
Ethylbenzene	I8	0.0101	0.0345	0.004	0.004
1c,2t,4t-Trimethylcyclohexane	N9	0.0008	0.0033	0.000	0.000
2,3-Dimethylheptane	I9	0.0031	0.0128	0.002	0.002
1,3-Dimethylbenzene (m-Xylene)	A8	0.0107	0.0366	0.004	0.004
1,4-Dimethylbenzene (p-Xylene)	A8	0.0025	0.0085	0.001	0.001
3,4-Dimethylheptane	I9	0.0003	0.0012	0.000	0.000
3,4-Dimethylheptane (2)	I9	0.0014	0.0058	0.001	0.001
4-Ethylheptane	I9	0.0004	0.0016	0.000	0.000
4-Methyloctane	I9	0.0028	0.0116	0.002	0.002

2-Methyloctane	I9	0.0033	0.0136	0.002	0.002
1c,2t,3-Trimethylcyclohexane	N9	0.0008	0.0033	0.000	0.000
3-Ethylheptane	I9	0.0006	0.0025	0.000	0.000
3-Methyloctane	I9	0.0040	0.0165	0.002	0.002
1c,2t,4c-Trimethylcyclohexane	I9	0.0002	0.0008	0.000	0.000
1,1,2-Trimethylcyclohexane	N9	0.0001	0.0004	0.000	0.000
3,3-Diethylpentane	I9	0.0005	0.0021	0.000	0.000
1,2-Dimethylbenzene (o-Xylene)	A8	0.0055	0.0188	0.002	0.002
i-Butylcyclopentane	N9	0.0017	0.0069	0.001	0.001
UnknownC8s	U8	0.0002	0.0007	0.000	0.000
n-Nonane	P9	0.0107	0.0442	0.006	0.006
1,1-Methylethylcyclohexane	N9	0.0020	0.0081	0.001	0.001
i-Propylbenzene	A9	0.0015	0.0058	0.001	0.001
i-Propylcyclohexane	N9	0.0006	0.0025	0.000	0.000
2,2-Dimethyloctane	I10	0.0005	0.0023	0.000	0.000
2,4-Dimethyloctane	I10	0.0004	0.0018	0.000	0.000
2,5-Dimethyloctane	I10	0.0002	0.0009	0.000	0.000
n-Butylcyclopentane	N9	0.0022	0.0089	0.001	0.001
3,3-Dimethyloctane	I10	0.0010	0.0046	0.001	0.001
n-Propylbenzene	A9	0.0020	0.0077	0.001	0.001
3,6-Dimethyloctane	I10	0.0016	0.0073	0.001	0.001
3-Methyl-5-ethylheptane	I10	0.0020	0.0092	0.001	0.001
1,3-Methylethylbenzene	A9	0.0016	0.0062	0.001	0.001
1,4-Methylethylbenzene	A9	0.0008	0.0031	0.000	0.000
1,3,5-Trimethylbenzene	A9	0.0004	0.0015	0.000	0.000
2,3-Dimethyloctane	I10	0.0003	0.0014	0.000	0.000
5-Methylnonane	I10	0.0009	0.0041	0.001	0.001
1,2-Methylethylbenzene	A9	0.0016	0.0062	0.001	0.001
2-Methylnonane	I10	0.0002	0.0009	0.000	0.000
3-Ethyloctane	I10	0.0003	0.0014	0.000	0.000
3-Methylnonane	I10	0.0007	0.0032	0.000	0.000
1,2,4-Trimethylbenzene	A9	0.0003	0.0012	0.000	0.000
t-Butylbenzene	A10	0.0011	0.0048	0.001	0.001
i-Butylcyclohexane	N10	0.0007	0.0032	0.000	0.000
1t-Methyl-2-n-propylcyclohexane	I10	0.0003	0.0014	0.000	0.000
i-Butylbenzene	A10	0.0002	0.0009	0.000	0.000
sec-Butylbenzene	A10	0.0002	0.0009	0.000	0.000
UnknownC9s	U9	0.0120	0.0495	0.007	0.007
n-Decane	P10	0.0036	0.0165	0.002	0.002
1,2,3-Trimethylbenzene	A9	0.0008	0.0031	0.000	0.000
1,3-Methyl-i-propylbenzene	A10	0.0004	0.0017	0.000	0.000
1,4-Methyl-i-propylbenzene	A10	0.0001	0.0004	0.000	0.000
Sec-Butylcyclohexane	A10	0.0008	0.0036	0.000	0.000
1,2-Methyl-i-propylbenzene	A10	0.0004	0.0017	0.000	0.000
3-Ethylnonane	I10	0.0001	0.0005	0.000	0.000
1,3-Diethylbenzene	A10	0.0004	0.0017	0.000	0.000
1,3-Methyl-n-propylbenzene	A10	0.0001	0.0004	0.000	0.000
1,4-Diethylbenzene	A10	0.0001	0.0004	0.000	0.000
1,4-Methyl-n-propylbenzene	A10	0.0005	0.0022	0.000	0.000
n-Butylbenzene	A10	0.0001	0.0004	0.000	0.000
1,3-Dimethyl-5-ethylbenzene	A10	0.0003	0.0013	0.000	0.000
1,2-Diethylbenzene	A10	0.0001	0.0004	0.000	0.000
t-Decahydronaphthalene	A9	0.0004	0.0020	0.000	0.000
1,2-Methyl-n-propylbenzene	A10	0.0003	0.0013	0.000	0.000
1,4-Dimethyl-2-ethylbenzene	A10	0.0003	0.0013	0.000	0.000
1,3-Dimethyl-4-ethylbenzene	A10	0.0001	0.0004	0.000	0.000
1,2-Dimethyl-4-ethylbenzene	A10	0.0005	0.0022	0.000	0.000
1,3-Dimethyl-2-ethylbenzene	A10	0.0001	0.0004	0.000	0.000
1,2-Dimethyl-3-ethylbenzene	A10	0.0001	0.0004	0.000	0.000
1,2-Ethyl-i-propylbenzene	A10	0.0001	0.0005	0.000	0.000
1,4-Methyl-t-butylbenzene	A11	0.0003	0.0014	0.000	0.000
UnknownC10s	U10	0.0104	0.0476	0.006	0.006
n-Undecane	P11	0.0017	0.0086	0.001	0.001
1,4-Ethyl-i-propylbenzene	A11	0.0001	0.0005	0.000	0.000

1,2,4,5-Tetramethylbenzene	A11	0.0001	0.0004	0.000	0.000
1,2-Methyl-n-butylbenzene	A11	0.0002	0.0010	0.000	0.000
1,2,3,5-Tetramethylbenzene	A11	0.0001	0.0004	0.000	0.000
1,2-Methyl-t-butylbenzene	A11	0.0001	0.0005	0.000	0.000
1,2-Ethyl-n-propylbenzene	A11	0.0002	0.0010	0.000	0.000
2-Methylindan	A11	0.0001	0.0004	0.000	0.000
1,3-Methyl-n-butylbenzene	A11	0.0001	0.0005	0.000	0.000
sec-Pentylbenzene	A11	0.0002	0.0010	0.000	0.000
n-Pentylbenzene	A11	0.0001	0.0005	0.000	0.000
1t-M-2-(4MP)cyclopentane	P12	0.0001	0.0006	0.000	0.000
1,2-Di-n-propylbenzene	A11	0.0001	0.0005	0.000	0.000
1,4-Di-i-propylbenzene	A11	0.0002	0.0010	0.000	0.000
Naphthalene	A10	0.0002	0.0008	0.000	0.000
1,4-Ethyl-t-butylbenzene	A11	0.0001	0.0005	0.000	0.000
UnknownC11s	U11	0.0041	0.0206	0.003	0.003
n-Dodecane	P12	0.0007	0.0038	0.001	0.001
1,2,4-Triethylbenzene	A12	0.0002	0.0010	0.000	0.000
n-Hexylbenzene	A12	0.0001	0.0005	0.000	0.000
1,2,3,4,5-Pentamethylbenzene	A13	0.0001	0.0005	0.000	0.000
2-Methylnaphthalene	A11	0.0001	0.0005	0.000	0.000
UnknownC12s	U12	0.0020	0.0101	0.001	0.001
n-Tridecane	P13	0.0003	0.0018	0.000	0.000
UnknownC13s	U13	0.0009	0.0053	0.001	0.001
n-Tetradecane	P14	0.0001	0.0006	0.000	0.000
UnknownC14s	U14	0.0002	0.0013	0.000	0.000
TOTAL		100.00000	100.00000	12.6135	12.6823

BTEX COMPONENTS	**MOLE%**	**WT%**
BENZENE	0.1183	0.2974
TOLUENE	0.0780	0.2313
ETHYLBENZENE	0.0101	0.0345
XYLENES	0.0187	0.0639
TOTAL BTEX	0.2251	0.6271

		BTU @	14.650	14.730
LOW	NET DRY REAL :		1575.7 **/scf**	1584.3 **/scf**
	NET WET REAL :		1548.2 **/scf**	1556.8 **/scf**
HIGH	GROSS DRY REAL :		1721.8 **/scf**	1731.2 **/scf**
	GROSS WET REAL :		1691.7 **/scf**	1701.1 **/scf**
	NET DRY REAL :		19279.8 **/lb**	19385.1 **/lb**
	GROSS DRY REAL :		21069.3 **/lb**	21184.4 **/lb**
	RELATIVE DENSITY (AIR=1):			1.0716
	COMPRESSIBILITY FACTOR :			0.99306

(CALC: GPA STD 2145 & TP-17 @14.696 & 60 F)

**(DETAILED HYDROCARBON ANALYSIS/NJ 1993) ; ASTM D6730*

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