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

303-637-0150

EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

MAIN PAGE

PROJECT NO. :	201404119	ANALYSIS NO. :	04
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	APRIL 28, 2014
ACCOUNT NO. :		SAMPLE DATE :	APRIL 22, 2014
PRODUCER :		CYLINDER NO. :	4037
LEASE NO. :		SAMPLED BY :	JOHN MOSER
NAME/DESCRIP :	OIL TREATER @ 12:55 STATE 3-36-9-61		EMPACT
FIELD DATA		SAMPLE TEMP. :	164
SAMPLE PRES. :	28	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE		

COMPONENT	MOLE %	MASS %	VOL %
ALCOHOLS	0.0022	0.0015	0.0014
NITROGEN (AIR)	0.0174	0.0043	0.0040
CARBON DIOXIDE	0.0297	0.0116	0.0106
METHANE	0.0679	0.0097	0.0241
ETHANE	0.3858	0.1033	0.2160
PROPANE	1.6054	0.6306	0.9266
I-BUTANE	0.4096	0.2120	0.2806
N-BUTANE	2.1330	1.1042	1.4086
I-PENTANE	0.9462	0.6081	0.7256
N-PENTANE	1.5784	1.0144	1.1974
HEXANES PLUS	92.8244	96.3003	95.2051
TOTALS	100.0000	100.0000	100.0000

BTEX COMPONENTS	**MOLE%**	**MASS%**
BENZENE	1.4486	1.0079
TOLUENE	2.8015	2.2993
ETHYLBENZENE	0.7492	0.7085
XYLENE	2.3187	2.1928
TOTAL BTEX	7.3180	6.2085

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

	TOTAL SAMPLE	**C6+ FRACTION**	
Specific Gravity (H2O=1) =	0.7452	0.7549	60/60
API Gravity =	58.38	55.94	60/60
Molecular Weight =	112.27	117.295	
Absolute Density =	6.21	6.28	LBS/GAL
Heating Value Liq. Idl Gas=	125988	127474	BTU/GAL
Vapor/Liquid =	21.11	20.49	CUFT/GAL
Vapor Pressure =	13.04	1.73	PSIA @100 F

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

THIS DATA HAS BEEN ACQUIRED THROUGH APPLICATION OF CURRENT STATE-OF-THE-ART ANALYTICAL TECHNIQUES. THE USE OF THIS INFORMATION IS THE RESPONSIBLITY OF THE USER. EMPACT ANALYTICAL SYSTEMS, ASSUMES NO RESPONSIBLITY FOR ACCURACY OF THE REPORTED INFORMATION NOR ANY CONSEQUENCES OF IT'S APPLICATION.

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

303-637-0150

EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

E & P TANK / GLYCALC INFORMATION

PROJECT NO. :	201404119	ANALYSIS NO. :	04
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	APRIL 28, 2014
ACCOUNT NO. :		SAMPLE DATE :	APRIL 22, 2014
PRODUCER :		CYLINDER NO. :	4037
LEASE NO. :		SAMPLED BY :	JOHN MOSER
NAME/DESCRIP :	OIL TREATER @ 12:55 STATE 3-36-9-61		EMPACT
FIELD DATA		SAMPLE TEMP. :	164
SAMPLE PRES. :	28	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE		

COMPONENT	Mole %		Wt %		LV %	
CARBON DIOXIDE	0.0297		0.0116		0.0106	
NITROGEN (AIR)	0.0174		0.0043		0.0040	
METHANE	0.0679		0.0097		0.0241	
ETHANE	0.3858		0.1033		0.2160	
PROPANE	1.6054		0.6306		0.9266	
I-BUTANE	0.4096		0.2120		0.2806	
N-BUTANE	2.1330		1.1042		1.4086	
I-PENTANE	0.9462		0.6081		0.7256	
N-PENTANE	1.5784		1.0144		1.1974	
CYCLOPENTANE (N-C5)	1.6287		1.0174		0.9971	
N-HEXANE	6.9613		5.3445		5.9984	
CYCLOHEXANE (OTHER C6)	2.8143		2.1097		2.0061	
OTHER HEXANES	10.8050		8.2100		8.7571	
OTHER HEPTANES	13.4107		11.8874		12.4577	
METHYLCYCLOHEXANE (OTHER C7)	3.9578		3.4615		3.3288	
2,2,4 TRIMETHYLPENTANE	0.8005		0.7001		0.6922	
BENZENE	1.4486		1.0079		0.8505	
TOLUENE	2.8015		2.2993		1.9594	
ETHYLBENZENE	0.7492		0.7085		0.6037	
XYLENES	2.3187		2.1928		1.8702	
OTHER OCTANES	10.5876		10.8011		10.9426	
OCTANES PLUS	----	48.9965	----	60.9626	----	58.8500
NONANES	10.4844		11.8000		11.5003	
DECANES PLUS	24.0561		34.7601		33.2410	
SUB TOTAL	99.9978		99.9985		99.9986	
ALCOHOLS	0.0022		0.0015		0.0014	
TOTAL	100.0000		100.0000		100.0000	

API Gravity	=	**58.38**	60/60
Vapor Pressure	=	**13.04**	PSIA & 100 F
Average Molecular Weight of Decanes plus	=	**162.22**	
Average Specific Gravity of Decanes plus	=	**0.7740**	

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EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

BY CARBON NUMBER

PROJECT NO. :	201404119	ANALYSIS NO. :	04
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	APRIL 28, 2014
ACCOUNT NO. :		SAMPLE DATE :	APRIL 22, 2014
PRODUCER :		CYLINDER NO. :	4037
LEASE NO. :		SAMPLED BY :	JOHN MOSER
NAME/DESCRIP :	OIL TREATER @ 12:55		EMPACT
	STATE 3-36-9-61		
FIELD DATA		SAMPLE TEMP. :	164
SAMPLE PRES. :	28	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE		

COMPONENT / CARBON NUMBER		MOLE%	MASS %	VOLUME %
ALCOHOLS		0.0022	0.0015	0.0014
NITROGEN		0.0174	0.0043	0.0040
CARBON DIOXIDE		0.0297	0.0116	0.0106
	C1	0.0679	0.0097	0.0241
	C2	0.3858	0.1033	0.2160
	C3	1.6054	0.6306	0.9266
	C4	2.5426	1.3162	1.6892
	C5	4.1533	2.6399	2.9201
	C6	22.0292	16.6721	17.6121
	C7	20.1700	17.6482	17.7459
	C8	14.4560	14.4025	14.1087
	C9	10.4844	11.8000	11.5003
	C10	9.0487	11.0169	10.5252
	C11	4.9838	6.5858	6.1480
	C12	2.7895	4.0181	3.8719
	C13	2.2777	3.6402	3.5247
	C14	1.8803	3.3227	3.2430
	C15	1.6723	3.1641	3.0527
	C16	0.6859	1.3834	1.3260
	C17	0.3014	0.6456	0.6170
	C18	0.2222	0.5037	0.4800
	C19	0.1072	0.2564	0.2427
	C20	0.0622	0.1565	0.1474
	C21	0.0179	0.0473	0.0443
	C22	0.0065	0.0180	0.0168
	C23	0.0005	0.0014	0.0013
	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

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EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

DHA COMPONENT LIST

PROJECT NO. :	201404119	ANALYSIS NO. :	04
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	APRIL 28, 2014
ACCOUNT NO. :		SAMPLE DATE :	APRIL 22, 2014
PRODUCER :		CYLINDER NO. :	4037
LEASE NO. :		SAMPLED BY :	JOHN MOSER
NAME/DESCRIP :	OIL TREATER @ 12:55 STATE 3-36-9-61		EMPACT
FIELD DATA		SAMPLE TEMP. :	164
SAMPLE PRES. :	28	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE		

COMPONENT	PIANO #	MOLE %	MASS %	VOL %
Nitrogen	NHC	0.0174	0.0043	0.0040
Carbon Dioxide	NHC	0.0297	0.0116	0.0106
Methane	P1	0.0679	0.0097	0.0241
Ethane	P2	0.3858	0.1033	0.2160
Propane	P3	1.6054	0.6306	0.9266
i-Butane	I4	0.4096	0.2120	0.2806
n-Butane	P4	2.1330	1.1042	1.4086
2,2-Dimethylpropane	I5	0.0096	0.0062	0.0077
i-Pentane	I5	0.9366	0.6019	0.7179
n-Pentane	P5	1.5784	1.0144	1.1974
t-Butanol	X4	0.0022	0.0015	0.0014
2,2-Dimethylbutane	I6	0.0325	0.0249	0.0284
Cyclopentane	N5	1.6287	1.0174	0.9971
2,3-Dimethylbutane	I6	0.3403	0.2612	0.2917
2-Methylpentane	I6	3.6174	2.7768	3.1451
3-Methylpentane	I6	2.1357	1.6394	1.8259
n-Hexane	P6	6.9613	5.3445	5.9984
2,2-Dimethylpentane	I7	0.0121	0.0108	0.0118
Methylcyclopentane	N6	4.6791	3.5077	3.4660
2,4-Dimethylpentane	I7	0.2158	0.1926	0.2121
2,2,3-Trimethylbutane	I7	0.0087	0.0078	0.0084
Benzene	A6	1.4486	1.0079	0.8505
3,3-Dimethylpentane	I7	0.0215	0.0192	0.0205
Cyclohexane	N6	2.8143	2.1097	2.0061
2-Methylhexane	I7	1.3019	1.1620	1.2687
2,3-Dimethylpentane	I7	0.6652	0.5937	0.6297
1,1-Dimethylcyclopentane	N7	0.2771	0.2424	0.2379
3-Methylhexane	I7	1.7444	1.5569	1.6742
1c,3-Dimethylcyclopentane	N7	0.8693	0.7603	0.7557
1t,3-Dimethylcyclopentane	N7	0.8005	0.7001	0.6922
3-Ethylpentane	I7	0.1525	0.1361	0.1440
1t,2-Dimethylcyclopentane	N7	1.7469	1.5279	1.5054
2,2,4-Trimethylpentane	I8	0.0435	0.0443	0.0472
n-Heptane	P7	4.6796	4.1766	4.5211
1c,2-Dimethylcyclopentane	N7	0.1649	0.1442	0.1383

Methylcyclohexane	N7	3.9578	3.4615	3.3288
2,2-Dimethylhexane	I8	0.2750	0.2798	0.2977
Ethylcyclopentane	N7	0.7204	0.6301	0.6088
2,5-Dimethylhexane	I8	0.1317	0.1340	0.1430
2,2,3-Trimethylpentane	I8	0.0226	0.0230	0.0238
2,4-Dimethylhexane	I8	0.2198	0.2236	0.2374
1c,2t,4-Trimethylcyclopentane	N8	0.3881	0.3879	0.3763
3,3-Dimethylhexane	I8	0.0346	0.0352	0.0367
2,3,4-Trimethylpentane	I8	0.1118	0.1138	0.1171
2,3,3-Trimethylpentane	I8	0.0044	0.0045	0.0046
Toluene	A7	2.8015	2.2993	1.9594
2,3-Dimethylhexane	I8	0.1508	0.1534	0.1596
2-Methyl-3-ethylpentane	I8	0.1612	0.1640	0.1688
1,1,2-Trimethylcyclopentane	N8	0.0017	0.0017	0.0016
2-Methylheptane	I8	1.3194	1.3425	1.4215
4-Methylheptane	I8	0.4032	0.4103	0.4240
3-Methyl-3-ethylpentane	I8	0.0538	0.0547	0.0557
3,4-Dimethylhexane	I8	0.0562	0.0572	0.0588
1c,2c,4-Trimethylcyclopentane	N8	0.0292	0.0292	0.0280
1c,3-Dimethylcyclohexane	N8	0.0225	0.0225	0.0218
3-Methylheptane	I8	0.6580	0.6695	0.7028
1c,2t,3-Trimethylcyclopentane	N8	0.8655	0.8651	0.8317
3-Ethylhexane	I8	0.1199	0.1220	0.1267
1t,4-Dimethylcyclohexane	N8	0.3238	0.3236	0.3143
1,1-Dimethylcyclohexane	N8	0.1066	0.1065	0.1010
3c-Ethylmethylcyclopentane	N8	0.0021	0.0021	0.0020
3t-Ethylmethylcyclopentane	N8	0.2366	0.2365	0.2285
2t-Ethylmethylcyclopentane	N8	0.2079	0.2078	0.2002
1,1-Methylethylcyclopentane	N8	0.6913	0.6910	0.6555
2,2,4-Trimethylhexane	I9	0.0406	0.0464	0.0480
1t,2-Dimethylcyclohexane	N8	0.5428	0.5425	0.5180
1t,3-Dimethylcyclohexane	N8	0.0032	0.0032	0.0030
UnknownC7s	U7	0.0299	0.0267	0.0289
n-Octane	P8	2.7665	2.8149	2.9665
1c,4-Dimethylcyclohexane	N8	0.3424	0.3422	0.3238
i-Propylcyclopentane	I8	0.0697	0.0697	0.0665
2,4,4-Trimethylhexane	I9	0.0199	0.0227	0.0233
2,2,3,4-Tetramethylpentane	I9	0.0193	0.0220	0.0227
2,3,4-Trimethylhexane	I9	0.0158	0.0180	0.0185
1c,2-Dimethylcyclohexane	N8	0.2018	0.2017	0.1877
2,3,5-Trimethylhexane	I9	0.0704	0.0804	0.0825
2,2-Dimethylheptane	I9	0.0169	0.0193	0.0201
1,1,4-Trimethylcyclohexane	N9	0.9475	1.0654	1.0225
2,2,3-Trimethylhexane	I9	0.3998	0.4568	0.4639
2,4-Dimethylheptane	I9	0.0871	0.0995	0.1030
4,4-Dimethylheptane	I9	0.0393	0.0449	0.0465
Ethylcyclohexane	N8	0.5379	0.5376	0.5056
n-Propylcyclopentane	N8	0.2157	0.2156	0.2056
1c,3c,5-Trimethylcyclohexane	N9	0.0363	0.0408	0.0392
2,5-Dimethylheptane	I9	0.0808	0.0923	0.0954
3,3-Dimethylheptane	I9	0.0863	0.0986	0.1019
3,5-Dimethylheptane	I9	0.0733	0.0837	0.0865
2,6-Dimethylheptane	I9	0.0593	0.0677	0.0707
1,1,3-Trimethylcyclohexane	N9	0.1977	0.2223	0.2134
Ethylbenzene	A8	0.7492	0.7085	0.6037
1c,2t,4t-Trimethylcyclohexane	N9	0.1332	0.1498	0.1410
2,3-Dimethylheptane	I9	0.1544	0.1764	0.1800
1,3-Dimethylbenzene (m-Xylene)	A8	1.3356	1.2631	1.0824
1,4-Dimethylbenzene (p-Xylene)	A8	0.2995	0.2832	0.2435
3,4-Dimethylheptane	I9	0.0425	0.0486	0.0492
3,4-Dimethylheptane (2)	I9	0.1518	0.1734	0.1756
4-Ethylheptane	I9	0.0347	0.0396	0.0410
4-Methyloctane	I9	0.2969	0.3392	0.3486
2-Methyloctane	I9	0.3494	0.3992	0.4144
1c,2t,4c-Trimethylcyclohexane	I9	0.0463	0.0529	0.0540
3-Ethylheptane	I9	0.0895	0.1022	0.1042
3-Methyloctane	I9	0.4536	0.5182	0.5325

3,3-Diethylpentane	I9	0.0682	0.0779	0.0765
1c,2t,3-Trimethylcyclohexane	N9	0.0876	0.0985	0.0927
1,1,2-Trimethylcyclohexane	N9	0.0184	0.0207	0.0195
1,2-Dimethylbenzene (o-Xylene)	A8	0.6836	0.6465	0.5443
i-Butylcyclopentane	N9	0.2588	0.2910	0.2761
UnknownC8s	U8	0.0669	0.0681	0.0718
n-Nonane	P9	1.8196	2.0788	2.1456
1,1-Methylethylcyclohexane	N9	0.2704	0.3089	0.3198
i-Propylbenzene	A9	0.4206	0.4503	0.3863
i-Propylcyclohexane	N9	0.0929	0.1045	0.0965
2,2-Dimethyloctane	I10	0.0862	0.1092	0.1094
2,4-Dimethyloctane	I10	0.0873	0.1106	0.1108
2,6-Dimethyloctane	I10	0.0123	0.0156	0.0161
2,5-Dimethyloctane	I10	0.0394	0.0499	0.0500
n-Butylcyclopentane	N9	0.2601	0.3250	0.3014
3,3-Dimethyloctane	I10	0.0793	0.1005	0.1007
n-Propylbenzene	A9	0.4226	0.4524	0.3882
3,6-Dimethyloctane	I10	0.2628	0.3331	0.3337
3-Methyl-5-ethylheptane	I10	0.4744	0.5420	0.5532
1,3-Methylethylbenzene	A9	0.3725	0.3988	0.3393
1,4-Methylethylbenzene	A9	0.2634	0.2820	0.2399
1,3,5-Trimethylbenzene	A9	0.1648	0.1764	0.1511
2,3-Dimethyloctane	I10	0.0714	0.0905	0.0907
5-Methylnonane	I10	0.2566	0.3252	0.3289
1,2-Methylethylbenzene	A9	0.4829	0.5170	0.4376
2-Methylnonane	I10	0.0385	0.0488	0.0498
3-Ethyloctane	I10	0.0856	0.1085	0.1087
3-Methylnonane	I10	0.2433	0.3083	0.3114
1,2,4-Trimethylbenzene	A9	0.0421	0.0451	0.0382
t-Butylbenzene	A10	0.4386	0.5244	0.4487
i-Butylcyclohexane	N10	0.2173	0.2715	0.2479
1t-Methyl-2-n-propylcyclohexane	I10	0.0503	0.0575	0.0587
i-Butylbenzene	A10	0.0716	0.0856	0.0744
sec-Butylbenzene	A10	0.0649	0.0776	0.0667
UnknownC9s	U9	1.2492	1.4272	1.4731
n-Decane	P10	1.2708	1.6105	1.6343
1,2,3-Trimethylbenzene	A9	0.2477	0.2652	0.2199
1,3-Methyl-i-propylbenzene	A10	0.1168	0.1251	0.1059
1,4-Methyl-i-propylbenzene	A10	0.1087	0.1164	0.0985
Sec-Butylcyclohexane	N10	0.3350	0.4186	0.3816
1,2-Methyl-i-propylbenzene	A10	0.1651	0.1974	0.1669
3-Ethylnonane	I10	0.0570	0.0722	0.0736
1,3-Diethylbenzene	A10	0.1717	0.2053	0.1762
1,3-Methyl-n-propylbenzene	A10	0.0525	0.0628	0.0541
1,4-Diethylbenzene	A10	0.2761	0.3301	0.2839
1,4-Methyl-n-propylbenzene	A10	0.0543	0.0649	0.0560
n-Butylbenzene	A10	0.0652	0.0779	0.0670
1,3-Dimethyl-5-ethylbenzene	A10	0.0714	0.0854	0.0732
1,2-Diethylbenzene	A10	0.1027	0.1228	0.1035
1,2-Methyl-n-propylbenzene	A10	0.1091	0.1304	0.1106
1,4-Dimethyl-2-ethylbenzene	A10	0.1252	0.1497	0.1265
1,2-Dimethyl-4-ethylbenzene	A10	0.2169	0.2593	0.2198
1,3-Dimethyl-2-ethylbenzene	A10	0.1536	0.1836	0.1529
1t,2c,4-Trimethylcyclopentane	A10	0.4983	0.4980	0.4935
1,2-Dimethyl-3-ethylbenzene	A10	0.0733	0.0876	0.0728
1,2-Ethyl-i-propylbenzene	A10	0.1223	0.1462	0.1236
1,4-Methyl-t-butylbenzene	A11	0.1440	0.1722	0.1456
UnknownC10s	U10	1.9917	2.5242	2.5615
n-Undecane	P11	1.0855	1.5114	1.5125
1,4-Ethyl-i-propylbenzene	A11	0.0439	0.0525	0.0444
1,2,4,5-Tetramethylbenzene	A11	0.1508	0.1803	0.1509
1,2-Methyl-n-butylbenzene	A11	0.0874	0.1045	0.0884
1,2,3,5-Tetramethylbenzene	A11	0.1148	0.1372	0.1143
1,2-Methyl-t-butylbenzene	A11	0.1006	0.1203	0.1017
5-Methylindan	A11	0.0229	0.0347	0.0343
4-Methylindan	A11	0.0100	0.0152	0.0150
1,2-Ethyl-n-propylbenzene	A11	0.1601	0.1914	0.1618

2-Methylindan	A11	0.1269	0.1925	0.1905
1,3-Methyl-n-butylbenzene	A11	0.0876	0.1047	0.0885
1,3-Di-i-propylbenzene	A11	0.1400	0.1674	0.1416
sec-Pentylbenzene	A11	0.0882	0.1054	0.0891
n-Pentylbenzene	A11	0.0998	0.1318	0.1138
1t-M-2-(4MP)cyclopentane	P12	0.0893	0.1355	0.1341
1,2-Di-n-propylbenzene	A11	0.1285	0.1536	0.1299
1,4-Di-i-propylbenzene	A11	0.1883	0.2251	0.1903
Tetrahydronaphthalene	A10	0.0388	0.0464	0.0392
t-Decahydronaphthalene	A10	0.1764	0.2109	0.1783
Naphthalene	A10	0.1160	0.1324	0.1120
1-t-Butyl-3,5-dimethylbenzene	A12	0.0495	0.0592	0.0501
1,4-Ethyl-t-butylbenzene	A11	0.1147	0.1371	0.1159
UnknownC11s	U11	1.6033	2.2323	2.2339
n-Dodecane	P12	0.8747	1.3272	1.3135
1,3-Di-n-propylbenzene	A12	0.0778	0.0930	0.0786
1,3,5-Triethylbenzene	A12	0.0356	0.0381	0.0326
1,2,4-Triethylbenzene	A12	0.3083	0.3301	0.2793
1,4-Methyl-n-pentylbenzene	A12	0.0310	0.0371	0.0314
n-Hexylbenzene	A12	0.1381	0.1996	0.1725
1,2,3,4,5-Pentamethylbenzene	A13	0.2242	0.2680	0.2266
2-Methylnaphthalene	A11	0.2509	0.3178	0.2687
1-Methylnaphthalene	A11	0.2356	0.2984	0.2169
UnknownC12s	U12	1.1852	1.7983	1.7798
n-Tridecane	P13	0.7316	1.2014	1.1750
UnknownC13s	U13	1.3219	2.1708	2.1231
n-Tetradecane	P14	0.5866	1.0366	1.0117
UnknownC14s	U14	1.2937	2.2861	2.2313
n-Pentadecane	P15	0.3688	0.6978	0.6732
UnknownC15s	U15	1.3035	2.4663	2.3795
n-Hexadecane	P16	0.1477	0.2979	0.2855
UnknownC16s	U16	0.5382	1.0855	1.0405
n-Heptadecane	P17	0.0865	0.1853	0.1771
UnknownC17s	U17	0.2149	0.4603	0.4399
n-Octadecane	P18	0.0685	0.1553	0.1480
UnknownC18s	U18	0.1537	0.3484	0.3320
n-Nonadecane	P19	0.0345	0.0825	0.0781
UnknownC19s	U19	0.0727	0.1739	0.1646
n-Eicosane	P20	0.0105	0.0264	0.0249
UnknownC20s	U20	0.0517	0.1301	0.1225
n-Heneicosane	P21	0.0032	0.0085	0.0080
UnknownC21s	U21	0.0147	0.0388	0.0363
n-Docosane	P22	0.0021	0.0058	0.0054
UnknownC22s	U22	0.0044	0.0122	0.0114
n-Tricosane	P23	0.0005	0.0014	0.0013
TOTAL		100.0000	100.0000	100.0000

THE DATA PRESENTED HEREIN HAS BEEN ACQUIRED THROUGH JUDICIOUS APPLICATION OF CURRENT STATE-OF-THE ART ANALYTICAL TECHNIQUES. THE APPLICATIONS OF THIS INFORMATION IS THE RESPONSIBILITY OF THE USER. EMPACT ANALYTICAL SYSTEMS, INC. ASSUMES NO RESPONSIBILITY FOR ACCURACY OF THE REPORTED INFORMATION NOR ANY CONSEQUENCES OF IT'S APPLICATION.

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

303-637-0150

EXTENDED NATURAL GAS ANALYSIS (*DHA)

MAIN PAGE

PROJECT NO. :	201404119	ANALYSIS NO. :	05
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	APRIL 30, 2014
ACCOUNT NO. :		SAMPLE DATE :	APRIL 22, 2014
PRODUCER :		CYLINDER NO. :	0883
LEASE NO. :		SAMPLED BY :	JOHN MOSER-EMPACT
NAME/DESCRIP :	SALES GAS @ 13:10 STATE 3-36-9-61		
FIELD DATA		SAMPLE TEMP. :	110
SAMPLE PRES. :	130	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE; LENGTH OF H2S STAIN @ 20.0 PPM (2.5-60 PPM) @ 13:15		

COMPONENT	MOLE %	MASS %	GPM @ 14.650	GPM @ 14.730
ALCOHOLS	0.0002	0.0005		
HELIUM	0.02	0.00	---	---
HYDROGEN	0.00	0.00	---	---
OXYGEN/ARGON	0.01	0.01	---	---
NITROGEN	1.03	1.20	---	---
CARBON DIOXIDE	2.66	4.87	---	---
METHANE	69.33350	46.26900	---	---
ETHANE	12.0721	15.0996	3.2240	3.2416
PROPANE	9.0244	16.5530	2.4831	2.4966
I-BUTANE	0.8848	2.1392	0.2894	0.2909
N-BUTANE	2.9139	7.0450	0.9171	0.9221
I-PENTANE	0.5816	1.7409	0.2092	0.2104
N-PENTANE	0.6902	2.0714	0.2503	0.2517
HEXANES PLUS	0.7793	3.0014	0.3172	0.3188
TOTALS	100.00000	100.00000	7.6903	7.7321

BTEX COMPONENTS	**MOLE%**	**WT%**
BENZENE	0.0281	0.0913
TOLUENE	0.0192	0.0736
ETHYLBENZENE	0.0023	0.0102
XYLENES	0.0051	0.0225
TOTAL BTEX	0.0547	0.1976

	BTU @	14.650	14.730
LOW	NET DRY REAL :	1232.8 **/scf**	1239.6 **/scf**
	NET WET REAL :	1211.2 **/scf**	1218.0 **/scf**
HIGH	GROSS DRY REAL :	1355.1 **/scf**	1362.5 **/scf**
	GROSS WET REAL :	1331.4 **/scf**	1338.8 **/scf**
	NET DRY REAL :	19485.1 **/lb**	19591.5 **/lb**
	GROSS DRY REAL :	21417.9 **/lb**	21534.9 **/lb**
	RELATIVE DENSITY (AIR=1):		0.8290
	COMPRESSIBILITY FACTOR :		0.99564

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

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

THIS DATA HAS BEEN ACQUIRED THROUGH APPLICATION OF CURRENT STATE-OF-THE-ART ANALYTICAL TECHNIQUES. THE USE OF THIS INFORMATION IS THE RESPONSIBLITY OF THE USER. EMPACT ANALYTICAL SYSTEMS, ASSUMES NO RESPONSIBLITY FOR ACCURACY OF THE REPORTED INFORMATION NOR ANY CONSEQUENCES OF IT'S APPLICATION.

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

303-637-0150

EXTENDED NATURAL GAS ANALYSIS (*DHA)

GLYCALC INFORMATION

PROJECT NO. :	201404119	ANALYSIS NO. :	05
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	APRIL 30, 2014
ACCOUNT NO. :		SAMPLE DATE :	APRIL 22, 2014
PRODUCER :		CYLINDER NO. :	0883
LEASE NO. :		SAMPLED BY :	JOHN MOSER-EMPACT
NAME/DESCRIP :	SALES GAS @ 13:10 STATE 3-36-9-61		
FIELD DATA		SAMPLE TEMP. :	110
SAMPLE PRES. :	130	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE; LENGTH OF H2S STAIN @ 20.0 PPM (2.5-60 PPM) @ 13:15		

Componet	Mole %	Wt %
Helium	0.02	0.00
Hydrogen	0.00	0.00
Carbon Dioxide	2.66	4.87
Nitrogen	1.03	1.20
Methane	69.33350	46.26900
Ethane	12.0721	15.0996
Propane	9.0244	16.5530
Isobutane	0.8848	2.1392
n-Butane	2.9139	7.0450
Isopentane	0.5273	1.5825
n-Pentane	0.6902	2.0714
Cyclopentane	0.0543	0.1584
n-Hexane	0.1535	0.5502
Cyclohexane	0.0406	0.1421
Other Hexanes	0.2720	0.9677
Heptanes	0.1385	0.5734
Methycyclohexane	0.0313	0.1278
2,2,4 Trimethylpentane	0.0002	0.0010
Benzene	0.0281	0.0913
Toluene	0.0192	0.0736
Ethylbenzene	0.0023	0.0102
Xylenes	0.0051	0.0225
C8+ Heavies	0.0885	0.4416
Subtotal	99.98980	99.98950
Oxygen/Argon	0.01	0.01
Alcohols	0.0002	0.0005
Total	100.00000	100.00000

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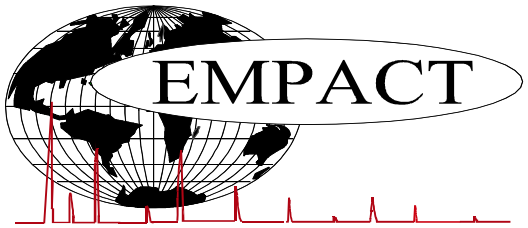

EXTENDED NATURAL GAS ANALYSIS (*DHA)

DHA COMPONENT LIST

PROJECT NO. :	201404119	ANALYSIS NO. :	05
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	APRIL 30, 2014
ACCOUNT NO. :		SAMPLE DATE :	APRIL 22, 2014
PRODUCER :		CYLINDER NO. :	0883
LEASE NO. :		SAMPLED BY :	JOHN MOSER-EMPACT
NAME/DESCRIP :	SALES GAS @ 13:10 STATE 3-36-9-61		
FIELD DATA		SAMPLE TEMP. :	110
SAMPLE PRES. :	130	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; NO PROBE; LENGTH OF H2S STAIN @ 20.0 PPM (2.5-60 PPM) @ 13:15		

COMPONENT	PIANO #	MOLE %	MASS %	GPM @ 14.650	GPM @ 14.730
Helium	---	0.02	0.00	---	---
Hydrogen	---	0.00	0.00	---	---
Oxygen/Argon	---	0.01	0.01	---	---
Nitrogen	---	1.03	1.20	---	---
Carbon Dioxide	---	2.66	4.87	---	---
Methane	P1	69.33350	46.26900	---	---
Ethane	P2	12.0721	15.0996	3.224	3.242
Propane	P3	9.0244	16.5530	2.483	2.497
i-Butane	I4	0.8848	2.1392	0.289	0.291
n-Butane	P4	2.9139	7.0450	0.917	0.922
2,2-Dimethylpropane	I5	0.0023	0.0069	0.001	0.001
Ethanol	X2	0.0001	0.0002	0.000	0.000
i-Pentane	I5	0.5250	1.5756	0.192	0.193
n-Pentane	P5	0.6902	2.0714	0.250	0.252
t-Butanol	X4	0.0001	0.0003	0.000	0.000
2,2-Dimethylbutane	I6	0.0015	0.0054	0.001	0.001
Cyclopentane	N5	0.0543	0.1584	0.016	0.016
2,3-Dimethylbutane	I6	0.0151	0.0541	0.006	0.006
2-Methylpentane	I6	0.1099	0.3940	0.045	0.045
3-Methylpentane	I6	0.0571	0.2047	0.023	0.023
n-Hexane	P6	0.1535	0.5502	0.063	0.063
2,2-Dimethylpentane	I7	0.0005	0.0021	0.000	0.000
Methylcyclopentane	N6	0.0884	0.3095	0.031	0.031
2,4-Dimethylpentane	I7	0.0036	0.0150	0.002	0.002
2,2,3-Trimethylbutane	I7	0.0001	0.0004	0.000	0.000
Benzene	A6	0.0281	0.0913	0.008	0.008
3,3-Dimethylpentane	I7	0.0003	0.0013	0.000	0.000
Cyclohexane	N6	0.0406	0.1421	0.014	0.014
2-Methylhexane	I7	0.0162	0.0675	0.008	0.008
2,3-Dimethylpentane	I7	0.0081	0.0338	0.004	0.004
1,1-Dimethylcyclopentane	N7	0.0033	0.0135	0.001	0.001
3-Methylhexane	I7	0.0194	0.0809	0.009	0.009
1c,3-Dimethylcyclopentane	N7	0.0098	0.0400	0.005	0.005
1t,3-Dimethylcyclopentane	N7	0.0088	0.0359	0.004	0.004
3-Ethylpentane	I7	0.0012	0.0050	0.001	0.001
1t,2-Dimethylcyclopentane	N7	0.0189	0.0772	0.009	0.009

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2,2,4-Trimethylpentane	I8	0.0002	0.0010	0.000	0.000
n-Heptane	P7	0.0411	0.1713	0.019	0.019
1c,2-Dimethylcyclopentane	N7	0.0017	0.0070	0.001	0.001
Methylcyclohexane	N7	0.0313	0.1278	0.013	0.013
2,2-Dimethylhexane	I8	0.0019	0.0090	0.001	0.001
Ethylcyclopentane	N7	0.0055	0.0225	0.002	0.002
2,5-Dimethylhexane	I8	0.0009	0.0043	0.000	0.000
2,2,3-Trimethylpentane	I8	0.0001	0.0005	0.000	0.000
2,4-Dimethylhexane	I8	0.0015	0.0071	0.001	0.001
1c,2t,4-Trimethylcyclopentane	N8	0.0026	0.0122	0.001	0.001
3,3-Dimethylhexane	I8	0.0001	0.0005	0.000	0.000
1t,2c,4-Trimethylcyclopentane	N8	0.0032	0.0149	0.001	0.001
2,3,4-Trimethylpentane	I8	0.0007	0.0033	0.000	0.000
Toluene	A7	0.0192	0.0736	0.006	0.006
2,3-Dimethylhexane	I8	0.0011	0.0052	0.001	0.001
2-Methyl-3-ethylpentane	I8	0.0008	0.0038	0.000	0.000
2-Methylheptane	I8	0.0070	0.0333	0.004	0.004
4-Methylheptane	I8	0.0020	0.0095	0.001	0.001
3-Methyl-3-ethylpentane	I8	0.0003	0.0014	0.000	0.000
3,4-Dimethylhexane	I8	0.0002	0.0010	0.000	0.000
1c,2c,4-Trimethylcyclopentane	N8	0.0001	0.0005	0.000	0.000
1c,3-Dimethylcyclohexane	N8	0.0001	0.0005	0.000	0.000
3-Methylheptane	I8	0.0034	0.0161	0.002	0.002
1c,2t,3-Trimethylcyclopentane	N8	0.0040	0.0187	0.002	0.002
3-Ethylhexane	I8	0.0007	0.0033	0.000	0.000
1t,4-Dimethylcyclohexane	N8	0.0014	0.0065	0.001	0.001
1,1-Dimethylcyclohexane	N8	0.0005	0.0023	0.000	0.000
3t-Ethylmethylcyclopentane	N8	0.0011	0.0051	0.001	0.001
2t-Ethylmethylcyclopentane	N8	0.0010	0.0047	0.001	0.001
1,1-Methylethylcyclopentane	N8	0.0032	0.0149	0.002	0.002
2,2,4-Trimethylhexane	I9	0.0002	0.0011	0.000	0.000
1t,2-Dimethylcyclohexane	N8	0.0023	0.0107	0.001	0.001
n-Octane	P8	0.0112	0.0532	0.006	0.006
1c,4-Dimethylcyclohexane	N8	0.0008	0.0037	0.000	0.000
i-Propylcyclopentane	I8	0.0003	0.0014	0.000	0.000
2,4,4-Trimethylhexane	I9	0.0001	0.0005	0.000	0.000
2,3,5-Trimethylhexane	I9	0.0001	0.0005	0.000	0.000
2,2,3,4-Tetramethylpentane	I9	0.0001	0.0005	0.000	0.000
2,3,4-Trimethylhexane	I9	0.0001	0.0005	0.000	0.000
1c,2-Dimethylcyclohexane	N8	0.0005	0.0023	0.000	0.000
1,1,4-Trimethylcyclohexane	N9	0.0028	0.0147	0.001	0.001
2,2,3-Trimethylhexane	I9	0.0012	0.0064	0.001	0.001
2,4-Dimethylheptane	I9	0.0006	0.0032	0.000	0.000
4,4-Dimethylheptane	I9	0.0001	0.0005	0.000	0.000
Ethylcyclohexane	N8	0.0016	0.0075	0.001	0.001
n-Propylcyclopentane	N8	0.0006	0.0028	0.000	0.000
1c,3c,5-Trimethylcyclohexane	N9	0.0001	0.0005	0.000	0.000
2,5-Dimethylheptane	I9	0.0002	0.0011	0.000	0.000
3,3-Dimethylheptane	I9	0.0003	0.0016	0.000	0.000
3,5-Dimethylheptane	I9	0.0002	0.0011	0.000	0.000
2,6-Dimethylheptane	I9	0.0002	0.0011	0.000	0.000
1,1,3-Trimethylcyclohexane	N9	0.0007	0.0037	0.000	0.000
Ethylbenzene	I8	0.0023	0.0102	0.001	0.001
1c,2t,4t-Trimethylcyclohexane	N9	0.0004	0.0021	0.000	0.000
2,3-Dimethylheptane	I9	0.0016	0.0085	0.001	0.001
1,3-Dimethylbenzene (m-Xylene)	A8	0.0026	0.0115	0.001	0.001
1,4-Dimethylbenzene (p-Xylene)	A8	0.0008	0.0035	0.000	0.000
3,4-Dimethylheptane	I9	0.0001	0.0005	0.000	0.000
3,4-Dimethylheptane (2)	I9	0.0004	0.0021	0.000	0.000
4-Ethylheptane	I9	0.0001	0.0005	0.000	0.000

4-Methyloctane	I9	0.0007	0.0037	0.000	0.000
2-Methyloctane	I9	0.0009	0.0048	0.001	0.001
1c,2t,3-Trimethylcyclohexane	N9	0.0002	0.0010	0.000	0.000
3-Ethylheptane	I9	0.0002	0.0011	0.000	0.000
3-Methyloctane	I9	0.0010	0.0053	0.001	0.001
1c,2t,4c-Trimethylcyclohexane	I9	0.0001	0.0005	0.000	0.000
1,2-Dimethylbenzene (o-Xylene)	A8	0.0017	0.0075	0.001	0.001
i-Butylcyclopentane	N9	0.0007	0.0037	0.000	0.000
UnknownC8s	U8	0.0001	0.0005	0.000	0.000
n-Nonane	P9	0.0032	0.0171	0.002	0.002
1,1-Methylethylcyclohexane	N9	0.0004	0.0021	0.000	0.000
i-Propylbenzene	A9	0.0005	0.0025	0.000	0.000
i-Propylcyclohexane	N9	0.0002	0.0010	0.000	0.000
2,2-Dimethyloctane	I10	0.0001	0.0006	0.000	0.000
2,4-Dimethyloctane	I10	0.0001	0.0006	0.000	0.000
2,5-Dimethyloctane	I10	0.0001	0.0006	0.000	0.000
n-Butylcyclopentane	N9	0.0006	0.0032	0.000	0.000
3,3-Dimethyloctane	I10	0.0003	0.0018	0.000	0.000
n-Propylbenzene	A9	0.0006	0.0030	0.000	0.000
3,6-Dimethyloctane	I10	0.0001	0.0006	0.000	0.000
3-Methyl-5-ethylheptane	I10	0.0010	0.0059	0.001	0.001
1,3-Methylethylbenzene	A9	0.0005	0.0025	0.000	0.000
1,4-Methylethylbenzene	A9	0.0002	0.0010	0.000	0.000
1,3,5-Trimethylbenzene	A9	0.0002	0.0010	0.000	0.000
2,3-Dimethyloctane	I10	0.0001	0.0006	0.000	0.000
5-Methylnonane	I10	0.0003	0.0018	0.000	0.000
1,2-Methylethylbenzene	A9	0.0003	0.0015	0.000	0.000
2-Methylnonane	I10	0.0004	0.0024	0.000	0.000
3-Ethyloctane	I10	0.0001	0.0006	0.000	0.000
3-Methylnonane	I10	0.0003	0.0018	0.000	0.000
1,2,4-Trimethylbenzene	A9	0.0001	0.0005	0.000	0.000
t-Butylbenzene	A10	0.0004	0.0023	0.000	0.000
i-Butylcyclohexane	N10	0.0002	0.0012	0.000	0.000
1t-Methyl-2-n-propylcyclohexane	I10	0.0001	0.0006	0.000	0.000
i-Butylbenzene	A10	0.0001	0.0005	0.000	0.000
sec-Butylbenzene	A10	0.0001	0.0005	0.000	0.000
UnknownC9s	U9	0.0029	0.0155	0.002	0.002
n-Decane	P10	0.0010	0.0059	0.001	0.001
1,2,3-Trimethylbenzene	A9	0.0002	0.0010	0.000	0.000
1,3-Methyl-i-propylbenzene	A10	0.0001	0.0005	0.000	0.000
1,4-Methyl-i-propylbenzene	A10	0.0001	0.0005	0.000	0.000
Sec-Butylcyclohexane	A10	0.0002	0.0012	0.000	0.000
1,2-Methyl-i-propylbenzene	A10	0.0001	0.0005	0.000	0.000
1,3-Diethylbenzene	A10	0.0001	0.0005	0.000	0.000
1,3-Methyl-n-propylbenzene	A10	0.0001	0.0005	0.000	0.000
1,4-Diethylbenzene	A10	0.0002	0.0011	0.000	0.000
1,4-Methyl-n-propylbenzene	A10	0.0001	0.0005	0.000	0.000
n-Butylbenzene	A10	0.0001	0.0005	0.000	0.000
1,3-Dimethyl-5-ethylbenzene	A10	0.0001	0.0005	0.000	0.000
t-Decahydronaphthalene	A9	0.0001	0.0006	0.000	0.000
1,2-Methyl-n-propylbenzene	A10	0.0001	0.0005	0.000	0.000
1,4-Dimethyl-2-ethylbenzene	A10	0.0001	0.0005	0.000	0.000
1,2-Dimethyl-4-ethylbenzene	A10	0.0001	0.0005	0.000	0.000
1,3-Dimethyl-2-ethylbenzene	A10	0.0001	0.0005	0.000	0.000
UnknownC10s	U10	0.0021	0.0124	0.001	0.001
n-Undecane	P11	0.0003	0.0020	0.000	0.000
1,4-Ethyl-i-propylbenzene	A11	0.0001	0.0006	0.000	0.000
1,2-Methyl-n-butylbenzene	A11	0.0001	0.0006	0.000	0.000
1,2-Ethyl-n-propylbenzene	A11	0.0001	0.0006	0.000	0.000
UnknownC11s	U11	0.0004	0.0026	0.000	0.000

n-Dodecane	P12	0.0001	0.0007	0.000	0.000
UnknownC12s	U12	0.0001	0.0007	0.000	0.000
n-Tridecane	P13	0.0001	0.0008	0.000	0.000
TOTAL		100.00000	100.00000	7.6903	7.7321

BTEX COMPONENTS	**MOLE%**	**WT%**
BENZENE	0.0281	0.0913
TOLUENE	0.0192	0.0736
ETHYLBENZENE	0.0023	0.0102
XYLENES	0.0051	0.0225
TOTAL BTEX	0.0547	0.1976

		14.650	14.730
	BTU @		
LOW	NET DRY REAL :	1232.8 **/scf**	1239.6 **/scf**
	NET WET REAL :	1211.2 **/scf**	1218.0 **/scf**
HIGH	GROSS DRY REAL :	1355.1 **/scf**	1362.5 **/scf**
	GROSS WET REAL :	1331.4 **/scf**	1338.8 **/scf**
	NET DRY REAL :	19485.1 **/lb**	19591.5 **/lb**
	GROSS DRY REAL :	21417.9 **/lb**	21534.9 **/lb**

RELATIVE DENSITY (AIR=1): 0.8290

COMPRESSIBILITY FACTOR : 0.99564

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

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

THIS DATA HAS BEEN ACQUIRED THROUGH APPLICATION OF CURRENT STATE-OF-THE-ART ANALYTICAL TECHNIQUES. THE USE OF THIS INFORMATION IS THE RESPONSIBLITY OF THE USER. EMPACT ANALYTICAL SYSTEMS, ASSUMES NO RESPONSIBLITY FOR ACCURACY OF THE REPORTED INFORMATION NOR ANY CONSEQUENCES OF IT'S APPLICATION.

EMPACT Analytical Systems, Inc 365 S. Main Street, Brighton, CO 80601 303-637-0150

CRUDE OIL ASSAY

PROJECT NO. :	201404119	ANALYSIS NO. :	06
COMPANY NAME :	CARRIZO OIL & GAS	ANALYSIS DATE:	APRIL 30, 2014
ACCOUNT NO. :		SAMPLE DATE :	APRIL 22, 2014
PRODUCER :		CYLINDER NO. :	1L GLASS JAR
LEASE NO. :		SAMPLED BY :	JOHN MOSER
NAME/DESCRIP :	PRODUCTION TANK @ 13:20 STATE 3-36-9-61		EMPACT
FIELD DATA		SAMPLE TEMP. :	108
SAMPLE PRES. :		AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT		

SPECIFICATION	TEST METHOD	UNITS	RESULTS
API GRAVITY		API 60/60	34.5
RVP @100 DEG F	D323	PSIG	6.2
TOTAL SULFUR	D2622	WT %	0.396
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			DARK RED/BROWN, CLOUDY
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

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