

22777 Springwoods Village Parkway,
Spring, TX 77389

CLOV17S

	Butane and Lighter	Lt. Naphtha C5 - 165F	Hvy Naphtha 165 - 330F	Kerosene 330 - 480F	Diesel 480 - 650F	Vacuum Gas Oil 650 - 1000F	Vacuum Residue 1000F+	
Whole crude	100.0	1.5	4.3	15.6	13.6	18.0	32.3	14.8
Cut volume, %	100.0	1.5	4.3	15.6	13.6	18.0	32.3	14.8
API Gravity,	32.7	124.6	83.5	56.0	39.9	33.0	24.6	13.8
Specific Gravity (60/60F),	0.862	0.553	0.658	0.755	0.826	0.860	0.907	0.974
Carbon, wt %	86.3	82.4	83.8	85.4	86.2	86.7	86.7	86.5
Hydrogen, wt %	13.4	17.6	16.2	14.6	13.8	13.2	12.8	12.5
Pour point, F	15.8			(189.0)	(86.8)	(2.3)	92.0	108.1
Neutralization number (TAN), MG/GM	0.397	-	0.002	0.067	0.394	0.720	0.577	0.057
Sulfur, wt%	0.260	0.005	0.012	0.010	0.029	0.150	0.333	0.677
Viscosity at 20C/68F, cSt	12.5	1.0	1.4	2.3	5.0	15.2	219.9	2,743,864.0
Viscosity at 40C/104F, cSt	6.6	0.8	1.1	1.6	3.2	7.8	65.7	125,571.0
Viscosity at 50C/122F, cSt	5.1	0.7	1.0	1.4	2.6	6.0	40.6	36,538.5
Mercaptan sulfur, ppm	3.9	8.7	11.1	13.4	9.1	2.8	4.6	8.8
Nitrogen, ppm	1,354.6	-	-	0.0	3.3	63.9	1,143.1	5,676.6
CCR, wt%	2.3						0.2	13.4
N-Heptane Insolubles (C7 Asphaltenes), wt%	0.1						-	0.7
Nickel, ppm	7.2							42.8
Vanadium, ppm	2.5							15.0
Calcium, ppm	NotAvailable							
Reid Vapor Pressure (RVP) Whole Crude, psi	5.8							
Hydrogen Sulfide (dissolved), ppm	NotAvailable							
Salt content, ptb	3.8							
Paraffins, vol %	31.7	100.0	87.4	55.3	36.4	28.7	19.5	4.4
Naphthenes, vol %	38.5	-	12.6	35.1	45.5	48.6	44.0	25.5
Aromatics (FIA), vol %	29.8	-	-	9.6	18.1	22.7	36.5	70.1
Distillation type, TBP								
IBP, F	(6.3)		61.0	166.2	330.8	480.9	651.5	1,001.1
5 vol%, F	152.2		69.4	176.4	337.8	488.6	665.4	1,011.1
10 vol%, F	217.7		77.8	186.8	346.0	497.2	680.8	1,022.7
20 vol%, F	315.1		92.5	205.6	362.6	514.3	712.1	1,047.5
30 vol%, F	430.5		105.1	222.6	379.3	531.3	744.8	1,075.2
40 vol%, F	527.9		116.1	238.3	395.4	548.3	782.5	1,106.4
50 vol%, F	622.1		126.0	253.2	410.9	565.2	818.7	1,142.2
60 vol%, F	717.9		135.0	267.8	425.5	582.1	850.2	1,184.3
70 vol%, F	827.8		143.3	282.3	439.7	599.0	882.7	1,234.9
80 vol%, F	931.8		151.0	297.2	453.4	616.0	917.6	1,297.3
90 vol%, F	1,082.2		158.3	313.0	466.8	632.9	956.1	1,377.4
95 vol%, F	1,214.4		161.6	321.3	473.4	641.5	977.2	1,428.1
EP, F	1,447.5		164.7	329.1	479.3	649.1	997.6	1,501.8
Freeze point, F				(176.5)	(74.2)	10.3		
Smoke point, mm				29.0	21.8	14.3		
Naphthalenes (D1840), vol%					1.9	8.1		
Viscosity at 100C/212F, cSt	2.0	0.5	0.6	0.8	1.3	2.3	7.9	554.2
Viscosity at 150C/302F, cSt	1.1	0.4	0.4	0.5	0.8	1.2	3.1	56.8
Cetane Index 1990 (D4737),				31.5	37.3	51.0		
Cloud point, F				(185.0)	(81.6)	1.8		
Aniline pt, F					132.4	158.9	195.0	