

22777 Springwoods Village Parkway,
Spring, TX 77389

WLYBUT03

	Whole crude	Butane and Lighter IBP - 60F	Lt. Naphtha C5 - 165F	Hvy Naphtha 165 - 330F	Kerosene 330 - 480F	Diesel 480 - 650F	Vacuum Gas Oil 650 - 1000F	Vacuum Residue 1000F+	
Cut volume, %	100.0	0.4	7.9	33.3	28.1	21.0	8.8		0.4
API Gravity,	49.0	117.5	81.6	59.7	48.0	35.3	25.2		(6.8)
Specific Gravity (60/60F),	0.784	0.568	0.664	0.740	0.788	0.848	0.903		1.135
Carbon, wt %	85.6	82.6	83.7	84.8	85.7	86.6	87.2		86.8
Hydrogen, wt %	14.4	17.4	16.3	15.2	14.3	13.3	12.7		12.1
Pour point, F	(65.2)			(97.7)	(49.6)	14.1	89.0		97.9
Neutralization number (TAN), MG/GM	0.036	0.005	0.006	0.019	0.040	0.054	0.052		0.107
Sulfur, wt%	0.018	0.000	0.000	0.000	0.000	0.016	0.106		0.524
Viscosity at 20C/68F, cSt	1.6	0.4	0.6	0.8	1.8	6.2	53.9	61,987,277,025.0	
Viscosity at 40C/104F, cSt	1.3	0.4	0.5	0.7	1.3	3.7	22.8	735,719,396.8	
Viscosity at 50C/122F, cSt	1.2	0.3	0.4	0.6	1.2	3.0	16.0	118,686,477.3	
Mercaptan sulfur, ppm	0.8	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Nitrogen, ppm	59.1	-	-	0.0	0.7	12.2	257.7		4,795.6
CCR, wt%	0.2						0.3		34.0
N-Heptane Insolubles (C7 Asphaltenes), wt%	0.0						-		7.9
Nickel, ppm	0.5								79.7
Vanadium, ppm	0.1								12.4
Calcium, ppm	1.0								
Reid Vapor Pressure (RVP) Whole Crude, psi	2.1								
Hydrogen Sulfide (dissolved), ppm	-								
Salt content, ptb	7.1								
Paraffins, vol %	57.5	100.0	93.5	63.6	62.7	37.2	27.2		2.5
Naphthenes, vol %	30.7	-	6.5	35.3	22.2	43.4	35.5		19.7
Aromatics (FIA), vol %	11.8	-	-	1.1	15.1	19.4	37.3		77.8
Distillation type, TBP									
IBP, F	68.0		64.5	165.9	330.7	480.6	650.6		1,000.5
5 vol%, F	144.3		74.9	174.0	337.1	486.3	656.2		1,005.1
10 vol%, F	173.8		83.3	182.5	344.2	492.7	662.6		1,010.6
20 vol%, F	223.0		106.6	199.0	358.4	505.8	676.6		1,022.2
30 vol%, F	271.7		126.2	215.1	372.7	519.5	692.2		1,035.4
40 vol%, F	321.5		133.6	231.2	387.2	533.8	709.7		1,050.2
50 vol%, F	372.1		140.0	247.3	401.8	549.2	729.7		1,067.6
60 vol%, F	424.5		145.6	263.6	416.7	565.7	753.3		1,088.5
70 vol%, F	481.2		150.9	280.0	432.0	583.3	782.8		1,114.8
80 vol%, F	547.0		155.8	296.6	447.5	602.3	822.7		1,150.8
90 vol%, F	639.7		160.5	313.3	463.5	623.9	882.0		1,209.4
95 vol%, F	725.5		162.8	321.6	471.7	636.3	927.0		1,264.2
EP, F	985.7		164.8	329.2	479.2	648.6	990.2		1,410.4
Freeze point, F				(85.9)	(37.1)	26.5			
Smoke point, mm				38.8	31.1	13.7			
Naphthalenes (D1840), vol%					0.5	7.7			
Viscosity at 100C/212F, cSt	0.8	0.3	0.3	0.4	0.7	1.4	4.7	182,341.3	
Viscosity at 150C/302F, cSt	0.6	0.2	0.2	0.3	0.5	0.9	2.2	4,146.4	
Cetane Index 1990 (D4737),				37.4	52.7	54.3			
Cloud point, F				(93.5)	(45.7)	19.7			
Aniline pt, F					157.7	165.8	189.3		