

22777 Springwoods Village Parkway,
Spring, TX 77389

QUAIB16X

	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	2.2	6.6	19.7	17.9	22.3	26.1	5.2
API Gravity,	37.6	118.0	81.0	53.4	41.5	34.3	24.1	9.6
Specific Gravity (60/60F),	0.837	0.567	0.666	0.765	0.818	0.854	0.909	1.003
Carbon, wt %	86.3	82.4	83.9	85.8	86.1	86.5	87.0	86.9
Hydrogen, wt %	13.5	17.6	16.1	14.2	13.9	13.4	12.7	11.8
Pour point, F	48.2			(113.8)	(62.5)	12.1	104.6	123.5
Neutralization number (TAN), MG/GM	0.258	0.249	0.232	0.106	0.037	0.270	0.456	0.399
Sulfur, wt%	0.100	0.000	0.000	0.004	0.026	0.090	0.165	0.432
Viscosity at 20C/68F, cSt	5.8	0.4	0.5	0.8	1.9	6.5	192.6	97,420,100.5
Viscosity at 40C/104F, cSt	3.2	0.4	0.4	0.7	1.4	3.9	57.0	1,737,417.0
Viscosity at 50C/122F, cSt	2.5	0.3	0.4	0.6	1.2	3.1	35.2	352,533.6
Mercaptan sulfur, ppm	0.9	0.0	0.0	0.1	1.6	1.3	0.1	0.0
Nitrogen, ppm	810.8	-	-	0.4	8.2	74.4	1,123.8	7,487.1
CCR, wt%	1.0						0.3	14.7
N-Heptane Insolubles (C7 Asphaltenes), wt%	0.0						-	0.2
Nickel, ppm	3.3							52.6
Vanadium, ppm	0.2							3.8
Calcium, ppm	7.7							
Reid Vapor Pressure (RVP) Whole Crude, psi	4.4							
Hydrogen Sulfide (dissolved), ppm	-							
Salt content, ptb	2.1							
Paraffins, vol %	35.7	100.0	81.2	32.9	35.0	34.3	25.5	1.5
Naphthenes, vol %	41.9	-	18.8	56.9	51.1	45.2	39.3	14.5
Aromatics (FIA), vol %	22.4	-	-	10.3	14.0	20.5	35.2	83.9
Distillation type, TBP								
IBP, F	(22.6)		60.8	166.1	330.9	480.8	651.1	1,000.9
5 vol%, F	107.8		68.2	175.4	338.6	488.3	660.9	1,009.3
10 vol%, F	177.4		72.3	185.1	347.1	496.5	672.0	1,019.0
20 vol%, F	257.1		80.5	202.9	363.5	512.9	694.8	1,040.1
30 vol%, F	344.6		97.7	219.1	379.3	529.4	718.8	1,064.0
40 vol%, F	431.0		105.8	234.0	394.7	545.9	744.1	1,091.2
50 vol%, F	507.0		123.2	248.0	409.8	562.5	771.4	1,122.5
60 vol%, F	581.4		132.6	261.2	424.5	579.4	801.4	1,159.4
70 vol%, F	661.2		141.4	274.6	438.9	596.5	835.5	1,204.1
80 vol%, F	753.3		149.8	290.4	452.9	613.9	875.9	1,261.2
90 vol%, F	884.1		157.6	310.2	466.6	631.8	927.4	1,341.6
95 vol%, F	1,008.6		161.3	320.2	473.3	640.8	959.9	1,399.9
EP, F	1,346.3		164.6	329.0	479.3	649.1	995.5	1,488.9
Freeze point, F				(102.4)	(51.1)	23.7		
Smoke point, mm				27.3	21.1	15.3		
Naphthalenes (D1840), vol%					1.9	8.1		
Viscosity at 100C/212F, cSt	1.0	0.3	0.3	0.4	0.7	1.4	6.9	1,726.5
Viscosity at 150C/302F, cSt	0.6	0.2	0.2	0.3	0.5	0.9	2.7	104.5
Cetane Index 1990 (D4737),				25.2	40.3	53.5		
Cloud point, F				(109.7)	(58.6)	18.7		
Aniline pt, F					135.7	160.8	190.3	