

22777 Springwoods Village Parkway,
Spring, TX 77389

ORMNL16I

	Butane and Whole crude	Lt. Naphtha IBP - 60F	Hvy Naphtha 165 - 330F	Kerosene 330 - 480F	Diesel 480 - 650F	Vacuum Gas Oil 650 - 1000F	Vacuum Residue 1000F+
Cut volume, %	100.0	5.0	19.9	59.7	11.7	3.1	0.7
API Gravity,	62.4	118.7	84.0	56.9	48.5	41.8	35.9
Specific Gravity (60/60F),	0.730	0.566	0.657	0.751	0.786	0.816	0.846
Carbon, wt %	85.1	82.4	83.8	85.5	85.5	85.6	85.7
Hydrogen, wt %	14.9	17.6	16.2	14.5	14.5	14.4	14.3
Pour point, F	(76.0)			(113.6)	(48.0)	22.4	76.6
Neutralization number (TAN), MG/GM	0.008	0.002	0.003	0.004	0.011	0.038	0.348
Sulfur, wt%	0.003	0.000	0.001	0.002	0.005	0.016	0.039
Viscosity at 20C/68F, cSt	0.8	0.4	0.5	0.7	1.7	6.1	27.1
Viscosity at 40C/104F, cSt	0.6	0.3	0.4	0.6	1.2	3.7	12.8
Viscosity at 50C/122F, cSt	0.6	0.3	0.4	0.5	1.1	3.0	9.4
Mercaptan sulfur, ppm	1.0	1.1	3.0	2.8	3.3	2.0	0.6
Nitrogen, ppm	1.5	-	-	0.1	1.0	10.6	85.4
CCR, wt%	0.0						0.1
N-Heptane Insolubles (C7 Asphaltenes), wt%	0.0						-
Nickel, ppm	0.0						
Vanadium, ppm	0.0						
Calcium, ppm	1.5						
Reid Vapor Pressure (RVP) Whole Crude, psi	8.4						
Hydrogen Sulfide (dissolved), ppm	-						
Salt content, ptb	0.6						
Paraffins, vol %	59.4	100.0	86.7	47.6	58.8	51.1	32.1
Naphthenes, vol %	33.2	-	13.2	43.1	28.5	41.9	60.9
Aromatics (FIA), vol %	7.4	-	-	9.3	12.7	7.0	7.0
Distillation type, TBP							
IBP, F	(90.5)		61.1	165.8	330.4	480.5	650.4
5 vol%, F	59.9		69.1	172.4	334.2	484.8	653.8
10 vol%, F	95.4		73.4	179.3	338.4	489.8	657.9
20 vol%, F	150.3		82.0	192.1	347.6	500.6	666.7
30 vol%, F	177.4		99.1	204.3	357.7	512.5	676.5
40 vol%, F	198.6		106.7	216.3	368.7	525.6	687.8
50 vol%, F	218.8		124.4	228.4	380.9	540.2	701.6
60 vol%, F	239.8		137.1	241.5	394.4	556.3	718.6
70 vol%, F	266.0		146.2	256.4	409.6	574.4	740.9
80 vol%, F	303.5		153.3	274.4	427.5	595.0	772.5
90 vol%, F	376.5		159.6	297.1	449.9	619.3	824.4
95 vol%, F	448.4		162.3	311.6	463.7	633.5	870.6
EP, F	670.8		164.7	328.0	478.3	648.2	969.8
Freeze point, F				(102.0)	(36.1)	32.6	
Smoke point, mm				32.1	29.6	26.1	
Naphthalenes (D1840), vol%					0.3	1.2	
Viscosity at 100C/212F, cSt	0.4	0.2	0.3	0.4	0.6	1.4	3.2
Viscosity at 150C/302F, cSt	0.3	0.2	0.2	0.3	0.4	0.8	1.6
Cetane Index 1990 (D4737),				26.3	49.3	68.6	
Cloud point, F				(109.4)	(42.8)	27.3	
Aniline pt, F					151.0	183.3	206.7