

22777 Springwoods Village Parkway,
Spring, TX 77389

ANS17Y

	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	3.9	7.5	17.0	13.1	15.4	26.5	16.6
API Gravity,	32.1	118.3	84.2	54.3	41.3	30.8	20.5	6.5
Specific Gravity (60/60F),	0.865	0.566	0.656	0.762	0.819	0.872	0.931	1.026
Carbon, wt %	85.9	82.5	83.8	86.1	86.2	86.6	86.4	85.4
Hydrogen, wt %	13.1	17.5	16.2	13.9	13.7	12.8	12.2	12.1
Pour point, F	(57.1)			(97.1)	(63.4)	1.7	89.0	134.9
Neutralization number (TAN), MG/GM	0.201	0.000	0.001	0.008	0.020	0.148	0.387	0.321
Sulfur, wt%	0.959	0.001	0.001	0.006	0.070	0.546	1.275	2.517
Viscosity at 20C/68F, cSt	11.1	0.5	0.6	0.9	1.9	7.2	281.2	3,508,318,100.1
Viscosity at 40C/104F, cSt	6.4	0.4	0.5	0.7	1.4	4.2	77.0	35,002,525.2
Viscosity at 50C/122F, cSt	5.1	0.4	0.4	0.6	1.2	3.4	46.2	5,551,332.1
Mercaptan sulfur, ppm	0.6	5.1	13.3	12.0	5.1	2.5	0.6	0.0
Nitrogen, ppm	1,720.4	-	-	0.0	1.5	67.2	968.5	7,235.2
CCR, wt%	4.5						0.5	22.0
N-Heptane Insolubles (C7 Asphaltenes), wt%	2.6						-	13.1
Nickel, ppm	11.6							58.5
Vanadium, ppm	27.7							139.8
Calcium, ppm	0.5							
Reid Vapor Pressure (RVP) Whole Crude, psi	10.6							
Hydrogen Sulfide (dissolved), ppm	-							
Salt content, ptb	0.1							
Paraffins, vol %	30.1	100.0	86.4	40.5	34.9	25.3	13.7	1.9
Naphthenes, vol %	31.3	-	13.6	42.8	43.2	44.0	33.1	13.3
Aromatics (FIA), vol %	38.6	-	-	16.7	21.9	30.8	53.2	84.8
Distillation type, TBP								
IBP, F	(24.2)		60.4	165.9	330.7	480.9	651.5	1,001.5
5 vol%, F	73.4		64.3	173.9	337.3	488.6	664.9	1,015.1
10 vol%, F	149.5		68.7	182.3	344.8	497.2	679.9	1,030.7
20 vol%, F	245.4		78.1	198.3	359.8	514.3	710.4	1,063.9
30 vol%, F	348.2		96.0	213.6	374.9	531.2	741.5	1,100.2
40 vol%, F	462.8		102.8	228.8	390.1	548.1	773.4	1,140.2
50 vol%, F	573.2		109.5	244.2	405.3	564.9	806.3	1,184.6
60 vol%, F	684.5		127.4	260.0	420.5	581.8	840.5	1,233.8
70 vol%, F	804.0		138.1	276.4	435.5	598.7	876.3	1,288.5
80 vol%, F	943.0		147.8	293.6	450.4	615.7	914.3	1,349.0
90 vol%, F	1,139.0		156.7	311.4	465.3	632.8	955.2	1,415.9
95 vol%, F	1,287.7		160.9	320.6	472.6	641.4	977.0	1,453.8
EP, F	1,472.0		164.6	329.1	479.3	649.1	997.6	1,514.6
Freeze point, F				(84.3)	(49.6)	14.2		
Smoke point, mm				27.2	20.8	13.8		
Naphthalenes (D1840), vol%					1.8	9.9		
Viscosity at 100C/212F, cSt	2.2	0.3	0.3	0.4	0.7	1.5	8.2	10,927.1
Viscosity at 150C/302F, cSt	1.3	0.2	0.2	0.3	0.5	0.9	3.1	379.1
Cetane Index 1990 (D4737),				25.8	39.3	46.1		
Cloud point, F				(93.8)	(59.6)	7.2		
Aniline pt, F					131.5	148.1	170.8	