

22777 Springwoods Village Parkway,
Spring, TX 77389

TROLL13Y

	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	1.4	6.5	19.7	17.0	20.0	26.9	8.7
API Gravity,	35.8	118.3	81.1	52.1	40.0	31.4	23.3	14.4
Specific Gravity (60/60F),	0.846	0.566	0.665	0.771	0.825	0.869	0.914	0.970
Carbon, wt %	86.5	82.5	83.9	86.2	86.4	86.9	86.9	86.6
Hydrogen, wt %	13.2	17.5	16.1	13.8	13.6	13.0	12.6	12.5
Pour point, F	(32.8)			(109.1)	(68.5)	0.3	91.7	102.1
Neutralization number (TAN), MG/GM	0.641	0.000	0.001	0.006	0.031	0.321	1.512	1.309
Sulfur, wt%	0.172	0.000	0.001	0.004	0.019	0.098	0.287	0.651
Viscosity at 20C/68F, cSt	5.7	0.5	0.6	0.9	2.0	7.3	175.3	936,531.2
Viscosity at 40C/104F, cSt	3.5	0.4	0.5	0.7	1.4	4.3	55.3	57,159.3
Viscosity at 50C/122F, cSt	2.8	0.4	0.5	0.7	1.3	3.5	34.9	18,570.9
Mercaptan sulfur, ppm	0.6	1.2	4.2	7.3	3.9	0.2	0.0	0.0
Nitrogen, ppm	592.6	-	-	0.0	0.4	19.5	617.6	4,121.7
CCR, wt%	1.3						0.2	12.2
N-Heptane Insolubles (C7 Asphaltenes), wt%	0.1						-	0.7
Nickel, ppm	0.8							7.6
Vanadium, ppm	0.9							9.2
Calcium, ppm	1.7							
Reid Vapor Pressure (RVP) Whole Crude, psi	7.0							
Hydrogen Sulfide (dissolved), ppm	-							
Salt content, ptb	1.6							
Paraffins, vol %	29.4	100.0	82.8	35.6	31.3	25.9	19.2	3.4
Naphthenes, vol %	41.4	-	17.2	46.2	47.8	49.0	41.7	25.5
Aromatics (FIA), vol %	28.9	-	-	18.3	20.9	25.0	38.2	70.9
Distillation type, TBP								
IBP, F	19.1		61.1	165.9	330.7	480.9	651.2	1,001.0
5 vol%, F	136.5		69.8	173.8	337.4	488.5	662.5	1,009.7
10 vol%, F	183.9		76.0	182.3	344.9	496.9	675.3	1,019.8
20 vol%, F	266.2		96.7	198.8	359.9	513.7	701.7	1,041.3
30 vol%, F	351.8		106.1	214.9	375.0	530.3	729.5	1,064.9
40 vol%, F	441.0		124.1	231.0	390.2	546.8	758.9	1,091.1
50 vol%, F	526.3		132.1	247.1	405.4	563.4	790.3	1,120.8
60 vol%, F	610.2		139.5	263.3	420.6	580.1	823.8	1,155.5
70 vol%, F	703.4		146.3	279.6	435.7	597.0	860.3	1,197.3
80 vol%, F	816.2		152.8	296.2	450.6	614.3	900.6	1,251.1
90 vol%, F	971.8		159.0	313.0	465.4	631.9	946.2	1,328.8
95 vol%, F	1,097.4		162.0	321.5	472.7	640.9	971.8	1,388.2
EP, F	1,377.4		164.7	329.1	479.3	649.1	997.0	1,483.8
Freeze point, F				(96.6)	(54.4)	14.0		
Smoke point, mm				26.6	19.6	13.5		
Naphthalenes (D1840), vol%					3.0	9.1		
Viscosity at 100C/212F, cSt	1.3	0.3	0.3	0.4	0.7	1.6	7.2	397.9
Viscosity at 150C/302F, cSt	0.8	0.2	0.3	0.3	0.5	0.9	2.9	47.9
Cetane Index 1990 (D4737),				22.8	36.8	47.3		
Cloud point, F				(105.9)	(66.2)	4.7		
Aniline pt, F					130.9	154.6	187.7	