

22777 Springwoods Village Parkway,
Spring, TX 77389

FORTB16F

	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	2.9	9.2	20.6	15.4	16.6	24.8	10.7
API Gravity,	39.1	117.6	85.1	55.1	43.5	34.9	24.9	10.5
Specific Gravity (60/60F),	0.829	0.568	0.653	0.758	0.809	0.850	0.905	0.996
Carbon, wt %	85.6	82.5	83.8	86.0	86.0	86.0	85.8	85.4
Hydrogen, wt %	13.5	17.5	16.2	14.0	13.9	13.4	12.8	12.0
Pour point, F	(8.6)			(115.9)	(52.7)	14.9	102.8	86.6
Neutralization number (TAN), MG/GM	0.095	0.002	0.002	0.018	0.068	0.150	0.177	0.060
Sulfur, wt%	0.817	0.000	0.000	0.003	0.103	0.561	1.335	2.686
Viscosity at 20C/68F, cSt	5.1	0.4	0.5	0.8	1.7	6.3	138.2	1,190,430.9
Viscosity at 40C/104F, cSt	3.3	0.3	0.4	0.6	1.3	3.8	45.8	71,183.9
Viscosity at 50C/122F, cSt	2.7	0.3	0.4	0.6	1.1	3.1	29.5	22,888.4
Mercaptan sulfur, ppm	17.8	0.0	0.2	5.3	17.6	3.8	0.3	0.0
Nitrogen, ppm	991.7	-	-	0.0	1.3	56.6	984.8	5,574.0
CCR, wt%	2.0						0.2	14.8
N-Heptane Insolubles (C7 Asphaltenes), wt%	0.2						-	1.7
Nickel, ppm	3.3							25.8
Vanadium, ppm	9.2							71.8
Calcium, ppm	0.5							
Reid Vapor Pressure (RVP) Whole Crude, psi	8.0							
Hydrogen Sulfide (dissolved), ppm	-							
Salt content, ptb	2.2							
Paraffins, vol %	39.1	100.0	86.3	45.8	45.4	32.6	24.1	4.3
Naphthenes, vol %	31.5	-	13.7	36.8	32.8	44.5	36.3	13.6
Aromatics (FIA), vol %	29.4	-	-	17.5	21.8	22.9	39.6	82.1
Distillation type, TBP								
IBP, F	6.0		60.7	165.9	330.7	480.8	651.4	1,001.1
5 vol%, F	85.5		66.9	173.5	337.3	488.1	663.7	1,011.6
10 vol%, F	147.3		72.2	181.7	344.6	496.3	677.6	1,023.7
20 vol%, F	225.9		82.2	197.5	359.4	512.6	705.9	1,049.2
30 vol%, F	305.7		99.2	212.8	374.3	529.0	735.2	1,077.1
40 vol%, F	401.4		106.0	227.8	389.4	545.6	765.5	1,107.9
50 vol%, F	499.5		112.7	242.9	404.6	562.4	797.2	1,142.4
60 vol%, F	600.8		131.4	258.5	419.7	579.4	830.9	1,182.0
70 vol%, F	711.4		140.5	274.9	434.9	596.7	867.1	1,229.0
80 vol%, F	838.9		149.1	292.4	449.9	614.2	906.6	1,287.4
90 vol%, F	1,014.6		157.2	310.9	465.0	631.9	950.5	1,365.6
95 vol%, F	1,154.1		161.1	320.4	472.5	640.9	974.4	1,418.4
EP, F	1,422.3		164.6	329.0	479.2	649.1	997.3	1,496.9
Freeze point, F				(103.9)	(40.4)	27.6		
Smoke point, mm				28.1	21.7	15.4		
Naphthalenes (D1840), vol%					1.7	9.5		
Viscosity at 100C/212F, cSt	1.4	0.2	0.3	0.4	0.7	1.4	6.5	467.7
Viscosity at 150C/302F, cSt	0.9	0.2	0.2	0.3	0.5	0.9	2.7	54.3
Cetane Index 1990 (D4737),				27.1	43.5	54.9		
Cloud point, F				(111.3)	(49.2)	20.2		
Aniline pt, F					133.9	159.8	185.1	