DURI - SUMMARY OF MAJOR CUTS

	Whole Crude	Light Naphtha	Medium Naphtha	Heavy Naphtha	Kero	Atm Gas Oil	Light VGO	Heavy VGO	Vacuum Resid	Atm Resid
TBP Temp At Start, °C	Start	80	80	150	200	260	340	450	570	340
TBP Temp At End, °C	End	80	150	200	260	340	450	570	End	End
TBP Temp At Start, °F	Start	180	180	300	400	500	650	850	1050	650
TBP Temp At End, °F	End	180	300	400	500	650	850	1050	End	End
Yield at Start, vol%		0.0	0.0	2.0	5.1	10.7	22.7	40.9	56.0	22.7
Yield at End, vol%		0.1	2.0	5.1	10.7	22.7	40.9	56.0	100.0	100.0
Yield of Cut (wt% of Crude)		0.1	1.7	2.7	5.2	11.5	18.0	15.2	45.7	78.9
Yield of Cut (vol% of Crude)		0.1	2.0	3.1	5.6	12.0	18.2	15.1	44.0	77.3
Gravity, °API	20.8	69.6	50.6	41.5	33.2	26.9	22.5	20.2	15.0	17.7
Specific Gravity	0.9293	0.7036	0.7772	0.8179	0.8591	0.8935	0.9190	0.9327	0.9658	0.9483
Sulfur, wt%	0.20		0.02	0.02	0.07	0.15	0.19	0.19	0.26	0.23
Mercaptan Sulfur, ppm			10	13	13	10	10			
Nitrogen, ppm	3562			1	11	138	994	2042	6685	4495
Hydrogen, wt%	12.2	15.5	14.5	13.7	13.1	12.5	12.2	12.1	11.8	12.0
Viscosity @ 40 °C (104 °F), cSt	308.3		0.751	1.116	2.02	5.81	50.9	222	1.13E+05	2173
Viscosity @ 50 °C (122 °F), cSt	175		0.690	0.992	1.72	4.49	30.6	119	30400	959
Viscosity @ 100 °C (212 °F), cSt	25.9		0.492	0.631	0.923	1.77	5.60	15.5	588	69.6
Viscosity @ 135 °C (275 °F), cSt	11.5		0.414	0.503	0.683	1.15	2.72	6.62	152	24.2
Freeze Point, °C			-106.000	-89.000	-65.000	-24.000				
Freeze Point, °F			-158	-129	-85	-11				
Pour Point, °C	10		-112	-98	-74	-36	13	36	42	24
Pour Point, °F	50		-169	-145	-102	-32	56	97	107	75
Smoke Point, mm (ASTM)			26	21	16	11				
Aniline Point, °C			49	49	51	58	77	96		
Aniline Point, °F			120	121	124	136	171	204		
Total Acid Number, mg KOH/g	1.27		0.0	0.1	0.8	2.5	2.7	1.8		
Cetane Index, ASTM D976				25	35	40				
Diesel Index			61	50	41	36	38	41		
Characterization Factor (K Factor)	12.0	12.1	11.6	11.4	11.3	11.3	11.6	12.0	12.2	12.0
Research Octane Number, Clear		74.9	61.9	46.4						
Motor Octane Number, Clear		70.8	60.5							
Paraffins, vol%		56.8	29.1	16.5	9.8	9.7	5.9			
Naphthenes, vol%		43.2	66.0	71.2	64.4	53.9	50.1			
Aromatics, vol%		0.0	4.9	12.2	23.1	32.6	32.1			
Thiophenes, vol%				0.1	2.7	3.8	12.0			
Molecular Weight	490	99	122	138	169	218	310	467	1275	710
Gross Heating Value, MM BTU/bbl	6.24	5.06	5.46	5.67	5.87	6.03	6.16	6.25	6.40	6.32
Gross Heating Value, kcal/kg	10660	11420	11140	11010	10830	10700	10650	10640	10510	10570
Gross Heating Value, MJ/kg	44.6	47.8	46.6	46.1	45.3	44.8	44.6	44.5	44.0	44.2
Heptane Asphaltenes, wt%	0.0								0.1	0.1
Micro Carbon Residue, wt%	6.8								14.9	8.6
Ramsbottom Carbon, wt%	6.3								13.8	8.0
Vanadium, ppm	1								2	1
Nickel, ppm	32								70	40
Iron, ppm	7								16	9

Date Created
6/4/2003

Date Assayed
1994

DURI - DISTILLATION SUMMARY

		Whole Crude	Light Naphtha	Medium Naphtha	Heavy Naphtha	Kero	Atm Gas Oil	Light VGO	Heavy VGO	Vacuum Resid	Atm Resid
TBP Temp At Start, °C			80	80	150	200	260	340	450	570	340
TBP Temp At End, °C			80	150	200	260	340	450	570	End	End
TBP Temp At Start, °F			180	180	300	400	500	650	850	1050	650
TBP Temp At End, °F			180	300	400	500	650	850	1050	End	End
Yield at Start, vol%			0.0	0.0	2.0	5.1	10.7	22.7	40.9	56.0	22.7
Yield at End, vol%			0.1	2.0	5.1	10.7	22.7	40.9	56.0	100.0	100.0
Yield of Cut (wt% of Crude)			0.1	1.7	2.7	5.2	11.5	18.0	15.2	45.7	78.9
Yield of Cut (vol% of Crude)			0.1	2.0	3.1	5.6	12.0	18.2	15.1	44.0	77.3
TBP Distillation, vol%	°C Start		-20	20	150	200	260	340	450	570	330
	°C 5%		28	74	152	208	264	348	459	587	362
	°C 10%		34	91	155	212	269	354	464	607	391
	°C 30%		61	118	166	225	288	377	485	689	488
	°C 50%		69	136	177	236	306	399	504	771	616
	°C 70%		76	141	188	246	323	422	527	852	761
	°C 90%		81	150	199	256	337	443	553	933	902
	°C 95%		81	161	202	258	340	448	559	981	984
	°C End		80	180	200	260	340	450	570	End	End
TBP Distillation, vol%	°F Start		0	60	300	400	500	650	850	1050	630
	°F 5%		82	165	305	407	508	659	859	1089	684
	°F 10%		94	196	311	414	517	670	868	1124	735
	°F 30%		142	245	330	437	550	710	905	1273	910
	°F 50%		156	276	350	457	583	750	940	1420	1140
	°F 70%		168	286	371	475	613	792	981	1566	1401
	°F 90%		177	302	391	492	638	830	1027	1711	1656
	°F 95%		178	321	396	496	644	839	1038	1798	1803
	°F End		180	360	400	500	650	850	1050	End	End

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