

EOCENE - 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	10	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	55	175	300	400	500	650	850	1050	650
TBP Temp At End, °F	End	175	300	400	500	650	850	1050	End	End
Yield at Start, vol%		0.4	2.7	7.1	12.5	19.1	31.2	50.0	69.4	31.2
Yield at End, vol%		2.7	7.1	12.5	19.1	31.2	50.0	69.4	100.0	100.0
Yield of Cut (wt% of Crude)		1.6	3.5	4.6	5.8	11.3	18.4	19.8	34.7	73.0
Yield of Cut (vol% of Crude)		2.3	4.4	5.4	6.6	12.1	18.8	19.4	30.6	68.8
Gravity, °API	18.7	82.7	56.9	45.5	39.0	29.5	21.5	15.5	1.0	10.1
Specific Gravity	0.9422	0.6607	0.7512	0.7993	0.8299	0.8789	0.9245	0.9626	1.0682	0.9992
Sulfur, wt%	3.97	0.14	0.20	0.24	0.70	2.00	3.33	4.15	6.47	5.05
Mercaptan Sulfur, ppm		509	1633	1890	536	118	46	24		
Nitrogen, ppm	2149			0	0	35	543	1466	5057	2940
Hydrogen, wt%	11.4	16.2	14.9	14.1	13.6	12.9	12.2	11.3	9.3	10.6
Viscosity @ 40 °C (104 °F), cSt	132	0.813	0.940	1.20	1.92	4.56	31.2	245	5.01E+14	9181
Viscosity @ 50 °C (122 °F), cSt	78.6	0.718	0.835	1.07	1.64	3.62	20.4	140	2.02E+11	3900
Viscosity @ 100 °C (212 °F), cSt	13.5	0.445	0.530	0.686	0.916	1.55	4.76	21.1	84100	242
Viscosity @ 135 °C (275 °F), cSt	6.31	0.351	0.423	0.548	0.689	1.04	2.52	9.38	2850	49.9
Freeze Point, °C		-114.000	-98.000	-84.000	-66.000	-34.000				
Freeze Point, °F		-173	-145	-120	-86	-29				
Pour Point, °C	-37	-135	-104	-90	-71	-39	-2	19	100	19
Pour Point, °F	-35	-211	-155	-130	-96	-39	28	66	212	66
Smoke Point, mm (ASTM)			29	24	20	16	13			
Aniline Point, °C		48	49	52	57	62	68	76		
Aniline Point, °F		118	120	126	134	143	155	168		
Total Acid Number, mg KOH/g	0.20	0.1	0.1	0.1	0.2	0.2	0.2	0.3		
Cetane Index, ASTM D976				32	44	43				
Diesel Index		97	68	57	52	42	33	26		
Characterization Factor (K Factor)	11.7	12.7	11.8	11.7	11.7	11.5	11.5	11.6	11.4	11.6
Research Octane Number, Clear		84.1	60.0	45.4						
Motor Octane Number, Clear		80.7	59.0							
Paraffins, vol%		87.6	50.6	43.4	39.5	32.0	23.7			
Naphthenes, vol%		12.4	46.6	34.4	33.9	30.8	28.6			
Aromatics, vol%		0.0	2.8	22.2	23.9	23.2	28.1			
Thiophenes, vol%		0.1	0.0	0.0	2.7	14.0	19.6			
Molecular Weight	377	98	117	142	175	220	312	453	821	492
Gross Heating Value, MM BTU/bbl	6.15	4.82	5.32	5.57	5.72	5.92	6.09	6.23	6.51	6.34
Gross Heating Value, kcal/kg	10350	11580	11230	11040	10950	10710	10470	10260	9660	10060
Gross Heating Value, MJ/kg	43.3	48.5	47.0	46.2	45.8	44.8	43.8	42.9	40.4	42.1
Heptane Asphaltenes, wt%		6.4							18.5	8.8
Micro Carbon Residue, wt%		10.2							29.3	13.9
Ramsbottom Carbon, wt%		9.7							27.8	13.2
Vanadium, ppm		56							160	76
Nickel, ppm		21							60	28
Iron, ppm										

EOCENE - 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			10	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			55	175	300	400	500	650	850	1050	650
TBP Temp At End, °F			175	300	400	500	650	850	1050	End	End
Yield at Start, vol%			0.4	2.7	7.1	12.5	19.1	31.2	50.0	69.4	31.2
Yield at End, vol%			2.7	7.1	12.5	19.1	31.2	50.0	69.4	100.0	100.0
Yield of Cut (wt% of Crude)			1.6	3.5	4.6	5.8	11.3	18.4	19.8	34.7	73.0
Yield of Cut (vol% of Crude)			2.3	4.4	5.4	6.6	12.1	18.8	19.4	30.6	68.8
TBP Distillation, vol%	°C Start		0	80	150	200	260	340	450	570	340
	°C 5%		21	81	152	208	265	350	457	577	367
	°C 10%		26	90	154	211	270	356	463	586	387
	°C 30%		36	99	166	223	288	380	486	627	463
	°C 50%		52	118	176	234	304	403	507	689	539
	°C 70%		59	134	187	244	318	426	527	759	633
	°C 90%		71	141	199	255	335	446	552	827	784
	°C 95%		73	146	202	257	339	451	558	868	872
	°C End		80	180	200	260	340	450	570	End	End
TBP Distillation, vol%	°F Start		40	175	300	400	500	650	850	1050	650
	°F 5%		70	178	305	406	509	662	855	1070	693
	°F 10%		79	194	310	412	518	673	866	1086	729
	°F 30%		97	211	330	434	551	716	907	1160	865
	°F 50%		125	245	349	454	579	757	944	1273	1002
	°F 70%		139	273	369	472	605	798	980	1398	1172
	°F 90%		159	285	390	491	635	834	1025	1520	1444
	°F 95%		163	295	395	495	642	843	1036	1594	1602
	°F End		180	360	400	500	650	850	1050	End	End