

COCO - 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%		1.3	4.9	13.8	21.1	29.6	43.9	61.4	76.6	43.9
Yield at End, vol%		4.9	13.8	21.1	29.6	43.9	61.4	76.6	100.0	100.0
Yield of Cut (wt% of Crude)		2.8	7.7	6.6	8.0	13.9	17.8	16.0	26.4	60.2
Yield of Cut (vol% of Crude)		3.6	8.9	7.3	8.5	14.3	17.5	15.2	23.4	56.1
Gravity, °API	31.9	82.3	56.4	49.6	42.0	36.4	29.3	23.7	13.4	20.8
Specific Gravity	0.8658	0.6618	0.7531	0.7815	0.8156	0.8429	0.8801	0.9116	0.9765	0.9288
Sulfur, wt%	0.12	0.00	0.00	0.01	0.02	0.07	0.13	0.16	0.23	0.18
Mercaptan Sulfur, ppm		0	0	0	1	1				
Nitrogen, ppm	1860	0	0	1	13	113	622	1437	5696	3063
Hydrogen, wt%	13.2	16.2	14.7	14.8	14.5	13.9	13.1	12.6	11.7	12.3
Viscosity @ 40 °C (104 °F), cSt	18.5	0.452	0.653	0.992	1.82	4.37	23.2	176	5.76E+05	708
Viscosity @ 50 °C (122 °F), cSt	13.1	0.428	0.598	0.882	1.55	3.50	16.2	96.9	1.13E+05	353
Viscosity @ 100 °C (212 °F), cSt	3.88	0.343	0.423	0.561	0.861	1.53	4.50	13.5	1040	36.4
Viscosity @ 135 °C (275 °F), cSt	2.24	0.306	0.354	0.447	0.646	1.04	2.54	5.90	81.0	3.43
Freeze Point, °C				-64.000	-32.000	3.00	42.0			
Freeze Point, °F				-83	-25	38	107			
Pour Point, °C	21			-67	-34	-3	37	51	51	38
Pour Point, °F	70			-89	-30	27	98	124	123	100
Smoke Point, mm (ASTM)				34	27	21	15			
Aniline Point, °C			56	60	68	79	94	102		
Aniline Point, °F			133	140	154	174	202	215		
Total Acid Number, mg KOH/g	0.16			0.0	0.0	0.1	0.1	0.2		
Cetane Index, ASTM D976				42	48	55				
Diesel Index				69	65	63	59	51		
Characterization Factor (K Factor)	12.2	12.7	11.8	11.9	11.9	12.0	12.2	12.3	12.1	12.1
Research Octane Number, Clear		64.5	48.8	22.6						
Motor Octane Number, Clear		63.0	47.7							
Paraffins, vol%		86.7	50.9	54.6	40.8	40.9	32.5			
Naphthenes, vol%		13.3	42.1	38.3	47.1	41.9	44.4			
Aromatics, vol%		0.0	7.0	7.1	12.1	16.6	22.0			
Thiophenes, vol%					0.0	0.7	1.1			
Molecular Weight	322	102	116	147	177	236	338	483	882	513
Gross Heating Value, MM BTU/bbl	5.95	4.84	5.34	5.50	5.68	5.83	6.01	6.17	6.44	6.24
Gross Heating Value, kcal/kg	10900	11630	11270	11190	11070	10970	10830	10740	10450	10660
Gross Heating Value, MJ/kg	45.6	48.7	47.2	46.8	46.3	45.9	45.3	45.0	43.7	44.6
Heptane Asphaltenes, wt%		0.0							0.1	0.0
Micro Carbon Residue, wt%		4.1							15.4	6.7
Ramsbottom Carbon, wt%		3.8							14.4	6.3
Vanadium, ppm		1							5	2
Nickel, ppm		17							66	29
Iron, ppm		11							41	18

COCO - 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%			1.3	4.9	13.8	21.1	29.6	43.9	61.4	76.6	43.9
Yield at End, vol%			4.9	13.8	21.1	29.6	43.9	61.4	76.6	100.0	100.0
Yield of Cut (wt% of Crude)			2.8	7.7	6.6	8.0	13.9	17.8	16.0	26.4	60.2
Yield of Cut (vol% of Crude)			3.6	8.9	7.3	8.5	14.3	17.5	15.2	23.4	56.1
TBP Distillation, vol%	°C Start		10	80	150	200	260	340	450	570	340
	°C 5%		26	87	151	207	266	347	459	579	371
	°C 10%		29	91	154	210	271	354	464	588	387
	°C 30%		40	99	167	221	292	384	486	629	451
	°C 50%		61	118	179	231	308	407	507	680	527
	°C 70%		67	134	190	242	322	426	528	746	626
	°C 90%		71	145	200	254	336	444	552	807	765
	°C 95%		72	148	202	257	339	449	558	843	847
	°C End		80	160	200	260	340	450	570	End	End
TBP Distillation, vol%	°F Start		50	175	300	400	500	640	850	1050	650
	°F 5%		78	188	304	405	510	657	858	1075	700
	°F 10%		85	195	310	410	520	670	868	1091	728
	°F 30%		104	211	332	429	558	723	906	1165	843
	°F 50%		141	245	354	448	587	765	944	1256	981
	°F 70%		152	273	374	468	612	798	982	1375	1158
	°F 90%		159	293	392	489	636	831	1025	1484	1409
	°F 95%		162	299	396	494	642	840	1036	1550	1556
	°F End		175	320	400	500	650	850	1050	End	End