ALBA - 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%		0.1	0.3	1.3	4.0	10.6	28.1	49.2	70.4	28.1
Yield at End, vol%		0.3	1.3	4.0	10.6	28.1	49.2	70.4	100.0	100.0
Yield of Cut (wt% of Crude)		0.1	0.8	2.5	6.0	16.5	20.9	21.5	31.7	74.0
Yield of Cut (vol% of Crude)		0.2	1.0	2.8	6.6	17.5	21.1	21.2	29.6	71.8
Gravity, °API	19.3	74.8	51.5	39.1	34.4	28.6	21.2	17.4	9.2	15.0
Specific Gravity	0.9381	0.6858	0.7732	0.8293	0.8529	0.8839	0.9267	0.9502	1.0054	0.9660
Sulfur, wt%	1.26	0.01	0.02	0.04	0.12	0.43	0.99	1.28	2.19	1.59
Mercaptan Sulfur, ppm		2	6	18	7	4	3	1		
Nitrogen, ppm	2365	1	1	2	12	53	789	2246	5386	3181
Hydrogen, wt%	11.9	15.7	14.4	13.4	13.0	12.7	12.3	11.8	10.7	11.5
Viscosity @ 40 °C (104 °F), cSt	135	0.461	0.527	0.832	1.98	4.83	41.4	425	1.81E+07	3205
Viscosity @ 50 °C (122 °F), cSt	79.1	0.437	0.497	0.769	1.68	3.95	26.0	205	1.69E+06	1180
Viscosity @ 100 °C (212 °F), cSt	13.1	0.351	0.393	0.563	0.907	1.86	5.36	20.0	3080	55.4
Viscosity @ 135 °C (275 °F), cSt	6.08	0.313	0.347	0.480	0.672	1.29	2.71	7.75	357	17.1
Freeze Point, °C		-102.000	-97.000	-89.000	-79.000	-62.000	-29.000	-2.000		
Freeze Point, °F		-152	-143	-128	-110	-79	-20	29		
Pour Point, °C	-37	-109	-104	-95	-84	-66	-32	-7	79	-6
Pour Point, °F	-35	-164	-155	-139	-120	-86	-25	20	175	21
Smoke Point, mm (ASTM)		33	26	20	17	15	13			
Aniline Point, °C		33	35	41	53	57	67	80		
Aniline Point, °F		92	95	105	128	135	153	176		
Total Acid Number, mg KOH/g	1.42	0.0	0.0	0.0	0.1	0.8	1.9	2.2		
Cetane Index, ASTM D976				23	38	42				
Diesel Index		69	49	41	44	39	32	31		
Characterization Factor (K Factor)	11.7	12.3	11.6	11.3	11.4	11.4	11.5	11.8	11.9	11.7
Research Octane Number, Clear		81.4	65.8							
Motor Octane Number, Clear		76.2	64.1							
Paraffins, vol%		66.1	33.5	19.4	19.6	12.5	11.3			
Naphthenes, vol%		33.9	58.0	60.9	56.4	50.0	43.4			
Aromatics, vol%		0.0	8.5	19.7	23.3	28.6	29.1			
Thiophenes, vol%				0.0	0.7	8.9	16.2			
Molecular Weight	385	98	120	139	174	218	306	461	781	495
Gross Heating Value, MM BTU/bbl	6.22	4.97	5.44	5.72	5.84	5.98	6.17	6.28	6.48	6.33
Gross Heating Value, kcal/kg	10530	11500	11190	10950	10880	10740	10570	10500	10220	10400
Gross Heating Value, MJ/kg	44.1	48.1	46.8	45.8	45.5	45.0	44.2	43.9	42.8	43.5
Heptane Asphaltenes, wt%	0.7								2.3	1.0
Micro Carbon Residue, wt%	4.7								14.9	6.4
Ramsbottom Carbon, wt%	4.5								14.1	6.0
Vanadium, ppm	37								118	51
Nickel, ppm	8								25	11
Iron, ppm	2								5	2

Date Created
6/5/2003

Date Assayed
1999

ALBA - 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%			0.1	0.3	1.3	4.0	10.6	28.1	49.2	70.4	28.1
Yield at End, vol%			0.3	1.3	4.0	10.6	28.1	49.2	70.4	100.0	100.0
Yield of Cut (wt% of Crude)			0.1	0.8	2.5	6.0	16.5	20.9	21.5	31.7	74.0
Yield of Cut (vol% of Crude)			0.2	1.0	2.8	6.6	17.5	21.1	21.2	29.6	71.8
TBP Distillation, vol%	°C Start		10	80	150	200	260	340	450	570	330
	°C 5%		26	90	159	210	264	348	459	574	357
	°C 10%		32	91	162	214	269	353	464	583	378
	°C 30%		49	103	172	230	286	374	484	622	457
	°C 50%		60	131	182	241	302	398	507	658	530
	°C 70%		69	138	191	249	319	423	530	706	616
	°C 90%		73	146	200	257	335	444	553	775	724
	°C 95%		75	147	202	258	339	450	559	817	786
	°C End		80	150	210	260	340	450	570	End	End
TBP Distillation, vol%	°F Start		50	175	300	400	500	650	850	1050	630
	°F 5%		79	194	319	410	507	658	858	1066	675
	°F 10%		89	196	324	418	516	667	867	1082	713
	°F 30%		121	218	342	446	546	705	904	1151	854
	°F 50%		140	268	360	465	576	749	944	1216	986
	°F 70%		156	280	376	480	606	794	986	1302	1141
	°F 90%		163	294	392	494	635	832	1028	1427	1335
	°F 95%		167	296	396	497	642	842	1039	1503	1447
	°F End		180	300	410	500	650	850	1050	End	End

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