

CRUDE OIL ASSAY REPORT

REPORT NO : JM / 00615A / 02

ASSAY CONDUCTED FOR : CRUDE OIL GROUP (COG) , PETRONAS

SAMPLE DESCRIPTION : DULANG CRUDE

DATE REPORTED : 25TH MAY 2002

PREPARED AND CHECKED BY : ZAINAL ABIDIN DE SILVA

SUMMARY OF PRODUCT CUT POINTS AND YIELDS

CUT POINT (°C)	PRODUCT	YIELD ON CRUDE (vol. %)
	LPG	0.00
C5 - 140	Naphtha	5.69
140 - 155	Naphtha / Kerosene	1.45
155 - 185		3.79
185 - 220	Kerosene	7.53
220 - 230		2.15
230 - 260	Kerosene / Light Gas Oil	9.82
260 - 330	Light Gas Oil	26.63
330 - 340	Light Gas Oil / Heavy Gas Oil	3.13
340 - 350	Heavy Gas Oil	3.08
350 - 370		4.57
370 - 375	Light Vacuum Gas Oil	1.61
375 - 380	Medium Vacuum Gas Oil	1.77
380 - 450		18.26
450 - 540	Heavy Vacuum Gas Oil	7.91
540+	Vacuum Residue	2.61

PRELIMINARY ANALYSIS ON CHARGE

NO.	TEST	METHOD	UNIT	RESULTS
1	Density @ 15 °C	ASTM D4052	kg/l	0.8388
2	API Gravity	ASTM D1298	degree	37.2
3	Basic Sediment & Water	ASTM D4007	vol. %	< 0.005
4	Water	ASTM D4006	vol. %	0.025
5	Reid Vapor Pressure	ASTM D323	kPa	30.2
6	Total Acid Number	ASTM D664	mgKOH/g	0.73
7	Flash Point	IP 170	°C	< 25
8	Pour Point	ASTM D97	°C	+ 36
9	ASTM Color	ASTM D1500	-	D8
10	Total Sulphur	ASTM D4294	wt %	0.0522
11	Salt Content	IP 265	lb/1000bbls	3.6
12	Nitrogen Content	ASTM D4629	ppm	124
13	Ash Content	ASTM D482	wt %	0.004
14	Wax Content	UOP 46	wt %	3.0
15	Kinematic Viscosity @ 40°C	ASTM D445	cSt	5.00
16	Kinematic Viscosity @ 70°C	ASTM D445	cSt	2.750
17	Characterisation Factor	UOP 375-59	-	12.2
18	Gross Calorific Value	ASTM D240	MJ/kg	45.65
19	Asphaltenes	ASTM D3279	wt %	< 0.5
20	Distillation	ASTM D86-96		
	IBP		°C	92.0
	5 % recovery		°C	173.0
	10 % recovery		°C	202.0
	20 % recovery		°C	245.0
	30 % recovery		°C	270.0
	40 % recovery		°C	291.0
	50 % recovery		°C	313.0
	60 % recovery		°C	341.0
	70 % recovery		°C	370.0
	80 % recovery		°C	392.0
	90 % recovery		°C	> 400
	95 % recovery		°C	-
	FBP		°C	-
	Cracking Point		°C	-
	Recovery (Vapour Temp reach 400 °C)		ml	85.0
21	Metal			
	Sodium (Na)	AAS	ppm	6
	Potassium (K)	AAS	ppm	1
	Copper (Cu)	AAS	ppm	1
	Lead (Pb)	AAS	ppm	< 1
	Iron (Fe)	AAS	ppm	2
	Nickel (Ni)	AAS	ppm	1
	Vanadium (V)	AAS	ppm	< 1
	Arsenic (As)	AAS	ppm	< 1

TRUE BOILING POINT DATA

CUT NUMBER	CUT POINT AET °C	YIELD % ON CRUDE						DENSITY at 15 °C kg/l
		WEIGHT gram	WEIGHT %		VOLUME ml	VOLUME %		
			CUT	CUM		CUT	CUM	
1	LPG	0.0	0.00	0.00	0.00	0.00	0.00	0.0000
2	70	19.1	0.46	0.46	28.25	0.57	0.57	0.6760
3	100	49.8	1.20	1.66	67.32	1.35	1.92	0.7398
4	120	59.4	1.43	3.09	77.13	1.55	3.47	0.7701
5	140	87.2	2.10	5.19	110.52	2.22	5.69	0.7890
6	155	56.9	1.37	6.56	71.93	1.45	7.14	0.7910
7	185	149.9	3.61	10.17	188.48	3.79	10.93	0.7953
8	220	299.8	7.22	17.39	373.58	7.53	18.46	0.8025
9	230	86.8	2.09	19.48	106.62	2.15	20.61	0.8141
10	260	404.5	9.74	29.22	487.94	9.82	30.43	0.8290
11	280	340.5	8.20	37.42	409.25	8.15	38.58	0.8320
12	300	265.8	6.40	43.82	318.63	6.30	44.88	0.8342
13	330	502.5	12.10	55.92	599.07	12.18	57.06	0.8388
14	340	130.4	3.14	59.06	155.42	3.13	60.19	0.8390
15	350	128.7	3.10	62.16	153.27	3.08	63.27	0.8397
16	370	191.0	4.60	66.76	227.19	4.57	67.84	0.8407
17	375	67.0	1.61	68.37	79.62	1.61	69.45	0.8415
18	380	73.9	1.78	70.15	87.66	1.77	71.22	0.8430
19	400	261.6	6.30	76.45	309.59	6.26	77.48	0.8450
20	450	506.6	12.20	88.65	596.00	12.00	89.48	0.8500
21	540	340.1	8.19	96.84	392.95	7.91	97.39	0.8655
22	540+	128.7	3.10	99.94	129.87	2.61	100.00	0.9910
23	565+	-	-	-	-	-	-	-
24	HOLD UP	1.3	0.03					
25	LOSS	1.1	0.03					
WEIGHT OF SAMPLE (gm)		4152.7						
DENSITY @ 15°C OF CHARGE (kg/l)		0.8380						
VOLUME OF CHARGE @ 15°C (vol)		4955.5						

SIMULATED DISTILLATION DATA

No	Boiling Point (°C)	Cum Yield (Mass %)
1	87.5	IBP
2	102.5	1
3	121.0	2
4	134.5	3
5	146.5	4
6	155.0	5
7	161.5	6
8	170.0	7
9	176.5	8
10	181.5	9
11	188.0	10
12	195.0	11
13	199.0	12
14	204.5	13
15	210.5	14
16	215.5	15
17	218.0	16
18	222.5	17
19	228.0	18
20	232.0	19
21	235.5	20
22	237.5	21
23	241.5	22
24	246.0	23
25	249.5	24
26	253.0	25
27	254.5	26
28	256.5	27
29	259.5	28
30	263.0	29
31	265.0	30
32	267.5	31
33	270.0	32
34	272.0	33
35	273.5	34

No	Boiling Point (°C)	Cum Yield (Mass %)
51	314.0	50
52	316.0	51
53	317.5	52
54	320.5	53
55	325.0	54
56	329.0	55
57	331.0	56
58	333.5	57
59	338.5	58
60	343.0	59
61	344.5	60
62	347.0	61
63	352.0	62
64	356.0	63
65	358.0	64
66	361.0	65
67	366.0	66
68	369.0	67
69	371.0	68
70	375.5	69
71	379.5	70
72	381.5	71
73	385.0	72
74	390.0	73
75	392.0	74
76	395.0	75
77	400.5	76
78	402.5	77
79	405.5	78
80	410.5	79
81	413.0	80
82	416.5	81
83	421.0	82
84	423.0	83
85	427.5	84

36	277.0	35
37	281.0	36
38	284.5	37
39	287.0	38
40	288.5	39
41	291.0	40
42	294.5	41
43	297.0	42
44	300.5	43
45	302.5	44
46	303.0	45
47	304.0	46
48	305.0	47
49	306.5	48
50	310.0	49

86	431.0	85
87	434.0	86
88	439.0	87
89	441.5	88
90	446.0	89
91	449.5	90
92	454.0	91
93	458.0	92
94	463.5	93
95	468.5	94
96	474.5	95
97	481.5	96
98	491.0	97
99	503.5	98
100	521.5	99
101	532.0	FBP

LIGHT HYDROCARBON ANALYSIS

NO.	COMPOSITION	METHOD	RESULTS
			LIQUIFIED PETROLEUM GAS
			% ON FRACTION
1	METHANE	GC	*
2	ETHANE		*
3	ETHYLENE		*
4	ACETYLENE		*
5	PROPANE		*
6	CYCLOPROPANE		*
7	PROPYLENE		*
8	PROPADIENE		*
9	PROPYNE		*
10	I-BUTANE		*
11	N-BUTANE		*
12	TRAN-2-BUTANE		*
13	I-BUTENE		*
14	ISO-BUTENE		*
15	C/T-2 BUTANE		*
16	1,3-BUTADIENE		*
17	NEO-PENTANE		*
18	I-PENTANE		*
19	N-PENTANE		*
20	N-HEXANE+		*

* NOT DETECTED

NO.	COMPOSITION	METHOD	RESULTS
			NAPHTHA (C5 - 140)
			% ON FRACTION
1	PARAFFINS	5443	39.34
2	OLEFINS		0.60
3	NAPHTHENE		32.42
4	AROMATIC		27.64
5	TOTAL C3		0.07
6	TOTAL C4		1.06
7	TOTAL C5		3.37
8	TOTAL C6		12.87
9	TOTAL C7		34.32
10	TOTAL C8		36.99
11	C5 PARAFFINS		3.09
12	C5 NAPHTHENE		0.28
13	C6 PARAFFINS		6.21
14	C6 NAPHTHENE		4.69
15	C6 AROMATIC		1.97
16	C7 PARAFFINS		9.26
17	C7 NAPHTHENE		14.12
18	C7 AROMATIC		10.94
19	C8 PARAFFINS		12.05
20	C8 NAPHTHENE		10.47
21	C8 AROMATIC		14.47

ANALYSIS FOR PRODUCT CUT

Tests	Method	Unit	RESULTS		
			C5 - 140	140 - 155	155 - 185
Yield on Crude		vol %	5.69	1.45	3.79
Yield on Crude		wt %	5.19	1.37	3.61
Density	ASTM D 4052	kg/l	0.7641	0.7910	0.7953
Sulphur	ASTM D 3120	ppm wt	17	47	
Sulphur	ASTM D 4294	wt %			< 0.015
Nitrogen	ASTM D 4629	ppm wt	< 1	< 1	1
Total Acid Number	ASTM D 974	mgKOH/g		0.02	0.03
Smoke Point	ASTM D 1322	mm		19.5	20.0
Flash Point (Abel)	IP 170	°C		19.0	35.0
Flash Point (PMCC)	ASTM D 93	°C			
Freezing Point	ASTM D 2386	°C		Lower than - 70	- 60.0
Aniline Point	ASTM D 611	°C		32.2	41.0
Cloud Point	ASTM D 2500	°C			
Pour Point	ASTM D 97	°C			
Colour Saybolt	ASTM D 156	-	+ 30	+ 30	+ 30
Colour ASTM	ASTM D 1500	-			
Research Octane Number	ASTM D 2699	-			
Motor Octane Number	ASTM D 2700	-			
Kinematic Viscosity @ - 20°C	ASTM D 445	cSt		1.600	2.208
Kinematic Viscosity @ 40°C	ASTM D 445	cSt			
Kinematic Viscosity @ 50°C	ASTM D 445	cSt			
Kinematic Viscosity @ 75°C	ASTM D 445	cSt			
Kinematic Viscosity @ 100°C	ASTM D 445	cSt			
Reid Vapour Pressure	ASTM D 323	kPa	22.2		
Cetane Index	ASTM D 976	-		16.7	29.3
Ash Content	ASTM D 482	wt %			
MCRT - 10% Residue	ASTM D 4530	wt %			
MCRT - 100% Sample	ASTM D 4530	wt %			
Refractive Index @ 20°C	ASTM D 1218	-			
Mercaptan Sulphur	IP 104	ppm wt		< 3	< 3
Asphaltene	IP 143	wt %			
Hydrocarbon Types					
- Paraffins	ASTM D 5443	vol %	39.34	40.20	49.39
- Olefins	ASTM D 5443	vol %	0.60	0.80	0.90
- Naphthenes	ASTM D 5443	vol %	32.42	21.66	16.47
- Aromatics	ASTM D 5443	vol %	27.64	37.34	33.24
Naphthalene Content	ASTM D 1840	vol %		0.01	0.07
Distillation	ASTM D 86				
- Initial Boiling Point		°C	57.2	132.5	154.5
- 5%		°C	88.6	138.1	158.6
- 10%		°C	94.0	139.1	159.5
- 20%		°C	99.8	140.3	161.0
- 30%		°C	104.1	141.5	162.5
- 40%		°C	107.9	142.6	164.3
- 50%		°C	111.7	143.7	165.7
- 60%		°C	115.5	144.9	167.4
- 70%		°C	119.8	146.6	169.3
- 80%		°C	124.9	148.6	171.7
- 90%		°C	131.2	152.1	175.8
- 95%		°C	135.6	155.6	180.6
- Final Boiling Point		°C	142.6	167.5	189.7
- Recovery		vol %	97.7	97.9	97.0
- Residue		vol %	1.0	1.3	1.4
- Loss		vol %	1.3	0.8	1.6

ANALYSIS FOR PRODUCT CUT

Tests	Method	Unit	RESULTS		
			185 - 220	220 - 230	230 - 260
Yield on Crude		vol %	7.53	2.15	9.82
Yield on Crude		wt %	7.22	2.09	9.74
Density	ASTM D 4052	kg/l	0.8014	0.8141	0.8290
Sulphur	ASTM D 3120	ppm wt			
Sulphur	ASTM D 4294	wt %	< 0.0150	0.015	0.0262
Nitrogen	ASTM D 4629	ppm wt	2	2	3
Total Acid Number	ASTM D 974	mgKOH/g	0.11	0.09	0.09
Smoke Point	ASTM D 1322	mm	21.5	22.0	20.5
Flash Point (Abel)	IP 170	°C	66.5		
Flash Point (PMCC)	ASTM D 93	°C		86.0	100
Freezing Point	ASTM D 2386	°C	- 37.0	- 30.0	- 21.0
Aniline Point	ASTM D 611	°C	59	66	64.4
Cloud Point	ASTM D 2500	°C			
Pour Point	ASTM D 97	°C			
Colour Saybolt	ASTM D 156	-	+ 30	+ 30	
Colour ASTM	ASTM D 1500	-			< 0.5
Reseach Octane Number	ASTM D 2699	-			
Motor Octane Number	ASTM D 2700	-			
Kinematic Viscosity @ - 20°C	ASTM D 445	cSt	4.144	6.773	10.17
Kinematic Viscosity @ 40°C	ASTM D 445	cSt	1.273	1.652	2.050
Kinematic Viscosity @ 50°C	ASTM D 445	cSt		1.427	1.725
Kinematic Viscosity @ 75°C	ASTM D 445	cSt		1.049	1.2401
Kinematic Viscosity @ 100°C	ASTM D 445	cSt		0.8107	0.9418
Reid Vapour Pressure	ASTM D 323	kPa			
Cetane Index	ASTM D 976	-	43.5	47.2	47.7
Ash Content	ASTM D 482	wt %			
MCRT - 10% Residue	ASTM D 4530	wt %			
MCRT - 100% Sample	ASTM D 4530	wt %			
Refractive Idex @ 20°C	ASTM D 1218	-		1.45564	1.46444
Mercaptan Sulphur	IP 104	ppm wt	3	< 3	< 3
Asphaltene	IP 143	wt %			
Hydrocarbon Types					
- Aromatics	ASTM D 1319	vol %	18.70	17.20	20.1
- Olefins	ASTM D 1319	vol %	1.20	1.00	1.30
- Saturates	ASTM D 1319	vol %	80.10	81.8	78.6
Naphthalene Content	ASTM D 1840	vol %	2.60	6.88	8.97
Distillation	ASTM D 86				
- Initial Boiling Point		°C	187.5	217.2	235.0
- 5%		°C	191.4	219.1	237.1
- 10%		°C	192.5	219.4	237.4
- 20%		°C	194.2	219.8	238.0
- 30%		°C	195.7	220.3	238.8
- 40%		°C	197.3	220.9	239.6
- 50%		°C	199.0	221.5	240.6
- 60%		°C	200.7	222.0	241.3
- 70%		°C	203.0	222.9	242.7
- 80%		°C	205.5	223.8	244.8
- 90%		°C	208.9	225.4	247.5
- 95%		°C	211.9	226.8	249.9
- Final Boiling Point		°C	217.2	230.7	254.2
- Recovery		vol %	98.2	97.9	98.0
- Residue		vol %	1.4	1.4	1.4
- Loss		vol %	0.4	0.7	0.6

ANALYSIS FOR PRODUCT CUT

Tests	Method	Unit	RESULTS			
			260 - 330	330 - 340	340 - 350	350 - 370
Yield on Crude		vol %	26.63	3.13	3.08	4.57
Yield on Crude		wt %	26.70	3.14	3.1	4.6
Density	ASTM D 4052	kg/l	0.8362	0.8390	0.8397	0.8407
Sulphur	ASTM D 3120	ppm wt				
Sulphur	ASTM D 4294	wt %	0.061	0.1019	0.1047	0.0873
Nitrogen	ASTM D 4629	ppm wt	15	28	46	81
Total Acid Number	ASTM D 974	mgKOH/g	0.17	0.25	0.25	0.30
Smoke Point	ASTM D 1322	mm	20.0			
Flash Point (Abel)	IP 170	°C				
Flash Point (PMCC)	ASTM D 93	°C	> 100	> 100	> 100	> 100
Freezing Point	ASTM D 2386	°C	-2.0			
Aniline Point	ASTM D 611	°C	78	85.8	87.8	92.0
Cloud Point	ASTM D 2500	°C	-2.0	+ 17	+ 22	+ 28
Pour Point	ASTM D 97	°C	0	+ 15	+ 21	+ 27
Colour Saybolt	ASTM D 156	-				
Colour ASTM	ASTM D 1500	-	< 1.0	< 1.0	< 1.0	1.0
Reseach Octane Number	ASTM D 2699	-				
Motor Octane Number	ASTM D 2700	-				
Kinematic Viscosity @ - 20°C	ASTM D 445	cSt				
Kinematic Viscosity @ 40°C	ASTM D 445	cSt	3.541	5.074		
Kinematic Viscosity @ 50°C	ASTM D 445	cSt	2.876	4.034	4.497	5.385
Kinematic Viscosity @ 75°C	ASTM D 445	cSt	1.901	2.520	2.763	3.242
Kinematic Viscosity @ 100°C	ASTM D 445	cSt	1.370	1.750	1.897	2.192
Reid Vapour Pressure	ASTM D 323	kPa				
Cetane Index	ASTM D 976	-	56.9	60.7	61.2	62.1
Ash Content	ASTM D 482	wt %				
MCRT - 10% Residue	ASTM D 4530	wt %				
MCRT - 100% Sample	ASTM D 4530	wt %			0.01	0.01
Refractive Idex @ 20°C	ASTM D 1218	-	1.46797	1.46678	1.46800	**
Mercaptan Sulphur	IP 104	ppm wt				
Asphaltene	IP 143	wt %				
Hydrocarbon Types						
- Aromatics	ASTM D 1319	vol %				
- Olefins	ASTM D 1319	vol %				
- Saturates	ASTM D 1319	vol %				
Naphthalene Content	ASTM D 1840	vol %				
Vacuum Distillation	ASTM D 1160					
- Initial Boiling Point		°C	272	323	337	349
- 5%		°C	281	326	340	352
- 10%		°C	282	327	342	353
- 20%		°C	285	328	343	355
- 30%		°C	288	329	345	358
- 40%		°C	291	329	346	360
- 50%		°C	294	330	347	361
- 60%		°C	297	331	348	363
- 70%		°C	300	332	348	364
- 80%		°C	304	333	350	365
- 90%		°C	310	335	352	366
- 95%		°C	315	339	353	368
- Final Boiling Point		°C	321	344	355	372
- Recovery		vol %	99	99.0	98.5	98.5
- Residue		vol %				
- Loss		vol %				

** - unable to perform the test due to high pour point.

ANALYSIS FOR PRODUCT CUT

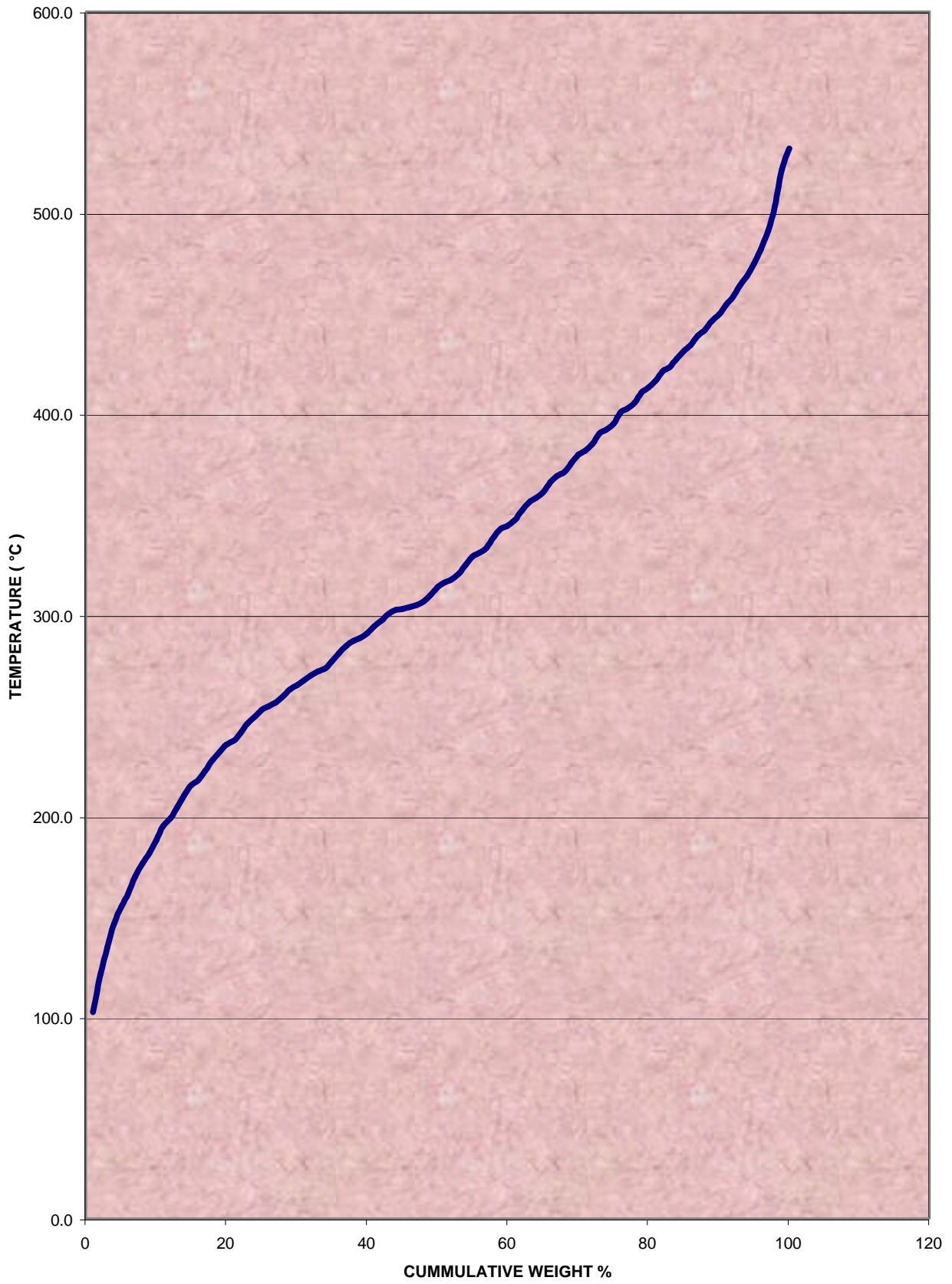
Tests	Method	Unit	RESULTS			
			370 - 375	375 - 380	380 - 450	450 - 540
Yield on Crude		vol %	1.61	1.77	18.26	7.91
Yield on Crude		wt %	1.61	1.78	6.30	12.20
Density	ASTM D 4052	kg/l	0.8415	0.8430	0.8483	0.8655
Sulphur	ASTM D 3120	ppm wt				
Sulphur	ASTM D 4294	wt %	0.0649	0.0592	0.051	0.056
Nitrogen	ASTM D 4629	ppm wt	99	99		
Total Acid Number	ASTM D 974	mgKOH/g	0.21	0.21	0.40	1.64
Smoke Point	ASTM D 1322	mm				
Flash Point (Abel)	IP 170	°C				
Flash Point (PMCC)	ASTM D 93	°C	> 100	> 100	207	240
Freezing Point	ASTM D 2386	°C				
Aniline Point	ASTM D 611	°C	96.8	98.0	105.6	112.0
Cloud Point	ASTM D 2500	°C	+ 44	+ 46		
Pour Point	ASTM D 97	°C	+ 33	+ 36	+ 45	> + 50
Colour Saybolt	ASTM D 156	-				
Colour ASTM	ASTM D 1500	-	< 1.5	1.5	4.0	6.0
Research Octane Number	ASTM D 2699	-				
Motor Octane Number	ASTM D 2700	-				
Kinematic Viscosity @ - 20°C	ASTM D 445	cSt				
Kinematic Viscosity @ 40°C	ASTM D 445	cSt				
Kinematic Viscosity @ 50°C	ASTM D 445	cSt	6.237	6.640		
Kinematic Viscosity @ 75°C	ASTM D 445	cSt	3.679	3.882	5.714	7.252
Kinematic Viscosity @ 100°C	ASTM D 445	cSt	2.450	2.568	3.623	12.74
Reid Vapour Pressure	ASTM D 323	kPa				
Cetane Index	ASTM D 976	-	*	*	60.3	49.1
Ash Content	ASTM D 482	wt %	0.001	0.001	0.003	0.005
MCRT - 10% Residue	ASTM D 4530	wt %				
MCRT - 100% Sample	ASTM D 4530	wt %	0.01	0.01	0.01	0.14
Refractive Index @ 20°C	ASTM D 1218	-	**	**		
Mercaptan Sulphur	IP 104	ppm wt				
Asphaltene	IP 143	wt %			< 0.5	< 0.5
Penetration	ASTM D 5	0.1mm				
Softening Point	ASTM D 36	°C				
Wax Content	UOP 46	wt %			9.0	16.0
Nickel	SGS RSP0003	ppm wt			0.3	0.2
Vanadium	SGS RSP0003	ppm wt			1.1	0.7
Vacuum Distillation	ASTM D 1160					
- Initial Boiling Point		°C	365	373	368	455
- 5%		°C	366	374	390	468
- 10%		°C	367	375	397	475
- 20%		°C	368	376	400	482
- 30%		°C	369	377	404	490
- 40%		°C	370	377	407	496
- 50%		°C	371	378	413	508
- 60%		°C	372	380	420	523
- 70%		°C	373	380	427	530
- 80%		°C	374	381	437	540
- 90%		°C	375	382	447	548
- 95%		°C	376	384	462	552
- Final Boiling Point		°C	379	386	480	568
- Recovery		vol %	99	99	99.0	99.0
- Residue		vol %				
- Loss		vol %				

** - unable to perform the test due to high pour point.

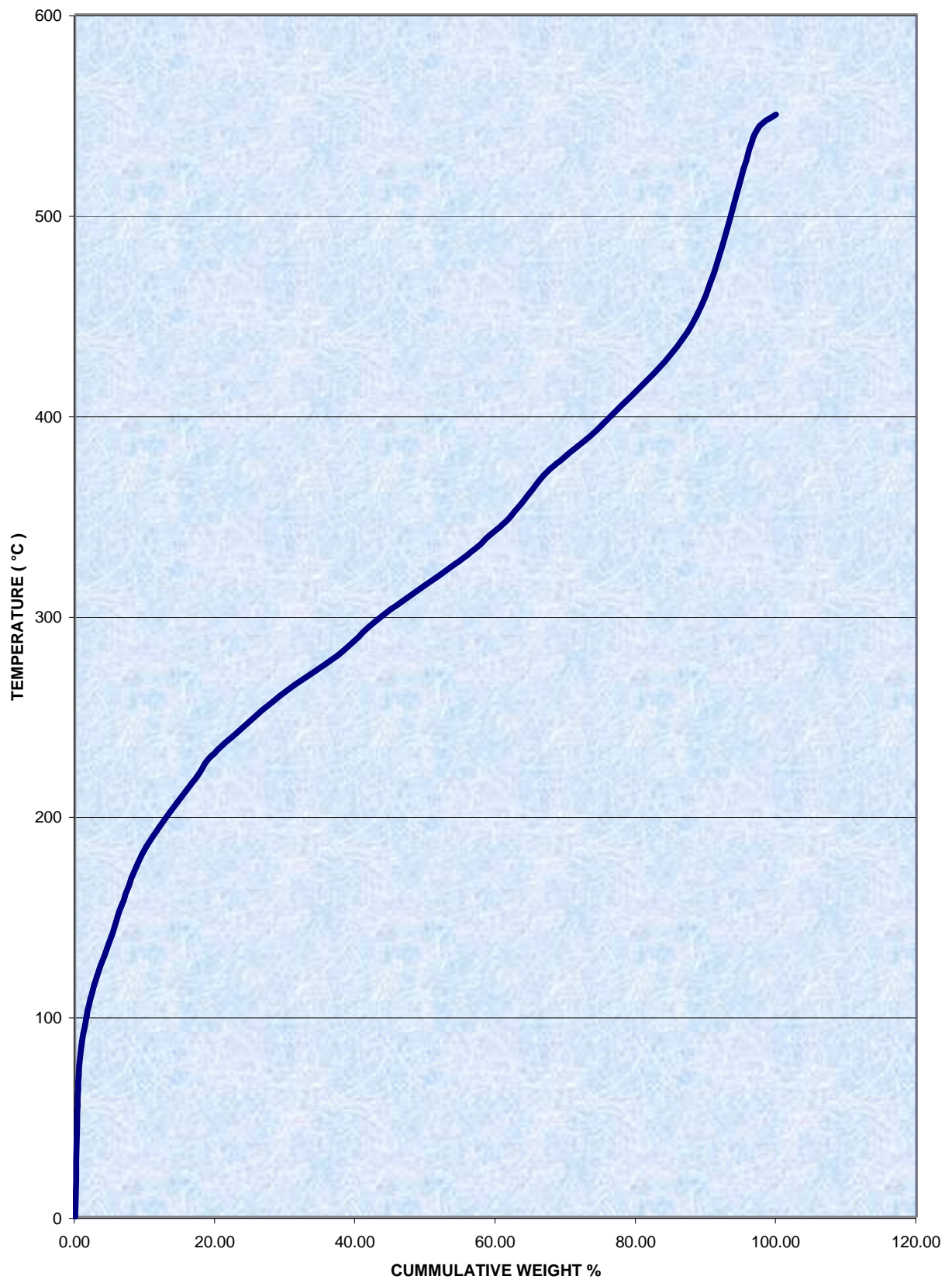
ANALYSIS FOR PRODUCT CUT

			RESULTS			
Tests	Method	Unit	540+			
Yield on Crude		vol %	2.6			
Yield on Crude		wt %	3.10			
Density	ASTM D 4052	kg/l	0.9910			
Sulphur	ASTM D 3120	ppm wt				
Sulphur	ASTM D 4294	wt %	0.186			
Nitrogen	ASTM D 4629	ppm wt				
Total Acid Number	ASTM D 974	mgKOH/g				
Smoke Point	ASTM D 1322	mm				
Flash Point (Abel)	IP 170	°C				
Flash Point (PMCC)	ASTM D 93	°C				
Freezing Point	ASTM D 2386	°C				
Aniline Point	ASTM D 611	°C				
Cloud Point	ASTM D 2500	°C				
Pour Point	ASTM D 97	°C				
Colour Saybolt	ASTM D 156	-				
Colour ASTM	ASTM D 1500	-				
Reseach Octane Number	ASTM D 2699	-				
Motor Octane Number	ASTM D 2700	-				
Kinematic Viscosity @ - 20°C	ASTM D 445	cSt				
Kinematic Viscosity @ 40°C	ASTM D 445	cSt				
Kinematic Viscosity @ 50°C	ASTM D 445	cSt				
Kinematic Viscosity @ 75°C	ASTM D 445	cSt				
Kinematic Viscosity @ 100°C	ASTM D 445	cSt				
Reid Vapour Pressure	ASTM D 323	kPa				
Cetane Index	ASTM D 976	-				
Ash Content	ASTM D 482	wt %	0.03			
MCRT - 10% Residue	ASTM D 4530	wt %				
MCRT - 100% Sample	ASTM D 4530	wt %	8.48			
Refractive Idex @ 20°C	ASTM D 1218	-				
Mercaptan Sulphur	IP 104	ppm wt				
Asphaltene	IP 143	wt %	1.7			
Penetration	ASTM D 5	0.1mm	80			
Softening Point	ASTM D 36	°C	55			
Wax Content	UOP 46	wt %	18			
Nickel	SGS RSP0003	ppm wt	15			
Vanadium	SGS RSP0003	ppm wt	< 1			
Vacuum Distillation	ASTM D 1160					
- Initial Boiling Point		°C				
- 5%		°C				
- 10%		°C				
- 20%		°C				
- 30%		°C				
- 40%		°C				
- 50%		°C				
- 60%		°C				
- 70%		°C				
- 80%		°C				
- 90%		°C				
- 95%		°C				
- Final Boiling Point		°C				
- Recovery		vol %				
- Resdue		vol %				
- Loss		vol %				

SIMULATED DISTILLATION GRAPH



TRUE BOILING POINT POINT GRAPH



TBP & SIMULATED DIST. GRAPH

