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Alaska Geologic Materials Center Data Report No. 242

TOTAL ORGANIC CARBON AND ROCK-EVAL PYROLYSIS EVALUATION OF TWENTY-ONE HAND-PICKED COAL SAMPLES

EXXON #1 Yellow Pup, ARCO #1 Birch
and ARCO #1 Cost Wells

FINAL REPORT

Prepared for

Mobil Exploration and Producing Technical Center

by

The Geochemistry Services Department

of

Core Laboratories

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Work Requested By: Roy Enrico

Report Prepared By: Alan Starling

TABLE OF CONTENTS

SOURCE ROCK

ANALYSIS

Tables and Figures

Table 1. Total Organic Carbon and Rock-Eval Pyrolysis

Mobil Exploration and Producing Technical Center

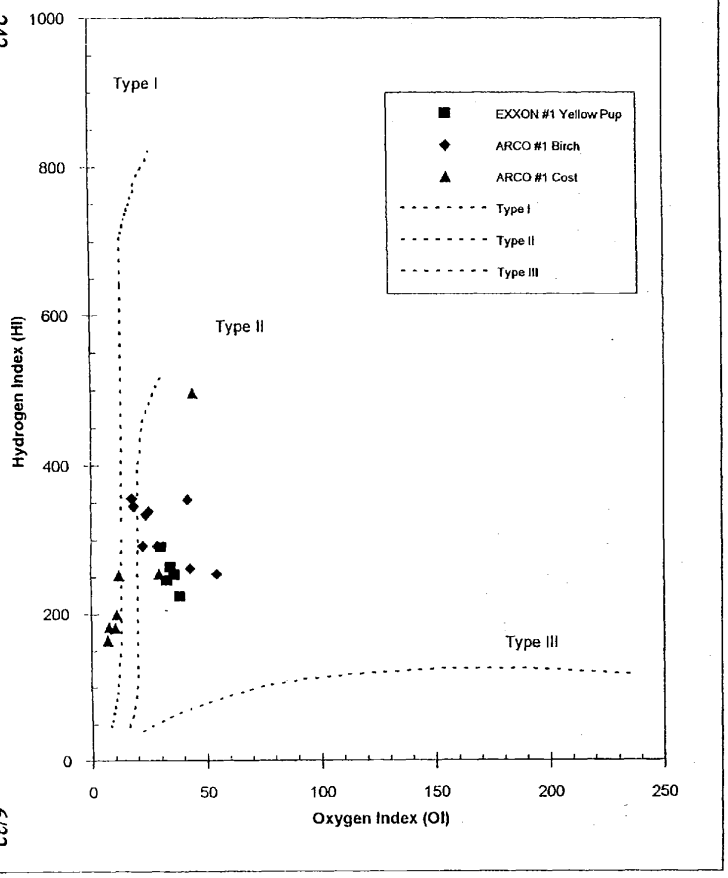
Selected Wells, Hand-Picked Coal Samples

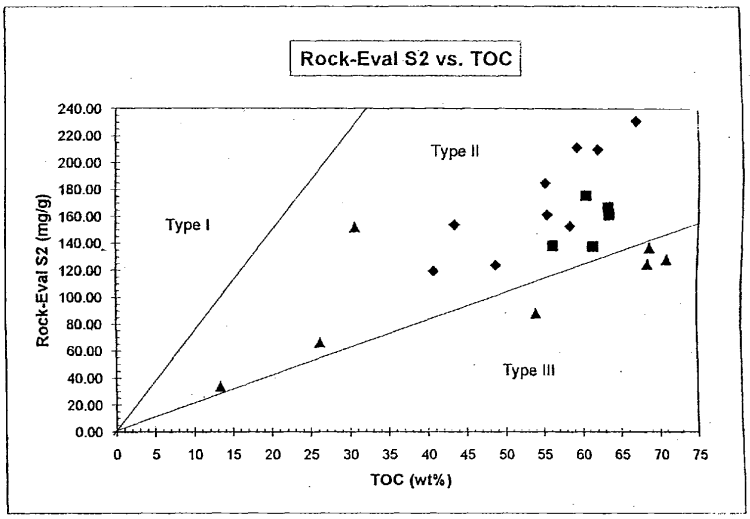
File: 94263

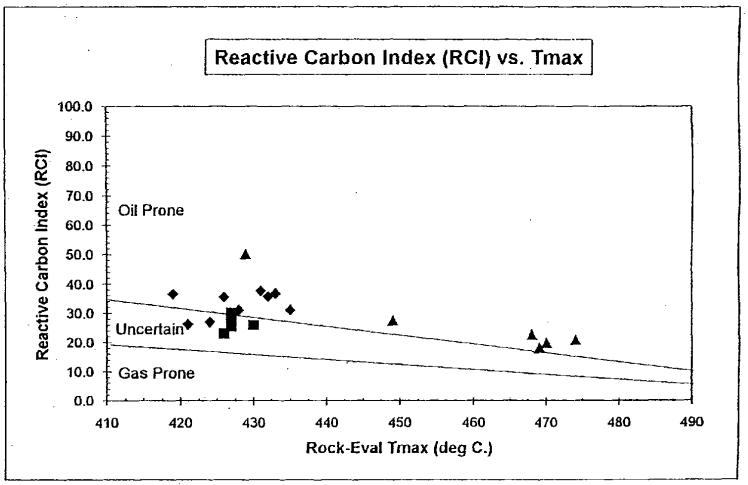
Sample Depth (feet)	Sample Type	TOC (wt %)	S1 (mg/g)	S2 (mg/g)	S3 (mg/g)	Tmax (deg C)	Hydrogen Index	Oxygen Index	Reactive Carbon	Transformation Ratio
EXXON #1 YELLOW PUP	OCS Y-0407									
7160-7170	COAL	61.41	2.87	137.97	23.64	426	225	38	22.9	0.02
7230-7260	COAL	63.37	3.28	160.93	22.96	430	254	36	25.9	0.02
7310-7320	COAL	63.31	4.14	167.04	21.67	427	264	34	27.0	0.02
7340-7360	COAL	56.18	4.44	138.04	18.28	427	246	33	25.4	0.03
7350-7360	COAL	60.40	6.15	175.41	18.25	427	290	30	30.1	0.03
ARCO #1 BIRCH	OCSY-0436									
7990-8020	COAL	58.33	5.75	152.89	24.97	424	262	43	27.2	0.04
8260-8320	COAL	48.68	4.05	124.15	26.52	421	255	54	26.3	0.03
8920-8960	COAL	59.35	12.93	211.48	10.45	431	356	18	37.8	0.06
8980-9010	COAL	43.47	5.00	154.07	18.22	419	354	42	36.6	0.03
9010-9040	COAL	61.96	10.63	210.07	15.44	426	339	25	35.6	0.05
9340-9370	COAL	66.97	14.59	231.41	12.32	433	346	18	36.7	0.06
9730-9760	COAL	55.34	10.19	161.70	15.81	428	292	29	31.1	0.06
10000-10030	COAL	55.19	12.78	185.01	13.06	432	335	24	35.8	0.06
10090-10150	COAL	40.75	7.48	119.36	9.04	435	293	22	31.1	0.06
ARCO #1 COST	NORTON BASIN									
11280-11340	COAL	13.35	1.29	33.99	3.91	427	255	29	26.4	0.04
11910-11970	COAL	26.20	6.13	66.40	3.20	449	253	12	27.7	0.08
12210-12270	COAL	68.63	19.05	137.00	7.65	468	200	11	22.7	0.12
12300-12360	COAL	70.91	19.72	128.35	7.44	474	181	10	20.9	0.13
12420-12510	COAL	68.41	11.42	124.90	5.32	470	183	8	19.9	0.08
12540-12630	COAL	53.95	9.90	88.60	3.78	469	164	7	18.3	0.10
13020-13050	COAL	30.70	1.72	152.64	13.56	429	497	44	50.3	0.01

TOC = Total Organic Carbon (wt%); TC = Total Carbon (wt%); S1 = Free Hydrocarbons (mg/g); S2 = Pyrolyzable Hydrocarbons (mg/g); S3 = CO2 released during pyrolysis (mg/g). Hydrogen Index (HI) = [(S2/%TOC)x100]; Oxygen Index (OI) = [(S3/%TOC)x100]; Reactive Carbon (RCI) = [10x(S1 + S2)/%TOC]; Transformation Ratio = S1/(S1 + S2)

MEPTEC Hand-Picked Coal Samples







15-NOV-94
SAMPLE ID = YELLOW PUP 7170'

MACERAL COMPOSITION

PERCENT LIPTINITE	2.86	DN RANGE	0. - 12.
PERCENT VITRINITE	6.08	DN RANGE	13. - 99.
PERCENT INERTINITE	0.00	DN RANGE	100. - 100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
12.0000	8.00000	*
160.000	10.0000	*
3436.00	12.0000	*
21612.0	14.0000	+---*
77420.0	16.0000	+----------*
183380.	18.0000	+----------*
301584.	20.0000	+----------*
303448.	22.0000	+----------*
184556.	24.0000	+----------*
46468.0	26.0000	+--------*
6560.00	28.0000	*
696.000	30.0000	*
308.000	32.0000	*
160.000	34.0000	*
84.0000	36.0000	*
24.0000	38.0000	*
0.000000	40.0000	*
0.000000	42.0000	*
0.000000	44.0000	*
0.000000	46.0000	*
0.000000	48.0000	*
0.000000	50.0000	*
0.000000	52.0000	*
0.000000	54.0000	*
0.000000	56.0000	*
0.000000	58.0000	*
0.000000	60.0000	*
0.000000	62.0000	*
0.000000	64.0000	*
0.000000	66.0000	*
0.000000	68.0000	*
0.000000	70.0000	*
0.000000	72.0000	*
0.000000	74.0000	*
0.000000	76.0000	*
0.000000	78.0000	*
0.000000	80.0000	*
0.000000	82.0000	*
0.000000	84.0000	*
0.000000	86.0000	*
0.000000	88.0000	*
0.000000	90.0000	*
0.000000	92.0000	*
0.000000	94.0000	*
0.000000	96.0000	*
-20.0000	98.0000	*

26 .51
2½ .54
2½ .57

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN = 0.	--- RO =	0.000
FOR DN = 2.	--- RO =	0.042
FOR DN = 4.	--- RO =	0.085
FOR DN = 6.	--- RO =	0.131
FOR DN = 8.	--- RO =	0.179
FOR DN = 10.	--- RO =	0.228
FOR DN = 12.	--- RO =	0.280
FOR DN = 14.	--- RO =	0.334
FOR DN = 16.	--- RO =	0.389
FOR DN = 18.	--- RO =	0.447
FOR DN = 20.	--- RO =	0.506
FOR DN = 22.	--- RO =	0.567
FOR DN = 24.	--- RO =	0.631
FOR DN = 26.	--- RO =	0.696
FOR DN = 28.	--- RO =	0.763
FOR DN = 30.	--- RO =	0.833
FOR DN = 32.	--- RO =	0.904
FOR DN = 34.	--- RO =	0.977
FOR DN = 36.	--- RO =	1.052
FOR DN = 38.	--- RO =	1.129
FOR DN = 40.	--- RO =	1.208
FOR DN = 42.	--- RO =	1.289
FOR DN = 44.	--- RO =	1.372
FOR DN = 46.	--- RO =	1.457
FOR DN = 48.	--- RO =	1.544
FOR DN = 50.	--- RO =	1.633
FOR DN = 52.	--- RO =	1.724
FOR DN = 54.	--- RO =	1.817
FOR DN = 56.	--- RO =	1.912
FOR DN = 58.	--- RO =	2.009
FOR DN = 60.	--- RO =	2.107
FOR DN = 62.	--- RO =	2.208
FOR DN = 64.	--- RO =	2.311
FOR DN = 66.	--- RO =	2.415
FOR DN = 68.	--- RO =	2.522
FOR DN = 70.	--- RO =	2.630
FOR DN = 72.	--- RO =	2.741
FOR DN = 74.	--- RO =	2.853
FOR DN = 76.	--- RO =	2.968
FOR DN = 78.	--- RO =	3.084
FOR DN = 80.	--- RO =	3.203
FOR DN = 82.	--- RO =	3.323
FOR DN = 84.	--- RO =	3.445
FOR DN = 86.	--- RO =	3.569
FOR DN = 88.	--- RO =	3.696
FOR DN = 90.	--- RO =	3.824
FOR DN = 92.	--- RO =	3.954
FOR DN = 94.	--- RO =	4.086
FOR DN = 96.	--- RO =	4.220
FOR DN = 98.	--- RO =	4.356

15-NOV-94
SAMPLE ID = YELLOW PUP 7260'

MACERAL COMPOSITION

PERCENT LIPTINITE	2.99	DN RANGE	0. - 12.
PERCENT VITRINITE	5.90	DN RANGE	13. - 99.
PERCENT INERTINITE	0.00	DN RANGE	100. - 100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
4.00000	8.00000	*
52.0000	10.0000	*
1120.00	12.0000	*
11044.0	14.0000	+-*
55128.0	16.0000	+----------*
175380.	18.0000	+----------*
286588.	20.0000	+----------*
265764.	22.0000	+----------*
134928.	24.0000	+----------*
44372.0	26.0000	+--------*
3696.00	28.0000	*
1236.00	30.0000	*
804.000	32.0000	*
512.000	34.0000	*
336.000	36.0000	*
140.000	38.0000	*
88.0000	40.0000	*
40.0000	42.0000	*
24.0000	44.0000	*
0.000000	46.0000	*
0.000000	48.0000	*
0.000000	50.0000	*
4.00000	52.0000	*
4.00000	54.0000	*
-4.00000	56.0000	*
4.00000	58.0000	*
-4.00000	60.0000	*
8.00000	62.0000	*
4.00000	64.0000	*
4.00000	66.0000	*
8.00000	68.0000	*
-4.00000	70.0000	*
8.00000	72.0000	*
0.000000	74.0000	*
8.00000	76.0000	*
0.000000	78.0000	*
0.000000	80.0000	*
0.000000	82.0000	*
0.000000	84.0000	*
0.000000	86.0000	*
0.000000	88.0000	*
0.000000	90.0000	*
0.000000	92.0000	*
0.000000	94.0000	*
0.000000	96.0000	*
0.000000	98.0000	*

.51

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	--- RO =	0.000
FOR DN =	2.	--- RO =	0.042
FOR DN =	4.	--- RO =	0.085
FOR DN =	6.	--- RO =	0.131
FOR DN =	8.	--- RO =	0.179
FOR DN =	10.	--- RO =	0.228
FOR DN =	12.	--- RO =	0.280
FOR DN =	14.	--- RO =	0.334
FOR DN =	16.	--- RO =	0.389
FOR DN =	18.	--- RO =	0.447
FOR DN =	20.	--- RO =	0.506
FOR DN =	22.	--- RO =	0.567
FOR DN =	24.	--- RO =	0.631
FOR DN =	26.	--- RO =	0.696
FOR DN =	28.	--- RO =	0.763
FOR DN =	30.	--- RO =	0.833
FOR DN =	32.	--- RO =	0.904
FOR DN =	34.	--- RO =	0.977
FOR DN =	36.	--- RO =	1.052
FOR DN =	38.	--- RO =	1.129
FOR DN =	40.	--- RO =	1.208
FOR DN =	42.	--- RO =	1.289
FOR DN =	44.	--- RO =	1.372
FOR DN =	46.	--- RO =	1.457
FOR DN =	48.	--- RO =	1.544
FOR DN =	50.	--- RO =	1.633
FOR DN =	52.	--- RO =	1.724
FOR DN =	54.	--- RO =	1.817
FOR DN =	56.	--- RO =	1.912
FOR DN =	58.	--- RO =	2.009
FOR DN =	60.	--- RO =	2.107
FOR DN =	62.	--- RO =	2.208
FOR DN =	64.	--- RO =	2.311
FOR DN =	66.	--- RO =	2.415
FOR DN =	68.	--- RO =	2.522
FOR DN =	70.	--- RO =	2.630
FOR DN =	72.	--- RO =	2.741
FOR DN =	74.	--- RO =	2.853
FOR DN =	76.	--- RO =	2.968
FOR DN =	78.	--- RO =	3.084
FOR DN =	80.	--- RO =	3.203
FOR DN =	82.	--- RO =	3.323
FOR DN =	84.	--- RO =	3.445
FOR DN =	86.	--- RO =	3.569
FOR DN =	88.	--- RO =	3.696
FOR DN =	90.	--- RO =	3.824
FOR DN =	92.	--- RO =	3.954
FOR DN =	94.	--- RO =	4.086
FOR DN =	96.	--- RO =	4.220
FOR DN =	98.	--- RO =	4.356

15-NOV-94
SAMPLE ID = YELLOW PUP 7360'

MACERAL COMPOSITION

PERCENT LIPTINITE	1.95	DN RANGE	0. - 12.
PERCENT VITRINITE	5.59	DN RANGE	13. - 99.
PERCENT INERTINITE	0.00	DN RANGE	100. - 100.

242 .63

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
8.00000	8.00000	*
148.000	10.0000	*
1444.00	12.0000	*
4464.00	14.0000	*
9428.00	16.0000	+-*
27788.0	18.0000	+-----*
100528.	20.0000	+--------------------*
194128.	22.0000	+--*
272440.	24.0000	+--*
164348.	26.0000	+----------------------------------*
21228.0	28.0000	+---*
1880.00	30.0000	*
856.000	32.0000	*
588.000	34.0000	*
488.000	36.0000	*
288.000	38.0000	*
232.000	40.0000	*
152.000	42.0000	*
92.0000	44.0000	*
36.0000	46.0000	*
24.0000	48.0000	*
12.0000	50.0000	*
12.0000	52.0000	*
8.00000	54.0000	*
12.0000	56.0000	*
0.000000	58.0000	*
16.0000	60.0000	*
0.000000	62.0000	*
8.00000	64.0000	*
0.000000	66.0000	*
0.000000	68.0000	*
4.00000	70.0000	*
0.000000	72.0000	*
4.00000	74.0000	*
0.000000	76.0000	*
0.000000	78.0000	*
0.000000	80.0000	*
0.000000	82.0000	*
0.000000	84.0000	*
0.000000	86.0000	*
0.000000	88.0000	*
0.000000	90.0000	*
0.000000	92.0000	*
0.000000	94.0000	*
0.000000	96.0000	*
0.000000	98.0000	*

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	--- RO =	0.000
FOR DN =	2.	--- RO =	0.042
FOR DN =	4.	--- RO =	0.085
FOR DN =	6.	--- RO =	0.131
FOR DN =	8.	--- RO =	0.179
FOR DN =	10.	--- RO =	0.228
FOR DN =	12.	--- RO =	0.280
FOR DN =	14.	--- RO =	0.334
FOR DN =	16.	--- RO =	0.389
FOR DN =	18.	--- RO =	0.447
FOR DN =	20.	--- RO =	0.506
FOR DN =	22.	--- RO =	0.567
FOR DN =	24.	--- RO =	0.631
FOR DN =	26.	--- RO =	0.696
FOR DN =	28.	--- RO =	0.763
FOR DN =	30.	--- RO =	0.833
FOR DN =	32.	--- RO =	0.904
FOR DN =	34.	--- RO =	0.977
FOR DN =	36.	--- RO =	1.052
FOR DN =	38.	--- RO =	1.129
FOR DN =	40.	--- RO =	1.208
FOR DN =	42.	--- RO =	1.289
FOR DN =	44.	--- RO =	1.372
FOR DN =	46.	--- RO =	1.457
FOR DN =	48.	--- RO =	1.544
FOR DN =	50.	--- RO =	1.633
FOR DN =	52.	--- RO =	1.724
FOR DN =	54.	--- RO =	1.817
FOR DN =	56.	--- RO =	1.912
FOR DN =	58.	--- RO =	2.009
FOR DN =	60.	--- RO =	2.107
FOR DN =	62.	--- RO =	2.208
FOR DN =	64.	--- RO =	2.311
FOR DN =	66.	--- RO =	2.415
FOR DN =	68.	--- RO =	2.522
FOR DN =	70.	--- RO =	2.630
FOR DN =	72.	--- RO =	2.741
FOR DN =	74.	--- RO =	2.853
FOR DN =	76.	--- RO =	2.968
FOR DN =	78.	--- RO =	3.084
FOR DN =	80.	--- RO =	3.203
FOR DN =	82.	--- RO =	3.323
FOR DN =	84.	--- RO =	3.445
FOR DN =	86.	--- RO =	3.569
FOR DN =	88.	--- RO =	3.696
FOR DN =	90.	--- RO =	3.824
FOR DN =	92.	--- RO =	3.954
FOR DN =	94.	--- RO =	4.086
FOR DN =	96.	--- RO =	4.220
FOR DN =	98.	--- RO =	4.356

30-NOV-94
SAMPLE ID = BIRCH 8020

MACERAL COMPOSITION

PERCENT LIPTINITE	9.52	DN RANGE	0. -	12.
PERCENT VITRINITE	14.60	DN RANGE	13. -	99.
PERCENT INERTINITE	0.01	DN RANGE	100. -	100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
0.000000	8.00000	*
8.00000	10.0000	*
128.000	12.0000	*
1660.00	14.0000	*
5532.00	16.0000	*
24664.0	18.0000	+------*
104448.	20.0000	+----------*
216664.	22.0000	+----------*
189572.	24.0000	+----------*
93000.0	26.0000	+----------*
13036.0	28.0000	+--*
948.000	30.0000	*
348.000	32.0000	*
244.000	34.0000	*
248.000	36.0000	*
184.000	38.0000	*
172.000	40.0000	*
104.000	42.0000	*
148.000	44.0000	*
160.000	46.0000	*
108.000	48.0000	*
96.0000	50.0000	*
68.0000	52.0000	*
32.0000	54.0000	*
52.0000	56.0000	*
0.000000	58.0000	*
36.0000	60.0000	*
4.00000	62.0000	*
32.0000	64.0000	*
0.000000	66.0000	*
20.0000	68.0000	*
8.00000	70.0000	*
4.00000	72.0000	*
0.000000	74.0000	*
4.00000	76.0000	*
0.000000	78.0000	*
0.000000	80.0000	*
0.000000	82.0000	*
0.000000	84.0000	*
0.000000	86.0000	*
0.000000	88.0000	*
0.000000	90.0000	*
0.000000	92.0000	*
0.000000	94.0000	*
0.000000	96.0000	*

RL = .57 SL.L = .57

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN = 0.	--- RO =	0.000
FOR DN = 2.	--- RO =	0.043
FOR DN = 4.	--- RO =	0.088
FOR DN = 6.	--- RO =	0.135
FOR DN = 8.	--- RO =	0.183
FOR DN = 10.	--- RO =	0.233
FOR DN = 12.	--- RO =	0.285
FOR DN = 14.	--- RO =	0.338
FOR DN = 16.	--- RO =	0.392
FOR DN = 18.	--- RO =	0.448
FOR DN = 20.	--- RO =	0.506
FOR DN = 22.	--- RO =	0.565
FOR DN = 24.	--- RO =	0.626
FOR DN = 26.	--- RO =	0.689
FOR DN = 28.	--- RO =	0.753
FOR DN = 30.	--- RO =	0.819
FOR DN = 32.	--- RO =	0.886
FOR DN = 34.	--- RO =	0.955
FOR DN = 36.	--- RO =	1.025
FOR DN = 38.	--- RO =	1.097
FOR DN = 40.	--- RO =	1.171
FOR DN = 42.	--- RO =	1.246
FOR DN = 44.	--- RO =	1.323
FOR DN = 46.	--- RO =	1.401
FOR DN = 48.	--- RO =	1.481
FOR DN = 50.	--- RO =	1.563
FOR DN = 52.	--- RO =	1.646
FOR DN = 54.	--- RO =	1.731
FOR DN = 56.	--- RO =	1.817
FOR DN = 58.	--- RO =	1.905
FOR DN = 60.	--- RO =	1.994
FOR DN = 62.	--- RO =	2.086
FOR DN = 64.	--- RO =	2.178
FOR DN = 66.	--- RO =	2.272
FOR DN = 68.	--- RO =	2.368
FOR DN = 70.	--- RO =	2.466
FOR DN = 72.	--- RO =	2.565
FOR DN = 74.	--- RO =	2.665
FOR DN = 76.	--- RO =	2.768
FOR DN = 78.	--- RO =	2.871
FOR DN = 80.	--- RO =	2.977
FOR DN = 82.	--- RO =	3.084
FOR DN = 84.	--- RO =	3.192
FOR DN = 86.	--- RO =	3.303
FOR DN = 88.	--- RO =	3.414
FOR DN = 90.	--- RO =	3.528
FOR DN = 92.	--- RO =	3.643
FOR DN = 94.	--- RO =	3.759
FOR DN = 96.	--- RO =	3.877
FOR DN = 98.	--- RO =	3.997

60

30-NOV-94
SAMPLE ID = BIRCH 8020

MACERAL COMPOSITION

PERCENT LIPTINITE	9.79	DN RANGE	0. - 12.
PERCENT VITRINITE	15.85	DN RANGE	13. - 99.
PERCENT INERTINITE	0.00	DN RANGE	100. - 100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
0.000000	8.00000	*
36.0000	10.0000	*
256.000	12.0000	*
1740.00	14.0000	*
4032.00	16.0000	*
20380.0	18.0000	+------*
89688.0	20.0000	+----------*
162072.	22.0000	+----------*
148276.	24.0000	+----------*
139424.	26.0000	+----------*
132580.	28.0000	+----------*
124300.	30.0000	+----------*
53836.0	32.0000	+----------*
8656.00	34.0000	+---*
1316.00	36.0000	*
312.000	38.0000	*
148.000	40.0000	*
84.0000	42.0000	*
80.0000	44.0000	*
44.0000	46.0000	*
24.0000	48.0000	*
44.0000	50.0000	*
0.000000	52.0000	*
24.0000	54.0000	*
28.0000	56.0000	*
28.0000	58.0000	*
12.0000	60.0000	*
0.000000	62.0000	*
24.0000	64.0000	*
20.0000	66.0000	*
28.0000	68.0000	*
8.00000	70.0000	*
12.0000	72.0000	*
16.0000	74.0000	*
24.0000	76.0000	*
16.0000	78.0000	*
16.0000	80.0000	*
0.000000	82.0000	*
8.00000	84.0000	*
16.0000	86.0000	*
8.00000	88.0000	*
4.00000	90.0000	*
0.000000	92.0000	*
4.00000	94.0000	*
0.000000	96.0000	*

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	RO =	0.000
FOR DN =	2.	RO =	0.043
FOR DN =	4.	RO =	0.088
FOR DN =	6.	RO =	0.135
FOR DN =	8.	RO =	0.183
FOR DN =	10.	RO =	0.233
FOR DN =	12.	RO =	0.285
FOR DN =	14.	RO =	0.338
FOR DN =	16.	RO =	0.392
FOR DN =	18.	RO =	0.448
FOR DN =	20.	RO =	0.506
FOR DN =	22.	RO =	0.565
FOR DN =	24.	RO =	0.626
FOR DN =	26.	RO =	0.689
FOR DN =	28.	RO =	0.753
FOR DN =	30.	RO =	0.819
FOR DN =	32.	RO =	0.886
FOR DN =	34.	RO =	0.955
FOR DN =	36.	RO =	1.025
FOR DN =	38.	RO =	1.097
FOR DN =	40.	RO =	1.171
FOR DN =	42.	RO =	1.246
FOR DN =	44.	RO =	1.323
FOR DN =	46.	RO =	1.401
FOR DN =	48.	RO =	1.481
FOR DN =	50.	RO =	1.563
FOR DN =	52.	RO =	1.646
FOR DN =	54.	RO =	1.731
FOR DN =	56.	RO =	1.817
FOR DN =	58.	RO =	1.905
FOR DN =	60.	RO =	1.994
FOR DN =	62.	RO =	2.086
FOR DN =	64.	RO =	2.178
FOR DN =	66.	RO =	2.272
FOR DN =	68.	RO =	2.368
FOR DN =	70.	RO =	2.466
FOR DN =	72.	RO =	2.565
FOR DN =	74.	RO =	2.665
FOR DN =	76.	RO =	2.768
FOR DN =	78.	RO =	2.871
FOR DN =	80.	RO =	2.977
FOR DN =	82.	RO =	3.084
FOR DN =	84.	RO =	3.192
FOR DN =	86.	RO =	3.303
FOR DN =	88.	RO =	3.414
FOR DN =	90.	RO =	3.528
FOR DN =	92.	RO =	3.643
FOR DN =	94.	RO =	3.759
FOR DN =	96.	RO =	3.877
FOR DN =	98.	RO =	3.997

30-NOV-94
SAMPLE ID = BIRCH 8960'

```
                MACERAL COMPOSITION
PERCENT LIPTINITE      9.85  DN RANGE    0. -  12.
PERCENT VITRINITE     13.65  DN RANGE   13. -  99.
PERCENT INERTINITE     0.03  DN RANGE  100. - 100.
   COUNT        GRAYNESS
 0.000000      0.000000      *
 0.000000       2.00000      *
 0.000000       4.00000      *
 0.000000       6.00000      *
 0.000000       8.00000      *
  32.0000       10.0000      *
  300.000       12.0000      *
  1428.00       14.0000      *
  3512.00       16.0000      *
  7868.00       18.0000      *
  22452.0       20.0000      +---*
  96968.0       22.0000      +-----------------*
  274936.       24.0000      +--------------------------------------------------*
  241468.       26.0000      +---------------------------------------------*
  126080.       28.0000      +-----------------------*
  81268.0       30.0000      +---------------*
  27440.0       32.0000      +----*
  1756.00       34.0000      *
  412.000       36.0000      *
  252.000       38.0000      *
  360.000       40.0000      *
  320.000       42.0000      *
  300.000       44.0000      *
  120.000       46.0000      *
  228.000       48.0000      *
  124.000       50.0000      *
  184.000       52.0000      *
  112.000       54.0000      *
  72.0000       56.0000      *
  72.0000       58.0000      *
  60.0000       60.0000      *
  72.0000       62.0000      *
  12.0000       64.0000      *
  44.0000       66.0000      *
  8.00000       68.0000      *
  12.0000       70.0000      *
  8.00000       72.0000      *
  4.00000       74.0000      *
  4.00000       76.0000      *
 0.000000       78.0000      *
 -4.00000       80.0000      *
  8.00000       82.0000      *
 0.000000       84.0000      *
  4.00000       86.0000      *
 0.000000       88.0000      *
 0.000000       90.0000      *
 0.000000       92.0000      *
 0.000000       94.0000      *
 0.000000       96.0000      *
 0.000000       98.0000      *
```

240 .63   slide .73
260 .69

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	--- RO =	0.000
FOR DN =	2.	--- RO =	0.043
FOR DN =	4.	--- RO =	0.088
FOR DN =	6.	--- RO =	0.135
FOR DN =	8.	--- RO =	0.183
FOR DN =	10.	--- RO =	0.233
FOR DN =	12.	--- RO =	0.285
FOR DN =	14.	--- RO =	0.338
FOR DN =	16.	--- RO =	0.392
FOR DN =	18.	--- RO =	0.448
FOR DN =	20.	--- RO =	0.506
FOR DN =	22.	--- RO =	0.565
FOR DN =	24.	--- RO =	0.626
FOR DN =	26.	--- RO =	0.689
FOR DN =	28.	--- RO =	0.753
FOR DN =	30.	--- RO =	0.819
FOR DN =	32.	--- RO =	0.886
FOR DN =	34.	--- RO =	0.955
FOR DN =	36.	--- RO =	1.025
FOR DN =	38.	--- RO =	1.097
FOR DN =	40.	--- RO =	1.171
FOR DN =	42.	--- RO =	1.246
FOR DN =	44.	--- RO =	1.323
FOR DN =	46.	--- RO =	1.401
FOR DN =	48.	--- RO =	1.481
FOR DN =	50.	--- RO =	1.563
FOR DN =	52.	--- RO =	1.646
FOR DN =	54.	--- RO =	1.731
FOR DN =	56.	--- RO =	1.817
FOR DN =	58.	--- RO =	1.905
FOR DN =	60.	--- RO =	1.994
FOR DN =	62.	--- RO =	2.086
FOR DN =	64.	--- RO =	2.178
FOR DN =	66.	--- RO =	2.272
FOR DN =	68.	--- RO =	2.368
FOR DN =	70.	--- RO =	2.466
FOR DN =	72.	--- RO =	2.565
FOR DN =	74.	--- RO =	2.665
FOR DN =	76.	--- RO =	2.768
FOR DN =	78.	--- RO =	2.871
FOR DN =	80.	--- RO =	2.977
FOR DN =	82.	--- RO =	3.084
FOR DN =	84.	--- RO =	3.192
FOR DN =	86.	--- RO =	3.303
FOR DN =	88.	--- RO =	3.414
FOR DN =	90.	--- RO =	3.528
FOR DN =	92.	--- RO =	3.643
FOR DN =	94.	--- RO =	3.759
FOR DN =	96.	--- RO =	3.877
FOR DN =	98.	--- RO =	3.997

30-NOV-94
SAMPLE ID = BIRCH 9040

MACERAL COMPOSITION

PERCENT LIPTINITE	6.80	DN RANGE	0. - 12.
PERCENT VITRINITE	9.59	DN RANGE	13. - 99.
PERCENT INERTINITE	0.00	DN RANGE	100. - 100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
0.000000	8.00000	*
32.0000	10.0000	*
352.000	12.0000	*
2208.00	14.0000	*
8668.00	16.0000	+-*
19200.0	18.0000	+----*
49756.0	20.0000	+----------*
135744.	22.0000	+----------*
202324.	24.0000	+----------*
172956.	26.0000	+----------*
115264.	28.0000	+----------*
27788.0	30.0000	+------*
4480.00	32.0000	*
1316.00	34.0000	*
1008.00	36.0000	*
368.000	38.0000	*
168.000	40.0000	*
232.000	42.0000	*
120.000	44.0000	*
156.000	46.0000	*
68.0000	48.0000	*
56.0000	50.0000	*
100.000	52.0000	*
88.0000	54.0000	*
44.0000	56.0000	*
80.0000	58.0000	*
20.0000	60.0000	*
24.0000	62.0000	*
52.0000	64.0000	*
16.0000	66.0000	*
28.0000	68.0000	*
8.00000	70.0000	*
24.0000	72.0000	*
28.0000	74.0000	*
28.0000	76.0000	*
-20.0000	78.0000	*
36.0000	80.0000	*
12.0000	82.0000	*
20.0000	84.0000	*
4.00000	86.0000	*
16.0000	88.0000	*
0.000000	90.0000	*
8.00000	92.0000	*
8.00000	94.0000	*
4.00000	96.0000	*
-8.00000	98.0000	*

242, 63

5.2.63

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	RO =	0.000
FOR DN =	2.	RO =	0.043
FOR DN =	4.	RO =	0.088
FOR DN =	6.	RO =	0.135
FOR DN =	8.	RO =	0.183
FOR DN =	10.	RO =	0.233
FOR DN =	12.	RO =	0.285
FOR DN =	14.	RO =	0.338
FOR DN =	16.	RO =	0.392
FOR DN =	18.	RO =	0.448
FOR DN =	20.	RO =	0.506
FOR DN =	22.	RO =	0.565
FOR DN =	24.	RO =	0.626
FOR DN =	26.	RO =	0.689
FOR DN =	28.	RO =	0.753
FOR DN =	30.	RO =	0.819
FOR DN =	32.	RO =	0.886
FOR DN =	34.	RO =	0.955
FOR DN =	36.	RO =	1.025
FOR DN =	38.	RO =	1.097
FOR DN =	40.	RO =	1.171
FOR DN =	42.	RO =	1.246
FOR DN =	44.	RO =	1.323
FOR DN =	46.	RO =	1.401
FOR DN =	48.	RO =	1.481
FOR DN =	50.	RO =	1.563
FOR DN =	52.	RO =	1.646
FOR DN =	54.	RO =	1.731
FOR DN =	56.	RO =	1.817
FOR DN =	58.	RO =	1.905
FOR DN =	60.	RO =	1.994
FOR DN =	62.	RO =	2.086
FOR DN =	64.	RO =	2.178
FOR DN =	66.	RO =	2.272
FOR DN =	68.	RO =	2.368
FOR DN =	70.	RO =	2.466
FOR DN =	72.	RO =	2.565
FOR DN =	74.	RO =	2.665
FOR DN =	76.	RO =	2.768
FOR DN =	78.	RO =	2.871
FOR DN =	80.	RO =	2.977
FOR DN =	82.	RO =	3.084
FOR DN =	84.	RO =	3.192
FOR DN =	86.	RO =	3.303
FOR DN =	88.	RO =	3.414
FOR DN =	90.	RO =	3.528
FOR DN =	92.	RO =	3.643
FOR DN =	94.	RO =	3.759
FOR DN =	96.	RO =	3.877
FOR DN =	98.	RO =	3.997

30-NOV-94
SAMPLE ID = BIRCH 9370

MACERAL COMPOSITION

PERCENT LIPTINITE 2.75 DN RANGE 0. - 12.
PERCENT VITRINITE 5.47 DN RANGE 13. - 99.
PERCENT INERTINITE 0.00 DN RANGE 100. - 100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
0.000000	8.00000	*
20.0000	10.0000	*
364.000	12.0000	*
2392.00	14.0000	*
7316.00	16.0000	+-*
10108.0	18.0000	+--*
16916.0	20.0000	+---*
40092.0	22.0000	+---------*
100376.	24.0000	+-------------------------*
195008.	26.0000	+---*
155040.	28.0000	+---------------------------------------*
32928.0	30.0000	+--------*
15048.0	32.0000	+---*
7708.00	34.0000	+-*
696.000	36.0000	*
0.000000	38.0000	*
36.0000	40.0000	*
12.0000	42.0000	*
12.0000	44.0000	*
8.00000	46.0000	*
4.00000	48.0000	*
0.000000	50.0000	*
0.000000	52.0000	*
16.0000	54.0000	*
4.00000	56.0000	*
-4.00000	58.0000	*
8.00000	60.0000	*
4.00000	62.0000	*
4.00000	64.0000	*
0.000000	66.0000	*
0.000000	68.0000	*
0.000000	70.0000	*
0.000000	72.0000	*
0.000000	74.0000	*
0.000000	76.0000	*
0.000000	78.0000	*
0.000000	80.0000	*
0.000000	82.0000	*
0.000000	84.0000	*
0.000000	86.0000	*
0.000000	88.0000	*
0.000000	90.0000	*
0.000000	92.0000	*
0.000000	94.0000	*
0.000000	96.0000	*
0.000000	98.0000	*

262 .69 sd .20

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	--- RO =	0.000
FOR DN =	2.	--- RO =	0.043
FOR DN =	4.	--- RO =	0.088
FOR DN =	6.	--- RO =	0.135
FOR DN =	8.	--- RO =	0.183
FOR DN =	10.	--- RO =	0.233
FOR DN =	12.	--- RO =	0.285
FOR DN =	14.	--- RO =	0.338
FOR DN =	16.	--- RO =	0.392
FOR DN =	18.	--- RO =	0.448
FOR DN =	20.	--- RO =	0.506
FOR DN =	22.	--- RO =	0.565
FOR DN =	24.	--- RO =	0.626
FOR DN =	26.	--- RO =	0.689
FOR DN =	28.	--- RO =	0.753
FOR DN =	30.	--- RO =	0.819
FOR DN =	32.	--- RO =	0.886
FOR DN =	34.	--- RO =	0.955
FOR DN =	36.	--- RO =	1.025
FOR DN =	38.	--- RO =	1.097
FOR DN =	40.	--- RO =	1.171
FOR DN =	42.	--- RO =	1.246
FOR DN =	44.	--- RO =	1.323
FOR DN =	46.	--- RO =	1.401
FOR DN =	48.	--- RO =	1.481
FOR DN =	50.	--- RO =	1.563
FOR DN =	52.	--- RO =	1.646
FOR DN =	54.	--- RO =	1.731
FOR DN =	56.	--- RO =	1.817
FOR DN =	58.	--- RO =	1.905
FOR DN =	60.	--- RO =	1.994
FOR DN =	62.	--- RO =	2.086
FOR DN =	64.	--- RO =	2.178
FOR DN =	66.	--- RO =	2.272
FOR DN =	68.	--- RO =	2.368
FOR DN =	70.	--- RO =	2.466
FOR DN =	72.	--- RO =	2.565
FOR DN =	74.	--- RO =	2.665
FOR DN =	76.	--- RO =	2.768
FOR DN =	78.	--- RO =	2.871
FOR DN =	80.	--- RO =	2.977
FOR DN =	82.	--- RO =	3.084
FOR DN =	84.	--- RO =	3.192
FOR DN =	86.	--- RO =	3.303
FOR DN =	88.	--- RO =	3.414
FOR DN =	90.	--- RO =	3.528
FOR DN =	92.	--- RO =	3.643
FOR DN =	94.	--- RO =	3.759
FOR DN =	96.	--- RO =	3.877
FOR DN =	98.	--- RO =	3.997

30-NOV-94
SAMPLE ID = BIRCH 9730

MACERAL COMPOSITION

PERCENT LIPTINITE	4.37	DN RANGE	0. - 12.
PERCENT VITRINITE	5.50	DN RANGE	13. - 99.
PERCENT INERTINITE	0.01	DN RANGE	100. - 100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
0.000000	8.00000	*
8.00000	10.0000	*
188.000	12.0000	*
548.000	14.0000	*
1708.00	16.0000	*
6184.00	18.0000	+-*
14112.0	20.0000	+-----*
20072.0	22.0000	+--------*
39828.0	24.0000	+----------------*
52404.0	26.0000	+--------------------*
84136.0	28.0000	+----------------------------------*
126736.	30.0000	+--*
131236.	32.0000	+--*
58348.0	34.0000	+------------------------*
5208.00	36.0000	+-*
104.000	38.0000	*
36.0000	40.0000	*
24.0000	42.0000	*
24.0000	44.0000	*
24.0000	46.0000	*
0.000000	48.0000	*
4.00000	50.0000	*
8.00000	52.0000	*
12.0000	54.0000	*
4.00000	56.0000	*
-4.00000	58.0000	*
4.00000	60.0000	*
8.00000	62.0000	*
0.000000	64.0000	*
0.000000	66.0000	*
0.000000	68.0000	*
0.000000	70.0000	*
0.000000	72.0000	*
0.000000	74.0000	*
0.000000	76.0000	*
0.000000	78.0000	*
0.000000	80.0000	*
0.000000	82.0000	*
0.000000	84.0000	*
0.000000	86.0000	*
0.000000	88.0000	*
0.000000	90.0000	*
0.000000	92.0000	*
0.000000	94.0000	*
0.000000	96.0000	*
-4.00000	98.0000	*

36 = .82 sl. l .79
32 .89

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	RO =	0.000
FOR DN =	2.	RO =	0.043
FOR DN =	4.	RO =	0.088
FOR DN =	6.	RO =	0.135
FOR DN =	8.	RO =	0.183
FOR DN =	10.	RO =	0.233
FOR DN =	12.	RO =	0.285
FOR DN =	14.	RO =	0.338
FOR DN =	16.	RO =	0.392
FOR DN =	18.	RO =	0.448
FOR DN =	20.	RO =	0.506
FOR DN =	22.	RO =	0.565
FOR DN =	24.	RO =	0.626
FOR DN =	26.	RO =	0.689
FOR DN =	28.	RO =	0.753
FOR DN =	30.	RO =	0.819
FOR DN =	32.	RO =	0.886
FOR DN =	34.	RO =	0.955
FOR DN =	36.	RO =	1.025
FOR DN =	38.	RO =	1.097
FOR DN =	40.	RO =	1.171
FOR DN =	42.	RO =	1.246
FOR DN =	44.	RO =	1.323
FOR DN =	46.	RO =	1.401
FOR DN =	48.	RO =	1.481
FOR DN =	50.	RO =	1.563
FOR DN =	52.	RO =	1.646
FOR DN =	54.	RO =	1.731
FOR DN =	56.	RO =	1.817
FOR DN =	58.	RO =	1.905
FOR DN =	60.	RO =	1.994
FOR DN =	62.	RO =	2.086
FOR DN =	64.	RO =	2.178
FOR DN =	66.	RO =	2.272
FOR DN =	68.	RO =	2.368
FOR DN =	70.	RO =	2.466
FOR DN =	72.	RO =	2.565
FOR DN =	74.	RO =	2.665
FOR DN =	76.	RO =	2.768
FOR DN =	78.	RO =	2.871
FOR DN =	80.	RO =	2.977
FOR DN =	82.	RO =	3.084
FOR DN =	84.	RO =	3.192
FOR DN =	86.	RO =	3.303
FOR DN =	88.	RO =	3.414
FOR DN =	90.	RO =	3.528
FOR DN =	92.	RO =	3.643
FOR DN =	94.	RO =	3.759
FOR DN =	96.	RO =	3.877
FOR DN =	98.	RO =	3.997

30-NOV-94
SAMPLE ID = BIRCH 10030

MACERAL COMPOSITION

PERCENT LIPTINITE	3.58	DN RANGE	0. - 12.
PERCENT VITRINITE	5.41	DN RANGE	13. - 99.
PERCENT INERTINITE	0.00	DN RANGE	100. - 100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
0.000000	8.00000	*
36.0000	10.0000	*
188.000	12.0000	*
1012.00	14.0000	*
2920.00	16.0000	*
8824.00	18.0000	+---*
33548.0	20.0000	+----------*
58904.0	22.0000	+--------------------*
90712.0	24.0000	+------------------------------*
100588.	26.0000	+-----------------------------------*
105964.	28.0000	+------------------------------------*
157416.	30.0000	+--*
89012.0	32.0000	+------------------------------*
13936.0	34.0000	+-----*
548.000	36.0000	*
84.0000	38.0000	*
32.0000	40.0000	*
0.000000	42.0000	*
0.000000	44.0000	*
0.000000	46.0000	*
0.000000	48.0000	*
0.000000	50.0000	*
0.000000	52.0000	*
0.000000	54.0000	*
0.000000	56.0000	*
0.000000	58.0000	*
0.000000	60.0000	*
0.000000	62.0000	*
0.000000	64.0000	*
0.000000	66.0000	*
0.000000	68.0000	*
0.000000	70.0000	*
0.000000	72.0000	*
0.000000	74.0000	*
0.000000	76.0000	*
0.000000	78.0000	*
0.000000	80.0000	*
0.000000	82.0000	*
0.000000	84.0000	*
0.000000	86.0000	*
0.000000	88.0000	*
0.000000	90.0000	*
0.000000	92.0000	*
0.000000	94.0000	*
0.000000	96.0000	*
0.000000	98.0000	*

32 = .89 sl.d .90

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	--- RO =	0.000
FOR DN =	2.	--- RO =	0.043
FOR DN =	4.	--- RO =	0.088
FOR DN =	6.	--- RO =	0.135
FOR DN =	8.	--- RO =	0.183
FOR DN =	10.	--- RO =	0.233
FOR DN =	12.	--- RO =	0.285
FOR DN =	14.	--- RO =	0.338
FOR DN =	16.	--- RO =	0.392
FOR DN =	18.	--- RO =	0.448
FOR DN =	20.	--- RO =	0.506
FOR DN =	22.	--- RO =	0.565
FOR DN =	24.	--- RO =	0.626
FOR DN =	26.	--- RO =	0.689
FOR DN =	28.	--- RO =	0.753
FOR DN =	30.	--- RO =	0.819
FOR DN =	32.	--- RO =	0.886
FOR DN =	34.	--- RO =	0.955
FOR DN =	36.	--- RO =	1.025
FOR DN =	38.	--- RO =	1.097
FOR DN =	40.	--- RO =	1.171
FOR DN =	42.	--- RO =	1.246
FOR DN =	44.	--- RO =	1.323
FOR DN =	46.	--- RO =	1.401
FOR DN =	48.	--- RO =	1.481
FOR DN =	50.	--- RO =	1.563
FOR DN =	52.	--- RO =	1.646
FOR DN =	54.	--- RO =	1.731
FOR DN =	56.	--- RO =	1.817
FOR DN =	58.	--- RO =	1.905
FOR DN =	60.	--- RO =	1.994
FOR DN =	62.	--- RO =	2.086
FOR DN =	64.	--- RO =	2.178
FOR DN =	66.	--- RO =	2.272
FOR DN =	68.	--- RO =	2.368
FOR DN =	70.	--- RO =	2.466
FOR DN =	72.	--- RO =	2.565
FOR DN =	74.	--- RO =	2.665
FOR DN =	76.	--- RO =	2.768
FOR DN =	78.	--- RO =	2.871
FOR DN =	80.	--- RO =	2.977
FOR DN =	82.	--- RO =	3.084
FOR DN =	84.	--- RO =	3.192
FOR DN =	86.	--- RO =	3.303
FOR DN =	88.	--- RO =	3.414
FOR DN =	90.	--- RO =	3.528
FOR DN =	92.	--- RO =	3.643
FOR DN =	94.	--- RO =	3.759
FOR DN =	96.	--- RO =	3.877
FOR DN =	98.	--- RO =	3.997

:0-NOV-94
:AMPLE ID = BIRCH 10150

MACERAL COMPOSITION

'ERCENT LIPTINITE 3.51 DN RANGE 0. - 12.
'ERCENT VITRINITE 4.73 DN RANGE 13. - 99.
'ERCENT INERTINITE 0.00 DN RANGE 100. - 100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
0.000000	8.00000	*
8.00000	10.0000	*
72.0000	12.0000	*
556.000	14.0000	*
1776.00	16.0000	*
3020.00	18.0000	*
11816.0	20.0000	+--*
49898.0	22.0000	+----------*
97516.0	24.0000	+----------*
67660.0	26.0000	+----------*
74332.0	28.0000	+----------*
173348.	30.0000	+----------*
90384.0	32.0000	+----------*
20756.0	34.0000	+------*
2044.00	36.0000	*
652.000	38.0000	*
456.000	40.0000	*
476.000	42.0000	*
348.000	44.0000	*
268.000	46.0000	*
312.000	48.0000	*
216.000	50.0000	*
196.000	52.0000	*
64.0000	54.0000	*
108.000	56.0000	*
112.000	58.0000	*
52.0000	60.0000	*
92.0000	62.0000	*
20.0000	64.0000	*
52.0000	66.0000	*
40.0000	68.0000	*
20.0000	70.0000	*
16.0000	72.0000	*
4.00000	74.0000	*
20.0000	76.0000	*
8.00000	78.0000	*
8.00000	80.0000	*
8.00000	82.0000	*
8.00000	84.0000	*
12.0000	86.0000	*
0.000000	88.0000	*
0.000000	90.0000	*
0.000000	92.0000	*
0.000000	94.0000	*
0.000000	96.0000	*
-4.00000	98.0000	*

302 .82 51.66 .83

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	--- RO =	0.000
FOR DN =	2.	--- RO =	0.043
FOR DN =	4.	--- RO =	0.088
FOR DN =	6.	--- RO =	0.135
FOR DN =	8.	--- RO =	0.183
FOR DN =	10.	--- RO =	0.233
FOR DN =	12.	--- RO =	0.285
FOR DN =	14.	--- RO =	0.338
FOR DN =	16.	--- RO =	0.392
FOR DN =	18.	--- RO =	0.448
FOR DN =	20.	--- RO =	0.506
FOR DN =	22.	--- RO =	0.565
FOR DN =	24.	--- RO =	0.626
FOR DN =	26.	--- RO =	0.689
FOR DN =	28.	--- RO =	0.753
FOR DN =	30.	--- RO =	0.819
FOR DN =	32.	--- RO =	0.886
FOR DN =	34.	--- RO =	0.955
FOR DN =	36.	--- RO =	1.025
FOR DN =	38.	--- RO =	1.097
FOR DN =	40.	--- RO =	1.171
FOR DN =	42.	--- RO =	1.246
FOR DN =	44.	--- RO =	1.323
FOR DN =	46.	--- RO =	1.401
FOR DN =	48.	--- RO =	1.481
FOR DN =	50.	--- RO =	1.563
FOR DN =	52.	--- RO =	1.646
FOR DN =	54.	--- RO =	1.731
FOR DN =	56.	--- RO =	1.817
FOR DN =	58.	--- RO =	1.905
FOR DN =	60.	--- RO =	1.994
FOR DN =	62.	--- RO =	2.086
FOR DN =	64.	--- RO =	2.178
FOR DN =	66.	--- RO =	2.272
FOR DN =	68.	--- RO =	2.368
FOR DN =	70.	--- RO =	2.466
FOR DN =	72.	--- RO =	2.565
FOR DN =	74.	--- RO =	2.665
FOR DN =	76.	--- RO =	2.768
FOR DN =	78.	--- RO =	2.871
FOR DN =	80.	--- RO =	2.977
FOR DN =	82.	--- RO =	3.084
FOR DN =	84.	--- RO =	3.192
FOR DN =	86.	--- RO =	3.303
FOR DN =	88.	--- RO =	3.414
FOR DN =	90.	--- RO =	3.528
FOR DN =	92.	--- RO =	3.643
FOR DN =	94.	--- RO =	3.759
FOR DN =	96.	--- RO =	3.877
FOR DN =	98.	--- RO =	3.997

15-NOV-94
SAMPLE ID = COST 11340'

MACERAL COMPOSITION

PERCENT LIPTINITE	5.38	DN RANGE	0. - 12.
PERCENT VITRINITE	6.13	DN RANGE	13. - 99.
PERCENT INERTINITE	0.00	DN RANGE	100. - 100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
12.0000	8.00000	*
72.0000	10.0000	*
800.000	12.0000	*
3496.00	14.0000	+-*
8364.00	16.0000	+-----*
14320.0	18.0000	+--------*
20872.0	20.0000	+----------*
40544.0	22.0000	+----------*
63292.0	24.0000	+----------*
92144.0	26.0000	+----------*
76564.0	28.0000	+----------*
62744.0	30.0000	+----------*
38824.0	32.0000	+----------*
20856.0	34.0000	+----------*
24456.0	36.0000	+----------*
40368.0	38.0000	+----------*
67840.0	40.0000	+----------*
80308.0	42.0000	+----------*
94120.0	44.0000	+----------*
49376.0	46.0000	+----------*
6200.00	48.0000	+--*
300.000	50.0000	*
112.000	52.0000	*
220.000	54.0000	*
84.0000	56.0000	*
148.000	58.0000	*
28.0000	60.0000	*
112.000	62.0000	*
44.0000	64.0000	*
104.000	66.0000	*
32.0000	68.0000	*
88.0000	70.0000	*
40.0000	72.0000	*
100.000	74.0000	*
44.0000	76.0000	*
76.0000	78.0000	*
-4.00000	80.0000	*
124.000	82.0000	*
8.00000	84.0000	*
96.0000	86.0000	*
40.0000	88.0000	*
24.0000	90.0000	*
80.0000	92.0000	*
80.0000	94.0000	*
44.0000	96.0000	*
20.0000	98.0000	*

.7

1.3

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	--- RO =	0.000
FOR DN =	2.	--- RO =	0.042
FOR DN =	4.	--- RO =	0.085
FOR DN =	6.	--- RO =	0.131
FOR DN =	8.	--- RO =	0.179
FOR DN =	10.	--- RO =	0.228
FOR DN =	12.	--- RO =	0.280
FOR DN =	14.	--- RO =	0.334
FOR DN =	16.	--- RO =	0.389
FOR DN =	18.	--- RO =	0.447
FOR DN =	20.	--- RO =	0.506
FOR DN =	22.	--- RO =	0.567
FOR DN =	24.	--- RO =	0.631
FOR DN =	26.	--- RO =	0.696
FOR DN =	28.	--- RO =	0.763
FOR DN =	30.	--- RO =	0.833
FOR DN =	32.	--- RO =	0.904
FOR DN =	34.	--- RO =	0.977
FOR DN =	36.	--- RO =	1.052
FOR DN =	38.	--- RO =	1.129
FOR DN =	40.	--- RO =	1.208
FOR DN =	42.	--- RO =	1.289
FOR DN =	44.	--- RO =	1.372
FOR DN =	46.	--- RO =	1.457
FOR DN =	48.	--- RO =	1.544
FOR DN =	50.	--- RO =	1.633
FOR DN =	52.	--- RO =	1.724
FOR DN =	54.	--- RO =	1.817
FOR DN =	56.	--- RO =	1.912
FOR DN =	58.	--- RO =	2.009
FOR DN =	60.	--- RO =	2.107
FOR DN =	62.	--- RO =	2.208
FOR DN =	64.	--- RO =	2.311
FOR DN =	66.	--- RO =	2.415
FOR DN =	68.	--- RO =	2.522
FOR DN =	70.	--- RO =	2.630
FOR DN =	72.	--- RO =	2.741
FOR DN =	74.	--- RO =	2.853
FOR DN =	76.	--- RO =	2.968
FOR DN =	78.	--- RO =	3.084
FOR DN =	80.	--- RO =	3.203
FOR DN =	82.	--- RO =	3.323
FOR DN =	84.	--- RO =	3.445
FOR DN =	86.	--- RO =	3.569
FOR DN =	88.	--- RO =	3.696
FOR DN =	90.	--- RO =	3.824
FOR DN =	92.	--- RO =	3.954
FOR DN =	94.	--- RO =	4.086
FOR DN =	96.	--- RO =	4.220
FOR DN =	98.	--- RO =	4.356

15-NOV-94
SAMPLE ID = COST 12510'

MACERAL COMPOSITION

PERCENT LIPTINITE	1.74	DN RANGE	0. - 12.
PERCENT VITRINITE	5.04	DN RANGE	13. - 99.
PERCENT INERTINITE	0.00	DN RANGE	100. - 100.

COUNT	GRAYNESS	
0.000000	0.000000	*
0.000000	2.00000	*
0.000000	4.00000	*
0.000000	6.00000	*
24.0000	8.00000	*
204.000	10.0000	*
1912.00	12.0000	*
6856.00	14.0000	+-*
8648.00	16.0000	+--*
10112.0	18.0000	+--*
10204.0	20.0000	+--*
13584.0	22.0000	+---*
15068.0	24.0000	+----*
20460.0	26.0000	+-----*
18524.0	28.0000	+-----*
11348.0	30.0000	+---*
12612.0	32.0000	+---*
20936.0	34.0000	+------*
36280.0	36.0000	+----------*
63616.0	38.0000	+--------------------*
103772.	40.0000	+----------------------------------*
152384.	42.0000	+---*
161632.	44.0000	+---*
103896.	46.0000	+----------------------------------*
43244.0	48.0000	+-------------*
9460.00	50.0000	+--*
512.000	52.0000	*
128.000	54.0000	*
20.0000	56.0000	*
52.0000	58.0000	*
24.0000	60.0000	*
8.00000	62.0000	*
44.0000	64.0000	*
20.0000	66.0000	*
12.0000	68.0000	*
24.0000	70.0000	*
8.00000	72.0000	*
20.0000	74.0000	*
0.000000	76.0000	*
4.00000	78.0000	*
0.000000	80.0000	*
12.0000	82.0000	*
-4.00000	84.0000	*
4.00000	86.0000	*
4.00000	88.0000	*
4.00000	90.0000	*
0.000000	92.0000	*
0.000000	94.0000	*
0.000000	96.0000	*
0.000000	98.0000	*

CONVERSION TABLE OF DN TO REFLECTANCE

FOR DN =	0.	--- RO =	0.000
FOR DN =	2.	--- RO =	0.042
FOR DN =	4.	--- RO =	0.085
FOR DN =	6.	--- RO =	0.131
FOR DN =	8.	--- RO =	0.179
FOR DN =	10.	--- RO =	0.228
FOR DN =	12.	--- RO =	0.280
FOR DN =	14.	--- RO =	0.334
FOR DN =	16.	--- RO =	0.389
FOR DN =	18.	--- RO =	0.447
FOR DN =	20.	--- RO =	0.506
FOR DN =	22.	--- RO =	0.567
FOR DN =	24.	--- RO =	0.631
FOR DN =	26.	--- RO =	0.696
FOR DN =	28.	--- RO =	0.763
FOR DN =	30.	--- RO =	0.833
FOR DN =	32.	--- RO =	0.904
FOR DN =	34.	--- RO =	0.977
FOR DN =	36.	--- RO =	1.052
FOR DN =	38.	--- RO =	1.129
FOR DN =	40.	--- RO =	1.208
FOR DN =	42.	--- RO =	1.289
FOR DN =	44.	--- RO =	1.372
FOR DN =	46.	--- RO =	1.457
FOR DN =	48.	--- RO =	1.544
FOR DN =	50.	--- RO =	1.633
FOR DN =	52.	--- RO =	1.724
FOR DN =	54.	--- RO =	1.817
FOR DN =	56.	--- RO =	1.912
FOR DN =	58.	--- RO =	2.009
FOR DN =	60.	--- RO =	2.107
FOR DN =	62.	--- RO =	2.208
FOR DN =	64.	--- RO =	2.311
FOR DN =	66.	--- RO =	2.415
FOR DN =	68.	--- RO =	2.522
FOR DN =	70.	--- RO =	2.630
FOR DN =	72.	--- RO =	2.741
FOR DN =	74.	--- RO =	2.853
FOR DN =	76.	--- RO =	2.968
FOR DN =	78.	--- RO =	3.084
FOR DN =	80.	--- RO =	3.203
FOR DN =	82.	--- RO =	3.323
FOR DN =	84.	--- RO =	3.445
FOR DN =	86.	--- RO =	3.569
FOR DN =	88.	--- RO =	3.696
FOR DN =	90.	--- RO =	3.824
FOR DN =	92.	--- RO =	3.954
FOR DN =	94.	--- RO =	4.086
FOR DN =	96.	--- RO =	4.220
FOR DN =	98.	--- RO =	4.356