

MID VOLATILE COKING COAL

Proximate Analysis

Moisture	7.9 % as-received
Ash	7.10 % dry
Sulfur	0.95 % dry
Volatile Matter	26.5 % dry

Free Swelling Index

8.5

Relative Oxidation

97 % transmit.

Mineral Analysis of Ash

Silicon Oxide	53.30 %
Aluminum Oxide	31.33 %
Titanium Oxide	1.32 %
Iron Oxide	6.34 %
Calcium Oxide	1.4 %
Magnesium Oxide	1.16 %
Potassium Oxide	3.12 %
Sodium Oxide	0.45 %
Phosphorous Pentoxide	0.45 %
Sulfur Trioxide	0.81 %

Ash Fusion Temperatures, reducing

Initial deformation	>2700 °F
Softening	>2700 °F
Hemispherical	>2700 °F
Fluid	>2700 °F

Petrographic Analysis

Vitrinoid Type V-9	1.4 %
Vitrinoid Type V-10	2.1 %
Vitrinoid Type V-11	16.6 %
Vitrinoid Type V-12	47.7 %
Vitrinoid Type V-13	2.8 %
Vitrinite	69.2 %
Exinite	3.6 %

Resinite	0.1 %
Semifusinite (reactive)	2.4 %

Total Reactives

75.3 %

Semifusinite (inert)	7.2
Micrinite	10.9 %
Fusinite	2.1 %
Mineral Mater	4.5 %
Total Inerts	24.7 %

Composition Balance Index	1.09
Rank Index	4.80
Mean Max. Vitrinite Reflectance	1.22
Calculated Stability Factor	62

ARNU Dilatometer

Maximum contraction	24 %
Maximum dilatation	235 %
Softening temperature	368 °C
Temperature of max. contraction	415 °C
Temperature of max. dilatation	479 °C

Giesler Plastometer

Maximum fluidity	2,800 ddpm
Initial softening temp.	406 °C
Maximum fluid temp.	454 °C
Solidification temp.	500 °C
Plastic range	94 °C

Ultimate Analysis

Carbon	82.31 %
Hydrogen	4.8 %
Nitrogen	1.69 %
Chlorine	0.13 %

Sole Heated Oven Test

Moisture	2.4 %
-6 mesh	83.8 %
BDT	57.9
ET	4.7
Contraction 52/2	-5.6