

HIGH VOLATILE B COKING COAL

Proximate Analysis (dry ex. Moisture)

Moisture	8.0 %
Ash	9.7 %
Sulfur	0.8 %
Volatile Matter	30.4 %

Free Swelling Index

Free Swelling Index	7.5
---------------------	-----

HGI	61
-----	----

Relative Oxidation	75
--------------------	----

Ultimate Analysis

Carbon	77.28
Hydrogen	4.81
Nitrogen	1.40
Sulfur	0.80
Ash	9.74
Oxygen	5.97

Ash Fusion Temp, Reducing

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

ARNU Dilatometer

Maximum contraction	-28 %
Maximum dilatation	35 %
Softening temperature	356 °C
Temperature of max. contraction	428 °C
Temperature of max. dilatation	460 °C

Gieseler Plastometer

Maximum fluidity	1,060 ddpm
Initial softening temp.	411 °C
Maximum fluid temp.	444 °C
Solidification temp.	483 °C
Plastic range	72 °C

Mineral Analysis of Ash

Silicon Oxide	55.86 %
Aluminum Oxide	28.96 %
Titanium Oxide	1.54 %
Iron Oxide	4.58 %
Calcium Oxide	1.46 %
Magnesium Oxide	1.13 %
Potassium Oxide	3.30 %
Sodium Oxide	0.50 %
Phosphorous Pentoxide	0.26 %
Sulfur Trioxide	1.69 %
	0.127

Petrographic Analysis

Vitrinoid Type V-7	0.7 %
Vitrinoid Type V-8	5.5 %
Vitrinoid Type V-9	28.2 %
Vitrinoid Type V-10	32.3 %
Vitrinoid Type V-11	2.1 %
Vitrinite	68.8 %
Exinite	5.9 %
Resinite	0.0 %
Semifusinite (reactive)	2.5 %
Total Reactives	77.2 %
Semifusinite (inert)	5.0 %
Micrinite	9.5 %
Fusinite	2.7 %
Mineral Mater	5.6 %
Total Inerts	22.8
Composition Balance Index	0.74
Rank Index	3.76
Mean Max. Vitrinite Reflectance	0.99

Trace Elements

Chlorine	0.15 %
Mercury	0.076 ppm
Fluorine	74
Arsenic	8.57 ppm