ATTACHMENT B

COAL POTENTIAL RATING SYSTEM FOR STATE LANDS

State of Alaska Department of Natural Resources, Div. of Geological & Geophysical Surveys (ratings of areas for potential of coal development are subject to change when additional geologic information becomes available, November 2004).

1.) HIGH POTENTIAL - Indicates a high potential for coal development and includes areas where minable reserves have been proven by drilling or detailed investigations.

Land rated as high potential for coal development has an estimated 70 percent to more than 90 percent chance of locating minable coal resources. Resources of minable coal are very likely known based on drilling, detailed mapping, field observations, and/or outcrop measurements; tonnages of potentially minable coal resources can be estimated based on moderate and high degrees of geologic assurance in order to bracket the possible range of resource magnitude. These are based on the measured and indicated coal resource classifications of Wood and others (1983) as follows: a) *measured resources* - with a high degree of geologic assurance, the area of coal resource is within 1/4 mile of points of thickness measurement within geologic constraints; b) *indicated resources* - with a moderate degree of geologic assurance, the area of coal resource is extended 3/4 mile from points of thickness measurement within geologic constraints.

Generally, the thickness of a minable coal bed (by surface and underground techniques) is dependent on its coal rank, and should be ≥ 30 inches for lignite and subbituminous coal and ≥ 14 inches for anthracite and bituminous coal (Wood and others, 1983). However, coal seams thinner than these limits shall be considered in high potential ratings if currently being mined locally, especially on adjacent lands. Generally, minable coal beds within these thickness limits will have a total ash content of 15 percent or less on an as-received-basis. However, high-ash coal (more than 15 percent total ash on an as-received basis) shall be considered in high potential ratings if currently being mined locally.

Areas with proven minable coal bed thicknesses and coal quality may be assigned a moderate potential rating if the area is very small and therefore contains currently subeconomic coal reserves.

2.) MODERATE POTENTIAL - Indicates areas of moderate potential for coal development and probably warrants exploration. This classification may refer to areas that are reasonable distances from coal outcrops or drill holes so that significant reserves can be projected and inferred to be present at minable depths; or the area rates as such due to remoteness, complex geologic structure(s), or other constraints.

Land rated as moderate potential for coal development has an estimated 30-70 percent chance of locating minable deposits of coal. Resources of minable coal are likely based on the reasonable inference of the continuity of classifications of Wood and others (1983) as follows: a) *inferred resources* - with a low degree of geologic assurance, the area of coal resource is extended from 3/4 mile to 3 miles from points of thickness measurement; b) *hypothetical resources* - with a low degree of geologic assurance, the area of coal resources is extended beyond 3 miles from points of thickness measurement within geologic constraints.

Generally, the thickness of a minable coal bed (by surface and underground techniques) is dependent on coal rank and should be ≥ 30 inches for lignite and subbituminous coal and ≥ 14 inches for anthracite and bituminous coal (Wood and others, 1983) However, coal seams thinner than these limits shall be considered in moderate potential ratings if currently being mined locally and are likely present based on the reasonable inference of the continuity of coal-bearing rock units.

May include areas with proven minable coal bed thickness and coal quality if the area is very small and therefore contain currently subeconomic coal reserves.

3.) LOW POTENTIAL - Indicates areas where available evidence for the presence of significant economic coal at minable depths is either lacking or suggests that the areas has low potential for coal development.

Land rated as low potential for coal development has an estimated 10-30 percent change of locating minable coal resources. Resources of minable coal are unlikely based on the distant extrapolation of the continuity of coal-bearing rock units from more removed areas, or coal resources are known at considerable depth (>6000ft) and are currently noneconomic.

4.) NO POTENTIAL - Indicates areas where known coal-bearing formations are absent and hence, the presence of any coal resources is extremely unlikely, and there is no potential for coal production (based on currently available geologic data).

Land rated as no potential has an estimated 0-10 percent chance of locating minable coal resources, resources of minable coal are known not to be present or are extremely unlikely based on drilling, field observations, and/or outcrop measurements. In many cases, surface formations are restricted to basement igneous and/or metamorphic rock or other barren strata.

REFERENCE: Wood, G.H., Jr., Kehn, T.M., Carter, M.D., and Culbertson, W.C., 1983, Coal resource classification system of the U.S. Geological Survey: U.S. Geological Survey Circular 891, 65 p.