EXPLANATION

COAL RESOURCE RATING CRITERIA

The individual coal-bearing units are rated on a scale of 1 to 10 on five criteria: Potential, Geology, Geophysics, Topography, and Economic. The Potential criterion evaluates the quantity and quality of coal available within the unit. Geology considers the geological characteristics that influence the coal's accessibility and extractability. Geophysics evaluates the potential for successful coal exploration and recovery. Topography assesses the impact of the coalfield's topography on mining operations. Economic evaluates the feasibility of mining and marketing the coal. Each criterion is rated on a scale of 1 to 10, with 10 being the highest potential.

1. Very low to low possibility for substantial coal discoveries; sedimentary and other rock units not known to host coal; these "barren" units vary from map to map; this rating based almost entirely on published general, broad-brush geologic maps.

2. Low to medium possibility for substantial coal discoveries; these ratings based mostly on published general, broad-brush geology:
   a. units with very minor coal shows elsewhere; possibly favorable rocks but no coal known at location;
   b. one or more rock units mapped together, no presence of coal-bearing unit is uncertain;
   c. cover of most recent (Quaternary) unconsolidated sediments suspected of being underlain by a formation that hosts coal elsewhere;
   d. Tertiary basin; most of the coal on the Seward Peninsula lies within the Tertiary-aged sediments found within Tertiary-age sediments in areas called basins (see Glossary); therefore, all such basins on the Peninsula potentially contain coal deposits;
   e. unverified report of coal occurrences; off-hand reference to coal in published geological reports; other second-hand or unconfirmed reports.

3. Medium to high possibility for substantial coal discoveries:
   a. coal bearing formation close to exposed coal, e.g. other end of basin or strata (see 2d, above, and Glossary) from known coal deposits;
   b. scattered, small outcrops of coal observed or inferred (see Glossary) that may be weathering out of a hidden coal deposit;
   c. "mud" or formerly subeconomic sites where future investigation may reveal usable coal resources;
   d. Cretaceous basin (see 2d, above, and Glossary); composed of Cretaceous-aged rocks known elsewhere to contain medium to large tonnages of good quality (subbituminous to bituminous) coal; rated higher than medium strength because of likely higher coal quality and because of high tonnage potential demonstrated, for example, by the large Cretaceous-aged Cape Beaufort coal field.

4. Known coal, lesser occurrences, and/or less well studied than 5:
   a. marginal because of low rank (low Btu), low tonnage, structural complexity, or thin beds (even if coal is good quality and present in large amounts, thin beds may be too small to mine economically);
   b. indicated and inferred resources (see Glossary) of 5% is favorable geology;
   c. may include cases where drilling has disclosed some coal but where its extent is still unknown.

5. Known coal, medium to large measured resources (see Glossary) of usable quality coal. There is a large difference between the smallest and largest but even the smallest is known to contain reserves that might be recoverable under the right conditions. For example, the Chicago River coal deposit, on the Seward Peninsula, contains only one one-thousandth of the combined coal in the Seward Peninsula system; however, the deposit is a fraction of the estimated resources for the Deadfall; the Chicago River coal is lignite, while the Deadfall coal is of higher quality, bituminous rank. Nevertheless, Chicago River rates a 5 as easily as the Deadfall, for it contains potentially marketable coals, in adequate tonnage, close to tidewater.

Note: Each rating, 1 through 10, is a rough practical estimate of the data contained in each unit. A rating of 1 would mean no usable coal, while a rating of 10 would mean the highest possible usable coal. The five criteria are intended to provide a general picture of the potential for coal resource development in the area. They are not meant to be used as a basis for detailed mining or economic analysis. The ratings are only guidelines and should not be used to make specific mining or economic decisions.

SUMMARY: NOatak Quadrangle

COAL OCCURRENCES

Coal Bank - Based on Mining, Mineral Water Free

Lighbjerl, 12,000 Btu, 5.4% Moisture, 1.9% Ash

Shoptliff, 15,000 Btu, 7.6% Moisture, 1.3% Ash

Deadfall - Based on Large Scales, Market Coal

Heat content varies from 12,000 to 15,000 Btu, 6 to 7% Moisture, 1 to 2% Ash.

Coal Bank - Based on Mining, Market Water Free

Lighbjerl, 12,000 Btu, 5.4% Moisture, 1.9% Ash

Shoptliff, 15,000 Btu, 7.6% Moisture, 1.3% Ash

Glossary

Coal water content:

- Market water free: water content of 6 to 7% Moisture.
- Mining water free: water content of 1 to 2% Moisture.

Note: The values given are approximate and should be confirmed by laboratory analysis. The quality of the coal will vary depending on the location and mining techniques used.

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Glossary

- Market water free: water content of 6 to 7% Moisture.
- Mining water free: water content of 1 to 2% Moisture.

Note: The values given are approximate and should be confirmed by laboratory analysis. The quality of the coal will vary depending on the location and mining techniques used.