What's HAPpening with Clean-Burning, Low-sulfur Coals of Arctic Alaska?

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Arctic Alaska remains one of the last underexplored and undeveloped large coal basins in the world. Estimates of Cretaceous and Tertiary low-sulfur coal in deposits north of the Arctic Circle exceed five trillion hypothetical short tons. The apparent rank of the coal ranges from lignite A to subbituminous C with a mean sulfur content of 0.31 percent. The coal is low in ash yield and in trace elements of environmental concern, also known as hazardous air pollutants (HAPs). Mean values, in parts per million, for the HAPs are: antimony, 0.29; arsenic, 2.82; beryllium, 1.0; cadmium, 0.09; chromium, 16; cobalt, 8.2; lead, 5.5; manganese, 108; mercury, 0.05; nickel, 28; selenium, 0.67; and uranium, 1.4. Major differences between the element contents of Cretaceous and Tertiary coals are generally the result of different source areas for the coal-bearing sedimentary rocks.

Despite considerable potential, there has never been any commercial coal mining in Arctic Alaska. In contrast, more than 3 million short tons of bituminous coal near Svalbard, Norway are successfully underground mined annually and then shipped over 1,500 miles south to market. However, the future of Alaska's Arctic coal might soon change as a major international coal mining company is currently conducting a five-year exploration program to evaluate the potential for mining Cretaceous-age coal in the western Arctic Deadfall syncline region that contain identified coal resources in excess of one billion short tons.