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Delineation of Coal Beds for Coalbed Methane Using High Resolution Seismic Reflection at Ft. Yukon, Alaska

A cooperative effort between the Alaska Div. of Geological & Geophysical Surveys, U.S. Geological Survey, U.S. Bureau of Land Management-Alaska, U.S. Department of Energy, and industry is currently evaluating the potential for local sources of coalbed methane and shalebed gas to meet energy needs in rural Alaska. Shallow gas locally produced and consumed using shallow well fields and short pipelines could have con-siderable impact in remote villages that are now isolated from the power grid by reducing pollution problems from existing diesel generators and allowing viable industrial devel-opment in areas that now use subsidized or imported energy. In 2001, approximately 8.5 line-miles of seismic reflection data were acquired at Fort Yukon using a mini-vibrator flown from Fairbanks by Hercules aircraft. Initial processing of the acquired data shows excellent vibration transmission through the permafrost zone to subsurface layers and the presence of a number of significant reflectors, including the top of the lignite at ~1200 ft and indications are that the coal-bearing zone may be up to 200 feet thick.