

MINERAL RESOURCE DEVELOPMENT

in

THE KANANASKIS RIVER BASIN

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Geologic mapping within the Kananaskis River drainage basin has demonstrated the existence of potentially valuable mineral resources. The region is a favorable area for mineral resource development from a number of economic standpoints, the main ones listed as follows:

1. Rich deposits of high quality coal are present, along with deposits of industrial minerals - limestone, dolomite, gypsum, building stone, quartzite, and shale - potentially the base for a local construction materials industry; some of the deposits cannot be found in situations as favorable for working elsewhere.
2. The region has good accessibility by way of existing roads and trails, and is soon to be serviced by a multilane highway.
3. Haul distances to rail facilities in the Bow Valley are relatively short, no greater than about 40 miles from any part of the region.
4. The Bow Valley is an established area of industrialization, well located with respect to the southern Alberta market area, and on a mainline railway for export markets.
5. Power is available from hydro installations within the area, and natural gas from nearby pipeline; potential exists also for natural gas discoveries in the area.
6. The area has a past history of mineral development, with coal mines having operated in the area from 1947 to 1956, plus some quarrying of shale and limestone.

By far the most important mineral resource of the area is coal. The coal is found in the Kootenay Formation, a unit of strata of Jurassic and Cretaceous ages, which comes to the surface along a linear outcrop belt running northwest-southeast through the central part of the area. Within the area, the outcrop extends over a length of 14 miles along which a number of locations favorable for mine sites exist. Other exposures of the coal-bearing unit are also found in the southern part of the area, toward Highwood Pass; however, the best prospects are along the central outcrop belt, where as many as 16 workable coal seams have been reported in the rock unit, thickest measuring up to 34 feet. The coal grades from low volatile bituminous to semianthracite in rank, and therefore is of high quality. Clearly, such a mineral resource must be regarded as of major importance to the resource wealth of the region and to future requirements of the province.

Development of the coal resources of this region is encouraged by their being confined largely to a single outcrop band. This limits the number of suitable mine site locations, and thus minimizes as well as localizes surface disturbances that normally would result, both from exploration and development of the coal. (Compare, for example, the Crowsnest Pass area, where as many as 10 parallel bands of the coal-bearing formation have been worked with consequent widespread disturbances.) If these disturbances plus other undesirable effects can be further minimized through the application of strict regulatory controls, there should be no reason why the coal of the Kananaskis region could not be mined with negligible interference to other resources.

Of the other mineral resources mentioned for the area, the one of most potential is gypsum, principally because of its scarcity in the province. Alberta currently must import all her gypsum requirements at heavy freight costs, and if a local source could be developed, this conceivably would result in substantial savings in the cost of home building.

The gypsum is present in a deposit of small lateral extent situated on a mountainside on the west side of Lower Kananaskis Lake. The main difficulty in development would be access, which, with proper care, should be easily reconcilable with other resources of the region.

The industrial minerals -limestone, dolomite, building stone, quartzite, and shale, are not currently in great demand, most being available in more favorably situated deposits elsewhere -- for example, in the Bow Valley. They are found along linear outcrop belts trending northwest-southeast across the area, although only the outcrops lying directly adjacent to established roadways, and in a structural attitude that would facilitate quarrying, are considered to have development potential. This potential exists mainly for the long term, to be realized possibly with the establishment of mineral-based industry in the region at some future time.

With regard to oil and gas potential, the Kananaskis region is unproven territory and extremely difficult to assess. Conditions favorable for hydrocarbon accumulation at depth need not be expressed in the surface geology, and consequently could exist anywhere in the region. Nevertheless, potential gas been recognized specifically for the northeastern segment of the area. This potential exists essentially for natural gas, the dominant form of hydrocarbon found in the Foothills.