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## **Preliminary Assessment of Coalbed Methane Potential of the Low Rank Denver and Laramie Formation Coals, Denver Basin, Colorado**

Coals in the Late Cretaceous Laramie Formation and early Tertiary Denver Formation hold some intrigue for coalbed methane potential by virtue of their measured gas contents and heating values, shallow depths, and areas of reasonable thickness and continuity.

Over 300 historic mines were developed in the Denver Basin over the past 140 years. The vast majority of them were underground mines in the Laramie Formation coals from which approximately 130 million tons of subbituminous coal was mined. Now that newly developed completion technologies are allowing commercial methane production from shallow, low rank coals, even the Denver Formation lignitic coals may be prospective.

The great diversity in coalbed methane plays proves that there are various reservoir characteristics critical for the successful methane production from low rank coals. In order to assess the potential of coals in the Denver Basin, a GIS ArcView  $\delta$  coalbed methane database was compiled to allow the easy manipulation of important data such as coal isopach and structure maps, log cross sections, desorption and heating value data, locations of historic mines, coal analyses from those mines, and calculated gas content values.

In addition to evaluating the resource potential, careful consideration must be paid to the shallow aquifers which surround these coals and into which thousands of water wells have been drilled. Regulatory and environmental factors will play vital roles in determining the producing potential for coalbed methane wells.