

Geochemistry of Coalbed-Methane Reservoirs in the Bogota Basin, Colombia

Jimenez Jacome, Miguel F.¹; Garcia Gonzalez, Mario¹; Cortes, Yeny¹ (1) UIS, Bucaramanga, Colombia.

The Bogotá basin presents excellent coal bed methane potential; the present study reports the geochemical characteristics of the coal gases. Results indicate a relationship between the gas composition and the stratigraphy of the coal seams, where the gas composition shows a progressive increasing trend from top to base of the Guaduas formation. On the other hand the n-pentane shows a trend that increase upward of the formation.

The gas composition is dominated by Methane followed by n-pentane, the C₂ -C₄ gases are in a lower proportion than the other gases. The relative high concentration of n-pentane is indicative of the high condensate generation potential of the Guaduas coal seams.

Ro measurement and geochemical modeling results indicate a thermal maturation trend increasing from top to base; this trend is observed both at the center and flanks of the Checua-lenguazaque syncline.

The relationship among vitrinite reflectance, gas content and stratigraphic position indicate that the main gas generation pulse took place before the Miocene Pliocene Andean orogeny.