

**AAPG Annual Convention
Salt Lake City, Utah
May 11-14, 2003**

Charles R. Nelson, TICORA Geosciences, Inc, Arvada, CO

Deep Coalbed Gas Plays in the U.S. Rocky Mountain Region

In 2001, U.S. coalbed gas production totaled 1.48 Tcf from roughly 20,262 wells located in 14 different states. These coalbed gas plays occur in varied geologic settings but one common geologic property is that the reservoir depth is almost universally shallower than 4,500 feet. Coalbed gas reservoirs generally have very low (millidarcy-level) bulk permeabilities and 4,500 feet has historically been defined as the depth where the bulk reservoir permeability and, in turn, the gas production rate reaches an economic limit. Currently, there are 30 coalbed gas wells in three Rocky Mountain region basins that produce from reservoir depths greater than 4,500 feet. In 2001, these 30 deep coalbed gas wells accounted for 0.14 percent (2.14 Bcf) of total U.S. coalbed gas production. The cumulative gas production through year-end 2001 from these 30 deep coalbed gas wells totals 25.3 Bcf, which, in turn, equates to an average per well cumulative gas production volume of 0.84 Bcf. Five of these deep coalbed wells had cumulative gas production volumes greater than 1.5 Bcf. This paper compares the geologic properties of these deep coalbed gas plays. Roughly 77 percent (352 Tcf) of the 457 Tcf coalbed gas resource base present in Rocky Mountain region Upper Cretaceous coals in the San Juan, Piceance, Uinta and Greater Green River basins are at depths greater than 4,500 feet. Considerable potential may exist for significant new deep coalbed gas play discoveries in these as well as other Rocky Mountain region basins.