

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

Jayaram Reddy Katta, University of Wyoming, Laramie, WY

Coalbed Methane Product Water Quality Across the Powder River Basin, Wyoming

Demand for natural gas (methane) is increasing because it is an abundant and clean burning fuel. In the United States several states are exploring extraction of methane from their coal resources. The extraction of methane from coal deposits is facilitated by pumping of aquifer water. Coalbed methane (CBM) product water, produced from pumping groundwater is discharged into associated unlined holding ponds. The objective of this presentation is to evaluate the chemistry (salinity and trace elements) of CBM product water at discharge points and associated holding ponds as a function of watershed soils across the Powder River Basin, WY. The product water samples from the discharge points and associated holding ponds were collected from the Cheyenne River (CHR), Belle Fourche River (BFR), and Little Powder River (LPR) watersheds in the Powder River Basin and monitored for the chemistry over a period of two years. Results of this study suggested that LPR and some extent to BFR watershed exhibited more changes in the chemistry of CBM product water in holding ponds compared to CHR watershed based on the local soil chemical properties. In this presentation, additional information regarding potential beneficial uses for CBM product water (e.g., irrigation, livestock and wildlife watering, and aquaculture) will be discussed.