Powder River Basin Coalbed Methane: Pathways and Rates of Microbial Gas Generation

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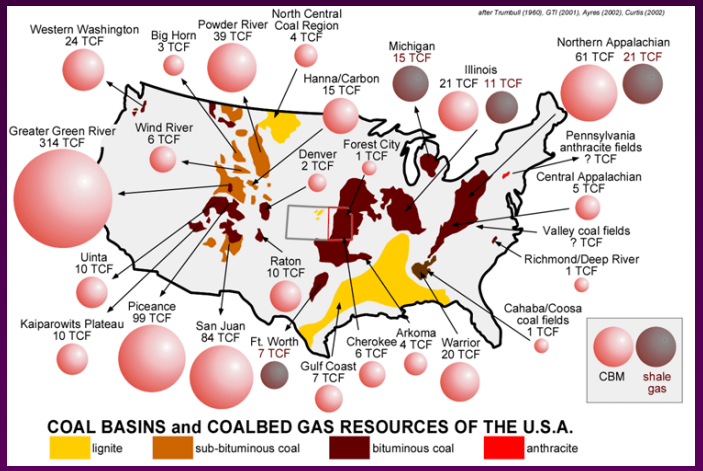
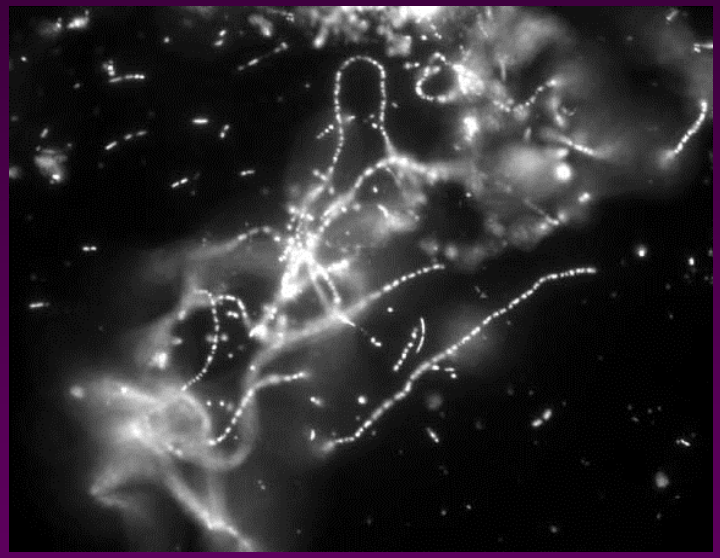
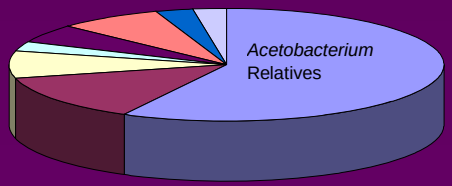
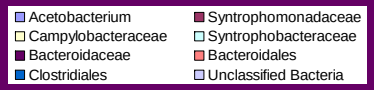
***Powder River Basin, Wyoming, USA**:* We are examining the geochemical gradients produced via microbial activity in this economically significant gas resource. Specifically, isotopic and chemical analysis is ongoing for the determination of the relative importance of acetate vs. CO_2 reduction pathways.





Bacteria





Most sedimentary microbial gas plays have very similar Archaeal and Bacterial consortia. For Bacteria overall diversity is low (when compared to soils) and most of the clones are closely associated with bacteria that ferment. For the Archaeal groups, diversity is high and most are associated with methanogenesis.

Archaea