GRAND JUNCTION GEOLOGICAL SOCIETY

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NOVEMBER MEETING

WEDNESDAY, NOVEMBER 15, 2017
Joint meeting with the CMU Geology Students
7:30 PM
Saccomanno Lecture Hall
(In the Wubben-Science Building)

CHARLES F. HEAD

Burlington Resources and ConocoPhillips (Retired)

Will Speak On

INSIGHTS INTO THE PETROLEUM GEOLOGY AND STRATIGRAPHY OF THE DAKOTA INTERVAL (CRETACEOUS) IN THE SAN JUAN BASIN, NORTHWESTERN NEW MEXICO AND SOUTHWESTERN COLORADO

Guests Are Always Welcome

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INSIGHTS INTO THE PETROLEUM GEOLOGY AND STRATIGRAPHY OF THE DAKOTA INTERVAL (CRETACEOUS) IN THE SAN JUAN BASIN, NORTHWESTERN NEW MEXICO AND SOUTHWESTERN COLORADO

CHARLES F. HEAD

Burlington Resources and ConocoPhillips (Retired)

Montrose, Colorado

ABSTRACT.—Highlights of an integrated study to evaluate the original and remaining Dakota gas resources in the San Juan Basin are presented. Dakota (Cretaceous) reservoirs contain a major stratigraphic gas accumulation with cumulative production of more than 6 TCF, and include braided and meandering fluvial, deltaic, shoreface, and shelf-ridge sandstones in seven distinct reservoir units. Data from 85 measured sections, 32 core descriptions, and 7,000 wells were integrated to construct a regional stratigraphic framework that correlates outcrops with the subsurface over the entire San Juan Basin. In addition, a 3,300-well digital log database was constructed to compute the petrophysical parameters and volumetric potential of each reservoir. Integration of these datasets and the resulting maps provides methods for determining the significance of various depositional trends, reservoir characteristics, and trapping mechanisms for gas production. Volumetric original gas-in-place and recovery factor maps closely approximate geologic and production trends, providing a basis for additional exploration and development opportunities.