# The Piceance Basin and Roan Plateau

## The Piceance Basin

The Piceance (PEE-ahnce) Basin occupies approximately 7,100 square miles in Northwestern Colorado. (Fig. 3) On the surface, this area hosts a diversity of wildlife and vegetation, and offers a wealth of recreational opportunities. These surface resources and related activities contribute to the economic base of the region and foster a unique lifestyle for the residents of the area.

Under the surface, there exist a wide range of energy resources, some having been produced for decades, other experiencing dramatic growth, and others yet to be developed. Balancing society's demand for these natural resources is a complex and contentious issue. One of the key features of the Piceance Basin, the Roan Plateau, is the focus of much contemporary debate.

The Piceance Basin is assymetric, with steep beds on the Eastern boundary and gentle dips on the Western edge (Fig. 1). The primary gas-producing formation are the Wasatch, Lower Fort Union, and Mesaverde1. These are overlain by the Green River formation, up to 3000 feet deep in the center of the Basin, which contains vast deposits of oil shale.

The Tertiary Wasatch varies in thickness from 300 feet near Rangely, to 5,000 feet near Rifle. The Paleocene Fort Union formation ranges from 1,500 feet thick along the Eastern edge of the Basin to only a few feet thick in the Southwest.

The Mesaverde is of Cretaceous age and consists of sandstones, mudstones, and coal. While the natural fractures in the formation have enabled the production of natural gas by conventional means for many years, new technologies and favorable economics now make production from the tight sands and coal beds technically and economically viable. Hence, depending on where a well is drilled and how it is completed in the Mesaverde, it may be a conventional gas, tight gas sands, or coalbed methane well.

## The Roan Plateau

*"Natural gas development on the Roan and in other areas of the West is vital to maintaining our domestic energy supply and reducing our dependence on foreign energy. The Roan Plateau is a Colorado treasure, rich in wildlife, scenic beauty, and natural gas resources. Responsible development of this unique bounty of natural gas must be allowed in a manner that benefits American consumers will protecting the Roan's environmental value for future generations."*
-- Greg Schnacke, Executive Vice President, Colorado Oil and Gas Association

*"In jeopardy are irreplaceable and unique characteristics of the Roan Plateau, such as large tracts of wilderness-suitable lands and critical habitat. The plateau has become a metaphor for an energy policy badly off-course, seemingly written for energy corporations at everyone else's expense."*
-- Pete Kolbenschlag, Western Slope Field Director, Colorado Environmental Coalition

Rising 3,500 feet above the Colorado River northwest of Rifle, Colorado, is the Roan Plateau (Fig. 2), identified by the picturesque Roan Cliffs. The Plateau supports a diversity of plants as well as wildlife, including the Peregrine Falcon, Bald Eagle, Colombian Sharptail Grouse, Sage Grouse, Great Basin Spadefoot Toad, Northern Leopard Frog, and bats.[1] The Sage Grouse is of particular interest because the population has decreased from two million in the mid-19$^{th}$ Century to 200,000 today in the sagebrush country in Colorado, Utah, Wyoming, and Montana.[2]

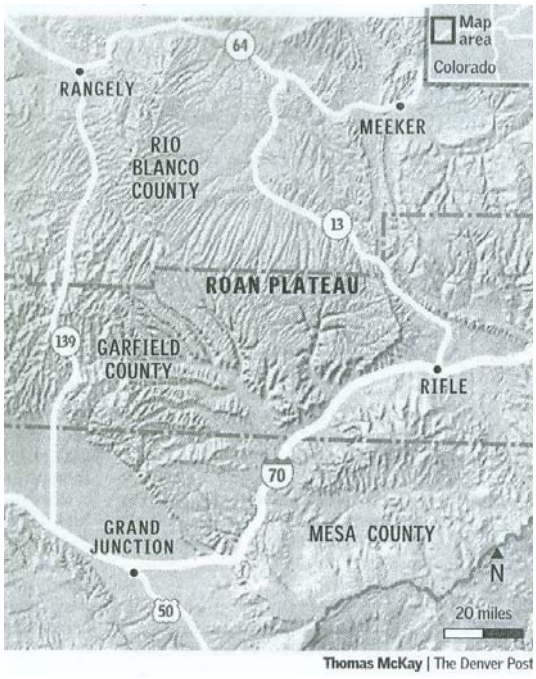


Figure 2 – The Roan Plateau

There is considerable gas drilling activity surrounding the Roan Plateau. In addition, in the early 20th Century a portion of the Plateau was set aside by the federal government as a Naval Oil Shale Reserve, and in 1997, Congress transferred jurisdiction from the Department of Energy to the Bureau of Land Management, directing that oil and gas leases be issued.

Given this directive, the key issue is primarily where the drilling will be done – from the top of the plateau or from the adjacent lands – and what efforts will be made to mitigate the environmental impacts.

The gas reserves underlying the Plateau have been estimated at 15.4 TCF from both the federal and private properties, with approximately 5.8 TCF from the federal lands, alone. This amount would be sufficient to supply 3.1 million households for approximately 20 years. This energy resource, coupled with the vast potential resources of oil shale in the Parachute Creek Member of the Green River Formation, establish this area as one of the greatest energy resource deposits in the world.

**References:**

1) www.wilderness.org
2) www.rockymountainnews.com
3) The Denver Post, April 3, 2005.
Draft Roan Plateau Resources Management Plan Amendment DRAFT RMAPA and Environmental Impact Statement, November 2004.

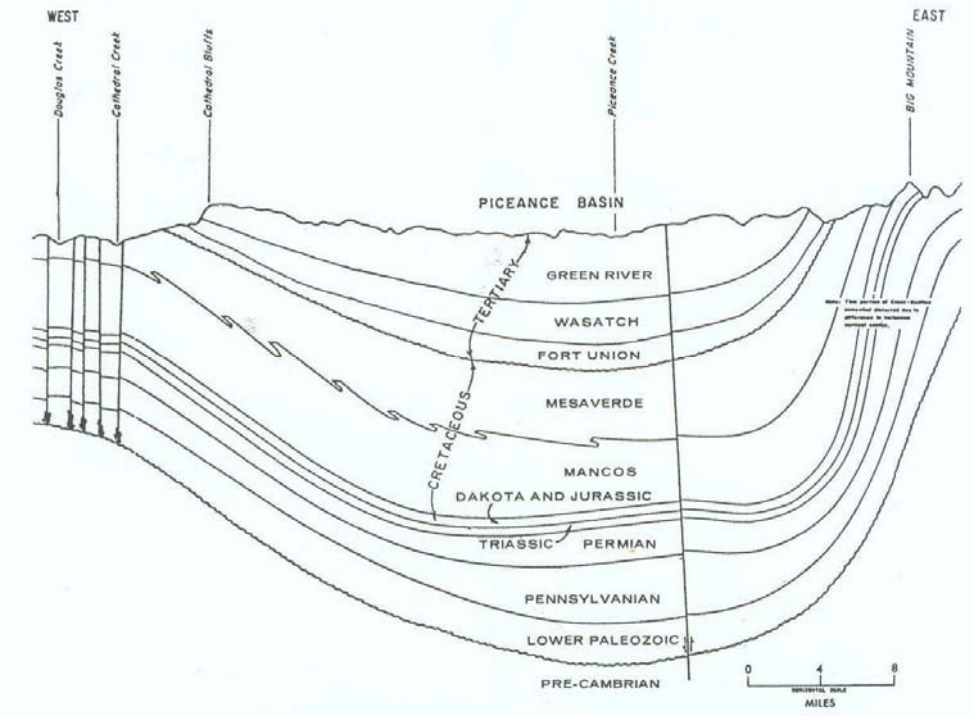


Figure 1 – Piceance Basin Formations

Figure 3

# The Piceance Basin

Courtesy of the Colorado Geological Survey
http://geosurvey.state.co.us/wateratlas/chapter6_2page1.htm