

GEOLOGY OF POWDER WASH OIL AND GAS FIELD,
MOFFAT COUNTY, NORTHWESTERN COLORADO

by

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A B S T R A C T

The area of study includes approximately 32 square miles in the vicinity of Powder Wash oil and gas field, northwestern Colorado. Subsurface formations from the Mesaverde Group (Upper Cretaceous) to the Tipton Tongue of the Green River Formation (Eocene) were studied. Three formations are exposed in the area: Cathedral Bluffs Tongue of the Wasatch Formation (Eocene), Laney Shale Member of the Green River Formation (Eocene), and Browns Park Formation (Miocene?). The Eocene formations were deposited during two stages of development of Lake Gosiute. The Browns Park Formation was unconformably deposited on rocks ranging from Precambrian to Eocene in age.

Formations as old as the Mesaverde Group have been penetrated in Powder Wash field. Only the Fort Union Formation (Paleocene) and Hiawatha Member of the Wasatch Formation (Eocene) have commercial petroleum accumulations. The primary control of oil and gas accumulation is structural.

configuration, but this is modified by the lenticularity of sandstones. The lenticular sandstones of the producing formations were deposited by meandering streams or rivers that generally flowed north.

Structural closure increases from 100 feet at the surface to 250 feet at the depth of the Fort Union Formation. The axial surface and anticlinal apex shift eastward with depth.

Producing formations have good development and extension potential. Total oil and gas production through 1966 is 74 billion cubic feet of gas and 4.0 million barrels of oil. Recent significant development has been an extension of Fort Union oil production on the south side of the field. Upper Cretaceous formations should have good possibilities for further exploration.

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