JONAH AND PINEDALE FIELDS, NORTHERN GREEN RIVER BASIN, WYOMING - CURRENT STATUS AND FUTURE DEVELOPMENTS

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ABSTRACT

The Jonah-Pinedale area has undergone a renaissance in the last decade to become one of the fastest growing producing trends in the Rocky Mountain region. Combined production from both fields is currently ~400 MMCFG/D and will exceed 500 MMCFG/D by the end of 2001. Pipeline capacity will be hard pressed to keep up with future production growth.

Jonah field was discovered in 1986, but due to market conditions and ineffective stimulation methods, the production was not economic. In 1992, McMurry Oil Company bought the field, which consisted of three wells and surrounding acreage, and invoked new drilling and completion technology that unlocked the full potential of the play. By 1994, Jonah field consisted of five producing wells and a 4.5 inch production line connected to wells farther north. At the end of 1996, Jonah field was producing 50 MMCFG/D from 34 wells. The acquisition of 3D seismic resulted in a revolutionary new image of the subsurface, including the existence of the Western Bounding Fault and the Southern Boundary Fault that form the boundary of the pressure compartment. At the end of 1998, with an EIS completed and active drilling programs underway, Jonah field was producing 170 MMCFG/D from 106 wells. Additional pipelines were installed to keep pace with expanding production and planning for field-wide compression began. Jonah field is currently producing 350 MMCFG/D from 170 wells. Significant pipeline additions are planned. With the recent approval of 40-acre spacing, drilling activity is expected to dramatically increase.

The first drilling activity in the Pindedale area was in 1939 by the California Company. Local papers reported the well as a gas discovery but no other drilling transpired. El Paso Natural Gas entered the area in the mid 1950s and drilled eight wells to test the structure. The wells encountered significant gas shows in the Fort Union and Lance formations but production rates were disappointing. The area became widely recognized in 1971 as a proposed site of an experimental subsurface nuclear stimulation, but the event never occurred. In the early 1980s exploratory tests by Mountain Fuel and American Hunter were completed as commercial disappointments. In 1997-98, the first commercial wells were completed on the anticline by utilizing new stimulation techniques that were successful at nearby Jonah field. Preparation of a large Environmental Impact Statement has slowed further development. Recent acquisition of 3D seismic over the anticline has generated an improved image of the feature and will allow optimization of development drilling. Estimates vary, but up to 500 wells may be drilled on the anticline when it is fully developed.

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