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INCREASED OIL PRODUCTION AND RESERVES FROM IMPROVED COMPLETION TECHNIQUES IN THE BLUEBELL FIELD, UINTA BASIN, UTAH

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Utah Geological Survey
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Increased Oil Production and Reserves from Improved Completion Techniques in the Bluebell Field, Uinta Basin, Utah

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November 2000

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Objectives

The objective of this project is to increase oil production and reserves in the Uinta Basin by demonstrating improved completion techniques. Low productivity of Uinta Basin wells is caused by gross production intervals of several thousand feet that contain perforated thief zones, water-bearing zones, and unperforated oil-bearing intervals. Geologic and engineering characterization and computer simulation of the Green River and Wasatch Formations in the Bluebell field determined reservoir heterogeneities related to fractures and depositional trends. This was followed by drilling and recompletion of several wells to demonstrate improved completion techniques based on the reservoir characterization. Transfer of the project results is an ongoing component of the project.

SUMMARY OF TECHNICAL PROGRESS

The technical work on the project is completed but technology transfer activities continued during the quarter.

Technology Transfer

A poster entitled *Using detailed gamma-ray log correlations to understand depositional patterns of a fluvial-deltaic lacustrine reservoir* was presented at the American Association of Petroleum Geologists (AAPG) National Convention in San Antonio, Texas. A poster entitled *Application of the bed isolation completion technique in a mature well in the Bluebell field, Uinta Basin, Utah* was presented at the U.S. Department of Energy, Office of Fossil Energy, Federal Energy Technology Center, and National Petroleum Technology Office (NPTO), Oil and Gas Conference in Dallas, Texas. An expanded paper of the same topic and title was published in the U.S. Department of Energy, NPTO *The Class Act* newsletter, volume 5, number 2.

Two papers have been submitted to the Utah Geological Survey (UGS) and NPTO for review. The paper entitled *Characterization of the Bluebell oil and gas field, Uinta Basin, Utah*, discusses the history, problems, geology, and reservoir characteristics of the field. The paper entitled *The Utah Geological Survey and U.S. Department of Energy's oil well demonstration program in the Bluebell field, Uinta Basin, Uintah and Duchesne Counties, Utah*, discusses the objectives, implementation, and results of the three-well demonstration program. Both papers will be published by the UGS upon completion of reviews.

The UGS maintains a Bluebell home page on its web site containing the following information: (1) a description of the project, (2) a list of project participants, (3) each of the Quarterly and Annual Technical Progress Reports, (4) a description of the demonstration work, (5) a reference list of all publications that are a direct result of the project, and (7) an extensive selected reference list for the Uinta Basin and lacustrine deposits worldwide. The home page address is ***http://www.state.ut.us/~ugs/bluebell.htm***