

## FOSTERTON NORTHWEST - A TERTIARY COMBUSTION CASE HISTORY

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### ABSTRACT:

*A tertiary dry forward combustion project has been in operation for four years in the Fosterton Northwest Unit, Northwest Roseray Sand Pool, located in southwest Saskatchewan. The favourable reservoir characteristics, including a small size and closed boundaries, were expected to result in a test which would provide basic data on the performance of the combustion displacement process in a waterflooded pool. A severe injectivity problem limited the air injection rate to 0.9 MMscf/D for over a year, with the planned rate being 2.6 MMscf/D. Solution of this problem led to sustained injection at 2.1 MMscf/D for about two years. Performance at two air injection rates was thus observed. The oil production rate did not increase in proportion to the increase in the air injection rate. Two mechanisms for oil production are considered to be operating: thermal displacement and gas flooding. The contribution of each mechanism to total production is about equal at the present time and injection rate. An increase of two- to five-fold in the air injection rate is required to make thermal displacement the predominant production mechanism.*