

# Impact of Well Management on Hydrocarbon Recovery in Reservoirs with Pressure Dependent Permeability

## Research Themes

Rate and pressure transient data recorded in multiple transverse fracture horizontal wells (MTFHWS) producing shale gas have shown that well productivity is lost when wells are produced with excessive pressure drawdown during early flow back. Pressure dependent permeability may be a reason for this behavior. This research will quantify the recovery factor increase achieved by choking back initial well production and will show the implications on net present value economics of this approach.

## Recent Accomplishments

This research is currently in the rudimentary stages. Some of initial numerical modeling have been set up. The basic model of production under constant pressure switch to constant rate production has been set up. Rate and pressure transient data is recorded under these model. Rudimentary stage of the case involve in pressure dependent permeability have been set up. We will use this behavior to figure out the recovery factor change by choking back initial well production.

## Issues

1. Hard to find the regularity of productivity in shale gas involve in pressure dependent permeability
2. Understanding of pressure dependent permeability in multiple transverse fracture horizontal wells (MTFHWS)
3. Numerical modeling including real field data



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