Infinite acting reservoir flow boundary

The actual petroleum reservoir is always constrained in volume (usually by seal and a cap rock).

But in some practical applications the observation time is too short to see the effects of the reservoir boundaries.

In this case a reservoir flow can be analytically modeled with infinite boundary reservoir:

Linear Flow	Radial Flow
$x \rightarrow \infty$	$r \rightarrow \infty$

Numerical model always performs calculations with finite boundary.

There are hybrid models which perform numerical calculations in finite volume composite and infinite boundary analytical model outside the composite.

A typical example is 3D flow simulations with infinite aquifer.

See Also

Petroleum Industry / Upstream / Subsurface E&P Disciplines / Petroleum Geology / Reservoir flow boundary