Infinite conductivity fracture

A fracture with no pressure gradient along the fracture plane during the flow.

It's a proxy concept as the continuous flow along fracture can not happen without pressure gradient at all.

It assumes that all fluid entering the fracture is instantaneously withdrawn from it in place (and not moving towards a well).

The actual meaning of this concept is that pressure gradient inside fracture is many times smaller than pressure gradient in reservoir adjusting to this fracture.

It happens because permeability of the fracture is usually much higher than that of reservoir and the fluid flow velocity along the fracture plane is much higher than in reservoir and corresponding pressure gradient is much lower than in reservoir.

In Pressure Transient Analysis the infinite conductivity fracture is the most popular practical case.

See Also

Geology / Rocks / Fracture

[Fracture] [Infinite conductivity fracture] [Finite conductivity fracture]

[Petroleum Industry / Upstream / Well / Well-Reservoir Contact (WRC) / Hydraulic Fracture]

[Production / Subsurface Production / Well & Reservoir Management (WRM) / Well stimulation / Hydraulic Fracturing]

[Hydraulic Fracture @model]