Well deliverability :

Oil or gas flow rate achievable from Reservoir for a given bottom hole pressure

Analytical relation between flow rate and bottom hole pressure is IPR for a given regime

FACTORS EFFECTING

permeability(k)

relative permeability

Rw, Re

Thickness(h)

Fluid properties (viscosity etc)

Reservoir pressure

Near wellbore conditions

Boundary type

FLOW REGIMES

Transient

Pseudo steady

Steady

Wellbore generally operates at constant bottom hole pressure because of constant wellhead pr due constant choke size. therefore constant bottom hole pr soln is more relevant.

TRANSIENT

pressure wave front doesnt reach the boundary. infinite reservoir assumption

assumptions :

single phase flow

circular reservoir

inner boundary condn

constant bottom hole pressure soln

STEADY STATE

pressure doesnt change with time at amy point on the reservoir

constant pr boundary. The constant-pressure boundary can be an aquifer or a

water injection well.

Pseudo steady state

no flow boundary

rate of change of pressure at any r is constant

things that r in our hands

Pwf

S

Boundary type(in some cases)