Relationship between Pressure Drop and Flow Rate

- **Laminar flow**
  - Smooth and orderly
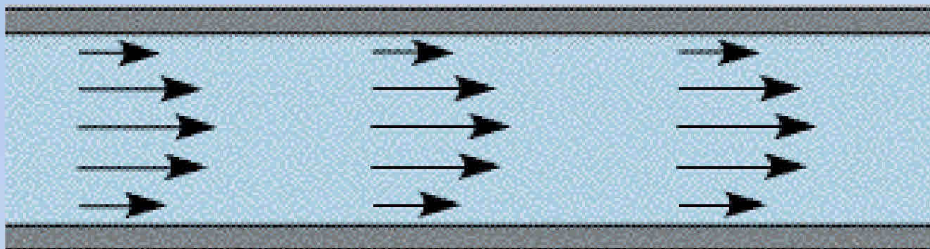 - Describes flow in reservoir

$$Q = \kappa\, \delta p$$

- **Turbulent flow**
  - Chaotic motion
  - Describes flow in wellbore, BOP, capping stack

$$Q = k\sqrt{\delta p}$$

Laminar

Turbulent