

Groundwater & Wells

Civil Engineering

What pumping does to an aquifer.

An aquifer stores and transmits groundwater; pumping draws the water table down in a cone around the well.

SPECIFIC CAPACITY

Yield per unit drawdown

PUMPING TEST

Gives T and storage

- Unconfined aquifer: the water table is free
- Confined aquifer: water rises above the layer
- Transmissivity is permeability times thickness
- Drawdown grows with pumping rate and time
- Overlapping cones cut each well's yield
- Over-abstraction brings settlement and intrusion

LOOK FOR IT

Dewatering a deep basement can settle buildings hundreds of metres away.

Educational reference. Abstraction and construction dewatering normally need consent from the environmental regulator.