

$$\text{Specific Capacity} \cong \frac{Q}{S_w}$$

5.11 Well losses  $\cong$  well productivity

$$S_w = \frac{2.30Q}{4\pi T} \log \frac{2.25Tt}{r_w^2 S} + CQ^h$$

$$\frac{Q}{S_w} = \frac{1}{(2.30 / 4\pi T) \log (2.25Tt / r_w^2 S) + CQ^{n-1}}$$

$Q, T \rightarrow$  bigger

$\frac{Q}{S_w} \rightarrow$  small

—————> Fig 4.32

Fig 4.33      Specific Capacity       $\rightarrow \frac{Q}{S_w} \propto S \quad S T$   
 After one day pumping

### 5.12 Well Efficiency

$$\cong \frac{Q / S_w}{Q / BQ} = \frac{\text{tiled date}}{\text{Fig4.33}}$$

$$u) \quad E = 100 \frac{Q / S_w}{Q / BQ} = 100 \frac{BQ}{S_w} \dots\dots\dots *$$

b) initial recovery rate  
 (shut down, 90 % of drawdown is recovered after 5 minutes).

### 5.13 Slug tests

Definition

Design guidelines

Performanace

Methods of analysis

#### 5.14 Slug tests for confined aquifer

Cooper, bredehoeft and papadopulos method

Hvorslev method

#### 5.15 Slug tests for unconfined formations

Bouwer and Rice method

Degan method

#### 5.16 Slug tests for high conductivity formations

#### 5.17 Well-skin effect

Assignment