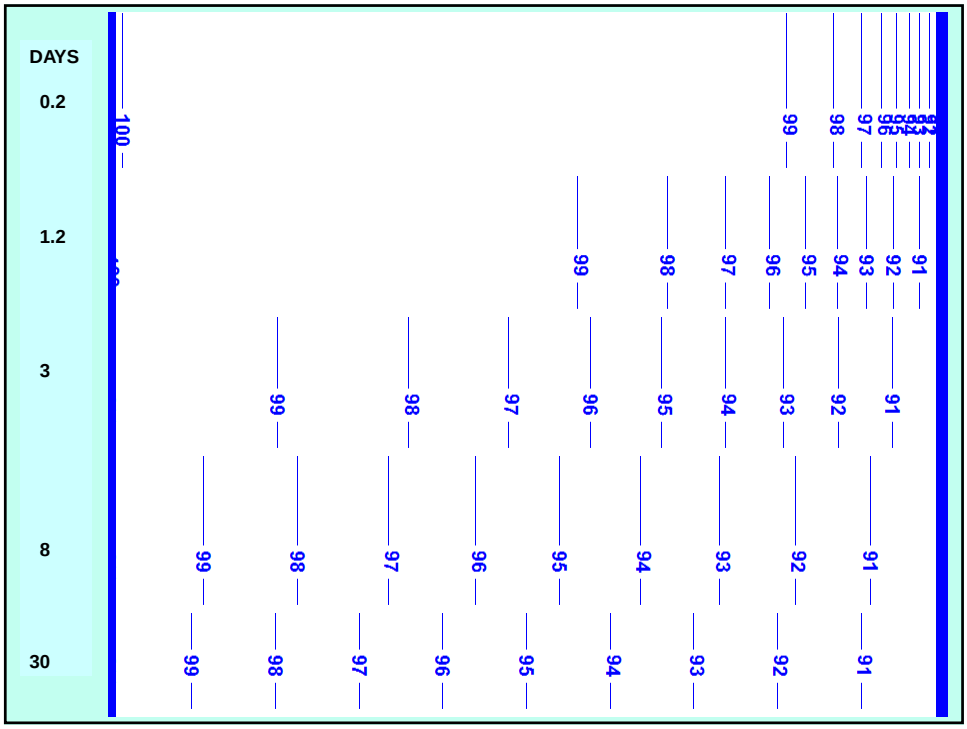
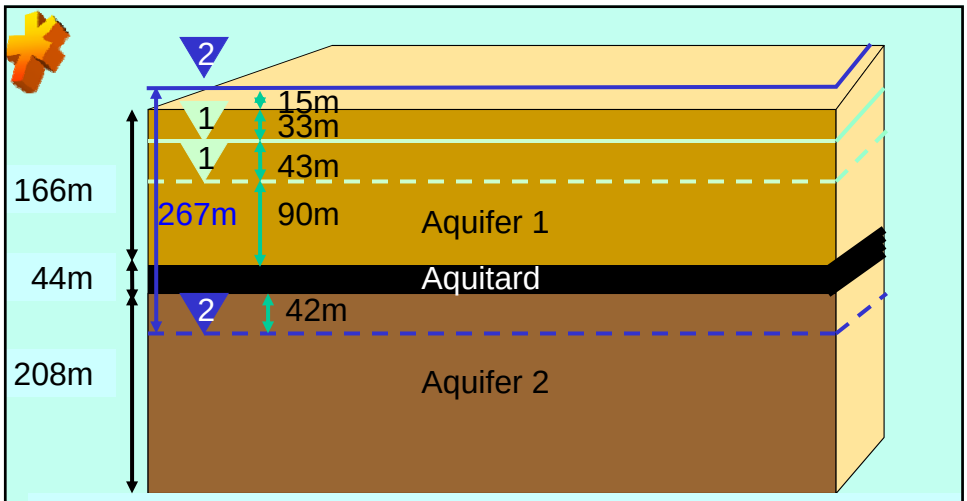
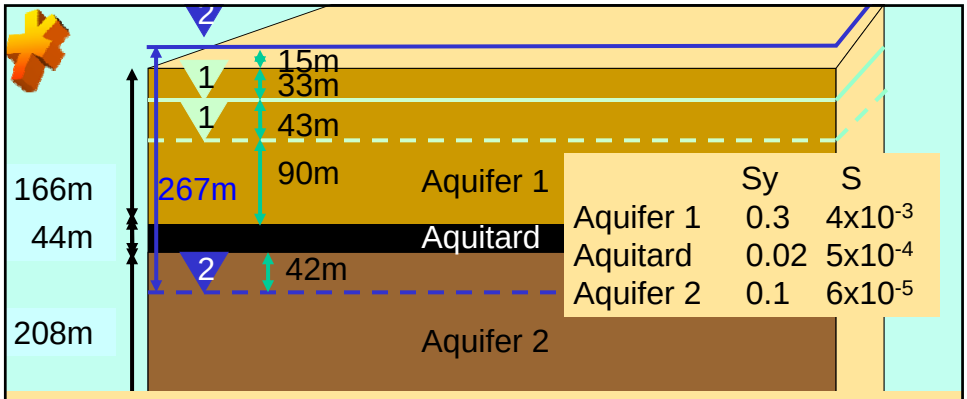




	Sy	S
Aquifer 1	0.3	$4x10^{-3}$
Aquitard	0.02	$5x10^{-4}$
Aquifer 2	0.1	$6x10^{-5}$

If the water level in piezometers open in aquifer 1 and 2 drop from their solid line levels to the dashed line levels over a square kilometer

How much water is released from the aquifers?



	Sy	S
Aquifer 1	0.3	$4x10^{-3}$
Aquitard	0.02	$5x10^{-4}$
Aquifer 2	0.1	$6x10^{-5}$

Aquifer 1 = Vol = $[\Delta h_{uncf} * SY] + [\Delta h_{uncf}\ (\text{avg thickness})\ S_s]$

$$= \left[43m * 0.3\right] + \left[43m * (90+(43/2))m * \frac{4x10^{-3}}{(90+43)}\right] = \frac{12.9m^3 + 0.144\ m^3}{m^2} \sim \frac{13m^3}{m^2}$$

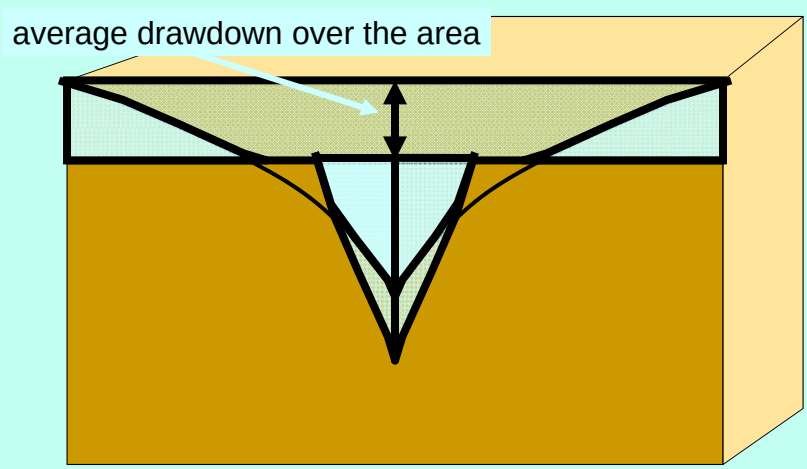
$13m^3 / m^2 \sim 13{,}000{,}000m^3/km^2 \sim 10{,}500ACFT$

Aquifer 2 = Vol = $[\Delta h_{cnf} * S] + [\Delta h_{uncf} * SY] + [\Delta h_{uncf}\ (\text{avg thickness})\ S_s]$

$$= \left[(15+166+44)m * 6x10^{-5}\right] + \left[42m * 0.1\right] + \left[42m * (208-42/2)m * \frac{6x10^{-5}}{208\ m}\right]$$

$= 0.0135m + 4.2m + 0.003m \sim 4.2165\ m^3 / m^2 \sim 4{,}000{,}000m^3/km^2 \sim 3{,}200ACFT$

WHAT IF IT IS NOT A SIMPLE SHAPE?



Use average drawdown over the area.