

US EPA ARCHIVE DOCUMENT

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1) Uradnor till sd $K = \frac{VI}{n} = \frac{7.87 \times 10^{-3} \times 3.55 \times 10^{-3}}{n} = \frac{28 \times 10^{-6}}{n} \text{ ft/day}$

2) L. Radnor till sd $\frac{1.21 \times 10^{-2} \times 5.27 \times 10^{-2}}{n} \approx \frac{6 \times 10^{-4}}{n} \text{ ft/day}$ ← Pick Fastest Travel Time

Test ... $TOT_{100} = \text{Time of Travel for 100'}$

Calculating:

$$\frac{6 \times 10^{-4} \text{ ft/day} \times 365 \text{ d/yr}}{n} = \frac{21.9 \times 10^{-2} \text{ ft/yr}}{n} \approx \frac{.2 \text{ ft/yr}}{.35} = .57$$

$$TOT_{100} = \frac{100 \text{ ft}}{0.57 \text{ ft/yr}} \approx 175 \text{ yrs to go 100 ft ...}$$

and $175 \text{ yrs} > 100 \text{ yrs}$... so if aq. #2 passes the Aq #1 passes

Aquifers Not Vulnerable

Worst Case Model: Assume

- 1) Leak is through a 20' penetrating hole to "Upper Aquifer"
- 2) Flow in target aquifer is driven by Local Gradient not a 20' driving head

U. S. Env. Prot. Agency R.5	
Hydrogeological Vulnerability	
U. Radnor till sand	
L. Radnor till sand	
S.M. Johnson USEPA	5/19/2010