

Table 3
Groundwater Travel Time Estimates
Interim Natural Attenuation Report
Hoffmann-La Roche Inc. - Nutley, NJ
 Layer S3

Layers S1 and S2

	Average	High		Average	High
Hydraulic Conductivity (K) in ft/day	2.70	20	Hydraulic Conductivity (K) in ft/day	6.56	155
Gradient (i)	0.013	0.0156	Gradient (i)	0.013	0.0156
Porosity	0.05	0.02	Porosity	0.05	0.02
Groundwater Velocity (ft/day)	0.70	15.6	Groundwater Velocity (ft/day)	1.71	121
Groundwater Velocity (ft/year)	256.4	5,698	Groundwater Velocity (ft/year)	623	44,159
Travel Time (yrs)	20	50	Travel Time (yrs)	20	50
Travel Time (days)	7,305	18,263	Travel Time (days)	7,305	18,263
Travel Distance	5,128	284,895	Travel Distance	12,459	2,207,936

Groundwater velocity estimates are based on ranges of measured (hydraulic conductivity), observed data (gradient), and effective porosity estimates using Darcy's Law: $Velocity = K \cdot i / porosity$. See text for data sources.

Prepared by: K. Quinn 9/24/14

Checked by J. Rice 10/9/14