

POLLUTEv10

Version 10.00
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Case 3: Advective diffusive transport

THE DARCY VELOCITY (Flux) THROUGH THE LAYERS $V_a = 0.1 \text{ m/a}$

Layer Properties

Layer	Thickness	Number of Sublayers	Coefficient of Hydrodynamic Dispersion	Matrix Porosity	Distribution Coefficient	Dry Density
Aquitard	4 m	4	0.01 m ² /a	0.4	0 cm ³ /g	1.5 g/cm ³

Boundary Conditions

Constant Concentration Top Boundary

Source Concentration	1 mg/L
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Fixed Outflow Bottom Boundary

Landfill Length	200 m
Landfill Width	300 m
Base Thickness	3 m
Base Porosity	0.3
Base Outflow Velocity	26.67 m/a

Laplace Transform Parameters

TAU	7
N	20
SIG	0
RNU	2

Calculated Concentrations at Selected Times and Depths

Time yr	Depth m	Concentration mg/L
5	0.00000E+00	1.00000E+00
	1.00000E+00	8.25657E-01
	2.00000E+00	1.11627E-02
	3.00000E+00	2.25456E-08
	4.00000E+00	6.65538E-11
10	0.00000E+00	1.00000E+00

	1.00000E+00	9.99783E-01
	2.00000E+00	8.89242E-01
	3.00000E+00	1.49027E-01
	4.00000E+00	2.80453E-05
15	0.00000E+00	1.00000E+00
	1.00000E+00	1.00000E+00
	2.00000E+00	9.99530E-01
	3.00000E+00	9.27143E-01
	4.00000E+00	4.10110E-02
20	0.00000E+00	1.00000E+00
	1.00000E+00	1.00000E+00
	2.00000E+00	9.99999E-01
	3.00000E+00	9.99429E-01
	4.00000E+00	1.92996E-01
25	0.00000E+00	1.00000E+00
	1.00000E+00	1.00000E+00
	2.00000E+00	1.00000E+00
	3.00000E+00	9.99999E-01
	4.00000E+00	2.42628E-01
30	0.00000E+00	1.00000E+00
	1.00000E+00	1.00000E+00
	2.00000E+00	1.00000E+00
	3.00000E+00	1.00000E+00
	4.00000E+00	2.49134E-01
50	0.00000E+00	1.00000E+00
	1.00000E+00	1.00000E+00
	2.00000E+00	1.00000E+00
	3.00000E+00	1.00000E+00
	4.00000E+00	2.49969E-01
100	0.00000E+00	1.00000E+00
	1.00000E+00	1.00000E+00
	2.00000E+00	1.00000E+00
	3.00000E+00	1.00000E+00
	4.00000E+00	2.49969E-01

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