

MIGRATEv10

Version 10.00
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Case 4: Finite Mass and Leachate Collection System, Base Aquifer.

Layer Properties

Layer	Thickness	Sublayers	Dry Density	Porosity	Distribution Coefficient	Half-Life
Layer 1	4 m	8	1.5 g/cm ³	0.4	0 m ³ /kg	0 year

Layer	Vertical Diffusion	Horizontal Diffusion	Vertical Velocity	Horizontal Velocity	Sink Removal	Concentration
Layer 1	0.01 m ² /a	0.01 m ² /a	0.03 m/a	0 m/a	0 m/a	0 mg/L

Boundary Conditions

Finite Mass Top Boundary

	Cell 1
Offset	0 m
Surface Width	200 m
Base Width	200 m
Initial Concentration	1000 mg/L
Source Half-Life	0 none
Waste Thickness	6.25 m
Waste Density	600 kg/m ³
Percentage of Mass	0.2
Volume Leachate Collected	0.27 m/a
Reference Height of Leachate	0 m

Aquifer Bottom Boundary

Base Thickness	3 m
Base Half-Life	0 year
Base Porosity	0.3
Sink Removal	0 m/a
Outflow Velocity	6 m/a
Dispersion Coefficient	10 m ² /a

Laplace Transform Parameters

TAU	7
N	11
SIG	0
RNU	1

Gauss Integration Parameters

Integration Level	Normal
Subinterval Size	0.1
Number of Subintervals	12
Number of Sample Points per Step	0
Total Width of Integration	1.2
Total Number of Integration Points	480

Calculated Concentrations at Selected Depths, Lateral Distances and Times

Time year	Distance m	Depth m	Concentration mg/L
10	100	0.00000E+00	3.33289E+02
		5.00000E-01	3.34304E+02
		1.00000E+00	1.66408E+02
		1.50000E+00	3.07967E+01
		2.00000E+00	1.85897E+00
		2.50000E+00	3.45624E-02
		3.00000E+00	1.97464E-04
		3.50000E+00	1.80462E-06
		4.00000E+00	-3.13258E-07

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
5.63896E+04	-6.69466E-05	-6.07370E-07	-6.51245E-05

Time year	Distance m	Depth m	Concentration mg/L
20	100	0.00000E+00	2.24033E+02
		5.00000E-01	2.83487E+02
		1.00000E+00	3.02524E+02
		1.50000E+00	2.33196E+02
		2.00000E+00	1.15014E+02
		2.50000E+00	3.37348E+01
		3.00000E+00	5.65117E+00
		3.50000E+00	5.28716E-01
		4.00000E+00	4.50810E-03

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
8.71433E+04	9.17870E-01	-1.29621E-02	9.56756E-01

Time year	Distance m	Depth m	Concentration mg/L
30	100	0.00000E+00	1.50637E+02
		5.00000E-01	1.98225E+02
		1.00000E+00	2.48411E+02

		1.50000E+00	2.76152E+02
		2.00000E+00	2.50319E+02
		2.50000E+00	1.72256E+02
		3.00000E+00	8.56417E+01
		3.50000E+00	2.97958E+01
		4.00000E+00	2.15883E+00

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
1.07644E+05	4.02771E+02	4.01548E-01	4.01567E+02

Time year	Distance m	Depth m	Concentration mg/L
40	100	0.00000E+00	1.01292E+02
		5.00000E-01	1.34478E+02
		1.00000E+00	1.75941E+02
		1.50000E+00	2.20384E+02
		2.00000E+00	2.52117E+02
		2.50000E+00	2.49443E+02
		3.00000E+00	2.03317E+02
		3.50000E+00	1.31259E+02
		4.00000E+00	3.07630E+01

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
1.21407E+05	5.88945E+03	-9.72566E+00	5.91863E+03

Time year	Distance m	Depth m	Concentration mg/L
50	100	0.00000E+00	6.81120E+01
		5.00000E-01	9.06325E+01
		1.00000E+00	1.20059E+02
		1.50000E+00	1.56614E+02
		2.00000E+00	1.96682E+02
		2.50000E+00	2.29860E+02
		3.00000E+00	2.40470E+02
		3.50000E+00	2.16177E+02
		4.00000E+00	9.58665E+01

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
1.30659E+05	2.29713E+04	6.39549E+01	2.27794E+04

Time year	Distance m	Depth m	Concentration mg/L
60	100	0.00000E+00	4.58009E+01
		5.00000E-01	6.09823E+01

		1.00000E+00	8.10823E+01
		1.50000E+00	1.07236E+02
		2.00000E+00	1.39706E+02
		2.50000E+00	1.76079E+02
		3.00000E+00	2.09200E+02
		3.50000E+00	2.25980E+02
		4.00000E+00	1.46152E+02

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
1.36880E+05	4.81312E+04	1.88028E+01	4.80748E+04

Time year	Distance m	Depth m	Concentration mg/L
70	100	0.00000E+00	3.07981E+01
		5.00000E-01	4.10140E+01
		1.00000E+00	5.45940E+01
		1.50000E+00	7.25387E+01
		2.00000E+00	9.58322E+01
		2.50000E+00	1.24811E+02
		3.00000E+00	1.57868E+02
		3.50000E+00	1.88467E+02
		4.00000E+00	1.48906E+02

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
1.41063E+05	7.35419E+04	1.96690E+03	6.76412E+04

Time year	Distance m	Depth m	Concentration mg/L
80	100	0.00000E+00	2.07098E+01
		5.00000E-01	2.75807E+01
		1.00000E+00	3.67258E+01
		1.50000E+00	4.88729E+01
		2.00000E+00	6.49006E+01
		2.50000E+00	8.56827E+01
		3.00000E+00	1.11588E+02
		3.50000E+00	1.40469E+02
		4.00000E+00	1.29377E+02

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
1.43875E+05	9.49606E+04	7.77548E+03	7.16341E+04

Time year	Distance m	Depth m	Concentration mg/L
90	100	0.00000E+00	1.39260E+01

		5.00000E-01	1.85466E+01
		1.00000E+00	2.46989E+01
		1.50000E+00	3.28850E+01
		2.00000E+00	4.37508E+01
		2.50000E+00	5.80730E+01
		3.00000E+00	7.66147E+01
		3.50000E+00	9.89679E+01
		4.00000E+00	9.16493E+01

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
1.45767E+05	1.11272E+05	1.51938E+04	6.56904E+04

Time year	Distance m	Depth m	Concentration mg/L
100	100	0.00000E+00	9.36432E+00
		5.00000E-01	1.24715E+01
		1.00000E+00	1.66091E+01
		1.50000E+00	2.21177E+01
		2.00000E+00	2.94453E+01
		2.50000E+00	3.91655E+01
		3.00000E+00	5.19500E+01
		3.50000E+00	6.77261E+01
		4.00000E+00	5.45072E+01

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
1.47039E+05	1.23115E+05	2.27533E+04	5.48551E+04

NOTICE

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