

MIGRATEv10

Version 10.00
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Case 1: Subtitle D Landfill with constant source concentration.

Layer Properties

Layer	Thickness	Sublayers	Dry Density	Porosity	Distribution Coefficient	Half-Life
Primary Geomembrane	60 mil	1	950 kg/m ³	1	0 m ³ /kg	0 year
Primary Liner	0.9 m	10	1.9 g/cm ³	0.35	0.5 mL/g	0 year

Layer	Vertical Diffusion	Horizontal Diffusion	Vertical Velocity	Horizontal Velocity	Sink Removal	Concentration
Primary Geomembrane	3E-5 m ² /a	3E-5 m ² /a	5.721E-5 m/a	0 m/a	0 m/a	0 mg/L
Primary Liner	0.02 m ² /a	0.02 m ² /a	5.721E-5 m/a	0 m/a	0 m/a	0 mg/L

Boundary Conditions

Constant Concentration Top Boundary

	Cell 1
Offset	0 m
Surface Width	200 m
Base Width	200 m
Initial Concentration	1500 µg/L

Aquifer Bottom Boundary

Base Thickness	3 m
Base Half-Life	0 year
Base Porosity	0.3
Sink Removal	0 m/a
Outflow Velocity	10 m/a
Dispersion Coefficient	10 m ² /a
Base Integration Width	1200 m

Laplace Transform Parameters

TAU	7
N	11
SIG	0
RNU	1

Gauss Integration Parameters

Integration Level	Fine
Subinterval Size	0.025
Number of Subintervals	48
Number of Sample Points per Step	0

Total Width of Integration	1.2
Total Number of Integration Points	1920

Calculated Concentrations at Selected Depths, Lateral Distances and Times

Time year	Distance m	Depth m	Concentration mg/L
10	0	0.00000E+00	1.49348E+00
		1.52400E-03	6.79695E-01
		9.15240E-02	4.89931E-01
		1.81524E-01	3.35803E-01
		2.71524E-01	2.18214E-01
		3.61524E-01	1.34091E-01
		4.51524E-01	7.77359E-02
		5.41524E-01	4.24163E-02
		6.31524E-01	2.16998E-02
		7.21524E-01	1.02595E-02
		8.11524E-01	4.11642E-03
		9.01524E-01	4.47300E-04
10	100	0.00000E+00	7.49344E-01
		1.52400E-03	3.41009E-01
		9.15240E-02	2.45795E-01
		1.81524E-01	1.68465E-01
		2.71524E-01	1.09471E-01
		3.61524E-01	6.72683E-02
		4.51524E-01	3.89973E-02
		5.41524E-01	2.12811E-02
		6.31524E-01	1.08958E-02
		7.21524E-01	5.17823E-03
		8.11524E-01	2.15719E-03
		9.01524E-01	4.77817E-04

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
3.92627E+01	8.68395E-02	3.24887E-07	8.68385E-02

Time year	Distance m	Depth m	Concentration mg/L
20	0	0.00000E+00	1.49348E+00
		1.52400E-03	8.22838E-01
		9.15240E-02	6.61196E-01
		1.81524E-01	5.18061E-01
		2.71524E-01	3.95286E-01
		3.61524E-01	2.93270E-01

		4.51524E-01	2.11083E-01
		5.41524E-01	1.46710E-01
		6.31524E-01	9.73553E-02
		7.21524E-01	5.97384E-02
		8.11524E-01	3.03313E-02
		9.01524E-01	5.51513E-03
20	100	0.00000E+00	7.49344E-01
		1.52400E-03	4.12812E-01
		9.15240E-02	3.31708E-01
		1.81524E-01	2.59907E-01
		2.71524E-01	1.98346E-01
		3.61524E-01	1.47240E-01
		4.51524E-01	1.06155E-01
		5.41524E-01	7.41363E-02
		6.31524E-01	4.98800E-02
		7.21524E-01	3.18935E-02
		8.11524E-01	1.86351E-02
		9.01524E-01	8.60438E-03

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
6.83564E+01	1.87284E+00	8.35969E-05	1.87259E+00

Time year	Distance m	Depth m	Concentration mg/L
30	0	0.00000E+00	1.49348E+00
		1.52400E-03	9.04802E-01
		9.15240E-02	7.60863E-01
		1.81524E-01	6.28714E-01
		2.71524E-01	5.09802E-01
		3.61524E-01	4.04791E-01
		4.51524E-01	3.13546E-01
		5.41524E-01	2.35179E-01
		6.31524E-01	1.68131E-01
		7.21524E-01	1.10285E-01
		8.11524E-01	5.90935E-02
		9.01524E-01	1.17109E-02
30	100	0.00000E+00	7.49344E-01
		1.52400E-03	4.54105E-01
		9.15240E-02	3.81958E-01
		1.81524E-01	3.15823E-01
		2.71524E-01	2.56464E-01

		3.61524E-01	2.04271E-01
		4.51524E-01	1.59260E-01
		5.41524E-01	1.21099E-01
		6.31524E-01	8.91538E-02
		7.21524E-01	6.25350E-02
		8.11524E-01	4.01582E-02
		9.01524E-01	2.07920E-02

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
9.32154E+01	6.41570E+00	3.36747E-02	6.31468E+00

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