

MIGRATEv10

Version 10.00
 Copyright (c) 2025
 GAEA Technologies Ltd., R.K. Rowe and J.R. Booker

Case 6: Repeat Case 5 using N=20 and RNU=2.

Layer Properties

Layer	Thickness	Sublayers	Dry Density	Porosity	Distribution Coefficient	Half-Life
Layer 1	4 m	2	0 g/cm ³	0.25	0 mL/g	0 year
Layer 2	0.1 m	1	0 g/cm ³	0.3	0 mL/g	0 year
Layer 3	3 m	2	0 g/cm ³	0.25	0 mL/g	0 year
Layer 4	1 m	1	0 g/cm ³	0.3	0 mL/g	0 year
Layer 5	2 m	2	0 g/cm ³	0.25	0 mL/g	0 year
Layer 6	2 m	2	0 g/cm ³	0.3	0 mL/g	0 year
Layer 7	8 m	2	0 g/cm ³	0.25	0 mL/g	0 year

Layer	Vertical Diffusion	Horizontal Diffusion	Vertical Velocity	Horizontal Velocity	Sink Removal	Concentration
Layer 1	0.019 m ² /a	0.019 m ² /a	0.03 m/a	0 m/a	0 m/a	0 mg/L
Layer 2	0.32 m ² /a	3.2 m ² /a	0.03 m/a	0.96 m/a	0 m/a	0 mg/L
Layer 3	0.019 m ² /a	0.019 m ² /a	0.03 m/a	0 m/a	0 m/a	0 mg/L
Layer 4	30.200001 m ² /a	302.299988 m ² /a	0.03 m/a	9.07 m/a	0 m/a	0 mg/L
Layer 5	0.019 m ² /a	0.019 m ² /a	0.014 m/a	0 m/a	0 m/a	0 mg/L
Layer 6	1 m ² /a	10 m ² /a	0.014 m/a	0.3 m/a	0 m/a	0 mg/L
Layer 7	0.019 m ² /a	0.019 m ² /a	0.013 m/a	0 m/a	0 m/a	0 mg/L

Boundary Conditions

Finite Mass Top Boundary

	Cell 1
Offset	0 m
Surface Width	575 m
Base Width	575 m
Initial Concentration	1500 mg/L
Source Half-Life	0 year
Waste Thickness	6.875 m
Waste Density	600 kg/m ³
Percentage of Mass	0.02
Volume Leachate Collected	0 m/a
Reference Height of Leachate	0

Aquifer Bottom Boundary

Base Thickness	3 m
Base Half-Life	0 year
Base Porosity	0.001
Sink Removal	0 m/a
Outflow Velocity	2.49 m/a
Dispersion Coefficient	83.059998 m ² /a

Base Integration Width	4000 m
------------------------	--------

Laplace Transform Parameters

TAU	7
N	20
SIG	0
RNU	2

Gauss Integration Parameters

Integration Level	Normal
Subinterval Size	0.0347826086956522
Number of Subintervals	12
Number of Sample Points per Step	0
Total Width of Integration	0.417391304347826
Total Number of Integration Points	480

Calculated Concentrations at Selected Depths, Lateral Distances and Times

Time year	Distance m	Depth m	Concentration mg/L
80	387.5	0.00000E+00	-1.33750E-01
		2.00000E+00	-3.11599E-01
		4.00000E+00	-4.40828E-01
		4.10000E+00	-4.37853E-01
		5.60000E+00	-7.75660E-01
		7.10000E+00	5.37485E+02
		8.10000E+00	5.38826E+02
		9.10000E+00	3.14053E+02
		1.01000E+01	3.86274E+01
		1.11000E+01	3.31456E+01
		1.21000E+01	3.09114E+01
		1.61000E+01	3.65764E-03
		2.01000E+01	6.31653E-08

Total Mass into Soil	Total Mass into Base	Velocity Transport	Mass in Base -WY/2 to +WY/2
4.66670E+05	7.59724E-05	2.51138E-05	6.31049E-07

NOTICE

Although this program has been tested and experience would indicate that it is accurate within the limits given by the assumptions of the theory used, we make no warranty as to workability of this software or any other licensed material. No warranties either expressed or implied (including warranties of fitness) shall apply. No responsibility is assumed for any errors, mistakes or misrepresentations that may occur from the use of this computer program. The user accepts full responsibility for assessing the validity and applicability of the results obtained with this program for any specific case.