

CASE 5:

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                        PESTAN
                    version 4.0, 1992.

Developed by :

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Title: Valencia Aldaia

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Solubility (mg/l) .....: 0.14000E+01
Recharge rate (cm/hr).....: 0.51400E-02
Sorption constant (cc/g).....: 0.21960E+01
Saturated water content .....: 0.41000E+00
Solid-phase decay (/hr) .....: 0.63000E-01
Liquid-phase decay (/hr) .....: 0.10000E-02
Curve coefficient .....: 0.43800E+01
Bulk density (g/cc).....: 0.16200E+01
Dispersion coefficient (cm^2/hr).....: 0.60000E-01
Saturated hydraulic conductivity .....: 0.14590E+02
Minimum depth (cm).....: 0.00000E+00
Maximum depth (cm).....: 0.50000E+03
Minimum time (day).....: 0.00000E+00
Maximum time (day).....: 0.80000E+04
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For application 1 the active ingredient (ai) applied is 0.100E+01 kg
ai/ha,
and has been applied 0.000E+00 days prior to recharge

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Results

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Projected water content .....: 0.209E+00
Pore water velocity [cm/hr] .....: 0.246E-01
Pollutant velocity [cm/hr] .....: 0.136E-02
Length of pollutant slug [cm] .....: 0.190E+01
Mass decayed prior to recharge [kg] .....: 0.000E+00
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Time = 0.50E+02 (days)

Depth [cm]	Cw [mg/l]	Cs [mg/kg]	Ctot [mg/l]
5.000	0.11E+00	0.25E+00	0.42E+00
50.000	0.00E+00	0.00E+00	0.00E+00
100.000	0.00E+00	0.00E+00	0.00E+00
150.000	0.00E+00	0.00E+00	0.00E+00
200.000	0.00E+00	0.00E+00	0.00E+00
250.000	0.00E+00	0.00E+00	0.00E+00
300.000	0.00E+00	0.00E+00	0.00E+00
350.000	0.00E+00	0.00E+00	0.00E+00
400.000	0.00E+00	0.00E+00	0.00E+00
450.000	0.00E+00	0.00E+00	0.00E+00
500.000	0.00E+00	0.00E+00	0.00E+00

MASS BALANCE RESULTS

Pollutant remaining in liquid-phase (kg) = 0.702E-01
 Pollutant remaining in solid-phase (kg) = 0.120E+01
 Total mass of pollutant remaining (kg) = 0.127E+01
 Liquid-phase decay of pollutant (kg) = 0.871E-01

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Time = 0.10E+03 (days)

Depth [cm]	Cw [mg/l]	Cs [mg/kg]	Ctot [mg/l]
5.000	0.18E+00	0.41E+00	0.70E+00
50.000	0.00E+00	0.00E+00	0.00E+00
100.000	0.00E+00	0.00E+00	0.00E+00
150.000	0.00E+00	0.00E+00	0.00E+00
200.000	0.00E+00	0.00E+00	0.00E+00
250.000	0.00E+00	0.00E+00	0.00E+00
300.000	0.00E+00	0.00E+00	0.00E+00
350.000	0.00E+00	0.00E+00	0.00E+00
400.000	0.00E+00	0.00E+00	0.00E+00
450.000	0.00E+00	0.00E+00	0.00E+00
500.000	0.00E+00	0.00E+00	0.00E+00

MASS BALANCE RESULTS

Pollutant remaining in liquid-phase (kg) = 0.485E-01
 Pollutant remaining in solid-phase (kg) = 0.827E+00
 Total mass of pollutant remaining (kg) = 0.875E+00
 Liquid-phase decay of pollutant (kg) = 0.124E+00

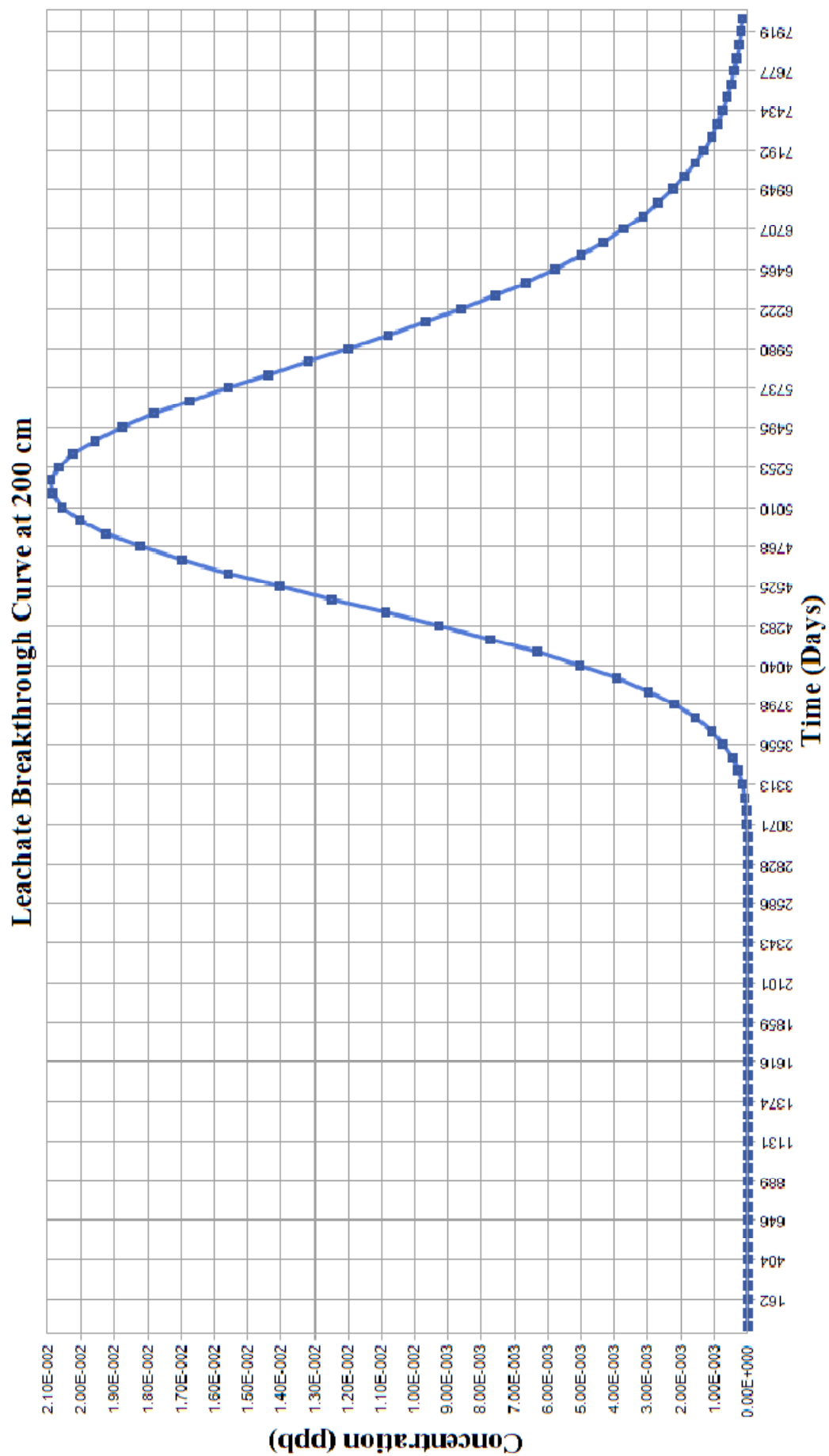
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Time = 0.15E+03 (days)

Depth [cm]	Cw [mg/l]	Cs [mg/kg]	Ctot [mg/l]
5.000	0.17E+00	0.38E+00	0.65E+00
50.000	0.00E+00	0.00E+00	0.00E+00
100.000	0.00E+00	0.00E+00	0.00E+00
150.000	0.00E+00	0.00E+00	0.00E+00
200.000	0.00E+00	0.00E+00	0.00E+00
250.000	0.00E+00	0.00E+00	0.00E+00
300.000	0.00E+00	0.00E+00	0.00E+00
350.000	0.00E+00	0.00E+00	0.00E+00
400.000	0.00E+00	0.00E+00	0.00E+00
450.000	0.00E+00	0.00E+00	0.00E+00
500.000	0.00E+00	0.00E+00	0.00E+00

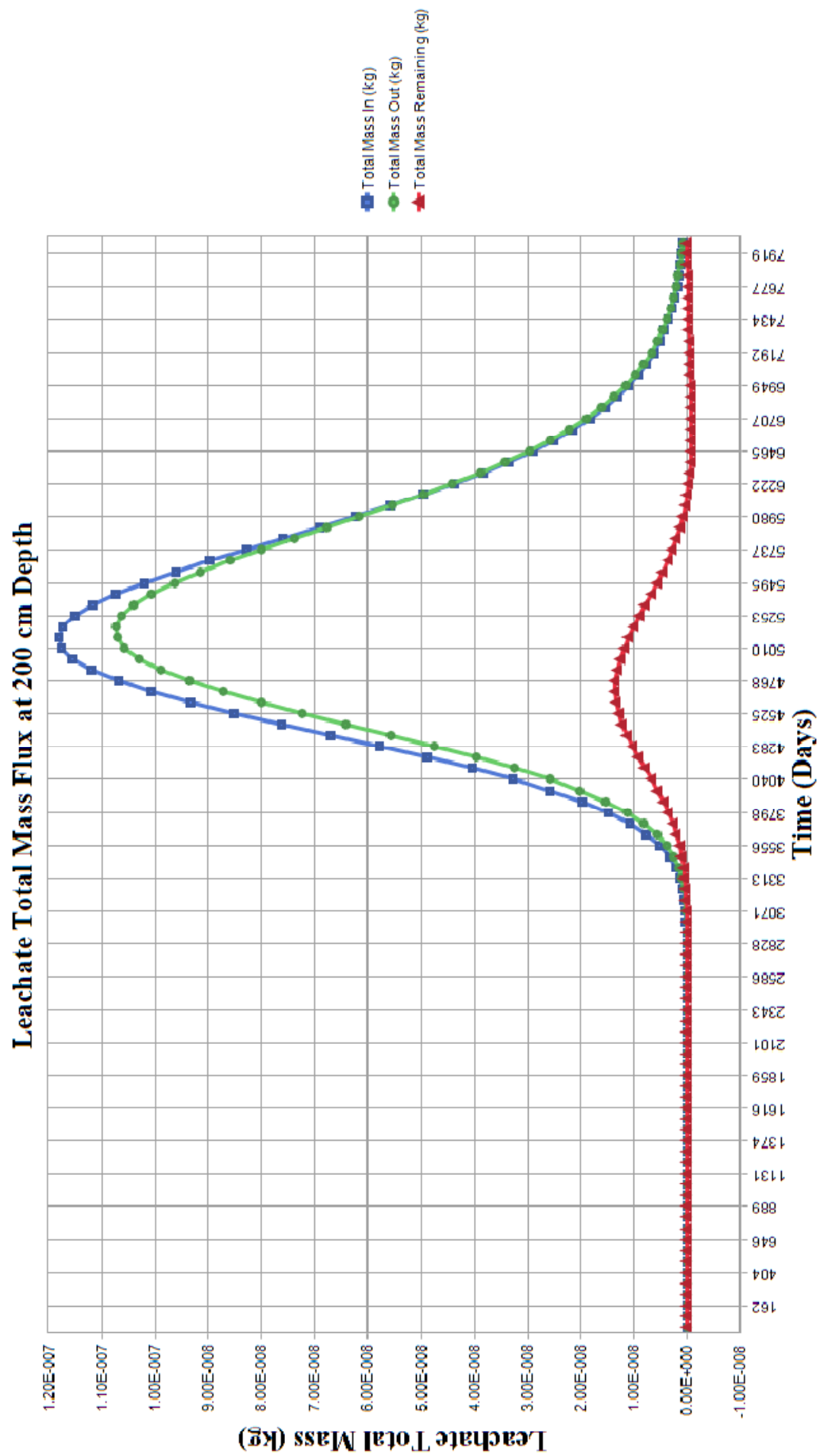
MASS BALANCE RESULTS

Pollutant remaining in liquid-phase (kg) = 0.441E-01
 Pollutant remaining in solid-phase (kg) = 0.752E+00
 Total mass of pollutant remaining (kg) = 0.796E+00
 Liquid-phase decay of pollutant (kg) = 0.176E+00



1.0000000E-30	0.0000000E+00
80.80808	0.0000000E+00
161.6162	0.0000000E+00
242.4243	0.0000000E+00
323.2323	0.0000000E+00
404.0404	0.0000000E+00
484.8485	0.0000000E+00
565.6566	0.0000000E+00
646.4647	0.0000000E+00
727.2728	0.0000000E+00
808.0808	0.0000000E+00
888.8889	0.0000000E+00
969.6970	0.0000000E+00
1050.505	0.0000000E+00
1131.313	0.0000000E+00
1212.121	0.0000000E+00
1292.929	0.0000000E+00
1373.737	0.0000000E+00
1454.546	0.0000000E+00
1535.354	0.0000000E+00
1616.162	0.0000000E+00
1696.970	0.0000000E+00
1777.778	0.0000000E+00
1858.586	0.0000000E+00
1939.394	0.0000000E+00
2020.202	0.0000000E+00
2101.010	0.0000000E+00
2181.818	0.0000000E+00
2262.626	0.0000000E+00
2343.434	0.0000000E+00
2424.242	0.0000000E+00
2505.051	0.0000000E+00
2585.859	0.0000000E+00
2666.667	0.0000000E+00
2747.475	0.0000000E+00
2828.283	0.0000000E+00
2909.091	6.9916887E-06
2989.899	1.4129567E-05
3070.707	2.7497008E-05
3151.515	5.3827473E-05
3232.323	9.9537654E-05
3313.131	1.7471882E-04
3393.939	2.9320992E-04
3474.748	4.7230953E-04
3555.556	7.3146453E-04
3636.364	1.0915445E-03
3717.172	1.5743825E-03
3797.980	2.1999807E-03
3878.788	2.9827668E-03
3959.596	3.9323703E-03
4040.404	5.0491057E-03
4121.212	6.3237790E-03
4202.021	7.7369986E-03
4282.829	9.2592109E-03
4363.636	1.0852164E-02
4444.444	1.2470769E-02
4525.252	1.4065738E-02
4606.061	1.5586618E-02
4686.869	1.6984966E-02
4767.677	1.8216455E-02
4848.485	1.9244423E-02
4929.293	2.0040393E-02
5010.101	2.0585936E-02
5090.909	2.0872874E-02
5171.717	2.0902967E-02
5252.525	2.0686943E-02
5333.333	2.0243326E-02
5414.142	1.9596791E-02
5494.950	1.8776387E-02
5575.758	1.7813889E-02
5656.566	1.6742058E-02

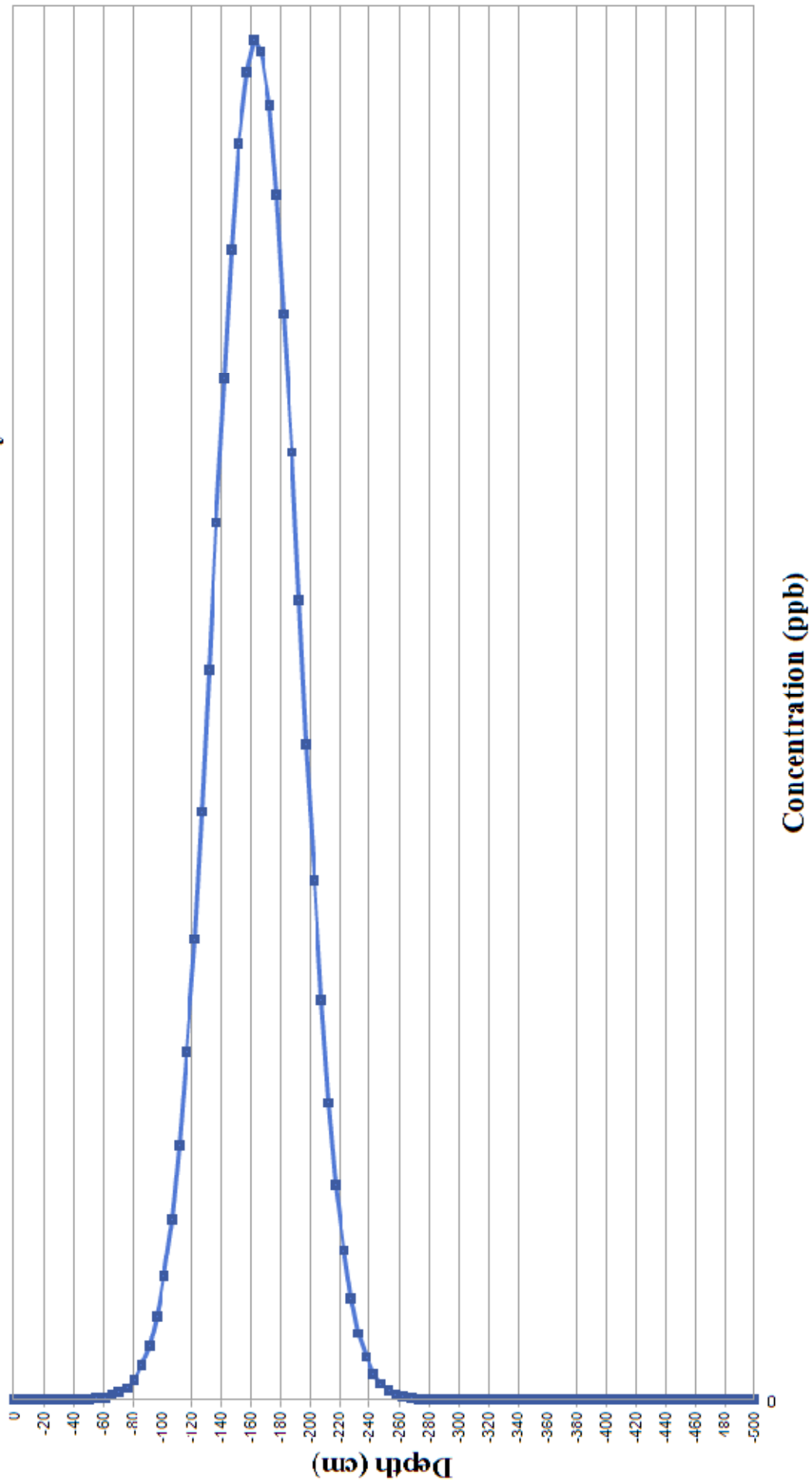
5737.374	1.5593223E-02
5818.182	1.4398060E-02
5898.990	1.3184637E-02
5979.798	1.1977755E-02
6060.606	1.0798559E-02
6141.414	9.6642990E-03
6222.222	8.5883169E-03
6303.030	7.5806021E-03
6383.838	6.6476543E-03
6464.646	5.7930597E-03
6545.455	5.0179181E-03
6626.263	4.3212762E-03
6707.071	3.7005248E-03
6787.879	3.1518606E-03
6868.687	2.6705733E-03
6949.495	2.2514188E-03
7030.303	1.8888550E-03
7111.111	1.5772551E-03
7191.919	1.3111075E-03
7272.728	1.0851005E-03
7353.536	8.9425890E-04
7434.344	7.3396723E-04
7515.152	6.0002174E-04
7595.960	4.8864196E-04
7676.768	3.9646294E-04
7757.576	3.2051504E-04
7838.384	2.5821422E-04
7919.192	2.0732090E-04
8000.000	1.6591467E-04



1.000000E-30	0.000000E+00	0.000000E+00	0.000000E+00
80.80808	0.000000E+00	0.000000E+00	0.000000E+00
161.6162	0.000000E+00	0.000000E+00	0.000000E+00
242.4243	0.000000E+00	0.000000E+00	0.000000E+00
323.2323	0.000000E+00	0.000000E+00	0.000000E+00
404.0404	0.000000E+00	0.000000E+00	0.000000E+00
484.8485	0.000000E+00	0.000000E+00	0.000000E+00
565.6566	0.000000E+00	0.000000E+00	0.000000E+00
646.4647	0.000000E+00	0.000000E+00	0.000000E+00
727.2728	0.000000E+00	0.000000E+00	0.000000E+00
808.0808	0.000000E+00	0.000000E+00	0.000000E+00
888.8889	0.000000E+00	0.000000E+00	0.000000E+00
969.6970	2.3822074E-44	0.000000E+00	2.3822074E-44
1050.505	3.2425906E-40	0.000000E+00	3.2425906E-40
1131.313	1.0466258E-36	0.000000E+00	1.0466258E-36
1212.121	1.0849379E-33	0.000000E+00	1.0849379E-33
1292.929	4.4697209E-31	0.000000E+00	4.4697209E-31
1373.737	8.6139733E-29	0.000000E+00	8.6139733E-29
1454.546	8.8145083E-27	0.000000E+00	8.8145083E-27
1535.354	5.2932779E-25	0.000000E+00	5.2932779E-25
1616.162	2.0208864E-23	0.000000E+00	2.0208864E-23
1696.970	5.2333512E-22	0.000000E+00	5.2333512E-22
1777.778	9.6927126E-21	0.000000E+00	9.6927126E-21
1858.586	1.3413835E-19	0.000000E+00	1.3413835E-19
1939.394	1.4385749E-18	0.000000E+00	1.4385749E-18
2020.202	1.2327808E-17	0.000000E+00	1.2327808E-17
2101.010	8.6628687E-17	0.000000E+00	8.6628687E-17
2181.818	5.1030410E-16	0.000000E+00	5.1030410E-16
2262.626	2.5680995E-15	0.000000E+00	2.5680995E-15
2343.434	1.1222018E-14	0.000000E+00	1.1222018E-14
2424.242	4.3186334E-14	0.000000E+00	4.3186334E-14
2505.051	1.4816852E-13	0.000000E+00	1.4816852E-13
2585.859	4.5811591E-13	0.000000E+00	4.5811591E-13
2666.667	1.2885344E-12	0.000000E+00	1.2885344E-12
2747.475	3.3245015E-12	0.000000E+00	3.3245015E-12
2828.283	7.9263089E-12	0.000000E+00	7.9263089E-12
2909.091	5.3514942E-11	3.5937277E-11	1.7577665E-11
2989.899	1.0909532E-10	7.2625975E-11	3.6469341E-11
3070.707	2.1249351E-10	1.4133461E-10	7.1158898E-11
3151.515	4.0785972E-10	2.7667321E-10	1.3118651E-10
3232.323	7.4109513E-10	5.1162352E-10	2.2947162E-10
3313.131	1.2803376E-09	8.9805474E-10	3.8228282E-10
3393.939	2.1157027E-09	1.5070990E-09	6.0860372E-10
3474.748	3.3564531E-09	2.4276710E-09	9.2878211E-10
3555.556	5.1222280E-09	3.7597276E-09	1.3625004E-09
3636.364	7.5367286E-09	5.6105387E-09	1.9261894E-09
3717.172	1.0722601E-08	8.0923259E-09	2.6302747E-09
3797.980	1.4784457E-08	1.1307900E-08	3.4765570E-09
3878.788	1.9787683E-08	1.5331421E-08	4.4562607E-09
3959.596	2.5761379E-08	2.0212383E-08	5.5489959E-09
4040.404	3.2675477E-08	2.5952403E-08	6.7230745E-09
4121.212	4.0441108E-08	3.2504222E-08	7.9368867E-09
4202.021	4.8909882E-08	3.9768171E-08	9.1417132E-09
4282.829	5.7877493E-08	4.7592344E-08	1.0285150E-08
4363.636	6.7095222E-08	5.5780120E-08	1.1315099E-08
4444.444	7.6283598E-08	6.4099751E-08	1.2183850E-08
4525.252	8.5149473E-08	7.2297887E-08	1.2851585E-08
4606.061	9.3404175E-08	8.0115214E-08	1.3288960E-08
4686.869	1.0078196E-07	8.7302723E-08	1.3479235E-08
4767.677	1.0705106E-07	9.3632579E-08	1.3418485E-08
4848.485	1.1203186E-07	9.8916338E-08	1.3115527E-08
4929.293	1.1559779E-07	1.0300762E-07	1.2590167E-08
5010.101	1.1768313E-07	1.0581171E-07	1.1871419E-08
5090.909	1.1828133E-07	1.0728657E-07	1.0994763E-08
5171.717	1.1744080E-07	1.0744125E-07	9.9995487E-09
5252.525	1.1525726E-07	1.0633088E-07	8.9263805E-09
5333.333	1.1186535E-07	1.0405069E-07	7.8146654E-09
5414.142	1.0742826E-07	1.0072750E-07	6.7007524E-09
5494.950	1.0212709E-07	9.6510625E-08	5.6164629E-09
5575.758	9.6151453E-08	9.1563386E-08	4.5880659E-09
5656.566	8.9690133E-08	8.6054179E-08	3.6359571E-09

5737.374	8.2923698E-08	8.0149164E-08	2.7745317E-09
5818.182	7.6018573E-08	7.4006024E-08	2.0125510E-09
5898.990	6.9122699E-08	6.7769029E-08	1.3536710E-09
5979.798	6.2362950E-08	6.1565657E-08	7.9729534E-10
6060.606	5.5843909E-08	5.5504593E-08	3.3931447E-10
6141.414	4.9647461E-08	4.9674494E-08	-2.7032604E-11
6222.222	4.3833676E-08	4.4143945E-08	-3.1026812E-10
6303.030	3.8444245E-08	3.8964295E-08	-5.2005056E-10
6383.838	3.3502467E-08	3.4168941E-08	-6.6647610E-10
6464.646	2.9016741E-08	2.9776325E-08	-7.5958523E-10
6545.455	2.4983105E-08	2.5792099E-08	-8.0899337E-10
6626.263	2.1387779E-08	2.2211360E-08	-8.2358187E-10
6707.071	1.8209366E-08	1.9020696E-08	-8.1133056E-10
6787.879	1.5421344E-08	1.6200563E-08	-7.7921769E-10
6868.687	1.2993556E-08	1.3726747E-08	-7.3319140E-10
6949.495	1.0894100E-08	1.1572292E-08	-6.7819167E-10
7030.303	9.0904937E-09	9.7087147E-09	-6.1822125E-10
7111.111	7.5506694E-09	8.1070910E-09	-5.5642180E-10
7191.919	6.2439076E-09	6.7390928E-09	-4.9518534E-10
7272.728	5.1411648E-09	5.5774163E-09	-4.3625159E-10
7353.536	4.2156665E-09	4.5964907E-09	-3.8082423E-10
7434.344	3.4429273E-09	3.7725916E-09	-3.2966432E-10
7515.152	2.8009295E-09	3.0841116E-09	-2.8318217E-10
7595.960	2.2700997E-09	2.5116196E-09	-2.4151980E-10
7676.768	1.8332005E-09	2.0378195E-09	-2.0461893E-10
7757.576	1.4751701E-09	1.6474474E-09	-1.7227735E-10
7838.384	1.1830215E-09	1.3272210E-09	-1.4419950E-10
7919.192	9.4559671E-10	1.0656295E-09	-1.2003272E-10
8000.000	7.5340556E-10	8.5280139E-10	-9.9395853E-11

Leachate Concentration Profile at 5000 Days



0.000000E+00	-1.000000E-30
0.000000E+00	-5.050505
0.000000E+00	-10.10101
0.000000E+00	-15.15152
0.000000E+00	-20.20202
3.2579490E-07	-25.25253
8.1448724E-07	-30.30303
1.8461710E-06	-35.35353
4.0724362E-06	-40.40404
8.6878636E-06	-45.45455
1.7973018E-05	-50.50505
3.5946035E-05	-55.55556
6.9774411E-05	-60.60606
1.3118674E-04	-65.65657
2.3880764E-04	-70.70707
4.2114418E-04	-75.75758
7.1935513E-04	-80.80808
1.1900201E-03	-85.85859
1.9066603E-03	-90.90910
2.9588151E-03	-95.95959
4.4469917E-03	-101.0101
6.4733815E-03	-106.0606
9.1264918E-03	-111.1111
1.2461927E-02	-116.1616
1.6480878E-02	-121.2121
2.1109825E-02	-126.2626
2.6187828E-02	-131.3131
3.1465054E-02	-136.3636
3.6615815E-02	-141.4141
4.1268658E-02	-146.4646
4.5048717E-02	-151.5152
4.7627207E-02	-156.5657
4.8768744E-02	-161.6162
4.8365574E-02	-166.6667
4.6456341E-02	-171.7172
4.3217994E-02	-176.7677
3.8939904E-02	-181.8182
3.3981003E-02	-186.8687
2.8720286E-02	-191.9192
2.3510065E-02	-196.9697
1.8639376E-02	-202.0202
1.4312604E-02	-207.0707
1.0644262E-02	-212.1212
7.6670395E-03	-217.1717
5.3486833E-03	-222.2222
3.6139342E-03	-227.2727
2.3648909E-03	-232.3232
1.4988737E-03	-237.3737
9.2009909E-04	-242.4243
5.4700964E-04	-247.4747
3.1498936E-04	-252.5253
1.7565774E-04	-257.5758
9.4860610E-05	-262.6263
4.9683720E-05	-267.6768
2.5194804E-05	-272.7273
1.2380206E-05	-277.7778
5.8643082E-06	-282.8283
2.7149574E-06	-287.8788
1.1945813E-06	-292.9293
5.4299147E-07	-297.9798
7.6018807E-07	-303.0303
0.0000000E+00	-308.0808
0.0000000E+00	-313.1313
0.0000000E+00	-318.1818
0.0000000E+00	-323.2323
0.0000000E+00	-328.2828
0.0000000E+00	-333.3333
0.0000000E+00	-338.3839
0.0000000E+00	-343.4344
0.0000000E+00	-348.4849
0.0000000E+00	-353.5354

0.000000E+00	-358.5859
0.000000E+00	-363.6364
0.000000E+00	-368.6869
0.000000E+00	-373.7374
0.000000E+00	-378.7879
0.000000E+00	-383.8384
0.000000E+00	-388.8889
0.000000E+00	-393.9394
0.000000E+00	-398.9899
0.000000E+00	-404.0404
0.000000E+00	-409.0909
0.000000E+00	-414.1414
0.000000E+00	-419.1919
0.000000E+00	-424.2424
0.000000E+00	-429.2929
0.000000E+00	-434.3434
0.000000E+00	-439.3940
0.000000E+00	-444.4445
0.000000E+00	-449.4950
0.000000E+00	-454.5455
0.000000E+00	-459.5960
0.000000E+00	-464.6465
0.000000E+00	-469.6970
0.000000E+00	-474.7475
0.000000E+00	-479.7980
0.000000E+00	-484.8485
0.000000E+00	-489.8990
0.000000E+00	-494.9495
0.000000E+00	-500.0000