Source Type

- [x] Soil Source
- [ ] Groundwater Source

Tier Number

- ( ) Tier One
- ( ) Tier Two
- (•) Tier Three
- ( ) Tier Four

Parameter Values

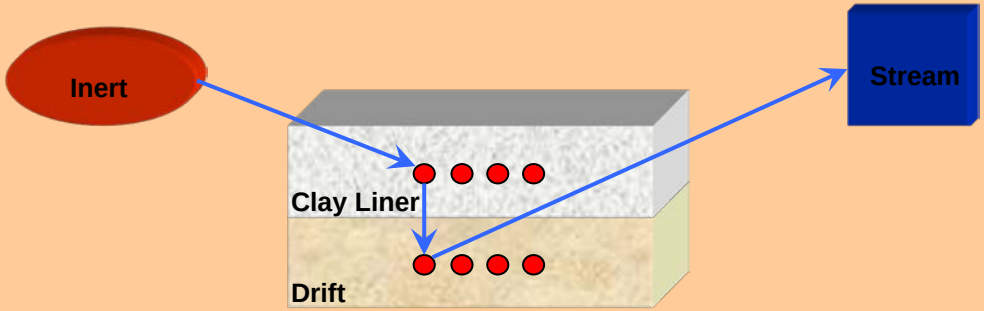
- (•) Deterministic
- ( ) Probabilistic

Created: 26/09/2018 11:48:47

by:

Version: 1.09

Numerical value
Suggested formula
Probabilistic parameters
Data specified elsewhere
Suggested formula edited



CONTAMINANT INFORMATION

		Species1	Species2	Species3	Species4	Species5	Species6	Species7
Source determinand names	7	Amm N	Cadmium	Chloride	Potassium	Nickel	Phenol	Selenium

Receptor Target Concentrations

	Name	Values in mg/L						
Quality Standard 1	EAL	0.5	0.005	250	10	0.02	0.0005	0.01
Quality Standard 2								
Quality Standard 3								
Quality Standard 4								

Generic Contaminant Properties

Contaminants_Organic_Carbon_Water_Partition_Coefficient_Koc	**L/kg**	27
Contaminants_Free_Water_Diffusion_Coefficient	**m2/s**	6.36E-10

HYDROGEOLOGICAL UNITS

Hydrogeological Units		Clay Liner	Drift
Hydrogeology_Unit_Thickness	**m**	1	0.4
Hydrogeology_Log_Hydraulic_Conductivity	**log(m/s)**	-7	-3.699
Hydrogeology_Hydraulic_Conductivity	**m/s**	1E-07	0.0002
Hydrogeology_Hydraulic_Gradient	**[-]**	10	0.02
Hydrogeology_Porosity	**[-]**	0.4	0.42
Hydrogeology_Velocity	**m/s**	2.5E-06	9.52E-06
Hydrogeology_Tortuosity	**[-]**	10	10

ATTENUATION PARAMETERS

Hydrogeological Units		Clay Liner	Drift

General properties

Attenuation_Dry_bulk_density	**kg/m3**	2000	1900
Attenuation_Fraction_organic_carbon	**[-]**	0.05	0.002

Contaminant specific parameters

Amm N

Attenuation_Partition_Coefficient_Kd_Species_1	**L/kg**	1.25	1.25
Attenuation_Retardation_Species_1	**[-]**	7.25	6.654761905
Attenuation_Half_Life_Species_1	**days**	No Decay	1300
Attenuation_Decay_Coefficient_Species_1	**1/s**	0	6.17118E-09

Cadmium

Attenuation_Partition_Coefficient_Kd_Species_2	**L/kg**	188.3	188.3
Attenuation_Retardation_Species_2	**[-]**	942.5	852.8333333
Attenuation_Half_Life_Species_2	**days**	No Decay	No Decay
Attenuation_Decay_Coefficient_Species_2	**1/s**	0	0

Chloride

Attenuation_Partition_Coefficient_Kd_Species_3	**L/kg**	0.000000001	0.000000001
Attenuation_Retardation_Species_3	**[-]**	1.000000005	1.000000005
Attenuation_Half_Life_Species_3	**days**	No Decay	No Decay
Attenuation_Decay_Coefficient_Species_3	**1/s**	0	0

Potassium

Attenuation_Partition_Coefficient_Kd_Species_4	**L/kg**	0.000000001	0.000000001
Attenuation_Retardation_Species_4	**[-]**	1.000000005	1.000000005
Attenuation_Half_Life_Species_4	**days**	No Decay	No Decay
Attenuation_Decay_Coefficient_Species_4	**1/s**	0	0

Nickel

Attenuation_Partition_Coefficient_Kd_Species_5	**L/kg**	110	110
Attenuation_Retardation_Species_5	**[-]**	551	498.6190476
Attenuation_Half_Life_Species_5	**days**	No Decay	No Decay
Attenuation_Decay_Coefficient_Species_5	**1/s**	0	0

Phenol

Attenuation_Partition_Coefficient_Kd_Species_6	**L/kg**	1.35	0.054
Attenuation_Retardation_Species_6	**[-]**	7.75	1.244285714
Attenuation_Half_Life_Species_6	**days**	10	10
Attenuation_Decay_Coefficient_Species_6	**1/s**	8.02254E-07	8.02254E-07

Selenium

Attenuation_Partition_Coefficient_Kd_Species_7	**L/kg**	50	50
Attenuation_Retardation_Species_7	**[-]**	251	227.1904762
Attenuation_Half_Life_Species_7	**days**	No Decay	No Decay
Attenuation_Decay_Coefficient_Species_7	**1/s**	0	0

WATER BALANCE

Infiltration through the soil zone source

Source Name: Inert

Effective_Rainfall	98	**mm/year**
Infiltration_Factor	0.6	**[-]**
Infiltration_Rate	58.8	**mm/year**
Infiltration_Area	147936	**m2**
Q_Infiltration	0.000276	**m3/s**

PATHWAY SUMMARY

Path 1	Section 1		Section 2		Section 3		Section 4	
Path 1 Type	Source		Unit		Unit		Receptor	
Path 1 Name	**Inert**		**Clay Liner: Node 1**		**Drift: Node 1**		**Stream**	
Path 1 Process	Declining source		No Processes		ADRD (1D) + Dilution		River	
Path 1 Standards							Target Standard	EAL
Path 1 Parameter1	**Q_managed [m3/s]**	0.000E+00			**Velocity [m/s]**	9.523E-06		
Path 1 Parameter2	**Managed time [years]**	0.000E+00			**Dispersivity [m]**	2.0		
Path 1 Parameter3	**Q_path [m3/s]**	2.756E-04			**Travel Distance [m]**	20.0		
Path 1 Parameter4	**Q_decline [m3/s]**	2.756E-04			**Mixing Depth [m]**	0.4		
Path 1 Parameter5					**Mixing Width [m]**	150.0		
Path 1 Parameter6			**Q_Dilute [m3/s]**	0	**Q_Dilute [m3/s]**	2.400E-04	**Q_dilute [m3/s]**	3.250E-02

SIMULATION PARAMETERS

Timeslices for Reporting Results

timeslice1	1	**years**	31557600	**seconds**
timeslice2	10	**years**	315576000	**seconds**
timeslice3	100	**years**	3155760000	**seconds**
timeslice4	1000	**years**	3.1558E+10	**seconds**
timeslice5	10000	**years**	3.1558E+11	**seconds**

Named Constants

s_per_year	31557600
s_per_day	86400

Monte Carlo Analysis with Crystal Ball

Reported Percentile	95
Number of simulations	10000

☐ Stop on calculation error

☐ Use same sequence of random numbers

Minimise while running:

- ◉ Nothing
- ○ All Spreadsheets (faster)
- ○ Microsoft Excel (fastest)

Laplace Transform Solution Parameters

sigma	0
nu	1
nsum	16
omega	11

AUDIT TRAIL SHEET

Author	Date	Time	Cell Address	NewValue	Cell Name
	26/09/2018	11:52:35 AM	Contaminants:$D$4	Amm N	Contaminants_Source_determined_names Contaminants_Species1
	26/09/2018	11:52:42 AM	Contaminants:$E$4	Cadmium	Contaminants_Source_determined_names Contaminants_Species2
	26/09/2018	11:52:50 AM	Contaminants:$F$4	Chloride	Contaminants_Source_determined_names Contaminants_Species3
	26/09/2018	11:52:55 AM	Contaminants:$G$4	Potassium	Contaminants_Source_determined_names Contaminants_Species4
	26/09/2018	11:53:01 AM	Contaminants:$H$4	Nickel	Contaminants_Source_determined_names Contaminants_Species5
	26/09/2018	11:53:06 AM	Contaminants:$I$4	Phenol	Contaminants_Source_determined_names Contaminants_Species6
	26/09/2018	11:53:16 AM	Contaminants:$B$9	EAL	
	26/09/2018	11:53:22 AM	Contaminants:$C$9	0.5	Quality_Standard_1 Contaminants_Species1
	26/09/2018	11:53:24 AM	Contaminants:$D$9	0.005	Quality_Standard_1 Contaminants_Species2
	26/09/2018	11:53:30 AM	Contaminants:$F$9	250	Quality_Standard_1 Contaminants_Species3
	26/09/2018	11:53:31 AM	Contaminants:$G$9	10	Quality_Standard_1 Contaminants_Species4
	26/09/2018	11:53:36 AM	Contaminants:$H$9	0.02	Quality_Standard_1 Contaminants_Species5
	26/09/2018	11:53:42 AM	Contaminants:$I$9	0.0005	Quality_Standard_1 Contaminants_Species6
	26/09/2018	11:54:02 AM	Contaminants:$B$11	27	Contaminants_Organic_Carbon_Water_Partition_Coefficient_Koc Contaminants_Species6
	26/09/2018	11:54:16 AM	Contaminants:$B$38	6.36E-10	Contaminants_Free_Water_Diffusion_Coefficient Contaminants_Species6
	26/09/2018	12:01:06 PM	Inert:$B$19	536	Inert_Source_length
	26/09/2018	12:01:10 PM	Inert:$B$20	276	Inert_Source_width
	26/09/2018	12:01:15 PM	Inert:$B$22	3.01	Inert_Source_thickness
	26/09/2018	12:01:29 PM	Inert:$C$26	0.2	Inert_Source_field_capacity
	26/09/2018	12:01:36 PM	Inert:$C$82	0.03	Inert_Leaching_test_concentration Inert_Species1
	26/09/2018	12:01:41 PM	Inert:$D$82	0.02	Inert_Leaching_test_concentration Inert_Species2
	26/09/2018	12:01:46 PM	Inert:$E$82	460	Inert_Leaching_test_concentration Inert_Species3
	26/09/2018	12:01:51 PM	Inert:$F$82	20.605	Inert_Leaching_test_concentration Inert_Species4
	26/09/2018	12:01:55 PM	Inert:$G$82	0.12	Inert_Leaching_test_concentration Inert_Species5
	26/09/2018	12:01:59 PM	Inert:$H$82	0.3	Inert_Leaching_test_concentration Inert_Species6
	26/09/2018	12:07:06 PM	Hydrogeology:$C$5	1	Hydrogeology_Unit_Thickness Clay_Liner
	26/09/2018	12:07:16 PM	Hydrogeology:$C$12	-7	Hydrogeology_Log_Hydraulic_Conductivity Clay_Liner
	26/09/2018	12:07:23 PM	Hydrogeology:$C$33	10	Hydrogeology_Hydraulic_Gradient Clay_Liner
	26/09/2018	12:07:25 PM	Hydrogeology:$C$40	0.4	Hydrogeology_Porosity Clay_Liner
	26/09/2018	12:07:31 PM	Hydrogeology:$C$54	10	Hydrogeology_Tortuosity Clay_Liner
	26/09/2018	12:15:09 PM	Hydrogeology:$D$5	0.4	Hydrogeology_Unit_Thickness Drift
	26/09/2018	12:19:15 PM	Hydrogeology:$D$12	-3.699	Hydrogeology_Log_Hydraulic_Conductivity Drift
	26/09/2018	12:21:28 PM	Hydrogeology:$D$33	0.02	Hydrogeology_Hydraulic_Gradient Drift
	26/09/2018	12:21:37 PM	Hydrogeology:$D$40	0.42	Hydrogeology_Porosity Drift
	26/09/2018	12:21:39 PM	Hydrogeology:$D$54	10	Hydrogeology_Tortuosity Drift
	26/09/2018	12:22:38 PM	Attenuation:$C$7	2000	Attenuation_Dry_bulk_density Attenuation_Clay_Liner
	26/09/2018	12:22:41 PM	Attenuation:$D$7	1900	Attenuation_Dry_bulk_density Attenuation_Drift
	26/09/2018	12:22:47 PM	Attenuation:$C$14	0.05	Attenuation_Fraction_organic_carbon Attenuation_Clay_Liner
	26/09/2018	12:22:54 PM	Attenuation:$D$14	0.002	Attenuation_Fraction_organic_carbon Attenuation_Drift
	26/09/2018	12:23:11 PM	Attenuation:$C$25	1.25	Attenuation_Partition_Coefficient_Kd_Species_1 Attenuation_Clay_Liner
	26/09/2018	12:23:19 PM	Attenuation:$D$25	1.25	Attenuation_Partition_Coefficient_Kd_Species_1 Attenuation_Drift
	26/09/2018	12:23:33 PM	Attenuation:$D$40	1300	Attenuation_Half_Life_Species_1 Attenuation_Drift
	26/09/2018	12:23:48 PM	Attenuation:$C$56	188.3	Attenuation_Partition_Coefficient_Kd_Species_2 Attenuation_Clay_Liner
	26/09/2018	12:23:54 PM	Attenuation:$D$56	188.3	Attenuation_Partition_Coefficient_Kd_Species_2 Attenuation_Drift
	26/09/2018	12:25:09 PM	Attenuation:$C$88	0.000000001	Attenuation_Partition_Coefficient_Kd_Species_3 Attenuation_Clay_Liner
	26/09/2018	12:25:19 PM	Attenuation:$D$88	0.000000001	Attenuation_Partition_Coefficient_Kd_Species_3 Attenuation_Drift
	26/09/2018	12:26:19 PM	Attenuation:$C$116	0.000000001	Attenuation_Partition_Coefficient_Kd_Species_4 Attenuation_Clay_Liner
	26/09/2018	12:26:25 PM	Attenuation:$D$116	0.000000001	Attenuation_Partition_Coefficient_Kd_Species_4 Attenuation_Drift
	26/09/2018	12:26:38 PM	Attenuation:$C$146	110	Attenuation_Partition_Coefficient_Kd_Species_5 Attenuation_Clay_Liner
	26/09/2018	12:26:40 PM	Attenuation:$D$146	110	Attenuation_Partition_Coefficient_Kd_Species_5 Attenuation_Drift
	26/09/2018	12:27:01 PM	Attenuation:$C$180	10	Attenuation_Half_Life_Species_6 Attenuation_Clay_Liner
	26/09/2018	12:27:02 PM	Attenuation:$D$180	10	Attenuation_Half_Life_Species_6 Attenuation_Drift
	26/09/2018	12:27:39 PM	Pathways:$I$7	EAL	Path1_Standards Section4
	26/09/2018	12:28:13 PM	Pathways:$G$11	0.4	Path1_Param4 Section3
	26/09/2018	12:28:34 PM	Pathways:$G$12	150	Path1_Param5 Section3
	26/09/2018	12:28:49 PM	Pathways:$G$13	20	Path1_Param6 Section3
	26/09/2018	12:29:22 PM	Pathways:$G$9	2	Path1_Param2 Section3
	26/09/2018	12:30:54 PM	WaterBalance:$C$9	96	Effective_Rainfall

Saved: 26/09/2018: 12:31:58 Tier Number: 3

DETERMINISTIC RESULTS

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Concentrations in mg/L in Stream

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	2.61E-01	0.00E+00	1.00E+00	1.00E+00	5.00E-01	2.00E-02
10	4.72E-07	1.68E-07	7.87E+01	3.21E+02	2.11E-36	4.70E-04
100	0.00E+00	2.81E-08	9.60E+00	1.00E+00	0.00E+00	2.00E-02
1000	0.00E+00	2.81E-22	0.00E+00	0.00E+00	5.00E-36	0.00E+00
10000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Compared with EAL target concentration in mg/L

5.00E-01	5.00E-03	2.50E+02	1.00E+01	2.00E-02	5.00E-04

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Remedial Target Concentrations in mg/L in Inert

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	5.00E-01	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40
10	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40
100	6.12E+20	1.43E-01	3.86E+08	1.18E+07	9.50E+50	3.12E+05
1000	1.00E+40	1.98E+17	1.00E+40	1.00E+40	4.24E+30	1.00E+40
10000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40

Compared with source concentrations in mg/L

5.30E-01	2.00E-02	4.60E+02	2.26E+01	1.30E-01	3.00E-01

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Dilution Factor

1.53E+00 for all species and timeslices

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Attenuation Factor

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	1.00E+00	1.00E+40	1.13E+00	1.13E+00	1.29E+35	6.73E+02
10	1.00E+00	1.00E+40	1.13E+00	1.13E+00	1.29E+35	6.73E+02
100	8.87E+05	2.64E+01	7.75E+05	7.77E+05	3.11E+12	4.02E+06
1000	1.00E+40	4.41E+19	1.00E+40	1.00E+40	1.30E+30	1.00E+40
10000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40

26/09/2018	12:33:27 PM	Stream:$G$7	0.005	Stream_Q_river

Saved: 26/09/2018: 12:47:13 Tier Number: 3

DETERMINISTIC RESULTS

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Concentrations in mg/L in Stream

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	2.61E-01	0.00E+00	1.00E+00	1.00E+00	5.00E-01	2.00E-02
10	1.07E-02	1.49E-08	9.63E+00	4.31E-01	2.90E-05	4.69E-04
100	5.82E-09	5.00E-05	4.76E-05	1.15E-06	3.06E-35	1.04E-02
1000	0.00E+00	3.62E-21	0.00E+00	0.00E+00	6.94E-36	0.00E+00
10000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Compared with EAL target concentration in mg/L

5.00E-01	5.00E-03	2.50E+02	1.00E+01	2.00E-02	5.00E-04

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Remedial Target Concentrations in mg/L in Inert

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	7.41E+00	1.00E+40	1.52E+03	1.40E+02	3.11E+34	4.07E+02
10	2.47E+01	6.60E+03	1.24E+04	4.77E+02	8.37E+15	1.41E+04
100	4.98E+06	1.36E+00	2.41E+09	9.85E+07	7.75E+11	2.80E+04
1000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40
10000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40

Compared with source concentrations in mg/L

5.30E-01	2.00E-02	4.60E+02	2.26E+01	1.30E-01	3.00E-01

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Dilution Factor

1.53E+00 for all species and timeslices

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Attenuation Factor

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	1.00E+00	1.00E+40	1.13E+00	1.13E+00	1.29E+35	6.73E+02
10	3.88E+00	1.07E+05	1.81E+05	1.81E+05	3.26E+12	2.28E+01
100	8.87E+05	1.64E+01	7.77E+05	7.77E+05	3.11E+12	4.02E+06
1000	1.00E+40	4.00E+18	1.00E+40	1.00E+40	1.30E+30	1.00E+40
10000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40

26/09/2018	12:47:47 PM	Stream:$G$7	0.0325	Stream_Q_river

Saved: 26/09/2018: 12:49:14 Tier Number: 3

DETERMINISTIC RESULTS

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Concentrations in mg/L in Stream

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	6.57E+00	0.00E+00	5.60E+00	2.51E-01	1.71E-36	3.66E-04
10	1.07E-02	1.49E-08	9.63E+00	4.31E-01	2.90E-05	4.69E-04
100	5.82E-09	3.57E-26	6.03E-05	3.66E-07	5.87E-36	2.68E-03
1000	0.00E+00	6.17E-24	0.00E+00	0.00E+00	1.10E-36	0.00E+00
10000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Compared with EAL target concentration in mg/L

5.00E-01	5.00E-03	2.50E+02	1.00E+01	2.00E-02	5.00E-04

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Remedial Target Concentrations in mg/L in Inert

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	4.31E+01	1.00E+40	2.05E+04	8.20E+02	1.62E+35	2.13E+03
10	1.44E+02	4.01E+04	4.87E+04	2.76E+02	4.73E+02	5.68E+01
100	1.61E+07	1.44E+01	1.87E+10	5.61E+08	4.04E+13	1.00E+40
1000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40
10000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40

Compared with source concentrations in mg/L

5.30E-01	2.00E-02	4.60E+02	2.26E+01	1.30E-01	3.00E-01

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Dilution Factor

2.27E+01 for all species and timeslices

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Attenuation Factor

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	1.19E+00	1.00E+40	1.13E+00	1.13E+00	1.29E+35	6.73E+02
10	3.88E+00	1.07E+05	1.81E+05	1.81E+05	3.26E+12	2.28E+01
100	8.87E+05	1.64E+01	7.77E+05	7.77E+05	3.11E+12	4.02E+06
1000	1.00E+40	4.00E+18	1.00E+40	1.00E+40	1.30E+30	1.00E+40
10000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40

26/09/2018	12:50:52 PM	WaterBalance:$C$9	80	Effective_Rainfall

Saved: 26/09/2018: 12:51:20 Tier Number: 3

DETERMINISTIC RESULTS

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Concentrations in mg/L in Stream

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	5.26E+00	0.00E+00	4.48E+00	2.01E-01	1.37E-36	2.93E-04
10	8.55E-03	1.19E-08	7.70E+00	3.45E-01	2.32E-05	3.75E-04
100	4.65E-09	4.00E-05	3.80E-05	9.22E-07	7.12E-36	2.00E-03
1000	0.00E+00	7.07E-24	0.00E+00	0.00E+00	1.60E-36	0.00E+00
10000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Compared with EAL target concentration in mg/L

5.00E-01	5.00E-03	2.50E+02	1.00E+01	2.00E-02	5.00E-04

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Remedial Target Concentrations in mg/L in Inert

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	5.91E+01	1.00E+40	2.40E+04	9.75E+02	2.22E+35	2.92E+03
10	1.98E+02	4.63E+04	6.53E+04	2.04E+03	5.50E+02	7.87E+01
100	2.07E+06	1.64E+01	1.42E+09	5.60E+07	3.37E+12	1.67E+04
1000	1.00E+40	1.42E+19	1.00E+40	1.00E+40	1.41E+30	1.00E+40
10000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40

Compared with source concentrations in mg/L

5.30E-01	2.00E-02	4.60E+02	2.26E+01	1.30E-01	3.00E-01

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Dilution Factor

3.41E+01 for all species and timeslices

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Attenuation Factor

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	1.79E+00	1.00E+40	1.20E+00	1.19E+00	1.25E+35	6.67E+02
10	5.14E+00	1.05E+05	3.93E+05	1.80E+05	3.16E+12	1.75E+01
100	6.72E+04	1.94E+01	6.41E+04	6.41E+04	1.92E+12	3.62E+06
1000	1.00E+40	3.12E+18	1.00E+40	1.00E+40	6.03E+32	1.00E+40
10000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40

26/09/2018	12:58:03 PM	WaterBalance:$C$9	96	Effective_Rainfall
26/09/2018	12:58:21 PM	WaterBalance:$C$9	0.6	Infiltration_Factor

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DETERMINISTIC RESULTS

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Concentrations in mg/L in Stream

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	3.62E-01	0.00E+00	2.03E+00	1.94E-01	7.90E-36	3.91E-04
10	1.07E-02	1.49E-08	9.63E+00	4.31E-01	2.90E-05	4.69E-04
100	5.82E-09	5.00E-05	4.76E-05	1.15E-06	3.06E-35	1.04E-02
1000	1.79E-36	3.41E-24	1.80E-35	7.30E-37	1.02E-35	1.01E-36
10000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Compared with EAL target concentration in mg/L

5.00E-01	5.00E-03	2.50E+02	1.00E+01	2.00E-02	5.00E-04

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Remedial Target Concentrations in mg/L in Inert

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	2.07E+00	1.00E+40	1.07E+04	2.04E+03	7.43E+02	2.59E+01
10	1.02E+01	4.40E+04	6.71E+04	2.00E+03	7.43E+02	2.59E+01
100	2.07E+05	6.60E+00	1.07E+08	4.01E+06	1.51E+02	1.21E+03
1000	1.47E+17	1.60E+13	8.96E+18	2.57E+16	2.34E+32	8.28E+34
10000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40

Compared with source concentrations in mg/L

5.30E-01	2.00E-02	4.60E+02	2.26E+01	1.30E-01	3.00E-01

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Dilution Factor

1.10E+02 for all species and timeslices

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Attenuation Factor

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol
1	1.00E+00	1.00E+40	1.13E+00	1.13E+00	1.29E+35	6.73E+02
10	2.27E+00	1.07E+05	1.81E+05	1.81E+05	3.26E+12	2.28E+01
100	3.60E+04	1.40E+01	3.42E+04	3.42E+04	7.96E+11	2.01E+04
1000	2.49E+20	1.77E+13	2.57E+25	2.57E+25	9.70E+21	1.38E+35
10000	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40	1.00E+40

26/09/2018	13:11:16 PM	Contaminants:$J$4	Selenium	Contaminants_Source_determined_names Contaminants_Species7
02/10/2018	5:12:36 PM	Contaminants:$J$9	0.01	Quality_Standard_1 Contaminants_Species7
02/10/2018	5:13:32 PM	Inert:$B$82		Inert_Leaching_test_concentration Inert_Species7
02/10/2018	5:13:40 PM	Inert:$B$82		Inert_Leaching_test_concentration Inert_Species7
02/10/2018	5:14:07 PM	Inert:$B$82	0.04	Inert_Leaching_test_concentration Inert_Species7
02/10/2018	5:18:00 PM	Attenuation:$C$206	50	Attenuation_Partition_Coefficient_Kd_Species_7 Attenuation_Clay_Liner
02/10/2018	5:18:02 PM	Attenuation:$D$206	50	Attenuation_Partition_Coefficient_Kd_Species_7 Attenuation_Drift

Saved: 02/10/2018: 17:27:45 Tier Number: 3

DETERMINISTIC RESULTS

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Concentrations in mg/L in Stream

Time(years)	Species1 Amm N	Species2 Cadmium	Species3 Chloride	Species4 Potassium	Species5 Nickel	Species6 Phenol	Species7 Selenium
1	3.62E-01	0.00E+00	1.03E+00	1.94E-01	7.90E-36	3.91E-04	1.40E-03
10	1.84E-03	1.57E-08	1.72E+00	7.81E-02	3.25E-06	1.86E-04	5.57E-05
100	1.23E-06	1.12E-05	1.12E-03	5.10E-05	1.24E-05	1.23E-07	4.36E-07
1000	1.79E-36	3.41E-24	1.80E-35	7.30E-37	1.02E-35	1.01E-36	1.01E-36
10000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Compared with EAL target concentration in mg/L

5.00E-01	5.00E-03	2.50E+02	1.00E+01	2.00E-02	5.00E-04	1.00E-02

Pollutant Linkage: Inert, Clay Liner, Drift, Stream
Remedial Target Concentrations in mg/L in Inert