Concentration of Ammoniacal_N in groundwater [mg/l]

At 30 years

01% of values less than 0.06
05% of values less than 0.06
10% of values less than 0.06
50% of values less than 0.06
90% of values less than 0.06
95% of values less than 0.06
99% of values less than 0.06

Minimum 0.06	Maximum 0.06	
Mean 0.06	Std. Dev. 7.16485E-009	Variance -5.13351E-017

At 100 years

01% of values less than 0.06
05% of values less than 0.06
10% of values less than 0.06
50% of values less than 0.06
90% of values less than 0.06
95% of values less than 0.06
99% of values less than 0.06

Minimum 0.06	Maximum 0.06	
Mean 0.06	Std. Dev. 6.17743E-009	Variance -3.81606E-017

At 300 years

01% of values less than 0.06
05% of values less than 0.06
10% of values less than 0.06
50% of values less than 0.06
90% of values less than 0.06
95% of values less than 0.06
99% of values less than 0.06

Minimum 0.06	Maximum 0.06	
Mean 0.06	Std. Dev. 6.39425E-009	Variance -4.08864E-017

At 1000 years

01% of values less than 0.06
05% of values less than 0.06
10% of values less than 0.06
50% of values less than 0.06
90% of values less than 0.06
95% of values less than 0.06
99% of values less than 0.06

Minimum 0.06	Maximum 0.06	
Mean 0.06	Std. Dev. 6.97204E-009	Variance -4.86094E-017

Concentration of Ammoniacal_N in groundwater [mg/l]

At infinity

01% of values less than 0.06

05% of values less than 0.06

10% of values less than 0.06

50% of values less than 0.06

90% of values less than 0.06

95% of values less than 0.06

99% of values less than 0.06

Minimum 0.06	Maximum 0.06	
Mean 0.06	Std. Dev. 7.16485E-009	Variance -5.13351E-017

Concentration of Cadmium in groundwater [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Concentration of Cadmium in groundwater [mg/l]

At infinity

01% of values less than 0

05% of values less than 0

10% of values less than 0

50% of values less than 0

90% of values less than 0

95% of values less than 0

99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Concentration of Chloride in groundwater [mg/l]

At 30 years

01% of values less than 30.2989
05% of values less than 32.5629
10% of values less than 34.1008
50% of values less than 41.3968
90% of values less than 53.5098
95% of values less than 58.3496
99% of values less than 66.1418

Minimum 29.0726	Maximum 81.6289	
Mean 42.8189	Std. Dev. 7.92846	Variance 62.8605

At 100 years

01% of values less than 31.2357
05% of values less than 32.4129
10% of values less than 33.2361
50% of values less than 38.121
90% of values less than 47.3183
95% of values less than 51.2096
99% of values less than 59.9039

Minimum 30.0591	Maximum 76.0103	
Mean 39.5906	Std. Dev. 6.10289	Variance 37.2453

At 300 years

01% of values less than 30.5784
05% of values less than 31.3579
10% of values less than 31.8485
50% of values less than 34.5883
90% of values less than 39.4524
95% of values less than 41.5054
99% of values less than 46.4373

Minimum 29.6842	Maximum 52.589	
Mean 35.3838	Std. Dev. 3.29731	Variance 10.8723

At 1000 years

01% of values less than 29.3613
05% of values less than 29.6696
10% of values less than 29.8951
50% of values less than 31.1443
90% of values less than 32.5763
95% of values less than 33.5839
99% of values less than 36.131

Minimum 29.1693	Maximum 41.2635	
Mean 31.2912	Std. Dev. 1.33045	Variance 1.77009

Concentration of Chloride in groundwater [mg/l]

At infinity

01% of values less than 29.0168
05% of values less than 29.1145
10% of values less than 29.2317
50% of values less than 30.2306
90% of values less than 31.1907
95% of values less than 31.3204
99% of values less than 31.3864

Minimum 29.0001	Maximum 31.3959	
Mean 30.2211	Std. Dev. 0.701399	Variance 0.491961

Concentration of Copper in groundwater [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Concentration of Copper in groundwater [mg/l]

At infinity

01% of values less than 0

05% of values less than 0

10% of values less than 0

50% of values less than 0

90% of values less than 0

95% of values less than 0

99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Concentration of Mercury in groundwater [mg/l]

At 30 years

01% of values less than 5.17396E-005
05% of values less than 6.03909E-005
10% of values less than 7.02368E-005
50% of values less than 0.000147989
90% of values less than 0.000219549
95% of values less than 0.000228954
99% of values less than 0.000238243

Minimum 5.01392E-005	Maximum 0.000239936	
Mean 0.000146638	Std. Dev. 5.41572E-005	Variance 2.933E-009

At 100 years

01% of values less than 5.17396E-005
05% of values less than 6.03909E-005
10% of values less than 7.02368E-005
50% of values less than 0.000147989
90% of values less than 0.000219549
95% of values less than 0.000228954
99% of values less than 0.000238243

Minimum 5.01392E-005	Maximum 0.000239936	
Mean 0.000146638	Std. Dev. 5.41572E-005	Variance 2.933E-009

At 300 years

01% of values less than 5.17396E-005
05% of values less than 6.03909E-005
10% of values less than 7.02368E-005
50% of values less than 0.000147989
90% of values less than 0.000219549
95% of values less than 0.000228954
99% of values less than 0.000238243

Minimum 5.01392E-005	Maximum 0.000239936	
Mean 0.000146638	Std. Dev. 5.41572E-005	Variance 2.933E-009

At 1000 years

01% of values less than 5.17396E-005
05% of values less than 6.03909E-005
10% of values less than 7.02368E-005
50% of values less than 0.000147989
90% of values less than 0.000219549
95% of values less than 0.000228954
99% of values less than 0.000238243

Minimum 5.01392E-005	Maximum 0.000239936	
Mean 0.000146638	Std. Dev. 5.41572E-005	Variance 2.933E-009

Concentration of Mercury in groundwater [mg/l]

At infinity

01% of values less than 5.17396E-005

05% of values less than 6.03909E-005

10% of values less than 7.02368E-005

50% of values less than 0.000147989

90% of values less than 0.000219549

95% of values less than 0.000228954

99% of values less than 0.000238243

Minimum 5.01392E-005	Maximum 0.000239936	
Mean 0.000146638	Std. Dev. 5.41572E-005	Variance 2.933E-009

Concentration of Naphthalene in groundwater [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Concentration of Naphthalene in groundwater [mg/l]

At infinity

01% of values less than 0

05% of values less than 0

10% of values less than 0

50% of values less than 0

90% of values less than 0

95% of values less than 0

99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Concentration of Toluene in groundwater [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Concentration of Toluene in groundwater [mg/l]

At infinity

01% of values less than 0

05% of values less than 0

10% of values less than 0

50% of values less than 0

90% of values less than 0

95% of values less than 0

99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Concentration of Zinc in groundwater [mg/l]

At 30 years

01% of values less than 0.0314495
05% of values less than 0.0351241
10% of values less than 0.0405148
50% of values less than 0.0903446
90% of values less than 0.134053
95% of values less than 0.138946
99% of values less than 0.144073

Minimum 0.0300386	Maximum 0.144825	
Mean 0.0883738	Std. Dev. 0.0337989	Variance 0.00114236

At 100 years

01% of values less than 0.0314495
05% of values less than 0.0351241
10% of values less than 0.0405148
50% of values less than 0.0903446
90% of values less than 0.134053
95% of values less than 0.138946
99% of values less than 0.144073

Minimum 0.0300386	Maximum 0.144825	
Mean 0.0883738	Std. Dev. 0.0337989	Variance 0.00114236

At 300 years

01% of values less than 0.0314495
05% of values less than 0.0351241
10% of values less than 0.0405148
50% of values less than 0.0903446
90% of values less than 0.134053
95% of values less than 0.138946
99% of values less than 0.144073

Minimum 0.0300386	Maximum 0.144825	
Mean 0.0883738	Std. Dev. 0.0337989	Variance 0.00114236

At 1000 years

01% of values less than 0.0314495
05% of values less than 0.0351241
10% of values less than 0.0405148
50% of values less than 0.0905411
90% of values less than 0.134053
95% of values less than 0.138946
99% of values less than 0.144073

Minimum 0.0300386	Maximum 0.144825	
Mean 0.0884619	Std. Dev. 0.0338278	Variance 0.00114432

Concentration of Zinc in groundwater [mg/l]

At infinity

01% of values less than 0.0315751
05% of values less than 0.0373597
10% of values less than 0.043025
50% of values less than 0.0929522
90% of values less than 0.135479
95% of values less than 0.14071
99% of values less than 0.146304

Minimum 0.0300535	Maximum 0.154236	
Mean 0.0904591	Std. Dev. 0.0339219	Variance 0.0011507

Project: Woodcote Quarry Landfill

Project Number: Risk 0060

Customer: Woodcote Quarry Landfill

Write Project Notes Here

Calculation Settings

Number of iterations: 1001

Results calculated using sampled PDFs

Full Calculation

Clay Liner:

Retarded values used for simulation

Biodegradation

Unsaturated Pathway:

Retarded values used for simulation

Biodegradation

Saturated Vertical Pathway:

No Vertical Pathway

Aquifer Pathway:

Retarded values used for simulation

Biodegradation

Timeslices at: 30, 100, 300, 1000

Decline in Contaminant Concentration in Leachate

Ammoniacal_N	Non-Volatile
c (kg/l): 0.59	m (kg/l): 0
Cadmium	Non-Volatile
c (kg/l): 0.1589	m (kg/l): 0.0823
Chloride	Non-Volatile
c (kg/l): 0.2919	m (kg/l): 0.0298
Copper	Non-Volatile
c (kg/l): -0.0488	m (kg/l): 0.0664
Mercury	Non-Volatile
c (kg/l): 0.1643	m (kg/l): 0.0767
Naphthalene	Volatile
Half life (years): 10	
Toluene	Volatile
Half life (years): 10	
Zinc	Non-Volatile
c (kg/l): 0.0561	m (kg/l): 0.0403

Contaminant Half-lives (years)

Clay Liner:

Ammoniacal_N	SINGLE(6)
Cadmium	SINGLE(1e+009)
Chloride	SINGLE(1e+009)
Copper	SINGLE(1e+009)
Mercury	SINGLE(1e+009)
Naphthalene	SINGLE(0.69)
Toluene	UNIFORM(0.16,0.57)
Zinc	SINGLE(1e+009)

Unsaturated Pathway:

Ammoniacal_N	SINGLE(6)
Cadmium	SINGLE(1e+009)
Chloride	SINGLE(1e+009)
Copper	SINGLE(1e+009)
Mercury	SINGLE(1e+009)
Naphthalene	SINGLE(0.06)
Toluene	UNIFORM(0.14,1.5)
Zinc	SINGLE(1e+009)

Aquifer Pathway:

Ammoniacal_N	SINGLE(6)
Cadmium	SINGLE(6e-005)
Chloride	SINGLE(1e+009)
Copper	LOGTRIANGULAR(0.009,0.02125,0.076)
Mercury	SINGLE(1e+009)
Naphthalene	SINGLE(0.387)
Toluene	UNIFORM(0.1,0.2)
Zinc	SINGLE(1e+009)

Background Concentrations of Contaminants

Justification for Contaminant Properties

WAC Soil Testing and Leachate tests at Chadwich Lane

All units in milligrams per litre

Ammoniacal_N	SINGLE(0.06)
Chloride	UNIFORM(29,31.4)
Mercury	UNIFORM(5e-005,0.00024)
Zinc	UNIFORM(0.03,0.145)

Phase: Phase 1

Infiltration Information

Cap design infiltration (mm/year):	SINGLE(50)
Infiltration to waste (mm/year):	SINGLE(160)
Infiltration to grassland (mm/year):	SINGLE(50)
End of filling (years from start of waste deposit):	10
Start of cap degradation (years from end of waste deposit):	100
End of cap degradation (years from end of waste deposit):	1000

Justification for Specified Infiltration
Based on ESID and Met Office Data

Duration of management control (years from the start of waste disposal): 18

Cell dimensions

Cell width (m):	500
Cell length (m):	750
Cell top area (ha):	39.375
Cell base area (ha):	37.5
Number of cells:	1
Total base area (ha):	37.5
Total top area (ha):	39.375
Head of Leachate when surface water breakout occurs (m)	SINGLE(17)
Waste porosity (fraction)	SINGLE(0.1)
Final waste thickness (m):	TRIANGULAR(17,30,43)
Field capacity (fraction):	SINGLE(0.3)
Waste dry density (kg/l)	SINGLE(2)

Justification for Landfill Geometry
Based on HRA 2 and HRA 3

Source concentrations of contaminants

All units in milligrams per litre

Declining source term

Ammoniacal_N	LOGTRIANGULAR(0.1,0.6,1.6)
	Data are spot measurements of Leachate Quality
Cadmium	LOGTRIANGULAR(0.0001,0.0016,0.004)
	Substance to be treated as List 1
Chloride	LOGTRIANGULAR(0.01,19.1,160)
	Data are spot measurements of Leachate Quality
Copper	LOGTRIANGULAR(0.009,0.016,0.076)
	Data are spot measurements of Leachate Quality
Mercury	LOGTRIANGULAR(1e-005,4.5e-005,0.0001)
	Substance to be treated as List 1
Naphthalene	LOGTRIANGULAR(0.01,0.1,0.2)
	Substance to be treated as List 1
Toluene	LOGTRIANGULAR(0.01,0.05,0.15)
	Substance to be treated as List 1
Zinc	LOGTRIANGULAR(0.01,0.023,0.4)
	Data are spot measurements of Leachate Quality

Justification for Species Concentration in Leachate

Based on Half life degreadtion rates as per EA report on ammonia and Toluene, Napthalene

Drainage Information

Fixed Head.

Head on EBS is given as (m): SINGLE(1)

Justification for Specified Head

1metre limit assumed above geological barrier

Barrier Information

There is a single clay barrier

Justification for Engineered Barrier Type
1 metre geological barrier

Design thickness of clay (m):	SINGLE(1)
Density of clay (kg/l):	SINGLE(1.9)
Pathway moisture content (fraction):	UNIFORM(0.19,0.2)

Justification for Clay: Liner Thickness
CQA Design Spacification

Hydraulic conductivity of liner (m/s):	TRIANGULAR(1e-009,1e-008,1e-007)
Pathway longitudinal dispersivity (m):	SINGLE(0.1)

Justification for Clay: Hydraulics Properties
Source Evaluation Testing on adjoining phase

Retardation parameters for clay liner

Uncertainty in Kd (l/kg):	
Ammoniacal_N	UNIFORM(7.3,8.5)
Cadmium	SINGLE(222.2)
Chloride	SINGLE(0)
Copper	SINGLE(126.8)
Mercury	SINGLE(3835.5)
Naphthalene	LOGTRIANGULAR(488,1102,2309)
Toluene	LOGTRIANGULAR(57,130,272)
Zinc	SINGLE(20.7)

Justification for Liner Kd Values by Species
EA 2003 and USEPA1999

Sherwood Sandstone pathway parameters

Modelled as unsaturated pathway

Pathway length (m):	TRIANGULAR(1,6,10)
Flow Model:	porous medium
Pathway moisture content (fraction):	UNIFORM(0.15,0.2)
Pathway Density (kg/l):	SINGLE(1.9)

Justification for Unsat Zone Geometry

Based on groundwater level monitoring Appendix HRA 4 and Drawing HRA 3 [CHANGED]

Pathway hydraulic conductivity values (m/s):	TRIANGULAR(1.95e-005,2.46e-005,0.0001007)

Justification for Unsat Zone Hydraulics Properties

Site investigations Appendices 1-3

Pathway longitudinal dispersivity (m):	UNIFORM(0.05,0.13)

Justification for Unsat Zone Dispersion Properties

10% of pathway length

Retardation parameters for Sherwood Sandstone pathway

Modelled as unsaturated pathway

Uncertainty in Kd (l/kg):

Ammoniacal_N	LOGUNIFORM(0.43,1.79)
Cadmium	SINGLE(240)
Chloride	SINGLE(0)
Copper	SINGLE(295)
Mercury	SINGLE(450)
Naphthalene	LOGTRIANGULAR(488,1102,2309)
Toluene	LOGTRIANGULAR(57,130,272)
Zinc	LOGTRIANGULAR(1.1,200,600)

Justification for Kd Values by Species

EA2003 and USEPA 1999

Aquifer Pathway Dimensions for Phase

Pathway length (m):	UNIFORM(1000,1200)
Pathway width (m):	SINGLE(200)

pathway parameters

No Vertical Pathway

Sherwood Sandstone pathway parameters

Modelled as aquifer pathway.

Mixing zone (m):	SINGLE(50)

Justification for Aquifer Geometry
HRA 2

Pathway regional gradient (-):	SINGLE(0.0143)
Pathway hydraulic conductivity values (m/s):	UNIFORM(4.6e-006,8e-006)
Pathway porosity (fraction):	SINGLE(0.2)

Justification for Aquifer Hydraulics Properties
Appendices HRA1-3

Pathway longitudinal dispersivity (m):	SINGLE(60)
Pathway transverse dispersivity (m):	SINGLE(18)

Justification for Aquifer Dispersion Details
10% of pathway length and 3% transverse [CHANGED]

Retardation parameters for Sherwood Sandstone pathway
Modelled as aquifer pathway.
Uncertainty in Kd (l/kg):

Ammoniacal_N	UNIFORM(0.43,1.79)
Cadmium	LOGTRIANGULAR(3.7,74,1500)
Chloride	SINGLE(0)
Copper	SINGLE(295)
Mercury	SINGLE(450)
Naphthalene	LOGTRIANGULAR(488,1102,2309)
Toluene	LOGTRIANGULAR(57,130,272)
Zinc	LOGTRIANGULAR(1.1,200,600)

Justification for Aquifer Kd Values by Species
EA 2003 and USEPA 1999

Pathway Density (kg/l):	SINGLE(1.9)

Phase: Phase 1

Concentration of Ammoniacal_N at Phase Monitor Well [mg/l]

At 30 years

01% of values less than 0.06
05% of values less than 0.06
10% of values less than 0.06
50% of values less than 0.06
90% of values less than 0.06
95% of values less than 0.06
99% of values less than 0.06

Minimum 0.06	Maximum 0.06	
Mean 0.06	Std. Dev. 5.34981E-009	Variance 2.86205E-017

At 100 years

01% of values less than 0.06
05% of values less than 0.06
10% of values less than 0.0600001
50% of values less than 0.0600007
90% of values less than 0.0600042
95% of values less than 0.0600072
99% of values less than 0.0600134

Minimum 0.06	Maximum 0.0600771	
Mean 0.0600018	Std. Dev. 3.89704E-006	Variance 1.51869E-011

At 300 years

01% of values less than 0.06
05% of values less than 0.06
10% of values less than 0.06
50% of values less than 0.06
90% of values less than 0.06
95% of values less than 0.0600002
99% of values less than 0.0600048

Minimum 0.06	Maximum 0.0600188	
Mean 0.0600001	Std. Dev. 9.92319E-007	Variance 9.84696E-013

At 1000 years

01% of values less than 0.06
05% of values less than 0.06
10% of values less than 0.06
50% of values less than 0.06
90% of values less than 0.06
95% of values less than 0.06
99% of values less than 0.0600015

Minimum 0.06	Maximum 0.0600069	
Mean 0.06	Std. Dev. 4.07526E-007	Variance 1.66077E-013

Phase: Phase 1

Concentration of Ammoniacal_N at Phase Monitor Well [mg/l]

At infinity

01% of values less than 0.06
05% of values less than 0.06
10% of values less than 0.06
50% of values less than 0.06
90% of values less than 0.06
95% of values less than 0.06
99% of values less than 0.0600001

Minimum 0.06	Maximum 0.0600025	
Mean 0.06	Std. Dev. 1.07242E-007	Variance 1.15009E-014

Phase: Phase 1

Concentration of Cadmium at Phase Monitor Well [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Cadmium at Phase Monitor Well [mg/l]

At infinity

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Chloride at Phase Monitor Well [mg/l]

At 30 years

01% of values less than 31.1898
05% of values less than 32.3091
10% of values less than 32.9758
50% of values less than 37.498
90% of values less than 45.6531
95% of values less than 48.8677
99% of values less than 55.0578

Minimum 29.9762	Maximum 64.8847	
Mean 38.6451	Std. Dev. 5.24113	Variance 27.4694

At 100 years

01% of values less than 30.4556
05% of values less than 31.1117
10% of values less than 31.6413
50% of values less than 34.1611
90% of values less than 38.4617
95% of values less than 39.9257
99% of values less than 43.1935

Minimum 29.634	Maximum 48.3406	
Mean 34.696	Std. Dev. 2.75048	Variance 7.56513

At 300 years

01% of values less than 30.0127
05% of values less than 30.5335
10% of values less than 30.8859
50% of values less than 32.691
90% of values less than 35.3718
95% of values less than 36.3107
99% of values less than 38.8445

Minimum 29.383	Maximum 41.6702	
Mean 32.9846	Std. Dev. 1.83366	Variance 3.36233

At 1000 years

01% of values less than 29.2724
05% of values less than 29.4809
10% of values less than 29.6804
50% of values less than 30.7903
90% of values less than 31.905
95% of values less than 32.3121
99% of values less than 33.758

Minimum 29.153	Maximum 37.3428	
Mean 30.8484	Std. Dev. 0.973861	Variance 0.948405

Phase: Phase 1

Concentration of Chloride at Phase Monitor Well [mg/l]

At infinity

01% of values less than 29.0168
05% of values less than 29.1145
10% of values less than 29.2317
50% of values less than 30.2306
90% of values less than 31.1907
95% of values less than 31.3204
99% of values less than 31.3864

Minimum 29.0001	Maximum 31.3959	
Mean 30.2211	Std. Dev. 0.701395	Variance 0.491955

Phase: Phase 1

Concentration of Copper at Phase Monitor Well [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Copper at Phase Monitor Well [mg/l]

At infinity

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Mercury at Phase Monitor Well [mg/l]

At 30 years

01% of values less than 5.17396E-005
05% of values less than 6.03909E-005
10% of values less than 7.02368E-005
50% of values less than 0.000147989
90% of values less than 0.000219549
95% of values less than 0.000228954
99% of values less than 0.000238243

Minimum 5.01392E-005	Maximum 0.000239936	
Mean 0.000146638	Std. Dev. 5.41572E-005	Variance 2.933E-009

At 100 years

01% of values less than 5.17396E-005
05% of values less than 6.03909E-005
10% of values less than 7.02368E-005
50% of values less than 0.000147989
90% of values less than 0.000219549
95% of values less than 0.000228954
99% of values less than 0.000238243

Minimum 5.01392E-005	Maximum 0.000239936	
Mean 0.000146638	Std. Dev. 5.41572E-005	Variance 2.933E-009

At 300 years

01% of values less than 5.17396E-005
05% of values less than 6.03909E-005
10% of values less than 7.02368E-005
50% of values less than 0.000147989
90% of values less than 0.000219549
95% of values less than 0.000228954
99% of values less than 0.000238243

Minimum 5.01392E-005	Maximum 0.000239936	
Mean 0.000146638	Std. Dev. 5.41572E-005	Variance 2.933E-009

At 1000 years

01% of values less than 5.17396E-005
05% of values less than 6.03909E-005
10% of values less than 7.02368E-005
50% of values less than 0.000147989
90% of values less than 0.000219549
95% of values less than 0.000228954
99% of values less than 0.000238243

Minimum 5.01392E-005	Maximum 0.000239936	
Mean 0.000146638	Std. Dev. 5.41572E-005	Variance 2.933E-009

Phase: Phase 1

Concentration of Mercury at Phase Monitor Well [mg/l]

At infinity

01% of values less than 5.25295E-005
05% of values less than 6.11922E-005
10% of values less than 7.07056E-005
50% of values less than 0.0001493
90% of values less than 0.000220022
95% of values less than 0.00023039
99% of values less than 0.000239383

Minimum 5.0145E-005	Maximum 0.000244392	
Mean 0.000147616	Std. Dev. 5.41793E-005	Variance 2.93539E-009

Phase: Phase 1

Concentration of Naphthalene at Phase Monitor Well [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Naphthalene at Phase Monitor Well [mg/l]

At infinity

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Toluene at Phase Monitor Well [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Toluene at Phase Monitor Well [mg/l]

At infinity

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Zinc at Phase Monitor Well [mg/l]

At 30 years

01% of values less than 0.0314495
05% of values less than 0.0351241
10% of values less than 0.0405148
50% of values less than 0.0903446
90% of values less than 0.134053
95% of values less than 0.138946
99% of values less than 0.144073

Minimum 0.0300386	Maximum 0.144825	
Mean 0.0883738	Std. Dev. 0.0337989	Variance 0.00114236

At 100 years

01% of values less than 0.0314495
05% of values less than 0.0351241
10% of values less than 0.0405148
50% of values less than 0.0903446
90% of values less than 0.134053
95% of values less than 0.138946
99% of values less than 0.144073

Minimum 0.0300386	Maximum 0.144825	
Mean 0.0883738	Std. Dev. 0.0337989	Variance 0.00114236

At 300 years

01% of values less than 0.0314495
05% of values less than 0.0351241
10% of values less than 0.040564
50% of values less than 0.0905411
90% of values less than 0.134117
95% of values less than 0.139321
99% of values less than 0.144105

Minimum 0.0300386	Maximum 0.144825	
Mean 0.0884418	Std. Dev. 0.0338094	Variance 0.00114308

At 1000 years

01% of values less than 0.0314495
05% of values less than 0.0360717
10% of values less than 0.0416521
50% of values less than 0.0944719
90% of values less than 0.137763
95% of values less than 0.143168
99% of values less than 0.178847

Minimum 0.0300386	Maximum 0.212763	
Mean 0.0924786	Std. Dev. 0.0364651	Variance 0.0013297

Phase: Phase 1

Concentration of Zinc at Phase Monitor Well [mg/l]

At infinity

01% of values less than 0.0315442
05% of values less than 0.0351255
10% of values less than 0.0408061
50% of values less than 0.0903529
90% of values less than 0.134478
95% of values less than 0.139322
99% of values less than 0.144075

Minimum 0.0300387	Maximum 0.146165	
Mean 0.0884984	Std. Dev. 0.0338179	Variance 0.00114365

Approx. time to Peak Conc. Ammoniacal_N at Offsite Compliance Point [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 190
90% of values less than 232
95% of values less than 282
99% of values less than 2050

Minimum 0	Maximum 2050	
Mean 226.187	Std. Dev. 396.399	Variance 157132

Approx. time to Peak Conc. Cadmium at Offsite Compliance Point [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Approx. time to Peak Conc. Chloride at Offsite Compliance Point [years]

01% of values less than 43
05% of values less than 43
10% of values less than 43
50% of values less than 47
90% of values less than 52
95% of values less than 52
99% of values less than 70

Minimum 43	Maximum 86	
Mean 48.6424	Std. Dev. 4.25088	Variance 18.07

Approx. time to Peak Conc. Copper at Offsite Compliance Point [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Approx. time to Peak Conc. Mercury at Offsite Compliance Point [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 20000
90% of values less than 20000
95% of values less than 20000
99% of values less than 20000

Minimum 0	Maximum 20000	
Mean 12427.6	Std. Dev. 9705.72	Variance 9.4201E+007

Approx. time to Peak Conc. Naphthalene at Offsite Compliance Point [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Approx. time to Peak Conc. Toluene at Offsite Compliance Point [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Approx. time to Peak Conc. Zinc at Offsite Compliance Point [years]

01% of values less than 0
05% of values less than 0
10% of values less than 1024
50% of values less than 6728
90% of values less than 20000
95% of values less than 20000
99% of values less than 20000

Minimum 0	Maximum 20000	
Mean 8703.7	Std. Dev. 6962.54	Variance 4.8477E+007

Phase: Phase 1

Approx. time to Peak Conc. Ammoniacal_N at Phase Monitor Well [years]

01% of values less than 70
05% of values less than 70
10% of values less than 78
50% of values less than 86
90% of values less than 128
95% of values less than 156
99% of values less than 232

Minimum 64	Maximum 1024	
Mean 95.3896	Std. Dev. 42.2113	Variance 1781.8

Approx. time to Peak Conc. Cadmium at Phase Monitor Well [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Approx. time to Peak Conc. Chloride at Phase Monitor Well [years]

01% of values less than 21
05% of values less than 21
10% of values less than 21
50% of values less than 21
90% of values less than 21
95% of values less than 21
99% of values less than 26

Minimum 21	Maximum 43	
Mean 21.1189	Std. Dev. 0.972036	Variance 0.944853

Approx. time to Peak Conc. Copper at Phase Monitor Well [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Approx. time to Peak Conc. Mercury at Phase Monitor Well [years]

01% of values less than 0
05% of values less than 20000
10% of values less than 20000
50% of values less than 20000
90% of values less than 20000
95% of values less than 20000
99% of values less than 20000

Minimum 0	Maximum 20000	
Mean 19420.6	Std. Dev. 3356.18	Variance 1.12639E+007

Approx. time to Peak Conc. Naphthalene at Phase Monitor Well [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Approx. time to Peak Conc. Toluene at Phase Monitor Well [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Approx. time to Peak Conc. Zinc at Phase Monitor Well [years]

01% of values less than 928
05% of values less than 1131
10% of values less than 1249
50% of values less than 3046
90% of values less than 9056
95% of values less than 12189
99% of values less than 20000

Minimum 761	Maximum 20000	
Mean 4321.1	Std. Dev. 3784.46	Variance 1.43221E+007

Project: Woodcote Quarry Landfill

Project Number: Risk 0060

Customer: Woodcote Quarry Landfill

Write Project Notes Here

Phase: Phase 1

Approx. time to Peak Conc. Ammoniacal_N at Base of Unsaturated Zone [years]

01% of values less than 57
05% of values less than 57
10% of values less than 64
50% of values less than 70
90% of values less than 105
95% of values less than 128
99% of values less than 210

Minimum 52	Maximum 1000	
Mean 79.3207	Std. Dev. 40.313	Variance 1625.14

Approx. time to Peak Conc. Cadmium at Base of Unsaturated Zone [years]

01% of values less than 5519
05% of values less than 7428
10% of values less than 7428
50% of values less than 9999
90% of values less than 13458
95% of values less than 16406
99% of values less than 20000

Minimum 4527	Maximum 20000	
Mean 10902.2	Std. Dev. 2953.62	Variance 8.72387E+006

Approx. time to Peak Conc. Chloride at Base of Unsaturated Zone [years]

01% of values less than 19
05% of values less than 19
10% of values less than 19
50% of values less than 19
90% of values less than 19
95% of values less than 19
99% of values less than 19

Minimum 19	Maximum 39	
Mean 19.05	Std. Dev. 0.73178	Variance 0.535502

Approx. time to Peak Conc. Copper at Base of Unsaturated Zone [years]

01% of values less than 4999
05% of values less than 6094
10% of values less than 6728
50% of values less than 9999
90% of values less than 14859
95% of values less than 18114
99% of values less than 20000

Minimum 4100	Maximum 20000	
Mean 10594.5	Std. Dev. 3255.29	Variance 1.05969E+007

Approx. time to Peak Conc. Mercury at Base of Unsaturated Zone [years]

01% of values less than 0
05% of values less than 20000
10% of values less than 20000
50% of values less than 20000
90% of values less than 20000
95% of values less than 20000

Phase: Phase 1

Approx. time to Peak Conc. Mercury at Base of Unsaturated Zone [years]

01% of values less than 0
05% of values less than 20000
10% of values less than 20000
50% of values less than 20000
90% of values less than 20000
95% of values less than 20000
99% of values less than 20000

Minimum 0	Maximum 20000	
Mean 19600.4	Std. Dev. 2800.03	Variance 7.84016E+006

Approx. time to Peak Conc. Naphthalene at Base of Unsaturated Zone [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Approx. time to Peak Conc. Toluene at Base of Unsaturated Zone [years]

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Approx. time to Peak Conc. Zinc at Base of Unsaturated Zone [years]

01% of values less than 624
05% of values less than 624
10% of values less than 624
50% of values less than 1681
90% of values less than 8202
95% of values less than 9999
99% of values less than 16406

Minimum 624	Maximum 20000	
Mean 3418.35	Std. Dev. 3454.49	Variance 1.19335E+007

Phase: Phase 1

Concentration of Ammoniacal_N at base of Unsaturated Zone [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 3.01213E-010
90% of values less than 7.84476E-007
95% of values less than 2.04321E-006
99% of values less than 6.15609E-006

Minimum 0	Maximum 1.57341E-005	
Mean 3.57207E-007	Std. Dev. 1.28962E-006	Variance 1.66312E-012

At 100 years

01% of values less than 0
05% of values less than 2.20428E-011
10% of values less than 1.06894E-009
50% of values less than 2.01324E-007
90% of values less than 2.69244E-005
95% of values less than 0.000105676
99% of values less than 0.000368785

Minimum 0	Maximum 0.00140407	
Mean 1.87381E-005	Std. Dev. 8.13378E-005	Variance 6.61584E-009

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 3.80411E-018
90% of values less than 3.23296E-013
95% of values less than 2.04802E-006
99% of values less than 9.33232E-005

Minimum 0	Maximum 0.000441711	
Mean 3.39598E-006	Std. Dev. 2.41474E-005	Variance 5.83097E-010

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 1.15453E-016
90% of values less than 1.15044E-015
95% of values less than 5.37387E-015
99% of values less than 3.33069E-005

Minimum 0	Maximum 0.000207403	
Mean 1.13442E-006	Std. Dev. 1.13274E-005	Variance 1.2831E-010

Phase: Phase 1

Concentration of Ammoniacal_N at base of Unsaturated Zone [mg/l]

At infinity

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 6.502E-006

Minimum 0	Maximum 5.25774E-005	
Mean 2.15711E-007	Std. Dev. 2.42882E-006	Variance 5.89916E-012

Phase: Phase 1

Concentration of Cadmium at base of Unsaturated Zone [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Cadmium at base of Unsaturated Zone [mg/l]

At infinity

01% of values less than 8.66155E-006
05% of values less than 1.21583E-005
10% of values less than 1.48647E-005
50% of values less than 4.14134E-005
90% of values less than 0.000140009
95% of values less than 0.000223464
99% of values less than 0.000474851

Minimum 6.87617E-015	Maximum 0.00114882	
Mean 7.00823E-005	Std. Dev. 9.62866E-005	Variance 9.2711E-009

Phase: Phase 1

Concentration of Chloride at base of Unsaturated Zone [mg/l]

At 30 years

01% of values less than 2.08927
05% of values less than 3.19956
10% of values less than 4.45867
50% of values less than 11.6433
90% of values less than 24.4369
95% of values less than 28.4982
99% of values less than 36.3964

Minimum 0.632397	Maximum 61.0372	
Mean 13.1779	Std. Dev. 7.98987	Variance 63.838

At 100 years

01% of values less than 1.73213
05% of values less than 2.6721
10% of values less than 3.64786
50% of values less than 9.35613
90% of values less than 19.2239
95% of values less than 22.5367
99% of values less than 28.7365

Minimum 0.495458	Maximum 41.8581	
Mean 10.5409	Std. Dev. 6.18255	Variance 38.2239

At 300 years

01% of values less than 0.982692
05% of values less than 1.57464
10% of values less than 2.12056
50% of values less than 5.4341
90% of values less than 11.4549
95% of values less than 13.5865
99% of values less than 19.2053

Minimum 0.265105	Maximum 25.8395	
Mean 6.24773	Std. Dev. 3.84392	Variance 14.7757

At 1000 years

01% of values less than 0.0955675
05% of values less than 0.202474
10% of values less than 0.270269
50% of values less than 0.841641
90% of values less than 2.44264
95% of values less than 3.67855
99% of values less than 7.4069

Minimum 0.0252142	Maximum 16.8219	
Mean 1.25727	Std. Dev. 1.50085	Variance 2.25254

Phase: Phase 1

Concentration of Chloride at base of Unsaturated Zone [mg/l]

At infinity

01% of values less than 5.92494E-010
05% of values less than 1.06581E-009
10% of values less than 1.48845E-009
50% of values less than 4.22925E-009
90% of values less than 9.48556E-009
95% of values less than 1.36295E-008
99% of values less than 2.06311E-005

Minimum 0	Maximum 0.0405012	
Mean 9.46608E-005	Std. Dev. 0.00171452	Variance 2.9396E-006

Phase: Phase 1

Concentration of Copper at base of Unsaturated Zone [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 1.84906E-013	
Mean 1.8488E-016	Std. Dev. 5.84432E-015	Variance 3.41561E-029

Phase: Phase 1

Concentration of Copper at base of Unsaturated Zone [mg/l]

At infinity

01% of values less than 2.68852E-005
05% of values less than 3.32162E-005
10% of values less than 3.91324E-005
50% of values less than 0.000121508
90% of values less than 0.000887808
95% of values less than 0.00291261
99% of values less than 0.00776922

Minimum 3.13681E-016	Maximum 0.0199472	
Mean 0.000566786	Std. Dev. 0.00157722	Variance 2.48763E-006

Phase: Phase 1

Concentration of Mercury at base of Unsaturated Zone [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Mercury at base of Unsaturated Zone [mg/l]

At infinity

01% of values less than 0
05% of values less than 2.36293E-012
10% of values less than 7.38335E-009
50% of values less than 1.97298E-006
90% of values less than 1.09361E-005
95% of values less than 1.34503E-005
99% of values less than 1.81813E-005

Minimum 0	Maximum 2.65923E-005	
Mean 3.80297E-006	Std. Dev. 4.60213E-006	Variance 2.11796E-011

Phase: Phase 1

Concentration of Naphthalene at base of Unsaturated Zone [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Naphthalene at base of Unsaturated Zone [mg/l]

At infinity

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Toluene at base of Unsaturated Zone [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Toluene at base of Unsaturated Zone [mg/l]

At infinity

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 0

Minimum 0	Maximum 0	
Mean 0	Std. Dev. 0	Variance 0

Phase: Phase 1

Concentration of Zinc at base of Unsaturated Zone [mg/l]

At 30 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0
95% of values less than 0
99% of values less than 3.8317E-017

Minimum 0	Maximum 1.26842E-014	
Mean 2.63344E-017	Std. Dev. 4.84569E-016	Variance 2.34807E-031

At 100 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 5.30535E-013
95% of values less than 2.63534E-009
99% of values less than 3.40969E-006

Minimum 0	Maximum 5.59334E-005	
Mean 2.41763E-007	Std. Dev. 2.57133E-006	Variance 6.61176E-012

At 300 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 0
90% of values less than 0.0167852
95% of values less than 0.0531856
99% of values less than 0.0941982

Minimum 0	Maximum 0.135708	
Mean 0.00601114	Std. Dev. 0.0188218	Variance 0.000354259

At 1000 years

01% of values less than 0
05% of values less than 0
10% of values less than 0
50% of values less than 2.32582E-005
90% of values less than 0.138204
95% of values less than 0.171777
99% of values less than 0.212558

Minimum 0	Maximum 0.277568	
Mean 0.0446412	Std. Dev. 0.0616163	Variance 0.00379657

Phase: Phase 1

Concentration of Zinc at base of Unsaturated Zone [mg/l]

At infinity

01% of values less than 2.02878E-009
05% of values less than 2.6458E-009
10% of values less than 3.15938E-009
50% of values less than 5.71357E-009
90% of values less than 1.44282E-006
95% of values less than 3.11363E-005
99% of values less than 0.00388616

Minimum 1.48509E-009	Maximum 0.0171122	
Mean 0.00011331	Std. Dev. 0.000961989	Variance 9.25424E-007