

Silent Valley Waste Services
Silent Valley Landfill
HRA Review 2019

2019/9559

Issue | 24 July 2019

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 115825-00

Ove Arup & Partners Ireland Ltd

Arup
50 Ringsend Road
Dublin 4
D04 T6X0
Ireland
www.arup.com

ARUP

Document Verification

ARUP

Job title		Silent Valley Landfill		Job number	
				115825-00	
Document title		HRA Review 2019		File reference	
Document ref		2019/9559			
Revision	Date	Filename	Silent Valley HRA Review 2019.docx		
Issue	24 Jul 2019	Description			
			Prepared by	Checked by	Approved by
		Name	Sam Marchant	Christopher Newton	Charlie Martin
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
Issue Document Verification with Document ☒					

Contents

	Page
1 Introduction	1
1.1 Site History	1
1.2 Previous Hydrogeological Assessments	2
1.3 Guidance followed	3
2 Review of Conceptual Site Model	4
2.1 Conceptual site model	4
2.2 Information reviewed	4
2.3 Sources	5
2.4 Pathways	11
2.5 Receptors	13
3 Hydrogeological Risk Assessment	16
3.1 Numerical Modelling	16
4 Requisite Surveillance	20
5 Conclusions	21
6 Recommendations	22
7 References	23

References

Appendices

Appendix A

Location of the Silent Valley Landfill

Appendix B

Borehole location plan

Appendix C

Cell boundaries/phasing

Appendix D

A hard copy of the model

1 Introduction

Arup has been commissioned by Silent Valley Waste Services Limited to undertake a review of the hydrogeological risk assessment (HRA) for Silent Valley Landfill near Cwm, Ebbw Vale. This review shall assess if Silent Valley Landfill remains compliant with Schedule 22 of the Environmental Permitting Regulations [1].

Silent Valley Landfill (the landfill) is a non-hazardous waste landfill which is regulated by Natural Resources Wales under an Environmental Permit [1] (number EPR/MP3835SV). The location of the landfill including the Environmental Permit boundary is presented in Appendix A.

This review has been prepared pursuant of condition 3.1.6 of the Environmental Permit, which requires reviews to be completed “*between nine and six months prior to every subsequent six years after the sixth anniversary of the granting of the permit*”. The first HRA review was carried out in 2009, with a review undertaken during the Landfill Closure process in 2013. The next HRA review will be undertaken in 2025.

1.1 Site History

From the late 1930's to the mid 1950's the site was utilised for spoil deposit by Ebbw Vale steelworks and deposition mainly comprised blast furnace slag. Partial reclamation of the slag for various re-use was undertaken between the early 1960's to the early 1980's. In 1981 the site was purchased by Blaenau Gwent County Borough Council (BGCBC). In 1983 the Council developed the valley as an unlined landfill site for controlled and special waste. From 1994 the operator responsibility was transferred to Silent Valley Waste Services Limited (SVWS), as the Local Authority Waste Disposal Company. An appropriate waste management licence was issued by BGBC and later passed for regulatory control by the Environment Agency (EA).

From 2005 the site was operated under a Pollution Prevention and Control (PPC) Permit (ref. MP3835SV) and regulated by the Environment Agency. Once the 2010 Environmental Permit regulations came into force the PPC Permit transferred to an Environmental Permit (permit number EPR/MP3835SV) without any change in the content of the permit. Due to devolution, from 2013 the responsibility of the regulation of the landfill transferred to Natural Resources Wales (NRW) who currently enforce environmental regulation in Wales.

In accordance with Improvement Conditions contained in the PPC Permit a pumping well cut-off system was installed down hydraulic gradient of the site in 2007. The initial cut-off system consisted of 24 pumping wells, (TW1 to TW11 and PW1 to PW14), installed at the downstream toe of the landfill as shown in Appendix B. These wells have been supplemented by a further four wells as the performance of this system has been monitored and reviewed. The cell divisions are presented in Appendix C. The spacing of the wells is about 15m on average and each well is equipped with a submersible pump operated by compressed air.

The pumped water is discharged to a leachate lagoon (the environmental permit of which is held by Blaenau Gwent County Borough Council) thence to the foul sewer.

The site ceased accepting waste for disposal on 22nd August 2011. However Definitive Closure was not achieved until a consolidated variation permit [1] (ref. EPR/MP3835SV) was issued on 4 March 2016 and from this point onward the site was considered to have entered into closure and aftercare phase. The March 2016 Environmental Permit (EP) is the current relevant EP for the landfill.

1.2 Previous Hydrogeological Assessments

1.2.1 2004 HRA

An HRA was prepared to support the then PPC Permit application in 2004 Environmental Permit (EP) [3]. This presented a detailed Conceptual Site Model and included a numerical assessment of the site's performance using LandSim 2.5 [3] the Environment Agency's preferred risk assessment tool.

1.2.2 2009 HRA review

In May 2009 a four-yearly review of the 2004 HRA was completed as required by Section 2.2.3.5 of the then PPC Permit (now an EP). This reviewed the four years of monitoring data that had been collected since the 2004 HRA was prepared. In the 2009 HRA review the following items were changed:

- Infiltration was changed to accommodate different methods of capping carried out on the different cells;
- Leachate quality (source term) was updated based on the monitoring that had taken place since 2004;
- The number of modelled contaminants of concern was increased based on the review of the leachate quality;
- Leachate head was increased based on the results of the monitoring;
- Background concentrations were included based on the monitoring results;
- Aquifer permeability was updated based on an investigation carried out in 2006; and
- The compliance point was adjusted to the pumping well cut-off system.

The model predicted that exceedances would be recorded for a number of hazardous substances (formerly referred to as List I substances) and non-hazardous pollutants (formerly referred to as List II substances) at the compliance point. Consequently, based on the review the modelling predicted that the site would be non-compliant with the relevant groundwater regulations (currently Schedule 22 of the Environmental Permitting Regulations (EPR) [1]). This is not unexpected as the site does not have an engineered basal liner hence the water in the strata under the landfill is vulnerable to contamination.

In order to reconcile this model prediction and groundwater vulnerability with the need to regulate the site in accordance with the relevant groundwater regulations the EA considered that:

“the installation of the groundwater pumping wells will effectively convert the shallow weathered bedrock horizon, in which leachate contaminated water flows, into an engineered combined groundwater under-drainage and leachate leak collection system”

Consequently, the results of the risk assessment were considered to be compliant with the relevant groundwater regulations.

1.2.3 2013 Closure Report

A report was prepared in support of the application to close the landfill in 2013 [10]. This included a review of the HRA parameters including leachate quality values and leachate head values that were relied on in the assessments. This is not considered in this HRA review.

1.3 Guidance followed

This HRA review follows the HRA review template for four yearly reviews published by the EA in 2009 [6]. In addition, the following guidance has been followed in preparing this HRA review:

- GOV.UK webpage on detailed quantitative risk assessments for Environmental Permits [7];
- GOV.UK webpage entitled “Landfill developments: groundwater risk assessment for leachate” [8]
- DEFRA guidance on Environmental Permitting of groundwater activities [9].

2 Review of Conceptual Site Model

2.1 Conceptual site model

Based on the 2004 HRA [3] and 2009 HRA review [4] (the previous HRA's) the waste and the leachate are considered to be the sources. Extracts from the 2004 HRA are presented below which highlight the principal pathways and the receptor.

“1.2.2 Pathways

The pathway for contaminant migration is considered to be groundwater flow through the shallow weathered horizon of the bedrock down the valley to the Nant Merddog. . .”

“1.2.3 Receptors

The only significant receptor for leachate contaminated groundwater is considered to be the Nant Merddog which is likely to receive virtually all of the groundwater moving in the shallow weathered bedrock horizon beneath the landfill.”

Based on the 2009 HRA review, and as described above the shallow weathered bedrock horizon, in which leachate contaminated water flows, is considered to be a combined groundwater under-drainage and leachate leak collection system, hence a pathway.

2.2 Information reviewed

A review of the conceptual hydrogeological model presented below. The information reviewed includes:

- Leachate and groundwater level monitoring; and
- Leachate and groundwater quality.

The monitoring data is reported quarterly and annually in monitoring reports. The data reviewed is presented in the following monitoring reports:

- 2010 Annual Monitoring Report (incorporating Quarterly Report September to December 2010);
- 2011 Annual Monitoring Report;
- 2012 Annual Monitoring Report;
- 2013 Annual Monitoring Report;
- 2014 Annual Monitoring Report;
- 2015 Annual Monitoring Report;
- 2016 Annual Monitoring Report;
- 2017 Annual Monitoring Report;

- 2018 First Quarter Monitoring Report (January to March); and
- 2018 Second Quarterly Monitoring Report (April to June)

No additional site investigations have been carried out since 2009.

2.3 Sources

The source of contaminants comprises leachate generated from infiltration to the waste in the landfill. Since the submission of the 2009 HRA, the landfill ceased accepting waste and all cells have been capped. Cell 5 was capped in September 2013 and final capping of Phase 1 & 1A was complete in September 2015. Consequently, the sources of contamination in the waste will be relatively stable.

As the site did not accept the full volume of waste anticipated, the level of filling has reduced compared to the original assumptions in the 2004 HRA. Consequently the volume of waste in the HRA is a conservative over estimate and no further assessment is needed. In addition, the capping has been completed as per the original design, or better so the assumptions made about infiltration rates in the previous HRA's are very conservative. Consequently, there are changes in relation to the assumptions made for the rate of infiltration which has been reduced to align with the original design.

2.3.1 Leachate Quality

Leachate quality and level monitoring has been undertaken and is ongoing since 2006 in six wells (L1A, L1B, LC1, LC2, LC4 and LC5), and then subsequently in the replacement wells LC1A, LC2A, LC4A and LC5A – that replaced the former wells with an improved installation. Each well monitors a cell within the landfill. The leachate quality differs across each cell. The results of the monitoring data since 2010 have been compared separately with the source term for each cell used in the previous HRA Review [4]. An overview of the leachate borehole locations is summarised in the previous HRA review and a plan showing their locations is presented in Appendix B.

In accordance with the EP, leachate quality has been monitored quarterly at the above listed wells and reported in the annual monitoring reports. The minimum, average and maximum concentrations used in the 2009 HRA have been compared with monitoring data collected between January 2010 and April 2018. A number of contaminants of concern exceeded the levels used in the 2009 HRA review and are presented in Table 1.

In addition to leachate quality the statistical distribution of the contaminant concentrations is relied on in the 2009 HRA review. The distribution and the relevance of the probabilistic density function (PDF) used has been reviewed and is also presented in Table 1.

Table 1: Comparison of the leachate monitoring data collected at the site together with the leachate source terms used in the previous HRA

Determinant	2009 HRA Inputs [4]			Summary of leachate monitoring 2010 -2018					2010 – 2018 data probabilistic density function
	Min (mg/l)	Most likely (mg/l)	Max (mg/l)	Min (mg/l)	Mean (mg/l)	Max (mg/l)	Number of Samples		
							Total	Above LOD	
Phase 1 – (monitored by L1A and L1B))									
Ammoniacal N	0.09	160	178	0.27	76	179	36	31	Log Triangular
Cadmium	0.00006	0.0005	0.0005	0.0003	0.0005	0.0006	26	2	Triangular
Mercury	0.000015	0.000015	0.0006	0.00001	0.00012	0.0008	34	5	Triangular
Nickel	0.005	0.015	0.085	0.011	0.090	0.122	34	30	Triangular
Sulphate	0.005	10	193	0.3	57	471	26	20	Log Triangular
Zinc	0.0023	0.02	0.21	0.0015	0.10	0.313	34	34	Triangular
Phase 1A Cell 1 modelled as Phase 1 Cell 1A & Phase: 1A Cell 1B (LC1A)									
Ammoniacal N	0.04	800	924	152	761	988	6	8	Triangular
Cadmium	0.00007	0.0006	0.0021	0.0003	0.0005	0.0011	6	2	Triangular
Chloride	700	1500	1710	208	1481	2480	8	8	Log Triangular
Mercury	0.000015	0.0002	0.00433	0.0001	0.0006	0.0008	9	8	Triangular
Sulphate	0.005	20	239	5	45	121	6	5	Log Triangular
Zinc	0.00127	0.05	0.65	0.00641	0.03	0.12	6	6	Log Triangular
Phase 1A Cell 2 & Phase 1A Cell 3 (monitored by LC2A and previously LC2)									
Ammoniacal N	0.04	400	815	236	606	1167	38	38	Triangular
Cadmium	0.00005	0.00055	0.0009	0.0003	0.0006	0.002	28	28	Log Triangular
Chloride	290	350	979	207	631	850	40	40	Triangular
Chromium	0.015	0.03	0.11	0.0095	0.06	0.0942	28	28	Triangular
Nickel	0.005	0.025	0.064	0.0093	0.060	0.127	37	37	Triangular
Zinc	0.0009	0.015	0.0822	0.0055	0.34	2.02	37	37	Log Triangular

Determinant	2009 HRA Inputs [4]			Summary of leachate monitoring 2010 -2018					2010 – 2018 data probabilistic density function
	Min (mg/l)	Most likely (mg/l)	Max (mg/l)	Min (mg/l)	Mean (mg/l)	Max (mg/l)	Number of Samples		
							Total	Above LOD	
Phase: 1A Cell 4 (monitored by LC4A and previously by LC4)									
Ammoniacal N	0.04	50	731	58	308	713	39	39	Triangular
Cadmium	0.00005	0.0005	0.001	0.0003	0.001	0.001	27	2	Triangular
Chloride	84	260	608	58	238	844	41	41	Triangular
Zinc	0.0012	0.02	0.12	0.006	0.33	1.58	36	35	Log Triangular
LC5: Phase 1A Cell 5 (monitored by LC5A and previously by LC5)									
Ammoniacal N	324.8	1700	1710	224	1723	2550	16	16	Log Triangular
Cadmium	0.0003	0.002	0.0036	0.0006	0.0015	0.0028	5	3	Triangular
Chloride	568	1800	1850	484	1551	2120	17	17	Log Triangular
Sulphate	6	200	235	4.4	328	1960	12	10	Log Triangular

Notes

Where a data set includes values recorded below the laboratory detection limit (LOD) of the analytical method used it is assumed that the below detection limits are at the detection limit when calculating statistics for the purpose of presenting the summary data.

Coloured cells denote an exceedance by minimum, mean or maximum value of the corresponding value in the leachate source term in the HRA review 2009.

The minimum, mean or maximum concentrations increased for eight of the eleven contaminants of concern in at least one of the cells. These include ammoniacal nitrogen, cadmium, chloride, mercury, nickel, sulphate, chromium and zinc. Copper, lead and arsenic concentrations were less than previously recorded in the 2009 HRA for all cells.

Where the values were recorded higher than those that were previously assessed the results of the previous HRA review are considered to no longer reflect the current leachate conditions. The results of the leachate quality monitoring presented in Table 1 have been used to rerun the risk assessment model.

Considering the potential for variability in the future monitored concentrations, as a conservative measure, the source term concentrations includes a maximum recorded leachate concentration with an additional 10%.

In the previous HRA there was uncertainty in relation to the distributions due to the limited data available. Since 2009, the volume of monitoring data has increased significantly. As a consequence, the range of values for each parameter is better defined. For the rerun assessment model, where the minimum and maximum concentrations are within the same logarithmic scale, the PDF has been updated to triangular. Where the concentrations differed across a logarithmic scale, log triangular distribution is used.

2.3.2 Modelled Contaminates of Concern:

Five priority contaminants of concern were selected for modelling in the 2004 HRA, and an additional six parameters were selected based on leachate chemical tests result from 2006 to 2008. The current selected eleven contaminants were considered in the previous HRA review to cover the main contaminants and families of contaminants, present in Silent Valley Landfill. Consistent with the EA HRA review template [6] the relevance of the modelled contaminants of concern has been assessed by reviewing the determinands in the leachate which have the highest concentration and comparing them with the concentrations in their relevant background and environmental quality standards. The results of the review are presented in Table 2.

Table 2: Review of the relevance of the modelled contaminants of concern

Determinands monitored	Maximum recorded concentration (mg/l)						EQS Freshwater (mg/l)	Used in previous HRA	Comment	Used in this HRA review
	Leachate wells					Up-hydraulic gradient Groundwater				
	L1A	LC1A	LC2A	LC4A	LC5					
Hazardous substances										
Arsenic	0.019	0.099	0.0796	0.0425	0.479	0.009	0.05	Yes	Potential CoC	Yes
Cadmium	0.0006	0.0011	0.002	0.0006	0.0028	0.001	0.00025	Yes	Potential CoC	Yes
Chromium	0.01	0.2	0.0942	0.0828	0.406	0.02	0.0034	Yes	Potential CoC	Yes
Lead	0.01	0.008	0.0271	0.0225	0.0362	0.008	0.0012	Yes	Potential CoC	Yes
Mercury	0.0008	0.0008	0.0005	0.00027	0.000963	0.003	0.00005	Yes	Potential CoC	Yes
Non-hazardous substances										
Ammoniacal Nitrogen (as N)	179	988	1167	713	2550	4.27	0.78	Yes	Potential CoC	Yes
Chloride	242	2480	850	844	2120	66.1	200	Yes	Potential CoC	Yes
Copper	0.0239	0.005	0.009	0.009	0.009	0.02	0.028	Yes	Not a CoC	No
Iron	0.432	5.47	3.51	1.96	23.4	0.45	1	-	Potential CoC	No. Similar to zinc and nickel.
Manganese	1.51	0.87	0.509	0.954	0.67	0.123	0.05	-	Not a CoC background higher	No
Nickel	0.045	0.1224	0.127	0.06	0.185	0.04	0.02	Yes	Potential CoC	Yes
Total Oxidised Nitrogen, (as N)	62.1	1.3	1.3	2.25	0.7	25.5	50 ^{Nitrate}	-	Not a CoC	No
Sulphate (as SO4)	471	121	34.7	830	1960	820	250	Yes	Potential CoC	Yes
Zinc	0.313	0.12	2.02	1.58	0.322	0.0119	0.125	Yes	Potential CoC	Yes
Notes										
	Value exceeds the EQS and background						Value does not exceed the background or the EQS			
	Value exceeds the EQS									

Based on a review of the contaminants of concern with the exception of copper there are no changes to the contaminants included in the assessment. Copper concentrations in the leachate are below the up-hydraulic gradient groundwater concentration and below the EQS.

Iron was highlighted as a potential CoC but as it behaves in similar way to nickel and zinc it has not been added to the determinands included in this assessment.

2.3.3 Leachate Head

Leachate levels in the previous model and the EP have been compared to the monitoring data collected between 2010 to 2018. The results of the comparison are presented in Table 3 below. The annual monitoring reports as required by the EP provide ongoing analysis of the leachate heads.

Table 3: Comparison of maximum leachate levels with the assumptions in previous HRA's

Phase (leachate well)	Limit in EP	Previous HRA's ²	Leachate Head (2012 to 2018)		
			Minimum	Mean	Maximum
Phase 1 (L1B)	3.0 m head ¹	4.9 / 8.2 / 11.0	5.63	9.35	<u>13.66</u>
Phase 1 (L1A)		n/a	0.00	0.04	0.61
Phase: 1A Cell 1a (LC1A)		6.3 / 7.4 / 9.85	0.00	0.6	2.0
Phase: 1A Cell 2 (LC2A)		11.85 / 12.6 / 13.44	1.48	2.53	3.88
Phase: 1A Cell 3 (LC2A)		11.85 / 12.6 / 13.44	1.48	2.53	3.88
Phase: 1A Cell 4 (LC4A)		5.2 / 8 / 10.2	0.07	1.07	2.24
Phase: 1A Cell 5 (LC5A)		4.3 / 5.9 / 8.6	1.69	3.59	6.33
Phase: 1a Cell 1b (LC1A)		6.3 / 7.4 / 9.85	0.00	0.6	2.00

Notes

Bold denotes that recorded leachate value exceeds the limit in the EP

Underlined denotes that recorded leachate values exceed the previously modelled levels.

1. In the EP it states that the leachate head as measured in wells across site; should not exceed the limit on three consecutive surveys.
2. Values presented are minimum/most likely/maximum

Based on the comparison in Table 3 the levels in the EP are rarely exceeded by leachate levels in the monitored wells between 2010-2018. In addition, the values in previous HRAs are only exceeded by the maximum recorded in Phase 1, represented by L1B. The exceedance in L1B of 13.66m occurred on one occasion in November 2011 and represents an exceptional (potentially erroneous) reading and is not considered to represent a trend.

Schedule 3, section S3.1 of the environmental permit specifies the limit is 3.0m mean leachate head as measured in wells across the site; not exceeding limit on three consecutive surveys.

It is required that the monthly average leachate levels above the base of the landfill in LC1A, LC2A, LC4A, LC5A and L1 is less than 3m in the environmental permit. As these levels are generally maintained and the levels do not exceed the levels in the previous HRA review, it is considered that the monitoring data collected since 2010 is consistent with the assumptions in the previous HRA review.

2.4 Pathways

The pathway for contaminant migration is groundwater flow through the shallow weathered horizon of the bedrock down the valley to the Nant Merddog. The bedrock comprises an alternating sequence of sandstones and mudstones. In the previous HRAs conservatively the hydraulic gradient has been assumed to be equivalent to the slope of the valley floor. Where there is no unsaturated zone it is not necessarily possible to exceed this hydraulic gradient. Consequently, although groundwater levels have been collected since the previous HRA review they have not been reviewed against the model assumptions in this HRA review.

In the previous HRA the groundwater levels beneath the landfill are assumed to be at the surface of the weathered bedrock. Hence there is no unsaturated zone beneath the landfill. As there is uncertainty in relation to the base of the natural boulder clay that underlies the site, there is considerable uncertainty in relation to determining the thickness of an unsaturated layer. Consequently, it is considered that the assumption that there is no unsaturated zone is a reasonable conservative assumption.

Groundwater level and quality has been monitored around the landfill since the previous HRA. As the groundwater quality was included within the LandSim model in the previous HRA this has been compared to the assumptions used in the previous HRA review (below).

2.4.1 Groundwater Quality

At Silent Valley Landfill site, background concentrations of both groundwater and surface water are routinely monitored as required in the EP. Monthly monitoring of up-hydraulic gradient groundwater up to April 2016 and quarterly after this, at wells GW4, GW3A and GW11 has been reviewed and compared the values used in the previous HRA model (see Table 4). Monitoring of GW11 is not currently taking place as the location was covered by fill material during the construction of the waste transfer station. Works to install a new monitoring well are due in Summer 2019.

Table 4: Summary of the upstream groundwater quality recorded at the site between January 2010 and April 2018

Contaminant	Previous HRA review			Summary of groundwater monitoring Results 2010 – 2018				
	Min (mg/l)	Most likely (mg/l)	Max (mg/l)	Min (mg/l)	Mean (mg/l)	Max (mg/l)	Number of samples	
							Total	Above LOD
Hazardous Substances								
Arsenic	*	0.0002	0.001	0.0002	0.0015	0.009	219	55
Cadmium		*		0.0003	0.0006	0.001	163	18
Chromium		*		0.0007	0.003	0.02	219	72
Mercury	0.002	0.1 ¹	2.02 ¹	0.00001	0.0001	0.003	239	44
Lead		*		0.002	0.005	0.008	216	7
Non-hazardous pollutants								
Ammoniacal Nitrogen	0.04	0.3	2.7	0.19	0.3	4.27	219	85
Chloride	5	10	39	3.54	11.1	66.1	239	239
Nickel		*		0.0009	0.004	0.1	227	72
Sulphate	34	100	630	58	179	820	239	239
Zinc	0.0001	0.01	0.188	0.002	0.1	0.36	239	226

Notes

(*) Background concentrations were not included in the 2009 HRA review. Included combined data from GW3, GW4A and GW11.

(1) Previous HRA included a background concentration of 0.1mg/l and 2.02mg/l Mercury, which is thought to be entered in error.

Coloured cells denote an exceedance by minimum, mean or maximum value of the corresponding value in the previous HRA review.

All background concentrations are included in the updated LandSim model. For the purpose of conservatively calculating the means, where concentrations are recorded below the method detection limit of the analytical methods used, the concentration is assumed to be the concentration at the detection limit.

Based on the review of the groundwater concentrations against the previous HRA review the maximum concentration recorded has increased for ammoniacal nitrogen, chloride, sulphate and zinc. In addition, the mean concentrations have increased for sulphate and zinc. The increases are deemed sufficient to remodel these parameters.

Background concentrations of arsenic, cadmium, chromium, lead and nickel were previously not relied on in the previous HRA review but more data has been collected since. Thus, these parameters shall be included in the re-run model.

The 2009 HRA included a background concentration for mercury of 2.02 mg/l which was entered in error and the model should be re-run with the lower concentration of 0.0202mg/l.

As with the leachate quality and considering the potential for variability in the future monitored concentrations, as a conservative measure, the background concentrations shall include a maximum recorded leachate concentration with an additional 10%.

2.5 Receptors

The original 2004 HRA identified Nant Merddog as the only significant receptor of leachate-contaminated groundwater, and studies since then have confirmed this to be the case. This receives the groundwater moving in the shallow weathered bedrock horizon beneath the landfill. The Nant Merddog discharges to the River Ebbw at Cwm. Monitoring to date has produced no evidence that the Nant Merddog is impacted unacceptably by site-derived contaminated groundwater.

The compliance point used in the previous HRA review comprised a borehole immediately down hydraulic gradient of the site. This is used in this assessment for non-hazardous substances. A monitoring well down-gradient of each cell is used as the compliance point for hazardous substances. The predicted concentrations in the model for hazardous substances do not include any allowance for biodegradation or attenuation. This complies with the GOV.UK [8] and current DEFRA guidance [9] on the location of compliance points, hence the compliance point remains to be relevant.

2.5.1 Environmentally Acceptable Levels (EALs)

The EALs in the previous HRAs are based on the Freshwater Environmental Quality Standards. In accordance with the HRA Review template [6] and current Government guidance [7] the EALs in the previous HRA has been reviewed against the background groundwater quality. A review of the previously used EALs is presented in Table 5 below.

Table 5: Comparison of the previous EAL's with the background groundwater quality

Contaminant	EAL from previous HRA (mg/l)	Up-hydraulic gradient groundwater monitoring 2010 -2018 (GW3, GW4A and GW11)					Mean background plus 2 standard deviation (mg/l)	Updated EALs (mg/l)
		Min (mg/l)	Mean (mg/l)	Max (mg/l)	Number of samples			
					Total	Above LOD		
Hazardous Substances								
Arsenic	0.05	0.0002	0.0015	0.009	219	55	0.003	0.003
Cadmium	0.005	0.003	0.0006	0.001	163	18	0.0008	0.008
Chromium	0.01	0.001	0.003	0.02	219	72	0.003	0.003
Lead	0.01	0.002	0.005	0.008	216	7	0.008	0.008
Mercury	0.001	0.00001	0.0001	0.003	239	44	0.0006	0.0006
Non-hazardous pollutants								
Ammoniacal Nitrogen	1.0	0.19	0.31	4.27	219	85	0.99	Not changed
Chloride	250	3.54	11.1	66.1	239	239	19.1	Not changed
Nickel	0.1	0.0009	0.004	0.1	227	72	0.018	Not changed
Sulphate	400	58	179	820	239	239	189	Not changed
Zinc	0.05	0.002	0.1	0.36	239	226	0.13	0.4

Notes

Bold denotes an exceedance by the background concentration of the previous EAL.

In accordance with DEFRA guidance, EAL's for hazardous substances should be set at a level which demonstrates that *“there are no discernible concentrations of hazardous substances attributable to the discharge in groundwater immediately down-gradient of the discharge zone.”* Unless the hazardous substance background quality is similar to the previous EAL then the value has been revised up or down to accommodate the natural background quality. Where this is the case the EAL has been revised to the value equivalent to the mean plus two standard deviations, a value which is roughly equivalent to the 95th percentile background concentration.

In accordance with DEFRA guidance for non-hazardous pollutants the EAL must demonstrate “*that pollution of groundwater will not be caused (which includes avoiding causing deterioration in status or environmentally significant and sustained upward trends in the concentration of pollutants)*”. Hence, the EAL should be set at a point between the typical background concentration and the relevant quality standards.

For non-hazardous pollutants, where the mean background concentration is below the previous EAL the value has not been changed. If the EAL is exceeded by the mean background concentration, the EAL has been increased to the mean plus two standard deviations.

3 Hydrogeological Risk Assessment

3.1 Numerical Modelling

3.1.1 Justification for Modelling Approach and Software

In the previous HRAs, the site was modelled using the EA preferred assessment tool, LandSim version 2.5. No major revisions have been released since the last HRA review was carried out, hence this is considered to be the current relevant version.

In the previous HRAs the model was used to assess the impact of leachate escaping downwards in to the Coal Measures and migrating laterally towards the Nant Merdog. This is consistent with the type of conceptual site model that can be modelled by LandSim. Since 2009 there has been no new information that invalidates this conceptual site model. Consequently, LandSim is still considered to be the most appropriate model to use

Risk assessment scenario's (life-cycles)

The previous HRAs modelled a partly uncapped site that was to be capped 31 years after the start of the filling. Since the 2009 HRA review was prepared the landfill has ceased accepting waste and has been completely capped. Hence any further modelling should account for this change and start with a fully capped site.

3.1.2 Model Parameterisation

In this HRA review the model parameters have been reviewed where they are likely to have changed, as the anticipated changes to the landfill have happened or where more data has been collected since the previous HRA review. In summary the items that have been reviewed include:

- Changes to capping;
- Leachate level monitoring;
- Leachate quality;
- Groundwater quality.

A review of the input values used in the previous HRAs against the new data is presented in Tables 1, 2 and 3 (above) of Section 2.0. Based on those tables and the review of the lifecycle it is considered that the following have changed substantially since the previous HRA:

- The site is fully capped;
- Source term for various phases; and
- Background groundwater quality;

Consequently, the hydrogeological assessment has been re-run to demonstrate that the conclusions of the previous assessments remain valid and compared to the revised EALs.

3.1.3 Emissions to Groundwater

The LandSim 2.5 model from the previous HRA review has been updated using the revised parameters highlighted in the preceding sections. A hard copy of the model is presented in Appendix D. An electronic copy of the model can be provided on request.

The results from the updated LandSim model are presented in Table 6 which show the predicted concentration at the 50th percentile and 95th percentile at the compliance point. In accordance with the guidance presented on the GOV.UK website [7] the EAL's are assessed against the 95th percentile. The results presented comprise the maximum recorded concentration during the time of the modelling which is 20,000 years.

Table 6: Maximum predicted concentrations at the groundwater compliance point

Containment	EAL	Maximum (mg/l)	
		50th percentile	95th percentile
Hazardous substances - Phase 1			
Arsenic	0.003	0.003 (12,800)	0.01 (16,300)
Cadmium	0.008	0.0007 (7,300)	0.001 (2,500)
Chromium	0.003	0.004 (2,400)	0.013 (2,050)
Lead	0.008	0.006 (2,350)	0.008 (7,500)
Mercury	0.0006	0.0001 (0)	0.0012 (0)
Hazardous substances - Phase 1A Cell 1A			
Arsenic	0.003	0.003 (3,800)	0.015 (3,800)
Cadmium	0.008	0.0007 (2,000)	0.001 (2,000)
Chromium	0.003	0.005 (1,200)	0.03 (1,500)
Lead	0.008	0.006 (2,700)	0.008 (1,700)
Mercury	0.0006	0.0001 (0)	0.0012 (0)
Hazardous substances - Phase 1A Cell 1B			
Arsenic	0.003	0.004 (3,800)	0.019 (3,800)
Cadmium	0.008	0.0007 (2,000)	0.001 (1,500)
Chromium	0.003	0.005 (1,200)	0.04 (1,500)
Lead	0.008	0.006 (2,700)	0.008 (2,400)
Mercury	0.0006	0.0001 (0)	0.0012 (0)
Hazardous substances - Phase 1A Cell 2			
Arsenic	0.003	0.004 (3,000)	0.014 (2,500)
Cadmium	0.008	0.0007 (1,100)	0.001 (1,000)
Chromium	0.003	0.005 (1,100)	0.020 (1,050)
Lead	0.008	0.006 (2,350)	0.008 (1,700)
Mercury	0.0006	0.0001 (0)	0.0012 (0)

Containment	EAL	Maximum (mg/l)	
		50th percentile	95th percentile
Hazardous substances - Phase 1A Cell 3			
Arsenic	0.003	0.004 (4,000)	0.013 (4,000)
Cadmium	0.008	0.0007 (1,700)	0.0010 (1,400)
Chromium	0.003	0.004 (1,400)	0.021 (1,100)
Lead	0.008	0.006 (1,500)	0.008 (3,000)
Mercury	0.0006	0.0001 (0)	0.0012 (0)
Hazardous substances - Phase 1A Cell 4			
Arsenic	0.003	0.004 (3,000)	0.020 (3,000)
Cadmium	0.008	0.0007 (1,500)	0.0010 (1,600)
Chromium	0.003	0.004 (1,500)	0.014 (1,150)
Lead	0.008	0.006 (2,350)	0.008 (1,500)
Mercury	0.0006	0.0001 (0)	0.0012 (0)
Hazardous substances - Phase 1A Cell 5			
Arsenic	0.003	0.003 (17,500)	0.021 (11,800)
Cadmium	0.008	0.0007 (2,000)	0.0016 (850)
Chromium	0.003	0.007 (13,000)	0.010 (6,600)
Lead	0.008	0.006 (5,700)	0.009 (20,000)
Mercury	0.0006	0.00017 (16,000)	0.0013 (20,000)
Non-Hazardous pollutants (all phases and cells)			
Ammoniacal Nitrogen	1.0	0.60 (0)	2.55(40)
Chloride	250	95 (100)	3700 (90)
Nickel	0.1	0.01 (14,000)	0.08 (19,000)
Sulphate	400	281 (854)	1,400 (940)
Zinc	0.4	0.07 (1,500)	0.50 (1,900)

Notes

(100) values in brackets represent time in years that the maximum concentration occurs.

Highlighted text denotes an exceedance of the EAL.

3.1.4 Hazardous Substances

The predicted concentrations at the compliance point are all below the EALs for the 50th percentile with the exception of chromium for all cells of Phase 1A and Phase 1 and arsenic for Phase 1A Cells 2, 3 and 4. The arsenic exceedances are marginal and the predicted result in the other cells and Phase 1 are at the EAL.

The predicted concentrations of arsenic, chromium and mercury are above their EALs at the 95th percentile for all cells of Phase 1A and Phase 1. In addition, lead exceeds the EAL at the 95th percentile for Phase 1A Cell 5 but marginally. The predicted concentrations of lead at the other cells and Phase 1 are marginal.

The results of the LandSim model predict that the concentrations of several hazardous substances will be discernible down hydraulic gradient of all cells of Phase 1A and Phase 1.

With the exception of cadmium the results are less than the exceedances predicted in the previous HRA. Cadmium was previously modelled without a background concentration hence the previous model results only showed the contribution of the site. The results presented above for cadmium include the background and the contribution from the site. Despite the increase cadmium since the previous HRA it does not exceed the EAL.

While the predicted concentrations exceed the EALs, as agreed with the EA (see Section 1.2.2 above) the pumping well cut-off system is considered to be the compliance point. Consequently, as long as the pumping continues to ensure that no hazardous substance are recorded down hydraulic gradient of the site, the pumping well cut-off system ensures that the site remains compliant with the Schedule 22 of EPR.

3.1.5 Non-Hazardous substances

The predicted concentrations at the compliance point are all below the EALs for the 50th percentile. However, ammoniacal nitrogen, chloride, sulphate and zinc are all above their EALs for the 95th percentile.

With the exception of zinc all predicted maximum concentrations included in the re-run model have decreased compared to the predicted concentrations in the previous HRA. This is attributed to reduced recharge as the site has been capped in this re-run HRA review. The concentration of zinc are likely to have increased as the background concentration assessed in the HRA review are higher than previously assessed. Hence the increase is due to poorer background quality.

Consistent with the approach for hazardous substances, notwithstanding the results of this risk assessment the ongoing management of the pumping well cut-off system ensures that the site remains compliant with the Schedule 22 of EPR.

3.1.6 Sensitivity Analysis

A comprehensive sensitivity analysis is presented in the previous HRA review which assessed changes to the aquifer permeability, leachate head and the capping arrangement.

In relation to this assessment the parameters that have varied are only related to changes in leachate and groundwater quality. While these are significant they do not alter the conceptual model or any parameters relevant to the design of the engineered barrier system. Hence the only sensitivity analysis that could be carried out is to vary these concentrations. As the values are based on 10 years of data from the managed closure stage of the landfill the concentrations are only likely to stabilise or decline. Consequently, there is no technical reason for carrying out a sensitivity analysis in relation to the parameters varied in this HRA review.

4 Requisite Surveillance

In 2018 Arup [11] prepared a report which presented a systematic review of the available groundwater and surface water data. This relied on the data reviewed in this HRA review (2007 to May 2018). The review was undertaken to verify whether there are substances for which background concentrations in the groundwater are elevated and is compliant with the EA HRA review template [6].

The review concluded that, monitoring results over several years have shown that at times the ambient groundwater upstream of the landfill site contains concentrations of zinc and manganese that exceed the trigger level concentrations for the downstream compliance wells (or assessment level in the case of manganese). These background concentrations are probably, due to impact by mine water drainage within the groundwater catchment.

The review recommended that the control levels and trigger levels for zinc and assessment level for manganese should be revised to take into account the background water quality and proposed values were presented.

The 2018 review is compliant with the requirements of the NRW for the Requisite Surveillance section of an HRA review and covers the same period of time, hence no further review has been carried out for the purpose of this HRA review.

5 Conclusions

This report presents the Second Review of the Hydrogeological Risk Assessment for Silent Valley Landfill pursuant of condition 3.1.6 of the EP [1].

Based on the results of the HRA review the conceptual hydrogeological model of the site is unchanged since the PPC permit application was made in 2004. A number of values input into the previous HRA are higher than previously assessed. These include the leachate quality, background concentration and the change in life cycle of the landfill following the closure in 2015. These values have been used as a basis for an updated numerical modelling.

While the predicted concentrations exceed the EALs, the compliance point is the set as the pumping well cut-off system in the model. As agreed with the EA (see Section 1.2.2 above) this point is considered by the regulator to comprise the discharge point for an under-drainage and leachate leak collection system, rather than a groundwater receptor. Consequently, notwithstanding the results of this risk assessment the ongoing management of the pumping well cut-off system ensures that the site remains compliant with the Schedule 22 of EPR.

6 Recommendations

The conclusions of this HRA review are dependent on the ongoing pumping from the pumping well cut off system. In order to confirm that the system is functioning efficiently there would be a benefit in carrying out groundwater quality monitoring from the individual abstractions wells. In addition, this exercise could be used to verify the results of this risk assessment. Better understanding of the pumping well cut off system and cross checking these results with the model predictions will allow the landfill completion (point when the landfill does not pose a risk to the environment) to be better forecast. This in turn could result in a reduction of the financial provision set aside for the completion of the site.

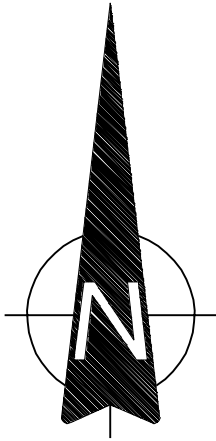
7 References

- [1] The Environmental Permitting (England and Wales) Regulations 2010. Schedule 22 Groundwater activities. Regulation 35(2)(p).
- [2] Natural Resources Wales, 2016. Environmental Permit for Silent Valley Landfill. Permit number EPR/MP3835SV.
- [3] Arup, 2004. Hydrogeological Risk Assessment, Silent Valley Landfill.
- [4] Arup, 2009. Silent Valley Waste Services. Landfill Directive Compliance, Arup Document Ref. 11525.
- [5] Silent Valley Landfill Services, Silent Valley Landfill Site, Section A Closure Report, ref. 11/8279
- [6] Environment Agency, 2009. Hydrogeological Risk Assessment for Landfills Four Yearly Review Template. Dated 29th April 2009.
- [7] <https://www.gov.uk/guidance/groundwater-risk-assessment-for-your-environmental-permit#detailed-quantitative-risk-assessment>
- [8] <https://www.gov.uk/guidance/landfill-developments-groundwater-risk-assessment-for-leachate>
- [9] Department for Environment, Food and Rural Affairs. 2010. Environmental Permitting Guidance Groundwater Activities For the Environmental Permitting (England and Wales) Regulations 2010. Version 1
- [10] Arup, 2013. Silent Valley Waste Services Ltd, Aftercare Phase Environmental and Infrastructure Monitoring Programme. Document Ref. 11/8278.
- [11] Arup 2018. Silent Valley Waste Services Ltd, Silent Valley Landfill Site Groundwater Monitoring: Trigger Levels.

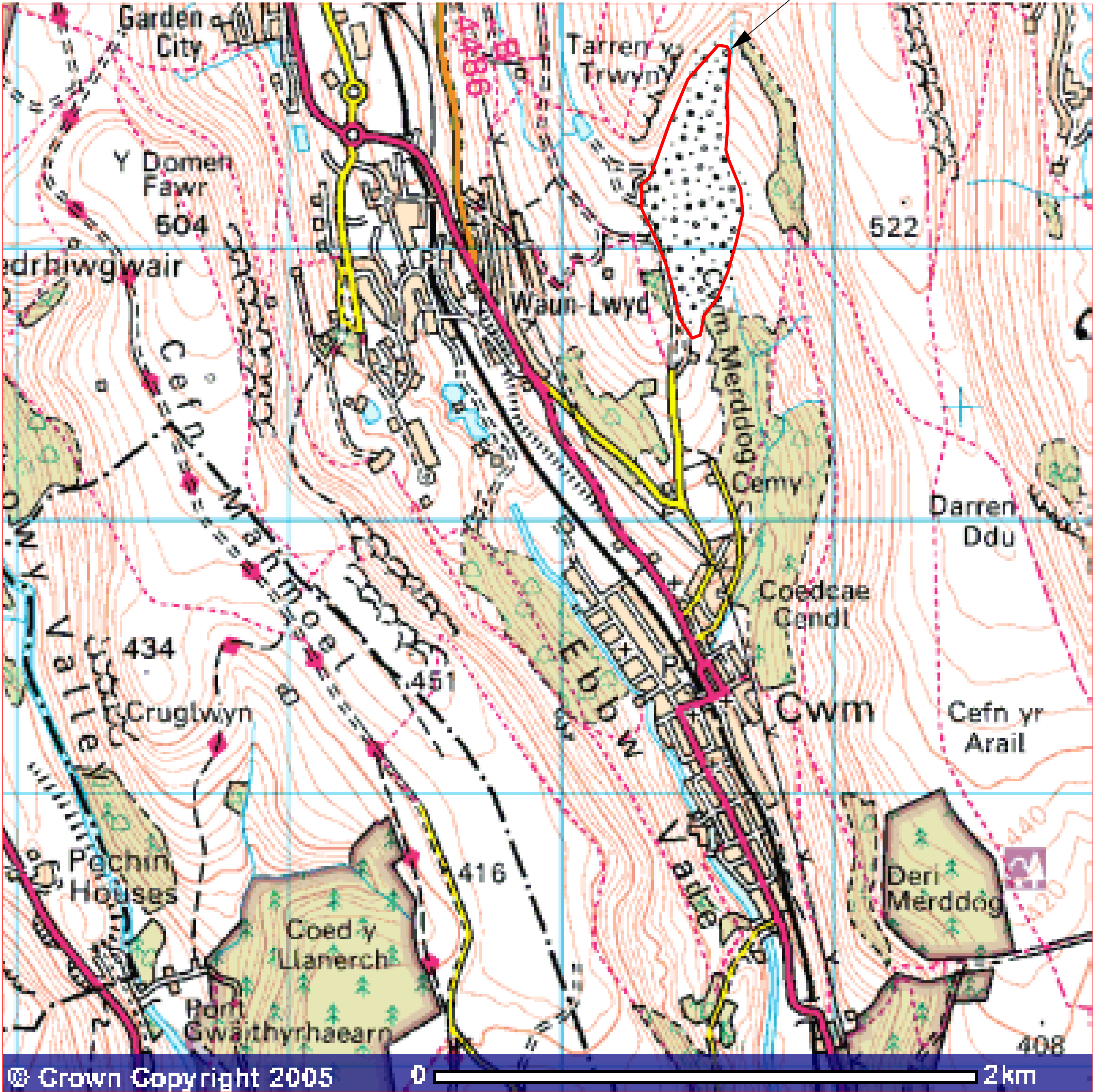
Appendix A

Location of the Silent Valley Landfill

I0	02/05/07	RP		
Issued For Information				

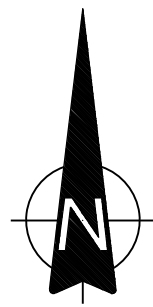


THE SITE



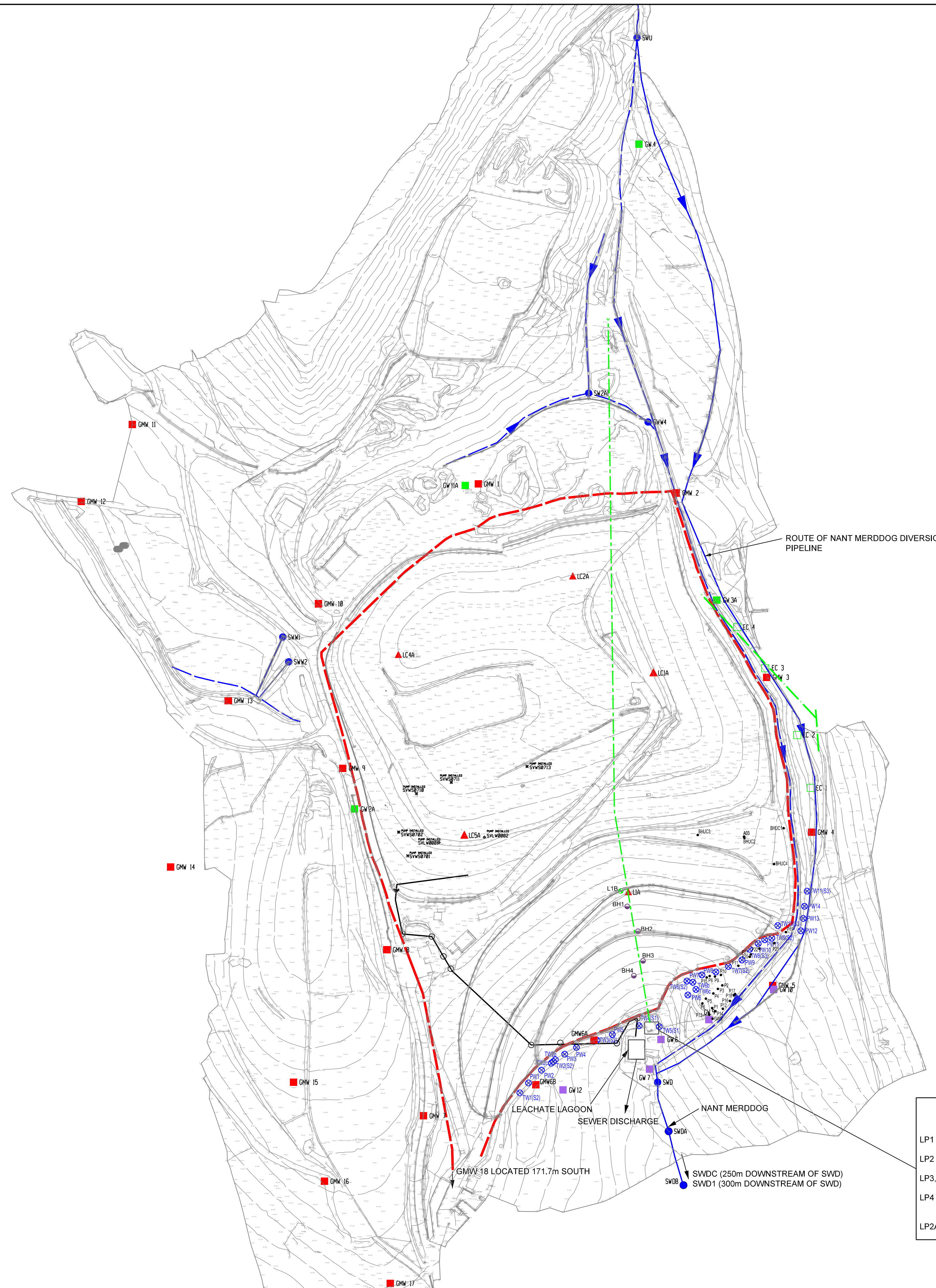
Appendix B

Borehole location plan



LEGEND

- EC 1 EASTERN CUT-OFF MONITORING WELLS
- GMS GAS MONITORING POINTS
- GW10 COMPLAINT POINT GROUND WATER WELLS
- GW4 GROUND WATER MONITORING WELLS
- SW1 SURFACE WATER SAMPLING POINTS
- ▲ LC1 LEACHATE MONITORING WELLS
- SURFACE WATER DITCHES
- EXTENT OF LANDFILLED WASTE
- ⊗ TWs & PWs PUMPING WELL CUT OFF SYSTEM



LEACHATE
DRAIN OUTFALLS
LP1 = BSC PIPE
LP2 = ARMCO PIPE
LP3, 5, 6, 7 = OTHER OUTLET PIPES
LP4 = SMALL DIRECT INPUT TO THE
LAGOON
LP2A = LP3 + LP5 + LP6 + LP7

SCALE 1:2500 @ A1

SILENT VALLEY LANDFILL
SITE PLAN
ENVIRONMENTAL MONITORING

115825-00

FIGURE

2

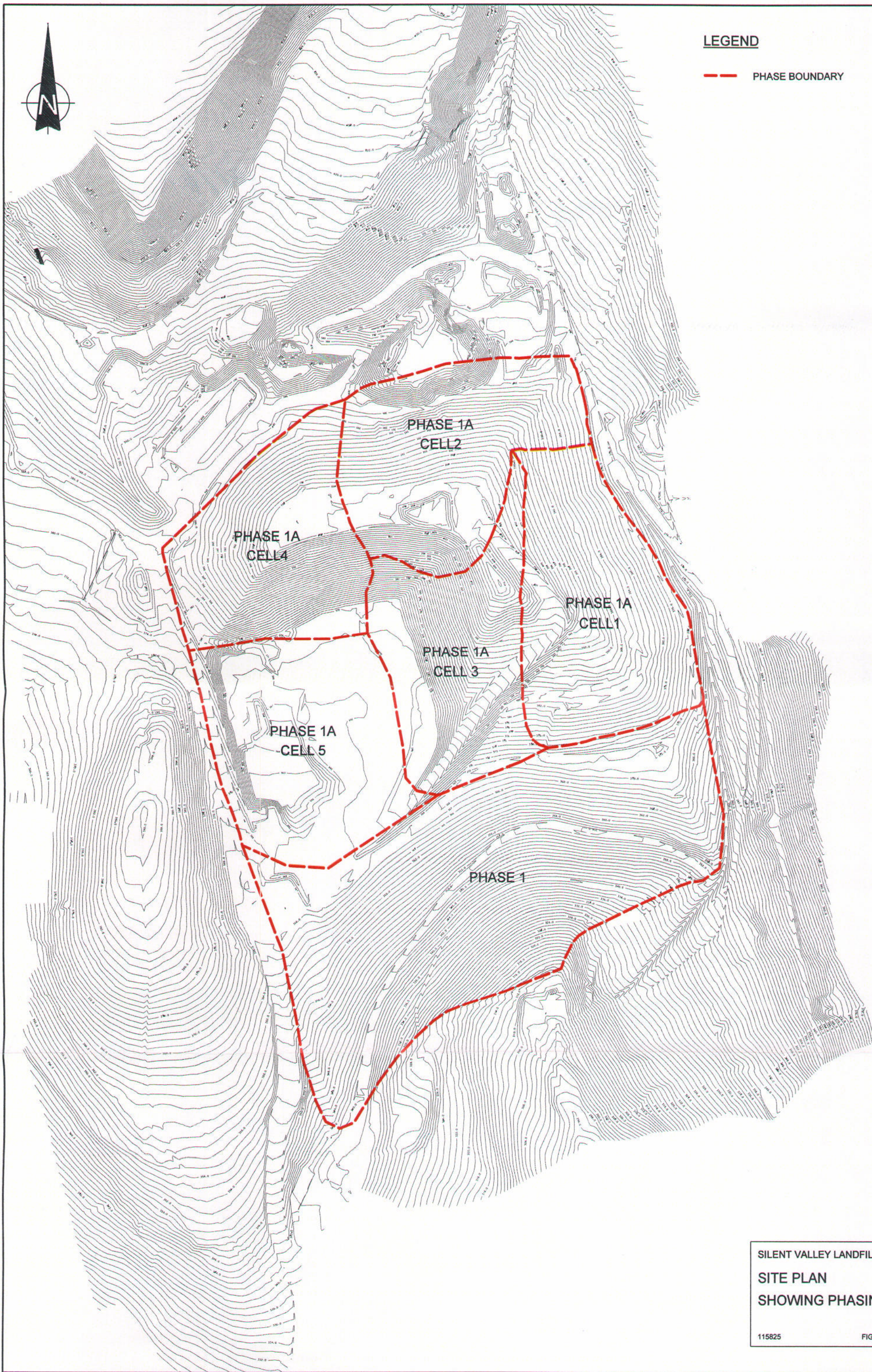
Appendix C

Cell boundaries/phasing



LEGEND

--- PHASE BOUNDARY



SILENT VALLEY LANDFILL SITE
SITE PLAN
SHOWING PHASING

115825

FIGURE **A2**

Appendix D

A hard copy of the model

Calculation Settings

Number of iterations: 1001

Results calculated using sampled PDFs

Full Calculation

Clay Liner:

Retarded values used for simulation

Biodegradation

Unsaturated Pathway:

Unretarded values used for simulation

No Biodegradation

Saturated Vertical Pathway:

Unretarded values used for simulation

No Biodegradation

Aquifer Pathway:

Retarded values used for simulation

Biodegradation

Timeslices at: 20, 100, 300, 1000

Decline in Contaminant Concentration in Leachate

Manganese

c (kg/l): 0.2919

Non-Volatile

m (kg/l): 0.0298

Mercury

c (kg/l): 0.1643

Non-Volatile

m (kg/l): 0.0767

Nickel

c (kg/l): -0.1479

Non-Volatile

m (kg/l): 0.0987

Sulphate

c (kg/l): 0.1209

Non-Volatile

m (kg/l): 0.0166

Zinc

c (kg/l): 0.0561

Non-Volatile

m (kg/l): 0.0403

Contaminant Half-lives (years)

Clay Liner:

Ammoniacal_N

SINGLE(1)

Arsenic

SINGLE(1e+009)

Cadmium

SINGLE(1e+009)

Chloride

SINGLE(1e+009)

Chromium

SINGLE(1e+009)

Copper

SINGLE(1e+009)

Lead

SINGLE(1e+009)

Manganese

SINGLE(1e+009)

Mercury

SINGLE(1e+009)

Nickel

SINGLE(1e+009)

Sulphate

SINGLE(1e+009)

Zinc

SINGLE(1e+009)

Aquifer Pathway:

Ammoniacal_N

SINGLE(1)

Arsenic

SINGLE(1e+009)

Cadmium

SINGLE(1e+009)

Chloride

SINGLE(1e+009)

Chromium

SINGLE(1e+009)

Copper

SINGLE(1e+009)

Lead

SINGLE(1e+009)

Manganese

SINGLE(1e+009)

Mercury

SINGLE(1e+009)

Nickel

SINGLE(1e+009)

Sulphate

SINGLE(1e+009)

Zinc

SINGLE(1e+009)

Background Concentrations of Contaminants

Justification for Contaminant Properties
See report

All units in milligrams per litre

Ammoniacal_N	LOGTRIANGULAR(0.19,0.3,4.67)
Arsenic	LOGTRIANGULAR(0.0002,0.0013,0.0099)
Cadmium	TRIANGULAR(0.0003,0.0006,0.0011)
Chloride	TRIANGULAR(8,12.8,72.71)
Chromium	LOGTRIANGULAR(0.0007,0.003,0.022)
Copper	LOGTRIANGULAR(0.0002,0.0016,0.0099)
Lead	TRIANGULAR(0.002,0.0055,0.0091)
Manganese	LOGTRIANGULAR(0.0056,0.611,2.3)
Mercury	LOGTRIANGULAR(1e-005,0.0001,0.0033)
Nickel	LOGTRIANGULAR(0.0009,0.0041,0.11)
Sulphate	LOGTRIANGULAR(58,179,902)
Zinc	LOGTRIANGULAR(0.002,0.1,0.396)

Phase: Phase 1**Infiltration Information**

Cap design infiltration (mm/year):	UNIFORM(15,150)
Infiltration to waste (mm/year):	NORMAL(900,100)
End of filling (years from start of waste deposit):	0

Justification for Specified Infiltration

Infiltration taken as 1-10% total annual rainfall, appropriate for a clay cap as installed on Phase 1. Rainfall from meteorological data. Years of filling from Silent Valley site history and management. [CHANGED] [CHANGED]

Duration of management control (years from the start of waste disposal): 50

Cell dimensions

Cell width (m):	412
Cell length (m):	205
Cell top area (ha):	8.45625
Cell base area (ha):	8.446
Number of cells:	1
Total base area (ha):	8.446
Total top area (ha):	8.45625
Head of Leachate when surface water breakout occurs (m)	SINGLE(11)
Waste porosity (fraction)	UNIFORM(0.15,0.2)
Final waste thickness (m):	TRIANGULAR(0,20,50)
Field capacity (fraction):	TRIANGULAR(0.05,0.1,0.15)
Waste dry density (kg/l)	TRIANGULAR(1.3,1.4,1.5)

Justification for Landfill Geometry

Silent Valley site plans & drawings 2001-2003. Waste density appropriate to waste at range of depths expected (Ref: Stability Risk Assessment Report). Field capacity appropriate to wastes at expected density (Ref: Water Balance Methods and their Application to Landfill in the UK, Department of the Environment, Wastes Technical Division, Research Report No: CIWM 031/91). Head of leachate when breakout occurs set at maximum likely head based upon hydrogeological assesment (Ref.Report) [CHANGED]

Source concentrations of contaminants*All units in milligrams per litre*

Declining source term

Ammoniacal_N	LOGTRIANGULAR(0.27,76,197)
Arsenic	LOGTRIANGULAR(0.001,0.01,0.111) <i>Data are spot measurements of Leachate Quality</i>
Cadmium	TRIANGULAR(0.0003,0.000565,0.00066) <i>Substance to be treated as List 1</i>
Chloride	LOGTRIANGULAR(110,300,440)
Chromium	LOGTRIANGULAR(0.005,0.007,0.025) <i>Data are spot measurements of Leachate Quality</i>
Copper	LOGTRIANGULAR(0.001,0.01,0.081) <i>Data are spot measurements of Leachate Quality</i>
Lead	LOGTRIANGULAR(0.002,0.01,0.07) <i>Data are spot measurements of Leachate Quality</i>
Manganese	LOGTRIANGULAR(0.007,0.669,1.661) <i>Data are spot measurements of Leachate Quality</i>
Mercury	TRIANGULAR(1e-005,0.00012,0.00088) <i>Substance to be treated as List 1</i>
Nickel	LOGTRIANGULAR(0.011,0.09,0.135)
Sulphate	LOGTRIANGULAR(0.3,57,518)
Zinc	TRIANGULAR(0.0015,0.103382,0.344)

Justification for Species Concentration in Leachate

See report.

Drainage Information

Fixed Head.

Head on EBS is given as (m): TRIANGULAR(4.9,8.2,11)

Justification for Specified Head

Leachate head assumed in the 2004 HRA [CHANGED]

Barrier Information

There is a single clay barrier

Justification for Engineered Barrier Type

Natural boulder clay layer modelled as EBS to ensure reasonable calculation of leakage. Modelling as unsaturated zone would assume hydraulic gradient = 1 and underestimation of leakage

Design thickness of clay (m):	TRIANGULAR(1.125,1.5,1.875)
Density of clay (kg/l):	TRIANGULAR(1.95,2.08,2.21)
Pathway moisture content (fraction):	UNIFORM(0.12,0.15)

Justification for Clay: Liner Thickness

Borehole data.

Hydraulic conductivity of liner (m/s):	LOGTRIANGULAR(5e-011,5e-010,5e-009)
Pathway longitudinal dispersivity (m):	LOGUNIFORM(0.02,0.37)

Justification for Clay: Hydraulics Properties

Laboratory testing . Dispersivity 10% of mineral thickness

Retardation parameters for clay liner

Uncertainty in Kd (l/kg):

Ammoniacal_N	LOGUNIFORM(0.5,2)
Arsenic	LOGUNIFORM(25,250)
Cadmium	LOGUNIFORM(1.6,1500)
Chloride	SINGLE(0)
Chromium	LOGUNIFORM(1,4400)
Copper	LOGUNIFORM(10,4000)
Lead	LOGUNIFORM(27,270000)
Manganese	LOGUNIFORM(3,810)
Mercury	LOGUNIFORM(450,3835)
Nickel	LOGUNIFORM(20,800)
Sulphate	SINGLE(0)
Zinc	LOGUNIFORM(1,600)

Justification for Liner Kd Values by Species

Landsim default values

Not Present pathway parameters*Modelled as unsaturated pathway*

Pathway length (m):	SINGLE(0)
Flow Model:	porous medium
Pathway moisture content (fraction):	UNIFORM(0.05,0.3)
Pathway Density (kg/l):	SINGLE(0)

Justification for Unsat Zone Geometry

No unsaturated zone: Hydrogeological assessment

Pathway hydraulic conductivity values (m/s):	LOGTRIANGULAR(1e-006,1e-005,0.0001)
--	-------------------------------------

Justification for Unsat Zone Hydraulics Properties

Same as aquifer- no unsaturated zone

Pathway longitudinal dispersivity (m):	SINGLE(0)
--	-----------

Justification for Unsat Zone Dispersion Properties

No unsaturated zone

Retardation parameters for Not Present pathway

Modelled as unsaturated pathway

No retardation values used in this simulation.

Check 'Unretarded Contaminant Transport' setting under simulation preferences.

Aquifer Pathway Dimensions for Phase

Pathway length (m):	UNIFORM(12.5,217.5)
Pathway width (m):	SINGLE(412)

Phase: 1A Cell 1a**Infiltration Information**

Cap design infiltration (mm/year):	UNIFORM(0,10)
Infiltration to waste (mm/year):	NORMAL(900,100)
Infiltration to grassland (mm/year):	UNIFORM(315,495)
End of filling (years from start of waste deposit):	0
Start of cap degradation (years from end of waste deposit):	250
End of cap degradation (years from end of waste deposit):	1000

Justification for Specified Infiltration

Infiltration to grassland taken as 35-55% of effective rainfall. Rainfall from meteorological data. Years of filling from Silent Valley site history/management communication. Degradation period as Landsim default. [CHANGED]
[CHANGED]

Duration of management control (years from the start of waste disposal): 50

Cell dimensions

Cell width (m):	102.8
Cell length (m):	107
Cell top area (ha):	1.1029
Cell base area (ha):	1.09996
Number of cells:	1
Total base area (ha):	1.09996
Total top area (ha):	1.1029
Head of Leachate when surface water breakout occurs (m)	SINGLE(9.85)
Waste porosity (fraction)	UNIFORM(0.15,0.2)
Final waste thickness (m):	UNIFORM(0,50)
Field capacity (fraction):	LOGTRIANGULAR(0.05,0.1,0.15)
Waste dry density (kg/l)	TRIANGULAR(1.3,1.4,1.5)

Justification for Landfill Geometry

As Phase 1 [CHANGED]

Source concentrations of contaminants*All units in milligrams per litre*

Declining source term

Ammoniacal_N

TRIANGULAR(152,761,1087)

Arsenic

LOGTRIANGULAR(0.013,0.1,0.186)

Data are spot measurements of Leachate Quality

Cadmium

TRIANGULAR(0.0003,0.0005,0.00121)

Substance to be treated as List 1

Chloride

LOGTRIANGULAR(208,1481,2728)

Chromium

LOGTRIANGULAR(0.086,0.15,0.65)

Data are spot measurements of Leachate Quality

Copper

LOGTRIANGULAR(0.001,0.006,0.053)

Data are spot measurements of Leachate Quality

Lead

LOGTRIANGULAR(0.002,0.02,0.24)

Data are spot measurements of Leachate Quality

Manganese

TRIANGULAR(0.395,0.5,0.957)

Data are spot measurements of Leachate Quality

Mercury

TRIANGULAR(0.0001,0.00058,0.00088)

Substance to be treated as List 1

Nickel

TRIANGULAR(0.0009,0.0153,0.066)

Sulphate

LOGTRIANGULAR(5,45,133)

Zinc

LOGTRIANGULAR(0.00641,0.028335,0.132)

Justification for Species Concentration in Leachate

See report.

Drainage Information

Fixed Head.

Head on EBS is given as (m):

TRIANGULAR(6.3,7.4,9.85)

Justification for Specified Head

Leachate head assumed in the 2004 HRA [CHANGED]

Barrier Information

There is a single clay barrier

Justification for Engineered Barrier Type
As Phase 1

Design thickness of clay (m):	TRIANGULAR(0.75,1,1.25)
Density of clay (kg/l):	TRIANGULAR(1.95,2.08,2.21)
Pathway moisture content (fraction):	UNIFORM(0.12,0.15)

Justification for Clay: Liner Thickness
Borehole Logs

Hydraulic conductivity of liner (m/s):	LOGTRIANGULAR(5e-011,5e-010,5e-009)
Pathway longitudinal dispersivity (m):	UNIFORM(0,0.42)

Justification for Clay: Hydraulics Properties
Laboratory testing. Dispersivity taken as 10% mineral thickness.

Retardation parameters for clay liner

Uncertainty in Kd (l/kg):	
Ammoniacal_N	LOGUNIFORM(0.5,2)
Arsenic	LOGUNIFORM(25,250)
Cadmium	LOGUNIFORM(1.6,1500)
Chloride	SINGLE(0)
Chromium	LOGUNIFORM(1,4400)
Copper	LOGUNIFORM(10,4000)
Lead	LOGUNIFORM(27,270000)
Manganese	LOGUNIFORM(3,810)
Mercury	LOGUNIFORM(450,3835)
Nickel	LOGUNIFORM(20,800)
Sulphate	SINGLE(0)
Zinc	LOGUNIFORM(1,600)

Justification for Liner Kd Values by Species
Landsim Default values

pathway parameters*Modelled as unsaturated pathway*

Pathway length (m):	SINGLE(0)
Flow Model:	porous medium
Pathway moisture content (fraction):	UNIFORM(0.05,0.3)
Pathway Density (kg/l):	SINGLE(0)

Justification for Unsat Zone Geometry

No unsaturated zone: Hydrogeological assessment

Pathway hydraulic conductivity values (m/s):	LOGTRIANGULAR(1e-006,1e-005,0.0001)
--	-------------------------------------

Justification for Unsat Zone Hydraulics Properties

Same as aquifer- no unsaturated zone

Pathway longitudinal dispersivity (m):	SINGLE(0)
--	-----------

Justification for Unsat Zone Dispersion Properties

No unsaturated zone

Retardation parameters for pathway

Modelled as unsaturated pathway

No retardation values used in this simulation.

Check 'Unretarded Contaminant Transport' setting under simulation preferences.

Aquifer Pathway Dimensions for Phase

Pathway length (m):	UNIFORM(218.598,321.402)
Pathway width (m):	SINGLE(107)

Phase: 1A Cell 2**Infiltration Information**

Cap design infiltration (mm/year):	UNIFORM(0,10)
Infiltration to waste (mm/year):	NORMAL(900,100)
Infiltration to grassland (mm/year):	UNIFORM(315,495)
End of filling (years from start of waste deposit):	0
Start of cap degradation (years from end of waste deposit):	250
End of cap degradation (years from end of waste deposit):	1000

Justification for Specified Infiltration

Final capping assumed - PE membrane; degradation rate - LandSim default; [CHANGED] [CHANGED]

Duration of management control (years from the start of waste disposal): 50

Cell dimensions

Cell width (m):	152.5
Cell length (m):	150
Cell top area (ha):	2.2975
Cell base area (ha):	2.2875
Number of cells:	1
Total base area (ha):	2.2875
Total top area (ha):	2.2975
Head of Leachate when surface water breakout occurs (m)	SINGLE(13.44)
Waste porosity (fraction)	UNIFORM(0.15,0.2)
Final waste thickness (m):	UNIFORM(0,33)
Field capacity (fraction):	LOGTRIANGULAR(0.05,0.1,0.15)
Waste dry density (kg/l)	TRIANGULAR(1.3,1.4,1.5)

Justification for Landfill Geometry

As Phase 1 [CHANGED]

Source concentrations of contaminants*All units in milligrams per litre*

Declining source term

Ammoniacal_N	TRIANGULAR(236,605.7,1284)
Arsenic	LOGTRIANGULAR(0.011,0.02,0.112) <i>Data are spot measurements of Leachate Quality</i>
Cadmium	LOGTRIANGULAR(0.0006,0.0006,0.0022) <i>Substance to be treated as List 1</i>
Chloride	TRIANGULAR(207,631,850)
Chromium	TRIANGULAR(0.0095,0.063,0.104) <i>Data are spot measurements of Leachate Quality</i>
Copper	LOGTRIANGULAR(0.001,0.006,0.013) <i>Data are spot measurements of Leachate Quality</i>
Lead	LOGTRIANGULAR(0.002,0.01,0.063) <i>Data are spot measurements of Leachate Quality</i>
Manganese	TRIANGULAR(0.0897,0.2086,0.559) <i>Data are spot measurements of Leachate Quality</i>
Mercury	TRIANGULAR(1.5e-005,0.0002,0.0013) <i>Substance to be treated as List 1</i>
Nickel	TRIANGULAR(0.0093,0.06,0.1397)
Sulphate	TRIANGULAR(5,50,625)
Zinc	LOGTRIANGULAR(0.0055,0.339,2.22)

Justification for Species Concentration in Leachate

See report. [CHANGED]

Drainage Information

Fixed Head.

Head on EBS is given as (m): TRIANGULAR(11.85,12.6,13.44)

Justification for Specified Head

Leachate head assumed in the 2004 HRA [CHANGED]

Barrier Information

There is a single clay barrier

Justification for Engineered Barrier Type
As Phase 1

Design thickness of clay (m):	TRIANGULAR(0.375,0.5,0.625)
Density of clay (kg/l):	TRIANGULAR(1.95,2.08,2.21)
Pathway moisture content (fraction):	UNIFORM(0.12,0.15)

Justification for Clay: Liner Thickness
Silent Valley Borehole Logs

Hydraulic conductivity of liner (m/s):	LOGTRIANGULAR(5e-011,5e-010,5e-009)
Pathway longitudinal dispersivity (m):	UNIFORM(0,0.27)

Justification for Clay: Hydraulics Properties
Laboratory testing. Dispersivity taken as 10% mineral thickness.

Retardation parameters for clay liner

Uncertainty in Kd (l/kg):	
Ammoniacal_N	LOGUNIFORM(0.5,2)
Arsenic	LOGUNIFORM(25,250)
Cadmium	LOGUNIFORM(1.6,1500)
Chloride	SINGLE(0)
Chromium	LOGUNIFORM(1,4400)
Copper	LOGUNIFORM(10,4000)
Lead	LOGUNIFORM(27,270000)
Manganese	LOGUNIFORM(3,810)
Mercury	LOGUNIFORM(450,3835)
Nickel	LOGUNIFORM(20,800)
Sulphate	SINGLE(0)
Zinc	LOGUNIFORM(1,600)

Justification for Liner Kd Values by Species
Landsim default values

pathway parameters*Modelled as unsaturated pathway*

Pathway length (m):	SINGLE(0)
Flow Model:	porous medium
Pathway moisture content (fraction):	UNIFORM(0.05,0.3)
Pathway Density (kg/l):	SINGLE(0)

Justification for Unsat Zone Geometry

No unsaturated zone: Hydrogeological Assessment

Pathway hydraulic conductivity values (m/s):	LOGTRIANGULAR(1e-006,1e-005,0.0001)
--	-------------------------------------

Justification for Unsat Zone Hydraulics Properties

No unsaturated zone

Pathway longitudinal dispersivity (m):	SINGLE(0)
--	-----------

Justification for Unsat Zone Dispersion Properties

No unsaturated pathway

Retardation parameters for pathway

Modelled as unsaturated pathway

No retardation values used in this simulation.

Check 'Unretarded Contaminant Transport' setting under simulation preferences.

Aquifer Pathway Dimensions for Phase

Pathway length (m):	UNIFORM(425,575)
Pathway width (m):	SINGLE(152.5)

Phase: 1A Cell 3**Infiltration Information**

Cap design infiltration (mm/year):	UNIFORM(0,10)
Infiltration to waste (mm/year):	NORMAL(900,100)
Infiltration to grassland (mm/year):	UNIFORM(315,495)
End of filling (years from start of waste deposit):	0
Start of cap degradation (years from end of waste deposit):	250
End of cap degradation (years from end of waste deposit):	1000

Justification for Specified Infiltration

Final capping assumed - PE membrane; degradation rate - LandSim default; [CHANGED] [CHANGED]

Duration of management control (years from the start of waste disposal): 50

Cell dimensions

Cell width (m):	152
Cell length (m):	205
Cell top area (ha):	3.126
Cell base area (ha):	3.116
Number of cells:	1
Total base area (ha):	3.116
Total top area (ha):	3.126
Head of Leachate when surface water breakout occurs (m)	SINGLE(13.44)
Waste porosity (fraction)	UNIFORM(0.15,0.2)
Final waste thickness (m):	UNIFORM(0,42)
Field capacity (fraction):	LOGTRIANGULAR(0.05,0.1,0.15)
Waste dry density (kg/l)	TRIANGULAR(1.4,1.6,1.8)

Justification for Landfill Geometry

As Phase 1 [CHANGED]

Source concentrations of contaminants*All units in milligrams per litre*

Declining source term

Ammoniacal_N	TRIANGULAR(236,626,1283)
Arsenic	LOGTRIANGULAR(0.011,0.02,0.112) <i>Data are spot measurements of Leachate Quality</i>
Cadmium	LOGTRIANGULAR(0.0003,0.0006,0.0022) <i>Substance to be treated as List 1</i>
Chloride	LOGTRIANGULAR(290,350,979)
Chromium	TRIANGULAR(0.0095,0.0625,0.104) <i>Data are spot measurements of Leachate Quality</i>
Copper	LOGTRIANGULAR(0.001,0.006,0.013) <i>Data are spot measurements of Leachate Quality</i>
Lead	LOGTRIANGULAR(0.002,0.01,0.063) <i>Data are spot measurements of Leachate Quality</i>
Manganese	TRIANGULAR(0.00897,0.2086,0.509) <i>Data are spot measurements of Leachate Quality</i>
Mercury	LOGTRIANGULAR(1.5e-005,0.0002,0.0013) <i>Substance to be treated as List 1</i>
Nickel	TRIANGULAR(0.00093,0.060203,0.1397)
Sulphate	LOGTRIANGULAR(5,50,625)
Zinc	LOGTRIANGULAR(0.0055,0.339,2.22)

Justification for Species Concentration in Leachate

See report. [CHANGED]

Drainage Information

Fixed Head.

Head on EBS is given as (m): TRIANGULAR(11.82,12.6,13.44)

Justification for Specified Head

Leachate head assumed in the 2004 HRA [CHANGED]

Barrier Information

There is a single clay barrier

Justification for Engineered Barrier Type
As Phase 1

Design thickness of clay (m):	TRIANGULAR(0.525,0.7,0.875)
Density of clay (kg/l):	TRIANGULAR(1.95,2.08,2.21)
Pathway moisture content (fraction):	UNIFORM(0.12,0.15)

Justification for Clay: Liner Thickness
Borehole logs

Hydraulic conductivity of liner (m/s):	LOGTRIANGULAR(5e-011,5e-010,5e-009)
Pathway longitudinal dispersivity (m):	UNIFORM(0.02,0.12)

Justification for Clay: Hydraulics Properties
Laboratory testing. Dispersivity taken as 10% mineral thickness.

Retardation parameters for clay liner

Uncertainty in Kd (l/kg):	
Ammoniacal_N	LOGUNIFORM(0.5,2)
Arsenic	LOGUNIFORM(25,250)
Cadmium	LOGUNIFORM(1.6,1500)
Chloride	SINGLE(0)
Chromium	LOGUNIFORM(1,4400)
Copper	LOGUNIFORM(10,4000)
Lead	LOGUNIFORM(27,270000)
Manganese	LOGUNIFORM(3,810)
Mercury	LOGUNIFORM(450,3835)
Nickel	LOGUNIFORM(20,800)
Sulphate	SINGLE(0)
Zinc	LOGUNIFORM(1,600)

Justification for Liner Kd Values by Species
Landsim default values

pathway parameters*Modelled as unsaturated pathway*

Pathway length (m):	SINGLE(0)
Flow Model:	porous medium
Pathway moisture content (fraction):	UNIFORM(0.05,0.3)
Pathway Density (kg/l):	SINGLE(0)

Justification for Unsat Zone Geometry

No unsaturated zone: Hydrogeological assessment

Pathway hydraulic conductivity values (m/s):	LOGTRIANGULAR(1e-006,1e-005,0.0001)
--	-------------------------------------

Justification for Unsat Zone Hydraulics Properties

Same as aquifer- no unsaturated zone

Pathway longitudinal dispersivity (m):	SINGLE(0)
--	-----------

Justification for Unsat Zone Dispersion Properties

No unsaturated zone

Retardation parameters for pathway

Modelled as unsaturated pathway

No retardation values used in this simulation.

Check 'Unretarded Contaminant Transport' setting under simulation preferences.

Aquifer Pathway Dimensions for Phase

Pathway length (m):	UNIFORM(217.5,422.5)
Pathway width (m):	SINGLE(152)

Phase: 1A Cell 4**Infiltration Information**

Cap design infiltration (mm/year):	UNIFORM(0,10)
Infiltration to waste (mm/year):	NORMAL(900,100)
Infiltration to grassland (mm/year):	UNIFORM(315,495)
End of filling (years from start of waste deposit):	0
Start of cap degradation (years from end of waste deposit):	250
End of cap degradation (years from end of waste deposit):	1000

Justification for Specified Infiltration

Final capping assumed - PE membrane; degradation rate - LandSim default; [CHANGED] [CHANGED]

Duration of management control (years from the start of waste disposal): 50

Cell dimensions

Cell width (m):	160
Cell length (m):	160
Cell top area (ha):	2.57
Cell base area (ha):	2.56
Number of cells:	1
Total base area (ha):	2.56
Total top area (ha):	2.57
Head of Leachate when surface water breakout occurs (m)	SINGLE(10.2)
Waste porosity (fraction)	UNIFORM(0.15,0.2)
Final waste thickness (m):	UNIFORM(0,51)
Field capacity (fraction):	LOGTRIANGULAR(0.05,0.1,0.15)
Waste dry density (kg/l)	TRIANGULAR(1.3,1.4,1.5)

Justification for Landfill Geometry

As Phase 1 [CHANGED]

Source concentrations of contaminants*All units in milligrams per litre*

Declining source term

Ammoniacal_N	TRIANGULAR(58.1,307,784.3)
Arsenic	LOGTRIANGULAR(0.005,0.05,0.937) <i>Data are spot measurements of Leachate Quality</i>
Cadmium	TRIANGULAR(0.0003,0.00056,0.00066) <i>Substance to be treated as List 1</i>
Chloride	TRIANGULAR(58,237.8,928.4)
Chromium	LOGTRIANGULAR(0.004,0.02,0.098) <i>Data are spot measurements of Leachate Quality</i>
Copper	LOGTRIANGULAR(0.001,0.0055,0.012) <i>Data are spot measurements of Leachate Quality</i>
Lead	TRIANGULAR(0.003,0.006,0.036) <i>Data are spot measurements of Leachate Quality</i>
Manganese	TRIANGULAR(0.18,0.622,1.049) <i>Data are spot measurements of Leachate Quality</i>
Mercury	LOGTRIANGULAR(1.5e-005,0.0002,0.0014) <i>Substance to be treated as List 1</i>
Nickel	LOGTRIANGULAR(0.005,0.012,0.04)
Sulphate	LOGTRIANGULAR(7,450,909)
Zinc	LOGTRIANGULAR(0.0057,0.3282,1.738)

Justification for Species Concentration in Leachate

See report. [CHANGED] [CHANGED]

Drainage Information

Fixed Head.

Head on EBS is given as (m):

TRIANGULAR(5.2,8,10.2)

Justification for Specified Head

Leachate head assumed in the 2004 HRA [CHANGED]

Barrier Information

There is a single clay barrier

Justification for Engineered Barrier Type
As Phase 1

Design thickness of clay (m):	TRIANGULAR(0.75,1,1.25)
Density of clay (kg/l):	TRIANGULAR(1.95,2.08,2.21)
Pathway moisture content (fraction):	LOGUNIFORM(0.12,0.15)

Justification for Clay: Liner Thickness
Borehole Logs.

Hydraulic conductivity of liner (m/s):	LOGTRIANGULAR(5e-011,5e-010,5e-009)
Pathway longitudinal dispersivity (m):	UNIFORM(0.055,0.29)

Justification for Clay: Hydraulics Properties
Laboratory testing. Dispersivity taken as 10% mineral thickness.

Retardation parameters for clay liner

Uncertainty in Kd (l/kg):	
Ammoniacal_N	LOGUNIFORM(0.5,2)
Arsenic	LOGUNIFORM(25,250)
Cadmium	LOGUNIFORM(1.6,1500)
Chloride	SINGLE(0)
Chromium	LOGUNIFORM(1,4400)
Copper	LOGUNIFORM(10,4000)
Lead	LOGUNIFORM(27,270000)
Manganese	LOGUNIFORM(3,810)
Mercury	LOGUNIFORM(450,3835)
Nickel	LOGUNIFORM(20,800)
Sulphate	SINGLE(0)
Zinc	LOGUNIFORM(1,600)

Justification for Liner Kd Values by Species
Landsim default values

pathway parameters*Modelled as unsaturated pathway*

Pathway length (m):	SINGLE(0)
Flow Model:	porous medium
Pathway moisture content (fraction):	UNIFORM(0.05,0.3)
Pathway Density (kg/l):	SINGLE(0)

Justification for Unsat Zone Geometry

No unsaturated layer: Hydrogeological assessment

Pathway hydraulic conductivity values (m/s):	LOGTRIANGULAR(1e-006,1e-005,0.0001)
--	-------------------------------------

Justification for Unsat Zone Hydraulics Properties

No unsaturated layer

Pathway longitudinal dispersivity (m):	SINGLE(0)
--	-----------

Justification for Unsat Zone Dispersion Properties

No unsaturated pathway

Retardation parameters for pathway

Modelled as unsaturated pathway

No retardation values used in this simulation.

Check 'Unretarded Contaminant Transport' setting under simulation preferences.

Aquifer Pathway Dimensions for Phase

Pathway length (m):	UNIFORM(380,540)
Pathway width (m):	SINGLE(160)

Phase: 1A Cell 5**Infiltration Information**

Cap design infiltration (mm/year):	UNIFORM(0,10)
Infiltration to waste (mm/year):	NORMAL(900,100)
Infiltration to grassland (mm/year):	UNIFORM(315,495)
End of filling (years from start of waste deposit):	17
Start of cap degradation (years from end of waste deposit):	250
End of cap degradation (years from end of waste deposit):	1000

Justification for Specified Infiltration

Final capping assumed - PE membrane; degradation rate - LandSim default; [CHANGED]

Duration of management control (years from the start of waste disposal): 50

Cell dimensions

Cell width (m):	160
Cell length (m):	160
Cell top area (ha):	2.57
Cell base area (ha):	2.56
Number of cells:	1
Total base area (ha):	2.56
Total top area (ha):	2.57
Head of Leachate when surface water breakout occurs (m)	SINGLE(8.6)
Waste porosity (fraction)	UNIFORM(0.15,0.2)
Final waste thickness (m):	UNIFORM(0,41)
Field capacity (fraction):	LOGTRIANGULAR(0.05,0.1,0.15)
Waste dry density (kg/l)	TRIANGULAR(1.3,1.4,1.5)

Justification for Landfill Geometry

As Phase 1 [CHANGED]

Source concentrations of contaminants*All units in milligrams per litre*

Declining source term

Ammoniacal_N	LOGTRIANGULAR(224,1723,2805)
Arsenic	LOGTRIANGULAR(0.043,0.5,0.996) <i>Data are spot measurements of Leachate Quality</i>
Cadmium	TRIANGULAR(0.0006,0.0012,0.0036) <i>Substance to be treated as List 1</i>
Chloride	LOGTRIANGULAR(484,1551,2332)
Chromium	LOGTRIANGULAR(0.0515,0.5,0.523) <i>Data are spot measurements of Leachate Quality</i>
Copper	LOGTRIANGULAR(0.004,0.02,0.034) <i>Data are spot measurements of Leachate Quality</i>
Lead	LOGTRIANGULAR(0.008,0.02,0.025) <i>Data are spot measurements of Leachate Quality</i>
Manganese	TRIANGULAR(0.0931,0.1873,0.67) <i>Data are spot measurements of Leachate Quality</i>
Mercury	LOGTRIANGULAR(0.00019,0.001,0.0029) <i>Substance to be treated as List 1</i>
Nickel	LOGTRIANGULAR(0.028,0.25,0.2614)
Sulphate	LOGTRIANGULAR(5,56,2156)
Zinc	LOGTRIANGULAR(0.0106,0.2,0.245)

Justification for Species Concentration in Leachate

See report.

Drainage Information

Fixed Head.

Head on EBS is given as (m): TRIANGULAR(4.3,5.9,8.6)

Justification for Specified Head

Leachate head assumed in the 2004 HRA [CHANGED]

Barrier Information

There is a single clay barrier

Justification for Engineered Barrier Type

As Phase 1

Design thickness of clay (m): TRIANGULAR(0.94,1.25,1.56)

Density of clay (kg/l): TRIANGULAR(1.95,2.08,2.21)

Pathway moisture content (fraction): UNIFORM(0.12,0.15)

Justification for Clay: Liner Thickness

Borehole logs

Hydraulic conductivity of liner (m/s): LOGTRIANGULAR(5e-011,5e-010,5e-009)

Pathway longitudinal dispersivity (m): UNIFORM(0,0.29)

Justification for Clay: Hydraulics Properties

Laboratory testing. Dispersivity taken as 10% of mineral thickness.

Retardation parameters for clay liner

Uncertainty in Kd (l/kg):

Ammoniacal_N LOGUNIFORM(0.5,2)

Arsenic LOGUNIFORM(25,250)

Cadmium LOGUNIFORM(1.6,1500)

Chloride SINGLE(0)

Chromium LOGUNIFORM(1,4400)

Copper LOGUNIFORM(10,4000)

Lead LOGUNIFORM(27,270000)

Manganese LOGUNIFORM(3,810)

Mercury LOGUNIFORM(450,3835)

Nickel LOGUNIFORM(20,800)

Sulphate SINGLE(0)

Zinc LOGUNIFORM(1,600)

Justification for Liner Kd Values by Species

Landsim default values

pathway parameters*Modelled as unsaturated pathway*

Pathway length (m):	SINGLE(0)
Flow Model:	porous medium
Pathway moisture content (fraction):	UNIFORM(0.05,0.3)
Pathway Density (kg/l):	SINGLE(0)

Justification for Unsat Zone Geometry

No Unsaturated Pathway: Hydrogeological assessment

Pathway hydraulic conductivity values (m/s):	LOGTRIANGULAR(1e-006,1e-005,0.0001)
--	-------------------------------------

Justification for Unsat Zone Hydraulics Properties

Same as Aquifer- No Unsaturated Pathway

Pathway longitudinal dispersivity (m):	SINGLE(0)
--	-----------

Justification for Unsat Zone Dispersion Properties

No unsaturated pathway

Retardation parameters for pathway

Modelled as unsaturated pathway

No retardation values used in this simulation.

Check 'Unretarded Contaminant Transport' setting under simulation preferences.

Aquifer Pathway Dimensions for Phase

Pathway length (m):	UNIFORM(220,380)
Pathway width (m):	SINGLE(160)

Phase: 1a Cell 1b**Infiltration Information**

Cap design infiltration (mm/year):	UNIFORM(0,10)
Infiltration to waste (mm/year):	NORMAL(900,100)
Infiltration to grassland (mm/year):	UNIFORM(315,495)
End of filling (years from start of waste deposit):	0
Start of cap degradation (years from end of waste deposit):	250
End of cap degradation (years from end of waste deposit):	1000

Justification for Specified Infiltration

Infiltration to grassland 35-55% of effective rainfall. Rainfall from hydrological/meteorological data. Filling duration from site history/management communication. Degradation period as Landsim default. [CHANGED]

Duration of management control (years from the start of waste disposal): 50

Cell dimensions

Cell width (m):	107
Cell length (m):	242.991
Cell top area (ha):	2.60497
Cell base area (ha):	2.6
Number of cells:	1
Total base area (ha):	2.6
Total top area (ha):	2.60497
Head of Leachate when surface water breakout occurs (m)	SINGLE(9.85)
Waste porosity (fraction)	UNIFORM(0.15,0.2)
Final waste thickness (m):	UNIFORM(0,50)
Field capacity (fraction):	LOGTRIANGULAR(0.05,0.1,0.15)
Waste dry density (kg/l)	TRIANGULAR(1.3,1.4,1.5)

Justification for Landfill Geometry

As Phase 1 [CHANGED]

Source concentrations of contaminants*All units in milligrams per litre*

Declining source term

Ammoniacal_N

TRIANGULAR(152,761,1087)

Arsenic

LOGTRIANGULAR(0.013,0.1,0.186)

Data are spot measurements of Leachate Quality

Cadmium

TRIANGULAR(0.0003,0.0005,0.00121)

Substance to be treated as List 1

Chloride

LOGTRIANGULAR(208,1481,2728)

Chromium

LOGTRIANGULAR(0.086,0.15,0.65)

Data are spot measurements of Leachate Quality

Copper

LOGTRIANGULAR(0.001,0.006,0.053)

Data are spot measurements of Leachate Quality

Lead

LOGTRIANGULAR(0.002,0.02,0.24)

Data are spot measurements of Leachate Quality

Manganese

TRIANGULAR(0.395,0.503,0.957)

Data are spot measurements of Leachate Quality

Mercury

TRIANGULAR(0.0001,0.00058,0.00088)

Substance to be treated as List 1

Nickel

LOGTRIANGULAR(0.055,0.09,0.11)

Sulphate

LOGTRIANGULAR(5,45,133)

Zinc

LOGTRIANGULAR(0.00641,0.028,0.132)

Justification for Species Concentration in Leachate

See report.

Drainage Information

Fixed Head.

Head on EBS is given as (m):

TRIANGULAR(6.3,7.4,9.85)

Justification for Specified Head

Leachate head assumed in the 2004 HRA [CHANGED]

Barrier Information

There is a single clay barrier

Justification for Engineered Barrier Type
As Phase 1

Design thickness of clay (m):	TRIANGULAR(0.75,1,1.25)
Density of clay (kg/l):	TRIANGULAR(1.95,2.08,2.21)
Pathway moisture content (fraction):	UNIFORM(0.12,0.15)

Justification for Clay: Liner Thickness
Borehole logs

Hydraulic conductivity of liner (m/s):	LOGTRIANGULAR(5e-011,5e-010,5e-009)
Pathway longitudinal dispersivity (m):	UNIFORM(0,0.42)

Justification for Clay: Hydraulics Properties
Laboratory testing. Dispersivity taken as 10% mineral thickness.

Retardation parameters for clay liner

Uncertainty in Kd (l/kg):	
Ammoniacal_N	UNIFORM(0.5,2)
Arsenic	LOGUNIFORM(25,250)
Cadmium	LOGUNIFORM(1.6,1500)
Chloride	SINGLE(0)
Chromium	LOGUNIFORM(1,4400)
Copper	LOGUNIFORM(10,4000)
Lead	LOGUNIFORM(27,270000)
Manganese	LOGUNIFORM(3,810)
Mercury	LOGUNIFORM(450,3835)
Nickel	LOGUNIFORM(20,800)
Sulphate	SINGLE(0)
Zinc	UNIFORM(1,600)

Justification for Liner Kd Values by Species
Landsim default values

pathway parameters*Modelled as unsaturated pathway*

Pathway length (m):	SINGLE(0)
Flow Model:	porous medium
Pathway moisture content (fraction):	UNIFORM(0.05,0.3)
Pathway Density (kg/l):	SINGLE(0)

Justification for Unsat Zone Geometry

No unsaturated pathway: Hydrogeological assessment

Pathway hydraulic conductivity values (m/s):	LOGTRIANGULAR(1e-006,1e-005,0.0001)
--	-------------------------------------

Justification for Unsat Zone Hydraulics Properties

Same as aquifer- no unsaturated pathway

Pathway longitudinal dispersivity (m):	SINGLE(0)
--	-----------

Justification for Unsat Zone Dispersion Properties

No unsaturated pathway

Retardation parameters for pathway

Modelled as unsaturated pathway

No retardation values used in this simulation.

Check 'Unretarded Contaminant Transport' setting under simulation preferences.

Aquifer Pathway Dimensions for Phase

Pathway length (m):	UNIFORM(323.505,566.495)
Pathway width (m):	SINGLE(107)

Not present pathway parameters

Modelled as vertical pathway.

Pathway length (m): SINGLE(0)

Pathway porosity (fraction): UNIFORM(0.05,0.3)

Justification for Vertical Path Geometry

No vertical pathway: Hydrogeological assessment

Pathway dispersivity (m): SINGLE(0)

Justification for Vertical Path Dispersion Details

No vertical pathway

Retardation parameters for Not present pathway

Modelled as vertical pathway.

No retardation values used in this simulation.

Check 'Unretarded Contaminant Transport' setting under simulation preferences.

sandstone/mudstone Aquifer pathway parameters

Modelled as aquifer pathway.

Mixing zone (m): UNIFORM(3,9)

Justification for Aquifer Geometry

Borehole logs, hydrogeological assessment

Pathway regional gradient (-): TRIANGULAR(0.11,0.13,0.15)

Pathway hydraulic conductivity values (m/s): LOGTRIANGULAR(1e-008,2e-005,6.2e-005)

Pathway porosity (fraction): LOGUNIFORM(0.05,0.3)

Justification for Aquifer Hydraulics Properties

Hydrogeological assessment [CHANGED]

Pathway longitudinal dispersivity (m): UNIFORM(34.9,59.1)

Pathway transverse dispersivity (m): UNIFORM(104.7,177.3)

Justification for Aquifer Dispersion Details

Longitudinal 10% of pathway length. transverse 3% of pathway length

Retardation parameters for sandstone/mudstone Aquifer pathway

Modelled as aquifer pathway.

Uncertainty in Kd (l/kg):

Ammoniacal_N	LOGUNIFORM(0.5,2)
Arsenic	LOGUNIFORM(25,250)
Cadmium	LOGUNIFORM(1.6,1500)
Chloride	SINGLE(0)
Chromium	LOGUNIFORM(1,4400)
Copper	LOGUNIFORM(40,27500)
Lead	LOGUNIFORM(27,270000)
Manganese	LOGUNIFORM(3,810)
Mercury	LOGUNIFORM(450,3835)
Nickel	LOGUNIFORM(20,800)
Sulphate	SINGLE(0)
Zinc	LOGUNIFORM(1,600)

Justification for Aquifer Kd Values by Species

Landsim Default values

Pathway Density (kg/l):	TRIANGULAR(2.4,2.5,2.6)
-------------------------	-------------------------

Concentration of Ammoniacal_N in groundwater [mg/l]

At 20 years

01% of values less than 0.214438

05% of values less than 0.254501

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193885

Maximum 4.35652

Mean 0.889208

Std. Dev. 0.726702

Variance 0.528096

At 100 years

01% of values less than 0.214439

05% of values less than 0.254505

10% of values less than 0.280864

50% of values less than 0.614339

90% of values less than 1.85765

95% of values less than 2.53717

99% of values less than 3.65899

Minimum 0.193936

Maximum 7.46058

Mean 0.898871

Std. Dev. 0.758579

Variance 0.575442

At 300 years

01% of values less than 0.214438

05% of values less than 0.254515

10% of values less than 0.280762

50% of values less than 0.614351

90% of values less than 1.85765

95% of values less than 2.53718

99% of values less than 3.659

Minimum 0.193935

Maximum 9.0445

Mean 0.900132

Std. Dev. 0.773247

Variance 0.597911

At 1000 years

01% of values less than 0.214438

05% of values less than 0.255468

10% of values less than 0.281415

50% of values less than 0.613475

90% of values less than 1.85765

95% of values less than 2.48079

99% of values less than 3.64684

Minimum 0.194122

Maximum 4.37895

Mean 0.892345

Std. Dev. 0.728099

Variance 0.530128

Concentration of Ammoniacal_N in groundwater [mg/l]

At infinity

01% of values less than 0.214438		
05% of values less than 0.254605		
10% of values less than 0.280565		
50% of values less than 0.613596		
90% of values less than 1.85765		
95% of values less than 2.48067		
99% of values less than 3.64681		
Minimum 0.193887	Maximum 4.35651	
Mean 0.891961	Std. Dev. 0.727805	Variance 0.5297

Concentration of Arsenic in groundwater [mg/l]

At 20 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 100 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 300 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424262

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194625

Std. Dev. 0.00158561

Variance 2.51414E-006

At 1000 years

01% of values less than 0.000281855

05% of values less than 0.000391632

10% of values less than 0.000508145

50% of values less than 0.00144361

90% of values less than 0.00431672

95% of values less than 0.00545221

99% of values less than 0.00760763

Minimum 0.000206091

Maximum 0.0134644

Mean 0.00200422

Std. Dev. 0.00166427

Variance 2.76981E-006

Concentration of Arsenic in groundwater [mg/l]

At infinity

01% of values less than 0.000532334		
05% of values less than 0.000810988		
10% of values less than 0.00118363		
50% of values less than 0.00486098		
90% of values less than 0.0763429		
95% of values less than 0.178521		
99% of values less than 0.636891		
Minimum 0.000327514	Maximum 2.27545	
Mean 0.0386729	Std. Dev. 0.141739	Variance 0.0200901

Concentration of Cadmium in groundwater [mg/l]

At 20 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.00066079

Std. Dev. 0.0001638

Variance 2.68304E-008

At 100 years

01% of values less than 0.00034447

05% of values less than 0.00040679

10% of values less than 0.000454216

50% of values less than 0.000642832

90% of values less than 0.000896302

95% of values less than 0.000955182

99% of values less than 0.00105096

Minimum 0.000311797

Maximum 0.00395028

Mean 0.000664411

Std. Dev. 0.000193836

Variance 3.75722E-008

At 300 years

01% of values less than 0.00034447

05% of values less than 0.000408052

10% of values less than 0.000455115

50% of values less than 0.000649979

90% of values less than 0.00090553

95% of values less than 0.000970019

99% of values less than 0.00107904

Minimum 0.000311797

Maximum 0.00647955

Mean 0.000680733

Std. Dev. 0.000279068

Variance 7.78788E-008

At 1000 years

01% of values less than 0.000350103

05% of values less than 0.000418518

10% of values less than 0.000468513

50% of values less than 0.00066895

90% of values less than 0.000964488

95% of values less than 0.00105325

99% of values less than 0.003894

Minimum 0.000312237

Maximum 0.0283083

Mean 0.000786467

Std. Dev. 0.00120573

Variance 1.45378E-006

Concentration of Cadmium in groundwater [mg/l]

At infinity

01% of values less than 0.000357878		
05% of values less than 0.000429698		
10% of values less than 0.000486139		
50% of values less than 0.000697334		
90% of values less than 0.00104599		
95% of values less than 0.00130268		
99% of values less than 0.00395707		
Minimum 0.000335718	Maximum 0.0138963	
Mean 0.000837647	Std. Dev. 0.000812286	Variance 6.59809E-007

Concentration of Chloride in groundwater [mg/l]

At 20 years

01% of values less than 15.7406

05% of values less than 20.4661

10% of values less than 26.634

50% of values less than 65.5419

90% of values less than 669.345

95% of values less than 1792.69

99% of values less than 5584.61

Minimum 9.42432

Maximum 14853.7

Mean 368.98

Std. Dev. 1172.47

Variance 1.37469E+006

At 100 years

01% of values less than 17.7672

05% of values less than 25.7018

10% of values less than 32.6711

50% of values less than 94.4362

90% of values less than 1511.16

95% of values less than 3572.97

99% of values less than 11485.7

Minimum 10.1366

Maximum 29233

Mean 728.118

Std. Dev. 2191.68

Variance 4.80344E+006

At 300 years

01% of values less than 15.2012

05% of values less than 19.2162

10% of values less than 25.7912

50% of values less than 65.4368

90% of values less than 864.066

95% of values less than 2210.99

99% of values less than 7935.46

Minimum 9.71201

Maximum 18878

Mean 467.585

Std. Dev. 1565.89

Variance 2.45203E+006

At 1000 years

01% of values less than 17.3696

05% of values less than 24.6924

10% of values less than 31.8176

50% of values less than 88.4442

90% of values less than 1333.17

95% of values less than 2829.36

99% of values less than 10332.7

Minimum 12.1452

Maximum 25115.3

Mean 646.999

Std. Dev. 1970.42

Variance 3.88254E+006

Concentration of Chloride in groundwater [mg/l]

At infinity

01% of values less than 9.51772		
05% of values less than 11.7061		
10% of values less than 13.1729		
50% of values less than 28.485		
90% of values less than 52.5505		
95% of values less than 58.6831		
99% of values less than 66.509		
Minimum 8.45668	Maximum 72.366	
Mean 30.6608	Std. Dev. 14.7359	Variance 217.147

Concentration of Chromium in groundwater [mg/l]

At 20 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.0034652

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00454839

Std. Dev. 0.00340121

Variance 1.15682E-005

At 100 years

01% of values less than 0.000881761

05% of values less than 0.00113348

10% of values less than 0.00140808

50% of values less than 0.00349447

90% of values less than 0.00934594

95% of values less than 0.0119372

99% of values less than 0.0165715

Minimum 0.000721542

Maximum 0.307188

Mean 0.00494632

Std. Dev. 0.0103015

Variance 0.000106122

At 300 years

01% of values less than 0.000906653

05% of values less than 0.00117061

10% of values less than 0.00144096

50% of values less than 0.00370794

90% of values less than 0.00988758

95% of values less than 0.013124

99% of values less than 0.0258085

Minimum 0.000721542

Maximum 0.297828

Mean 0.0058097

Std. Dev. 0.0134028

Variance 0.000179636

At 1000 years

01% of values less than 0.000940364

05% of values less than 0.00128052

10% of values less than 0.00165671

50% of values less than 0.00452731

90% of values less than 0.0141349

95% of values less than 0.0221392

99% of values less than 0.149791

Minimum 0.000721542

Maximum 1.02037

Mean 0.010802

Std. Dev. 0.0417016

Variance 0.00173903

Concentration of Chromium in groundwater [mg/l]

At infinity

01% of values less than 0.000964048		
05% of values less than 0.00136789		
10% of values less than 0.00175409		
50% of values less than 0.00458197		
90% of values less than 0.0164718		
95% of values less than 0.0356058		
99% of values less than 0.148457		
Minimum 0.000766634	Maximum 0.777685	
Mean 0.0113715	Std. Dev. 0.034342	Variance 0.00117937

Concentration of Copper in groundwater [mg/l]

At 20 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 100 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 300 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192562

Std. Dev. 0.00157415

Variance 2.47794E-006

At 1000 years

01% of values less than 0.000265214

05% of values less than 0.000377966

10% of values less than 0.00047795

50% of values less than 0.00145644

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00193355

Std. Dev. 0.00157306

Variance 2.47452E-006

Concentration of Copper in groundwater [mg/l]

At infinity

01% of values less than 0.000311951		
05% of values less than 0.000414739		
10% of values less than 0.000554671		
50% of values less than 0.00177991		
90% of values less than 0.00576103		
95% of values less than 0.00787653		
99% of values less than 0.0278615		
Minimum 0.000213205	Maximum 0.0943785	
Mean 0.00318652	Std. Dev. 0.00658428	Variance 4.33527E-005

Concentration of Lead in groundwater [mg/l]

At 20 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 100 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 300 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 1000 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00550209

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00547039

Std. Dev. 0.001472

Variance 2.16679E-006

Concentration of Lead in groundwater [mg/l]

At infinity

01% of values less than 0.00249263		
05% of values less than 0.00308385		
10% of values less than 0.00353971		
50% of values less than 0.00561039		
90% of values less than 0.00776783		
95% of values less than 0.00852384		
99% of values less than 0.020472		
Minimum 0.00218678	Maximum 0.117612	
Mean 0.00601159	Std. Dev. 0.00468313	Variance 2.19317E-005

Concentration of Manganese in groundwater [mg/l]

At 20 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 100 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309616

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386183

Std. Dev. 0.394686

Variance 0.155777

At 300 years

01% of values less than 0.0101764

05% of values less than 0.0201635

10% of values less than 0.0312429

50% of values less than 0.258469

90% of values less than 0.914379

95% of values less than 1.23051

99% of values less than 1.74984

Minimum 0.00619944

Maximum 4.26008

Mean 0.391718

Std. Dev. 0.413494

Variance 0.170977

At 1000 years

01% of values less than 0.0110274

05% of values less than 0.0219033

10% of values less than 0.0336217

50% of values less than 0.267848

90% of values less than 0.980773

95% of values less than 1.24957

99% of values less than 1.82005

Minimum 0.00619944

Maximum 10.672

Mean 0.417714

Std. Dev. 0.532596

Variance 0.283659

Concentration of Manganese in groundwater [mg/l]

At infinity

01% of values less than 0.0117411		
05% of values less than 0.0241829		
10% of values less than 0.0398542		
50% of values less than 0.27954		
90% of values less than 0.987899		
95% of values less than 1.25379		
99% of values less than 1.83008		
Minimum 0.00735862	Maximum 4.49657	
Mean 0.418224	Std. Dev. 0.425837	Variance 0.181337

Concentration of Mercury in groundwater [mg/l]

At 20 years

01% of values less than 1.3071E-005
05% of values less than 2.18149E-005
10% of values less than 3.1961E-005
50% of values less than 0.000142793
90% of values less than 0.000880664
95% of values less than 0.00123619
99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 100 years

01% of values less than 1.3071E-005
05% of values less than 2.18149E-005
10% of values less than 3.1961E-005
50% of values less than 0.000142793
90% of values less than 0.000880664
95% of values less than 0.00123619
99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 300 years

01% of values less than 1.3071E-005
05% of values less than 2.18149E-005
10% of values less than 3.1961E-005
50% of values less than 0.000142793
90% of values less than 0.000880664
95% of values less than 0.00123619
99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 1000 years

01% of values less than 1.3071E-005
05% of values less than 2.18149E-005
10% of values less than 3.1961E-005
50% of values less than 0.000142793
90% of values less than 0.000880664
95% of values less than 0.00123619
99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

Concentration of Mercury in groundwater [mg/l]

At infinity

01% of values less than 1.376E-005		
05% of values less than 2.29349E-005		
10% of values less than 3.29005E-005		
50% of values less than 0.000147957		
90% of values less than 0.000887725		
95% of values less than 0.00124125		
99% of values less than 0.00214122		
Minimum 1.07565E-005	Maximum 0.00316086	
Mean 0.000325644	Std. Dev. 0.000441646	Variance 1.95051E-007

Concentration of Nickel in groundwater [mg/l]

At 20 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 100 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 300 years

01% of values less than 0.00111887

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127296

Std. Dev. 0.0156637

Variance 0.000245352

At 1000 years

01% of values less than 0.00113117

05% of values less than 0.00160015

10% of values less than 0.0020903

50% of values less than 0.00660811

90% of values less than 0.0333524

95% of values less than 0.0482727

99% of values less than 0.0738527

Minimum 0.000927254

Maximum 0.0936038

Mean 0.0128015

Std. Dev. 0.0156752

Variance 0.000245712

Concentration of Nickel in groundwater [mg/l]

At infinity

01% of values less than 0.00147984		
05% of values less than 0.00231478		
10% of values less than 0.0030136		
50% of values less than 0.0102805		
90% of values less than 0.0554522		
95% of values less than 0.0850502		
99% of values less than 0.314996		
Minimum 0.000962333	Maximum 1.03745	
Mean 0.0274738	Std. Dev. 0.0668495	Variance 0.00446886

Concentration of Sulphate in groundwater [mg/l]

At 20 years

01% of values less than 73.6879

05% of values less than 90.6861

10% of values less than 108.813

50% of values less than 234.5

90% of values less than 563.027

95% of values less than 677.607

99% of values less than 1224.09

Minimum 62.2445

Maximum 11604.4

Mean 317.076

Std. Dev. 469.886

Variance 220793

At 100 years

01% of values less than 77.261

05% of values less than 96.092

10% of values less than 119.356

50% of values less than 260.648

90% of values less than 646.443

95% of values less than 830.204

99% of values less than 2584.29

Minimum 64.8989

Maximum 15271.2

Mean 383.981

Std. Dev. 646.038

Variance 417364

At 300 years

01% of values less than 75.0238

05% of values less than 92.3084

10% of values less than 111.944

50% of values less than 245.757

90% of values less than 597.981

95% of values less than 745.886

99% of values less than 1768.57

Minimum 62.1698

Maximum 13108.2

Mean 346.658

Std. Dev. 548.167

Variance 300487

At 1000 years

01% of values less than 77.7572

05% of values less than 104.375

10% of values less than 124.827

50% of values less than 292.036

90% of values less than 812.041

95% of values less than 1381.81

99% of values less than 3978.38

Minimum 66.7461

Maximum 10236.1

Mean 479.109

Std. Dev. 755.547

Variance 570852

Concentration of Sulphate in groundwater [mg/l]

At infinity

01% of values less than 69.488		
05% of values less than 83.4786		
10% of values less than 96.8284		
50% of values less than 207.342		
90% of values less than 476.642		
95% of values less than 567.609		
99% of values less than 721.521		
Minimum 61.1151	Maximum 854.106	
Mean 248.745	Std. Dev. 149.212	Variance 22264.2

Concentration of Zinc in groundwater [mg/l]

At 20 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697144

Std. Dev. 0.0674253

Variance 0.00454617

At 100 years

01% of values less than 0.00317217

05% of values less than 0.00598679

10% of values less than 0.0088059

50% of values less than 0.0482569

90% of values less than 0.163851

95% of values less than 0.214243

99% of values less than 0.315272

Minimum 0.00235826

Maximum 2.81594

Mean 0.0733893

Std. Dev. 0.110014

Variance 0.012103

At 300 years

01% of values less than 0.00333477

05% of values less than 0.00652374

10% of values less than 0.00970798

50% of values less than 0.0518632

90% of values less than 0.178989

95% of values less than 0.245454

99% of values less than 0.345092

Minimum 0.00238031

Maximum 8.61638

Mean 0.0939543

Std. Dev. 0.352934

Variance 0.124562

At 1000 years

01% of values less than 0.00407491

05% of values less than 0.00852604

10% of values less than 0.0124632

50% of values less than 0.0638428

90% of values less than 0.230306

95% of values less than 0.310457

99% of values less than 1.37961

Minimum 0.00238031

Maximum 21.9248

Mean 0.157765

Std. Dev. 0.834689

Variance 0.696706

Concentration of Zinc in groundwater [mg/l]

At infinity

01% of values less than 0.00367362		
05% of values less than 0.00721242		
10% of values less than 0.0108148		
50% of values less than 0.0590363		
90% of values less than 0.186744		
95% of values less than 0.259386		
99% of values less than 0.520119		
Minimum 0.00272686	Maximum 1.03455	
Mean 0.0892181	Std. Dev. 0.107032	Variance 0.0114558

Phase: Phase 1*Concentration of Ammoniacal_N at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.214438

05% of values less than 0.254501

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193856

Maximum 4.35652

Mean 0.889206

Std. Dev. 0.726701

Variance 0.528095

At 100 years

01% of values less than 0.214438

05% of values less than 0.254501

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193865

Maximum 4.35652

Mean 0.889248

Std. Dev. 0.726699

Variance 0.528091

At 300 years

01% of values less than 0.214438

05% of values less than 0.254504

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193865

Maximum 4.35651

Mean 0.889239

Std. Dev. 0.726703

Variance 0.528098

At 1000 years

01% of values less than 0.214438

05% of values less than 0.254504

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193861

Maximum 4.35651

Mean 0.889215

Std. Dev. 0.726704

Variance 0.528099

Phase: Phase 1

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

At infinity

01% of values less than 0.214438		
05% of values less than 0.254504		
10% of values less than 0.280501		
50% of values less than 0.604494		
90% of values less than 1.85333		
95% of values less than 2.48067		
99% of values less than 3.64681		
Minimum 0.193856	Maximum 4.35651	
Mean 0.889195	Std. Dev. 0.726704	Variance 0.528099

Phase: Phase 1*Concentration of Arsenic at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 100 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 300 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194625

Std. Dev. 0.00158561

Variance 2.51415E-006

At 1000 years

01% of values less than 0.000272846

05% of values less than 0.000391632

10% of values less than 0.000500749

50% of values less than 0.00143995

90% of values less than 0.00428959

95% of values less than 0.00540076

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00197015

Std. Dev. 0.00158972

Variance 2.52722E-006

Phase: Phase 1

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

At infinity

01% of values less than 0.000430049		
05% of values less than 0.000718651		
10% of values less than 0.00100955		
50% of values less than 0.0029492		
90% of values less than 0.00805847		
95% of values less than 0.00970313		
99% of values less than 0.0128296		
Minimum 0.000289779	Maximum 0.0250169	
Mean 0.00384334	Std. Dev. 0.00294449	Variance 8.67004E-006

Phase: Phase 1*Concentration of Cadmium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.00066079

Std. Dev. 0.0001638

Variance 2.68304E-008

At 100 years

01% of values less than 0.00034447

05% of values less than 0.00040679

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.000660948

Std. Dev. 0.000163735

Variance 2.68091E-008

At 300 years

01% of values less than 0.00034447

05% of values less than 0.00040679

10% of values less than 0.000455115

50% of values less than 0.000644437

90% of values less than 0.000896302

95% of values less than 0.000955393

99% of values less than 0.00105096

Minimum 0.000311797

Maximum 0.0011326

Mean 0.000664133

Std. Dev. 0.00016422

Variance 2.69683E-008

At 1000 years

01% of values less than 0.00034447

05% of values less than 0.00041361

10% of values less than 0.000460454

50% of values less than 0.000656479

90% of values less than 0.000910554

95% of values less than 0.000975646

99% of values less than 0.00105822

Minimum 0.000312187

Maximum 0.00121704

Mean 0.000673611

Std. Dev. 0.000169105

Variance 2.85966E-008

Phase: Phase 1

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

At infinity

01% of values less than 0.000354242		
05% of values less than 0.000422252		
10% of values less than 0.000460456		
50% of values less than 0.000659911		
90% of values less than 0.000916635		
95% of values less than 0.000969441		
99% of values less than 0.00105639		
Minimum 0.000333216	Maximum 0.00118971	
Mean 0.000678352	Std. Dev. 0.000168108	Variance 2.82604E-008

Phase: Phase 1*Concentration of Chloride at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 15.4242

05% of values less than 19.89

10% of values less than 26.3061

50% of values less than 62.1137

90% of values less than 192.471

95% of values less than 244.311

99% of values less than 332.298

Minimum 9.4362

Maximum 371.746

Mean 87.1646

Std. Dev. 70.6588

Variance 4992.66

At 100 years

01% of values less than 15.5105

05% of values less than 20.9602

10% of values less than 27.2111

50% of values less than 66.6455

90% of values less than 221.351

95% of values less than 277.515

99% of values less than 391.375

Minimum 9.69812

Maximum 822.78

Mean 98.7491

Std. Dev. 88.2097

Variance 7780.95

At 300 years

01% of values less than 14.6237

05% of values less than 18.3123

10% of values less than 24.3675

50% of values less than 57.3242

90% of values less than 158.145

95% of values less than 198.55

99% of values less than 249.913

Minimum 9.49238

Maximum 323.307

Mean 75.3361

Std. Dev. 56.0453

Variance 3141.08

At 1000 years

01% of values less than 11.7352

05% of values less than 15.739

10% of values less than 19.5364

50% of values less than 44.1271

90% of values less than 94.7095

95% of values less than 121.319

99% of values less than 181.945

Minimum 9.43487

Maximum 274.495

Mean 52.6358

Std. Dev. 34.497

Variance 1190.05

Phase: Phase 1

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

At infinity

01% of values less than 9.51772		
05% of values less than 11.7061		
10% of values less than 13.1729		
50% of values less than 28.4236		
90% of values less than 52.0635		
95% of values less than 58.5696		
99% of values less than 65.8911		
Minimum 8.45668	Maximum 72.366	
Mean 30.6056	Std. Dev. 14.6915	Variance 215.839

Phase: Phase 1*Concentration of Chromium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.0034652

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00454839

Std. Dev. 0.00340121

Variance 1.15682E-005

At 100 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.00347524

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0159024

Minimum 0.000721542

Maximum 0.0208005

Mean 0.00455901

Std. Dev. 0.00340082

Variance 1.15656E-005

At 300 years

01% of values less than 0.00088351

05% of values less than 0.0011444

10% of values less than 0.00141471

50% of values less than 0.00357038

90% of values less than 0.00949561

95% of values less than 0.0118912

99% of values less than 0.0162488

Minimum 0.000721542

Maximum 0.0210229

Mean 0.00466164

Std. Dev. 0.00344566

Variance 1.18726E-005

At 1000 years

01% of values less than 0.000929891

05% of values less than 0.00117049

10% of values less than 0.00146075

50% of values less than 0.00369705

90% of values less than 0.00972229

95% of values less than 0.0120933

99% of values less than 0.0165715

Minimum 0.000721542

Maximum 0.0212436

Mean 0.00482593

Std. Dev. 0.0035002

Variance 1.22514E-005

Phase: Phase 1

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

At infinity

01% of values less than 0.000899375		
05% of values less than 0.00120058		
10% of values less than 0.00149461		
50% of values less than 0.00364397		
90% of values less than 0.0094315		
95% of values less than 0.0119613		
99% of values less than 0.0160062		
Minimum 0.000721542	Maximum 0.0208377	
Mean 0.00472081	Std. Dev. 0.0034374	Variance 1.18158E-005

Phase: Phase 1*Concentration of Copper at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 100 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 300 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192562

Std. Dev. 0.00157414

Variance 2.47793E-006

At 1000 years

01% of values less than 0.000262065

05% of values less than 0.000377966

10% of values less than 0.00047795

50% of values less than 0.00145644

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00193237

Std. Dev. 0.00157286

Variance 2.47388E-006

Phase: Phase 1

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

At infinity

01% of values less than 0.000296011		
05% of values less than 0.000399758		
10% of values less than 0.000517033		
50% of values less than 0.00159903		
90% of values less than 0.00450149		
95% of values less than 0.00566484		
99% of values less than 0.00755108		
Minimum 0.000214389	Maximum 0.00999937	
Mean 0.00209165	Std. Dev. 0.00166439	Variance 2.77018E-006

Phase: Phase 1*Concentration of Lead at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 100 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 300 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 1000 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546868

Std. Dev. 0.00147256

Variance 2.16842E-006

Phase: Phase 1

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

At infinity

01% of values less than 0.00245999		
05% of values less than 0.00306657		
10% of values less than 0.00352884		
50% of values less than 0.00553618		
90% of values less than 0.00763563		
95% of values less than 0.008109		
99% of values less than 0.008919		
Minimum 0.00218678	Maximum 0.0132563	
Mean 0.00553895	Std. Dev. 0.00154224	Variance 2.37851E-006

Phase: Phase 1*Concentration of Manganese at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 100 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386183

Std. Dev. 0.394686

Variance 0.155777

At 300 years

01% of values less than 0.0101764

05% of values less than 0.0201919

10% of values less than 0.0312429

50% of values less than 0.256224

90% of values less than 0.91345

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386943

Std. Dev. 0.394694

Variance 0.155784

At 1000 years

01% of values less than 0.0103806

05% of values less than 0.0218169

10% of values less than 0.0328177

50% of values less than 0.261784

90% of values less than 0.918037

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.39091

Std. Dev. 0.394793

Variance 0.155862

Phase: Phase 1

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

At infinity

01% of values less than 0.0117411		
05% of values less than 0.0214741		
10% of values less than 0.0338979		
50% of values less than 0.262813		
90% of values less than 0.914394		
95% of values less than 1.23051		
99% of values less than 1.76363		
Minimum 0.00735336	Maximum 2.08202	
Mean 0.391452	Std. Dev. 0.394992	Variance 0.156019

Phase: Phase 1*Concentration of Mercury at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 100 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 300 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 1000 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

Phase: Phase 1

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

At infinity

01% of values less than 1.33041E-005		
05% of values less than 2.22582E-005		
10% of values less than 3.22077E-005		
50% of values less than 0.00014428		
90% of values less than 0.000880664		
95% of values less than 0.00123623		
99% of values less than 0.0021387		
Minimum 1.0755E-005	Maximum 0.00316083	
Mean 0.000319861	Std. Dev. 0.00043989	Variance 1.93503E-007

Phase: Phase 1*Concentration of Nickel at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 100 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 300 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127296

Std. Dev. 0.0156637

Variance 0.000245352

At 1000 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00206797

50% of values less than 0.00656463

90% of values less than 0.0333536

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927255

Maximum 0.0936038

Mean 0.0127793

Std. Dev. 0.0156727

Variance 0.000245634

Phase: Phase 1

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

At infinity

01% of values less than 0.00131396		
05% of values less than 0.00201197		
10% of values less than 0.00264192		
50% of values less than 0.007911		
90% of values less than 0.0342274		
95% of values less than 0.0510901		
99% of values less than 0.0749279		
Minimum 0.000949717	Maximum 0.102808	
Mean 0.014062	Std. Dev. 0.0160765	Variance 0.000258454

Phase: Phase 1*Concentration of Sulphate at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 73.0798

05% of values less than 86.6473

10% of values less than 106.681

50% of values less than 217.905

90% of values less than 486.103

95% of values less than 582.715

99% of values less than 727.293

Minimum 61.9524

Maximum 887.062

Mean 260.182

Std. Dev. 151.853

Variance 23059.4

At 100 years

01% of values less than 73.1786

05% of values less than 86.7132

10% of values less than 107.645

50% of values less than 221.217

90% of values less than 502.768

95% of values less than 585.59

99% of values less than 731.262

Minimum 61.9332

Maximum 1025.44

Mean 263.755

Std. Dev. 154.493

Variance 23867.9

At 300 years

01% of values less than 73.1475

05% of values less than 86.2478

10% of values less than 105.526

50% of values less than 216.31

90% of values less than 491.389

95% of values less than 578.141

99% of values less than 726.328

Minimum 61.8034

Maximum 882.523

Mean 259.681

Std. Dev. 151.538

Variance 22963.8

At 1000 years

01% of values less than 72.2719

05% of values less than 85.5314

10% of values less than 105.048

50% of values less than 212.821

90% of values less than 483.644

95% of values less than 578.044

99% of values less than 722.178

Minimum 61.5411

Maximum 866.522

Mean 256.04

Std. Dev. 150.5

Variance 22650.1

Phase: Phase 1

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

At infinity

01% of values less than 69.488		
05% of values less than 83.4786		
10% of values less than 96.8223		
50% of values less than 206.841		
90% of values less than 476.642		
95% of values less than 567.609		
99% of values less than 721.521		
Minimum 61.1151	Maximum 854.102	
Mean 248.484	Std. Dev. 149.134	Variance 22241

Phase: Phase 1*Concentration of Zinc at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697144

Std. Dev. 0.0674253

Variance 0.00454617

At 100 years

01% of values less than 0.00317217

05% of values less than 0.00598508

10% of values less than 0.00880196

50% of values less than 0.0478799

90% of values less than 0.159114

95% of values less than 0.208749

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.362246

Mean 0.0701156

Std. Dev. 0.0675126

Variance 0.00455796

At 300 years

01% of values less than 0.0032829

05% of values less than 0.00630307

10% of values less than 0.00935726

50% of values less than 0.0506895

90% of values less than 0.167051

95% of values less than 0.22073

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.36395

Mean 0.0727603

Std. Dev. 0.0686576

Variance 0.00471387

At 1000 years

01% of values less than 0.00346029

05% of values less than 0.00726427

10% of values less than 0.0106105

50% of values less than 0.0553042

90% of values less than 0.171033

95% of values less than 0.221446

99% of values less than 0.30435

Minimum 0.00235824

Maximum 0.359285

Mean 0.0764779

Std. Dev. 0.0693474

Variance 0.00480906

Phase: Phase 1

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

At infinity

01% of values less than 0.00335203		
05% of values less than 0.00672588		
10% of values less than 0.00949353		
50% of values less than 0.0496355		
90% of values less than 0.162306		
95% of values less than 0.215319		
99% of values less than 0.30471		
Minimum 0.00264981	Maximum 0.356024	
Mean 0.0718451	Std. Dev. 0.0678904	Variance 0.00460911

Phase: 1A Cell 1a*Concentration of Ammoniacal_N at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.214438

05% of values less than 0.254501

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193846

Maximum 4.35651

Mean 0.889142

Std. Dev. 0.726708

Variance 0.528104

At 100 years

01% of values less than 0.215411

05% of values less than 0.255545

10% of values less than 0.281415

50% of values less than 0.613525

90% of values less than 1.85765

95% of values less than 2.4807

99% of values less than 3.64681

Minimum 0.193852

Maximum 4.35651

Mean 0.891296

Std. Dev. 0.726368

Variance 0.527611

At 300 years

01% of values less than 0.215411

05% of values less than 0.255548

10% of values less than 0.281415

50% of values less than 0.613532

90% of values less than 1.85765

95% of values less than 2.48071

99% of values less than 3.64681

Minimum 0.193854

Maximum 4.35651

Mean 0.891253

Std. Dev. 0.726374

Variance 0.52762

At 1000 years

01% of values less than 0.217089

05% of values less than 0.258301

10% of values less than 0.291309

50% of values less than 0.627912

90% of values less than 1.861

95% of values less than 2.53538

99% of values less than 3.65886

Minimum 0.196838

Maximum 4.35657

Mean 0.904132

Std. Dev. 0.73274

Variance 0.536908

Phase: 1A Cell 1a

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

At infinity

01% of values less than 0.214438		
05% of values less than 0.254501		
10% of values less than 0.280501		
50% of values less than 0.613475		
90% of values less than 1.85333		
95% of values less than 2.48067		
99% of values less than 3.65878		
Minimum 0.193846	Maximum 4.4178	
Mean 0.890899	Std. Dev. 0.731273	Variance 0.53476

Phase: 1A Cell 1a*Concentration of Arsenic at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 100 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 300 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194647

Std. Dev. 0.00158551

Variance 2.51383E-006

At 1000 years

01% of values less than 0.00028288

05% of values less than 0.000403432

10% of values less than 0.00051217

50% of values less than 0.00148151

90% of values less than 0.00453598

95% of values less than 0.0055367

99% of values less than 0.0074939

Minimum 0.000206062

Maximum 0.00899517

Mean 0.00204583

Std. Dev. 0.00165546

Variance 2.74053E-006

Phase: 1A Cell 1a

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

At infinity

01% of values less than 0.000300449		
05% of values less than 0.000409823		
10% of values less than 0.000540823		
50% of values less than 0.00156973		
90% of values less than 0.00455392		
95% of values less than 0.0057021		
99% of values less than 0.00799922		
Minimum 0.00024761	Maximum 0.00899715	
Mean 0.00212641	Std. Dev. 0.00169488	Variance 2.87263E-006

Phase: 1A Cell 1a*Concentration of Cadmium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.00066079

Std. Dev. 0.0001638

Variance 2.68304E-008

At 100 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.000660794

Std. Dev. 0.000163797

Variance 2.68294E-008

At 300 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.000454221

50% of values less than 0.000642832

90% of values less than 0.000896302

95% of values less than 0.000955182

99% of values less than 0.00104638

Minimum 0.000311797

Maximum 0.00109395

Mean 0.000661931

Std. Dev. 0.00016407

Variance 2.6919E-008

At 1000 years

01% of values less than 0.00034447

05% of values less than 0.000414374

10% of values less than 0.000460641

50% of values less than 0.00065603

90% of values less than 0.000909224

95% of values less than 0.000975787

99% of values less than 0.00109391

Minimum 0.000311797

Maximum 0.00140777

Mean 0.000675094

Std. Dev. 0.000171753

Variance 2.94992E-008

Phase: 1A Cell 1a

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

At infinity

01% of values less than 0.000348715		
05% of values less than 0.000406481		
10% of values less than 0.000454246		
50% of values less than 0.00064284		
90% of values less than 0.000891856		
95% of values less than 0.000953297		
99% of values less than 0.00104599		
Minimum 0.000311797	Maximum 0.00109606	
Mean 0.000661607	Std. Dev. 0.00016374	Variance 2.68109E-008

Phase: 1A Cell 1a*Concentration of Chloride at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 10.0469

05% of values less than 12.9735

10% of values less than 15.1131

50% of values less than 33.3424

90% of values less than 62.1222

95% of values less than 71.9638

99% of values less than 160.937

Minimum 8.89202

Maximum 330.727

Mean 38.3097

Std. Dev. 27.5783

Variance 760.564

At 100 years

01% of values less than 13.2886

05% of values less than 18.224

10% of values less than 23.4941

50% of values less than 60.1252

90% of values less than 580.15

95% of values less than 1033.59

99% of values less than 2509.16

Minimum 11.0148

Maximum 6353.73

Mean 216.306

Std. Dev. 487.155

Variance 237320

At 300 years

01% of values less than 11.7248

05% of values less than 15.2017

10% of values less than 17.996

50% of values less than 41.5524

90% of values less than 148.44

95% of values less than 248.334

99% of values less than 575.881

Minimum 9.25531

Maximum 1374.36

Mean 72.0528

Std. Dev. 108.854

Variance 11849.2

At 1000 years

01% of values less than 13.3769

05% of values less than 18.8907

10% of values less than 26.0983

50% of values less than 71.909

90% of values less than 392.924

95% of values less than 643.873

99% of values less than 1156.83

Minimum 8.53335

Maximum 1424.31

Mean 160.65

Std. Dev. 220.067

Variance 48429.5

Phase: 1A Cell 1a

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

At infinity

01% of values less than 9.51772		
05% of values less than 11.7061		
10% of values less than 13.1629		
50% of values less than 28.3196		
90% of values less than 52.0634		
95% of values less than 58.5696		
99% of values less than 65.8911		
Minimum 8.45667	Maximum 72.366	
Mean 30.5607	Std. Dev. 14.6948	Variance 215.936

Phase: 1A Cell 1a*Concentration of Chromium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.0034652

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00454838

Std. Dev. 0.00340122

Variance 1.15683E-005

At 100 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140808

50% of values less than 0.00347524

90% of values less than 0.00930948

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00456109

Std. Dev. 0.00340681

Variance 1.16063E-005

At 300 years

01% of values less than 0.000899322

05% of values less than 0.00114262

10% of values less than 0.00146424

50% of values less than 0.00365634

90% of values less than 0.0100109

95% of values less than 0.0129593

99% of values less than 0.0206892

Minimum 0.000721542

Maximum 0.185188

Mean 0.00536964

Std. Dev. 0.00834506

Variance 6.964E-005

At 1000 years

01% of values less than 0.000924173

05% of values less than 0.00121845

10% of values less than 0.00156658

50% of values less than 0.0044864

90% of values less than 0.0151975

95% of values less than 0.0269174

99% of values less than 0.0849267

Minimum 0.000721542

Maximum 0.191514

Mean 0.00857284

Std. Dev. 0.0157536

Variance 0.000248177

Phase: 1A Cell 1a

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

At infinity

01% of values less than 0.00088726		
05% of values less than 0.00114263		
10% of values less than 0.00145467		
50% of values less than 0.00356914		
90% of values less than 0.00967635		
95% of values less than 0.0120933		
99% of values less than 0.0175631		
Minimum 0.000721714	Maximum 0.0465246	
Mean 0.00480189	Std. Dev. 0.00398385	Variance 1.5871E-005

Phase: 1A Cell 1a*Concentration of Copper at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 100 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 300 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192562

Std. Dev. 0.00157416

Variance 2.47798E-006

At 1000 years

01% of values less than 0.000283743

05% of values less than 0.000377966

10% of values less than 0.000476727

50% of values less than 0.00144588

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192884

Std. Dev. 0.00157549

Variance 2.48218E-006

Phase: 1A Cell 1a

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

At infinity

01% of values less than 0.000266582		
05% of values less than 0.000393816		
10% of values less than 0.00048024		
50% of values less than 0.00146354		
90% of values less than 0.00430182		
95% of values less than 0.00543102		
99% of values less than 0.00714092		
Minimum 0.000215383	Maximum 0.00923953	
Mean 0.00194512	Std. Dev. 0.00157498	Variance 2.48057E-006

Phase: 1A Cell 1a*Concentration of Lead at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 100 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 300 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 1000 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00547002

Std. Dev. 0.00147287

Variance 2.16936E-006

Phase: 1A Cell 1a

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

At infinity

01% of values less than 0.00244234		
05% of values less than 0.0030443		
10% of values less than 0.0035071		
50% of values less than 0.00551686		
90% of values less than 0.00748202		
95% of values less than 0.00800861		
99% of values less than 0.00861303		
Minimum 0.00218678	Maximum 0.0383244	
Mean 0.00551072	Std. Dev. 0.00180703	Variance 3.26537E-006

Phase: 1A Cell 1a*Concentration of Manganese at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 100 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386179

Std. Dev. 0.394689

Variance 0.155779

At 300 years

01% of values less than 0.0101764

05% of values less than 0.0204252

10% of values less than 0.0313683

50% of values less than 0.256224

90% of values less than 0.914379

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386686

Std. Dev. 0.394867

Variance 0.15592

At 1000 years

01% of values less than 0.0101764

05% of values less than 0.0224066

10% of values less than 0.0336526

50% of values less than 0.262136

90% of values less than 0.922483

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.20229

Mean 0.39544

Std. Dev. 0.398333

Variance 0.158669

Phase: 1A Cell 1a

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

At infinity

01% of values less than 0.010177		
05% of values less than 0.0199972		
10% of values less than 0.0311591		
50% of values less than 0.256224		
90% of values less than 0.913414		
95% of values less than 1.23051		
99% of values less than 1.74656		
Minimum 0.00624013	Maximum 2.08132	
Mean 0.386745	Std. Dev. 0.394804	Variance 0.15587

Phase: 1A Cell 1a*Concentration of Mercury at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 100 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 300 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 1000 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

Phase: 1A Cell 1a

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

At infinity

01% of values less than 1.3071E-005		
05% of values less than 2.18229E-005		
10% of values less than 3.22144E-005		
50% of values less than 0.000143047		
90% of values less than 0.000880664		
95% of values less than 0.00123619		
99% of values less than 0.0021387		
Minimum 1.0755E-005	Maximum 0.00316083	
Mean 0.000320108	Std. Dev. 0.000439756	Variance 1.93385E-007

Phase: 1A Cell 1a*Concentration of Nickel at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 100 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 300 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127296

Std. Dev. 0.0156638

Variance 0.000245354

At 1000 years

01% of values less than 0.00111883

05% of values less than 0.00162689

10% of values less than 0.00206797

50% of values less than 0.0065397

90% of values less than 0.0333423

95% of values less than 0.0482727

99% of values less than 0.0738631

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127502

Std. Dev. 0.0156656

Variance 0.00024541

Phase: 1A Cell 1a

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

At infinity

01% of values less than 0.00119152		
05% of values less than 0.00168189		
10% of values less than 0.00212092		
50% of values less than 0.00665811		
90% of values less than 0.0333382		
95% of values less than 0.0483577		
99% of values less than 0.0738699		
Minimum 0.000927469	Maximum 0.0936041	
Mean 0.0128084	Std. Dev. 0.0156715	Variance 0.000245596

Phase: 1A Cell 1a*Concentration of Sulphate at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 69.4914

05% of values less than 83.1977

10% of values less than 96.9316

50% of values less than 206.995

90% of values less than 476.698

95% of values less than 567.68

99% of values less than 721.523

Minimum 61.2142

Maximum 854.083

Mean 248.657

Std. Dev. 149.057

Variance 22217.9

At 100 years

01% of values less than 72.6491

05% of values less than 85.3687

10% of values less than 101.091

50% of values less than 213.57

90% of values less than 483.331

95% of values less than 572.064

99% of values less than 726.085

Minimum 61.4503

Maximum 854.243

Mean 255.585

Std. Dev. 149.6

Variance 22380.1

At 300 years

01% of values less than 71.557

05% of values less than 83.394

10% of values less than 99.9099

50% of values less than 208.572

90% of values less than 476.91

95% of values less than 567.697

99% of values less than 721.537

Minimum 61.2552

Maximum 854.113

Mean 250.082

Std. Dev. 148.911

Variance 22174.6

At 1000 years

01% of values less than 74.9394

05% of values less than 87.9131

10% of values less than 104.879

50% of values less than 216.384

90% of values less than 483.528

95% of values less than 568.579

99% of values less than 729.045

Minimum 62.9461

Maximum 854.465

Mean 255.843

Std. Dev. 149.066

Variance 22220.5

Phase: 1A Cell 1a

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

At infinity

01% of values less than 69.4878		
05% of values less than 83.1964		
10% of values less than 96.8199		
50% of values less than 206.837		
90% of values less than 476.638		
95% of values less than 567.609		
99% of values less than 721.521		
Minimum 61.1151	Maximum 854.083	
Mean 248.376	Std. Dev. 149.09	Variance 22227.7

Phase: 1A Cell 1a*Concentration of Zinc at Phase Monitor Well [mg/l]***At 20 years**

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697141

Std. Dev. 0.0674253

Variance 0.00454618

At 100 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697159

Std. Dev. 0.0674278

Variance 0.00454651

At 300 years

01% of values less than 0.00317217

05% of values less than 0.00598507

10% of values less than 0.00843893

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208858

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353859

Mean 0.0698096

Std. Dev. 0.0674228

Variance 0.00454583

At 1000 years

01% of values less than 0.0032829

05% of values less than 0.00650281

10% of values less than 0.00924541

50% of values less than 0.0496584

90% of values less than 0.163209

95% of values less than 0.211497

99% of values less than 0.304592

Minimum 0.00235824

Maximum 0.354329

Mean 0.070999

Std. Dev. 0.0675564

Variance 0.00456386

Phase: 1A Cell 1a

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

At infinity

01% of values less than 0.0031722		
05% of values less than 0.00577507		
10% of values less than 0.00843893		
50% of values less than 0.0478656		
90% of values less than 0.159115		
95% of values less than 0.208739		
99% of values less than 0.304347		
Minimum 0.00238031	Maximum 0.353858	
Mean 0.0697505	Std. Dev. 0.067439	Variance 0.00454801

Phase: 1A Cell 2*Concentration of Ammoniacal_N at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.214438

05% of values less than 0.254501

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193846

Maximum 4.35652

Mean 0.889144

Std. Dev. 0.726709

Variance 0.528106

At 100 years

01% of values less than 0.21541

05% of values less than 0.26055

10% of values less than 0.291705

50% of values less than 0.632913

90% of values less than 1.85999

95% of values less than 2.53545

99% of values less than 3.69433

Minimum 0.193846

Maximum 4.71036

Mean 0.911559

Std. Dev. 0.736332

Variance 0.542185

At 300 years

01% of values less than 0.21541

05% of values less than 0.26055

10% of values less than 0.292328

50% of values less than 0.630487

90% of values less than 1.85981

95% of values less than 2.53532

99% of values less than 3.69444

Minimum 0.193846

Maximum 4.71902

Mean 0.910337

Std. Dev. 0.736529

Variance 0.542474

At 1000 years

01% of values less than 0.228396

05% of values less than 0.266132

10% of values less than 0.301496

50% of values less than 0.686542

90% of values less than 2.03072

95% of values less than 2.66469

99% of values less than 3.74647

Minimum 0.193846

Maximum 6.91283

Mean 0.982191

Std. Dev. 0.815113

Variance 0.66441

Phase: 1A Cell 2

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

At infinity

01% of values less than 0.214438		
05% of values less than 0.254501		
10% of values less than 0.280565		
50% of values less than 0.630184		
90% of values less than 1.90311		
95% of values less than 2.57509		
99% of values less than 3.69892		
Minimum 0.193846	Maximum 8.93971	
Mean 0.921546	Std. Dev. 0.796031	Variance 0.633665

Phase: 1A Cell 2*Concentration of Arsenic at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 100 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 300 years

01% of values less than 0.000267665

05% of values less than 0.000389689

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194757

Std. Dev. 0.00158584

Variance 2.5149E-006

At 1000 years

01% of values less than 0.000291486

05% of values less than 0.000432156

10% of values less than 0.000579609

50% of values less than 0.00161808

90% of values less than 0.00466253

95% of values less than 0.0056564

99% of values less than 0.00799221

Minimum 0.000211905

Maximum 0.00937504

Mean 0.00216945

Std. Dev. 0.00167726

Variance 2.81321E-006

Phase: 1A Cell 2

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

At infinity

01% of values less than 0.000270894		
05% of values less than 0.000422483		
10% of values less than 0.000549652		
50% of values less than 0.00152099		
90% of values less than 0.00431661		
95% of values less than 0.00553822		
99% of values less than 0.00760394		
Minimum 0.000244082	Maximum 0.00906471	
Mean 0.00204084	Std. Dev. 0.00161396	Variance 2.60486E-006

Phase: 1A Cell 2*Concentration of Cadmium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.00066079

Std. Dev. 0.0001638

Variance 2.68304E-008

At 100 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000642765

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.000660814

Std. Dev. 0.0001638

Variance 2.68304E-008

At 300 years

01% of values less than 0.000344489

05% of values less than 0.000408052

10% of values less than 0.000455021

50% of values less than 0.000644217

90% of values less than 0.000897594

95% of values less than 0.000964007

99% of values less than 0.00105325

Minimum 0.000311797

Maximum 0.00111379

Mean 0.000663486

Std. Dev. 0.00016509

Variance 2.72546E-008

At 1000 years

01% of values less than 0.000352174

05% of values less than 0.000428561

10% of values less than 0.00046679

50% of values less than 0.0006714

90% of values less than 0.000949539

95% of values less than 0.00103574

99% of values less than 0.0013325

Minimum 0.000314997

Maximum 0.00185417

Mean 0.000699209

Std. Dev. 0.00020013

Variance 4.00522E-008

Phase: 1A Cell 2

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

At infinity

01% of values less than 0.000348715		
05% of values less than 0.000406481		
10% of values less than 0.000454216		
50% of values less than 0.000644317		
90% of values less than 0.000896302		
95% of values less than 0.000955393		
99% of values less than 0.00105096		
Minimum 0.000311797	Maximum 0.00112965	
Mean 0.000662988	Std. Dev. 0.000164357	Variance 2.70133E-008

Phase: 1A Cell 2*Concentration of Chloride at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 10.126

05% of values less than 13.2447

10% of values less than 15.8426

50% of values less than 35.4058

90% of values less than 66.6514

95% of values less than 84.4621

99% of values less than 170.718

Minimum 8.80312

Maximum 315.712

Mean 41.0897

Std. Dev. 29.0936

Variance 846.437

At 100 years

01% of values less than 12.9903

05% of values less than 18.7617

10% of values less than 23.1854

50% of values less than 60.4227

90% of values less than 479.811

95% of values less than 840.716

99% of values less than 1703.79

Minimum 9.64538

Maximum 3192.25

Mean 181.104

Std. Dev. 339.008

Variance 114927

At 300 years

01% of values less than 11.3378

05% of values less than 14.2205

10% of values less than 17.2052

50% of values less than 39.0933

90% of values less than 108.859

95% of values less than 191.595

99% of values less than 388.588

Minimum 8.97565

Maximum 1210.18

Mean 60.0295

Std. Dev. 79.6272

Variance 6340.5

At 1000 years

01% of values less than 12.7558

05% of values less than 17.9168

10% of values less than 23.2277

50% of values less than 61.1066

90% of values less than 219.814

95% of values less than 303.764

99% of values less than 432.901

Minimum 10.0791

Maximum 635.115

Mean 96.0015

Std. Dev. 91.8957

Variance 8444.81

Phase: 1A Cell 2

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

At infinity

01% of values less than 9.51772		
05% of values less than 11.7061		
10% of values less than 13.1629		
50% of values less than 28.3196		
90% of values less than 52.0634		
95% of values less than 58.5696		
99% of values less than 65.8911		
Minimum 8.45667	Maximum 72.366	
Mean 30.5607	Std. Dev. 14.6948	Variance 215.936

Phase: 1A Cell 2*Concentration of Chromium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.0034652

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00454838

Std. Dev. 0.00340122

Variance 1.15683E-005

At 100 years

01% of values less than 0.000881761

05% of values less than 0.0011333

10% of values less than 0.00140808

50% of values less than 0.00349302

90% of values less than 0.00929249

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00456326

Std. Dev. 0.00340177

Variance 1.1572E-005

At 300 years

01% of values less than 0.000906653

05% of values less than 0.0011444

10% of values less than 0.00147224

50% of values less than 0.00368232

90% of values less than 0.00978767

95% of values less than 0.0128505

99% of values less than 0.0181651

Minimum 0.000721545

Maximum 0.0542013

Mean 0.00496676

Std. Dev. 0.00428263

Variance 1.8341E-005

At 1000 years

01% of values less than 0.000921089

05% of values less than 0.00124389

10% of values less than 0.00162618

50% of values less than 0.00461741

90% of values less than 0.0131776

95% of values less than 0.0206892

99% of values less than 0.0443051

Minimum 0.000753144

Maximum 0.0947968

Mean 0.00693924

Std. Dev. 0.00819684

Variance 6.71882E-005

Phase: 1A Cell 2

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

At infinity

01% of values less than 0.00088351		
05% of values less than 0.00117049		
10% of values less than 0.00144093		
50% of values less than 0.00353728		
90% of values less than 0.00934594		
95% of values less than 0.011812		
99% of values less than 0.0157096		
Minimum 0.000721542	Maximum 0.0280784	
Mean 0.00463542	Std. Dev. 0.00346614	Variance 1.20141E-005

Phase: 1A Cell 2*Concentration of Copper at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 100 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 300 years

01% of values less than 0.000274621

05% of values less than 0.000370668

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192571

Std. Dev. 0.00157413

Variance 2.47789E-006

At 1000 years

01% of values less than 0.000283743

05% of values less than 0.000383676

10% of values less than 0.000474892

50% of values less than 0.00144985

90% of values less than 0.00429142

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00193273

Std. Dev. 0.00157489

Variance 2.48029E-006

Phase: 1A Cell 2

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

At infinity

01% of values less than 0.000274962		
05% of values less than 0.00038898		
10% of values less than 0.000487718		
50% of values less than 0.00147805		
90% of values less than 0.00433799		
95% of values less than 0.00547125		
99% of values less than 0.00727965		
Minimum 0.000212046	Maximum 0.043448	
Mean 0.00199762	Std. Dev. 0.00205439	Variance 4.22051E-006

Phase: 1A Cell 2*Concentration of Lead at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 100 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 300 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546832

Std. Dev. 0.00147298

Variance 2.16967E-006

At 1000 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00550925

90% of values less than 0.00745952

95% of values less than 0.00800861

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00547282

Std. Dev. 0.00147538

Variance 2.17675E-006

Phase: 1A Cell 2

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

At infinity

01% of values less than 0.00244234		
05% of values less than 0.00305211		
10% of values less than 0.00352884		
50% of values less than 0.00550209		
90% of values less than 0.00749329		
95% of values less than 0.00800861		
99% of values less than 0.00864877		
Minimum 0.00218678	Maximum 0.00979341	
Mean 0.00548536	Std. Dev. 0.00148331	Variance 2.2002E-006

Phase: 1A Cell 2*Concentration of Manganese at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 100 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.38618

Std. Dev. 0.39469

Variance 0.15578

At 300 years

01% of values less than 0.0101764

05% of values less than 0.0199368

10% of values less than 0.0309783

50% of values less than 0.256224

90% of values less than 0.914379

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08147

Mean 0.386787

Std. Dev. 0.394887

Variance 0.155936

At 1000 years

01% of values less than 0.0106918

05% of values less than 0.0231639

10% of values less than 0.0341652

50% of values less than 0.263991

90% of values less than 0.924213

95% of values less than 1.23051

99% of values less than 1.75181

Minimum 0.00626155

Maximum 2.08386

Mean 0.392496

Std. Dev. 0.395281

Variance 0.156247

Phase: 1A Cell 2

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

At infinity

01% of values less than 0.0101764		
05% of values less than 0.0199368		
10% of values less than 0.0312429		
50% of values less than 0.256869		
90% of values less than 0.913414		
95% of values less than 1.22079		
99% of values less than 1.74828		
Minimum 0.00619944	Maximum 2.08132	
Mean 0.386725	Std. Dev. 0.394716	Variance 0.155801

Phase: 1A Cell 2*Concentration of Mercury at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 100 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 300 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 1000 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

Phase: 1A Cell 2

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

At infinity

01% of values less than 1.376E-005		
05% of values less than 2.20323E-005		
10% of values less than 3.30623E-005		
50% of values less than 0.000147883		
90% of values less than 0.000900007		
95% of values less than 0.00124049		
99% of values less than 0.00214269		
Minimum 1.0779E-005	Maximum 0.00316105	
Mean 0.00032591	Std. Dev. 0.000443843	Variance 1.96997E-007

Phase: 1A Cell 2*Concentration of Nickel at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 100 years

01% of values less than 0.00111884

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 300 years

01% of values less than 0.00113117

05% of values less than 0.00160863

10% of values less than 0.0020548

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127321

Std. Dev. 0.0156634

Variance 0.000245343

At 1000 years

01% of values less than 0.00125159

05% of values less than 0.00167531

10% of values less than 0.00221559

50% of values less than 0.00697981

90% of values less than 0.0336701

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000953513

Maximum 0.0936088

Mean 0.0130015

Std. Dev. 0.0156877

Variance 0.000246105

Phase: 1A Cell 2

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

At infinity

01% of values less than 0.00119152		
05% of values less than 0.00170602		
10% of values less than 0.00220458		
50% of values less than 0.00688843		
90% of values less than 0.033337		
95% of values less than 0.0482768		
99% of values less than 0.0738966		
Minimum 0.000949718	Maximum 0.0936109	
Mean 0.012909	Std. Dev. 0.0156858	Variance 0.000246045

Phase: 1A Cell 2*Concentration of Sulphate at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 72.5887

05% of values less than 85.4304

10% of values less than 103.468

50% of values less than 211.229

90% of values less than 479.834

95% of values less than 576.061

99% of values less than 721.737

Minimum 61.8015

Maximum 862.063

Mean 253.034

Std. Dev. 149.403

Variance 22321.1

At 100 years

01% of values less than 76.4035

05% of values less than 97.7792

10% of values less than 116.727

50% of values less than 250.343

90% of values less than 583.748

95% of values less than 715.303

99% of values less than 1227.74

Minimum 64.0923

Maximum 2002.86

Mean 312.794

Std. Dev. 220.705

Variance 48710.6

At 300 years

01% of values less than 74.337

05% of values less than 88.4166

10% of values less than 106.885

50% of values less than 224.509

90% of values less than 491.495

95% of values less than 582.698

99% of values less than 725.89

Minimum 61.8614

Maximum 864.482

Mean 261.421

Std. Dev. 152.089

Variance 23131.2

At 1000 years

01% of values less than 79.9306

05% of values less than 102.161

10% of values less than 124.147

50% of values less than 256.626

90% of values less than 538.31

95% of values less than 631.795

99% of values less than 807.848

Minimum 62.7644

Maximum 1330.66

Mean 297.498

Std. Dev. 167.585

Variance 28084.9

Phase: 1A Cell 2

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

At infinity

01% of values less than 69.4878		
05% of values less than 83.1964		
10% of values less than 96.8199		
50% of values less than 206.837		
90% of values less than 476.638		
95% of values less than 567.609		
99% of values less than 721.521		
Minimum 61.1151	Maximum 854.083	
Mean 248.376	Std. Dev. 149.09	Variance 22227.7

Phase: 1A Cell 2*Concentration of Zinc at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697141

Std. Dev. 0.0674253

Variance 0.00454618

At 100 years

01% of values less than 0.00319687

05% of values less than 0.0056754

10% of values less than 0.00841113

50% of values less than 0.0478656

90% of values less than 0.159537

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697484

Std. Dev. 0.0674382

Variance 0.00454791

At 300 years

01% of values less than 0.00346032

05% of values less than 0.00638288

10% of values less than 0.00933853

50% of values less than 0.0503347

90% of values less than 0.161336

95% of values less than 0.214243

99% of values less than 0.326816

Minimum 0.00235882

Maximum 0.455073

Mean 0.0717733

Std. Dev. 0.0689773

Variance 0.00475786

At 1000 years

01% of values less than 0.00389291

05% of values less than 0.00764886

10% of values less than 0.0120853

50% of values less than 0.0599192

90% of values less than 0.1855

95% of values less than 0.252042

99% of values less than 0.386759

Minimum 0.00238031

Maximum 1.17805

Mean 0.0858233

Std. Dev. 0.0918741

Variance 0.00844085

Phase: 1A Cell 2

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

At infinity

01% of values less than 0.00317217		
05% of values less than 0.00591419		
10% of values less than 0.00860277		
50% of values less than 0.0481469		
90% of values less than 0.159114		
95% of values less than 0.209402		
99% of values less than 0.305382		
Minimum 0.00235824	Maximum 0.353858	
Mean 0.0700992	Std. Dev. 0.067443	Variance 0.00454856

Phase: 1A Cell 3*Concentration of Ammoniacal_N at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.214438

05% of values less than 0.254501

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193846

Maximum 4.35651

Mean 0.889142

Std. Dev. 0.726708

Variance 0.528104

At 100 years

01% of values less than 0.214438

05% of values less than 0.254652

10% of values less than 0.280793

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48078

99% of values less than 3.64693

Minimum 0.193884

Maximum 4.35653

Mean 0.890363

Std. Dev. 0.727059

Variance 0.528615

At 300 years

01% of values less than 0.214438

05% of values less than 0.254674

10% of values less than 0.280891

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48068

99% of values less than 3.64695

Minimum 0.193885

Maximum 4.35654

Mean 0.890403

Std. Dev. 0.727093

Variance 0.528665

At 1000 years

01% of values less than 0.216204

05% of values less than 0.260554

10% of values less than 0.291101

50% of values less than 0.636393

90% of values less than 1.85765

95% of values less than 2.53713

99% of values less than 3.66003

Minimum 0.196837

Maximum 4.89044

Mean 0.911081

Std. Dev. 0.742378

Variance 0.551125

Phase: 1A Cell 3

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

At infinity

01% of values less than 0.214438		
05% of values less than 0.254579		
10% of values less than 0.280565		
50% of values less than 0.613596		
90% of values less than 1.85765		
95% of values less than 2.53698		
99% of values less than 3.65878		
Minimum 0.193846	Maximum 5.58248	
Mean 0.896905	Std. Dev. 0.746448	Variance 0.557185

Phase: 1A Cell 3*Concentration of Arsenic at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 100 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 300 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424732

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194622

Std. Dev. 0.00158563

Variance 2.51422E-006

At 1000 years

01% of values less than 0.000279389

05% of values less than 0.000396187

10% of values less than 0.000510552

50% of values less than 0.00146645

90% of values less than 0.0042879

95% of values less than 0.00549897

99% of values less than 0.00745441

Minimum 0.000211905

Maximum 0.00899517

Mean 0.00199233

Std. Dev. 0.00159357

Variance 2.53945E-006

Phase: 1A Cell 3

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

At infinity

01% of values less than 0.000331609		
05% of values less than 0.000420345		
10% of values less than 0.000570003		
50% of values less than 0.00160484		
90% of values less than 0.00476736		
95% of values less than 0.00572608		
99% of values less than 0.00819905		
Minimum 0.000246098	Maximum 0.0104225	
Mean 0.00220321	Std. Dev. 0.00174938	Variance 3.06034E-006

Phase: 1A Cell 3*Concentration of Cadmium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.00066079

Std. Dev. 0.0001638

Variance 2.68304E-008

At 100 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.000660794

Std. Dev. 0.000163801

Variance 2.68309E-008

At 300 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000642832

90% of values less than 0.000896302

95% of values less than 0.000955393

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.000661975

Std. Dev. 0.000164122

Variance 2.69361E-008

At 1000 years

01% of values less than 0.000351634

05% of values less than 0.000410862

10% of values less than 0.000461081

50% of values less than 0.000659643

90% of values less than 0.000929172

95% of values less than 0.00100676

99% of values less than 0.0011537

Minimum 0.000319069

Maximum 0.00193673

Mean 0.000684932

Std. Dev. 0.00018436

Variance 3.39887E-008

Phase: 1A Cell 3

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

At infinity

01% of values less than 0.000348715		
05% of values less than 0.000408777		
10% of values less than 0.000455029		
50% of values less than 0.000644341		
90% of values less than 0.000897594		
95% of values less than 0.000956154		
99% of values less than 0.00105326		
Minimum 0.000311797	Maximum 0.0015562	
Mean 0.000663795	Std. Dev. 0.000166425	Variance 2.76974E-008

Phase: 1A Cell 3*Concentration of Chloride at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 9.98227

05% of values less than 12.6105

10% of values less than 14.8458

50% of values less than 32.5941

90% of values less than 62.0041

95% of values less than 71.3395

99% of values less than 100.127

Minimum 8.54762

Maximum 170.054

Mean 36.7079

Std. Dev. 20.4788

Variance 419.381

At 100 years

01% of values less than 13.0006

05% of values less than 18.4786

10% of values less than 23.4252

50% of values less than 63.6833

90% of values less than 517.35

95% of values less than 804.785

99% of values less than 1825.48

Minimum 9.22345

Maximum 2455.95

Mean 190.575

Std. Dev. 330.133

Variance 108988

At 300 years

01% of values less than 11.0934

05% of values less than 15.0261

10% of values less than 17.7695

50% of values less than 40.1079

90% of values less than 116.425

95% of values less than 191.225

99% of values less than 374.786

Minimum 8.79126

Maximum 995.15

Mean 62.564

Std. Dev. 78.9583

Variance 6234.42

At 1000 years

01% of values less than 12.6654

05% of values less than 19.7988

10% of values less than 26.4125

50% of values less than 70.7762

90% of values less than 272.546

95% of values less than 359.793

99% of values less than 501.958

Minimum 9.14374

Maximum 633.225

Mean 114.949

Std. Dev. 111.979

Variance 12539.3

Phase: 1A Cell 3

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

At infinity

01% of values less than 9.51772		
05% of values less than 11.7061		
10% of values less than 13.1629		
50% of values less than 28.3196		
90% of values less than 52.0634		
95% of values less than 58.5696		
99% of values less than 65.8911		
Minimum 8.45667	Maximum 72.366	
Mean 30.5607	Std. Dev. 14.6948	Variance 215.936

Phase: 1A Cell 3*Concentration of Chromium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.0034652

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00454838

Std. Dev. 0.00340122

Variance 1.15683E-005

At 100 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.0034652

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00454996

Std. Dev. 0.00340116

Variance 1.15679E-005

At 300 years

01% of values less than 0.00088726

05% of values less than 0.00114208

10% of values less than 0.00143803

50% of values less than 0.00355888

90% of values less than 0.0096309

95% of values less than 0.0120575

99% of values less than 0.0179574

Minimum 0.000721542

Maximum 0.0364307

Mean 0.00475967

Std. Dev. 0.00370613

Variance 1.37354E-005

At 1000 years

01% of values less than 0.000924164

05% of values less than 0.00124396

10% of values less than 0.0015862

50% of values less than 0.00421076

90% of values less than 0.013124

95% of values less than 0.0208003

99% of values less than 0.0386411

Minimum 0.00072706

Maximum 0.0611873

Mean 0.00650751

Std. Dev. 0.00723743

Variance 5.23805E-005

Phase: 1A Cell 3

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

At infinity

01% of values less than 0.00088351		
05% of values less than 0.00114262		
10% of values less than 0.00144372		
50% of values less than 0.00356914		
90% of values less than 0.0096309		
95% of values less than 0.0121656		
99% of values less than 0.0165715		
Minimum 0.000731408	Maximum 0.0281964	
Mean 0.0047258	Std. Dev. 0.00363392	Variance 1.32054E-005

Phase: 1A Cell 3*Concentration of Copper at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 100 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 300 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 1000 years

01% of values less than 0.000274621

05% of values less than 0.000380094

10% of values less than 0.000474892

50% of values less than 0.00144973

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192712

Std. Dev. 0.00157403

Variance 2.47758E-006

Phase: 1A Cell 3

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

At infinity

01% of values less than 0.000287356		
05% of values less than 0.00039712		
10% of values less than 0.000489087		
50% of values less than 0.00150013		
90% of values less than 0.00436291		
95% of values less than 0.00549385		
99% of values less than 0.00748005		
Minimum 0.000211215	Maximum 0.00982356	
Mean 0.00198887	Std. Dev. 0.00161792	Variance 2.61767E-006

Phase: 1A Cell 3*Concentration of Lead at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 100 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 300 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546826

Std. Dev. 0.0014729

Variance 2.16943E-006

At 1000 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.0054991

90% of values less than 0.0074638

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.005469

Std. Dev. 0.00147327

Variance 2.17054E-006

Phase: 1A Cell 3

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

At infinity

01% of values less than 0.00245999		
05% of values less than 0.0030443		
10% of values less than 0.0035071		
50% of values less than 0.00550925		
90% of values less than 0.0074638		
95% of values less than 0.00798038		
99% of values less than 0.00860825		
Minimum 0.00218678	Maximum 0.0091	
Mean 0.00547927	Std. Dev. 0.00147479	Variance 2.17502E-006

Phase: 1A Cell 3*Concentration of Manganese at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 100 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309628

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 300 years

01% of values less than 0.0101764

05% of values less than 0.0199368

10% of values less than 0.0312429

50% of values less than 0.256227

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.38654

Std. Dev. 0.39473

Variance 0.155811

At 1000 years

01% of values less than 0.0101765

05% of values less than 0.0204252

10% of values less than 0.0319911

50% of values less than 0.261784

90% of values less than 0.916889

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08348

Mean 0.390795

Std. Dev. 0.395045

Variance 0.15606

Phase: 1A Cell 3

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

At infinity

01% of values less than 0.0101764		
05% of values less than 0.0206022		
10% of values less than 0.0318693		
50% of values less than 0.256224		
90% of values less than 0.913414		
95% of values less than 1.22308		
99% of values less than 1.74519		
Minimum 0.00642626	Maximum 2.08132	
Mean 0.38682	Std. Dev. 0.394731	Variance 0.155812

Phase: 1A Cell 3*Concentration of Mercury at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 100 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 300 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 1000 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

Phase: 1A Cell 3

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

At infinity

01% of values less than 1.37628E-005		
05% of values less than 2.28008E-005		
10% of values less than 3.32145E-005		
50% of values less than 0.000147616		
90% of values less than 0.000880766		
95% of values less than 0.00123624		
99% of values less than 0.00218468		
Minimum 1.07561E-005	Maximum 0.00316228	
Mean 0.000323694	Std. Dev. 0.000440486	Variance 1.94028E-007

Phase: 1A Cell 3*Concentration of Nickel at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 100 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 300 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156638

Variance 0.000245353

At 1000 years

01% of values less than 0.00111883

05% of values less than 0.00160031

10% of values less than 0.0021088

50% of values less than 0.0065379

90% of values less than 0.0335948

95% of values less than 0.0483907

99% of values less than 0.0739663

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0128301

Std. Dev. 0.0157201

Variance 0.00024712

Phase: 1A Cell 3

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

At infinity

01% of values less than 0.00118626		
05% of values less than 0.00169919		
10% of values less than 0.00223248		
50% of values less than 0.00677223		
90% of values less than 0.0338446		
95% of values less than 0.0488893		
99% of values less than 0.0738526		
Minimum 0.000927248	Maximum 0.0936043	
Mean 0.0130207	Std. Dev. 0.0157359	Variance 0.000247619

Phase: 1A Cell 3*Concentration of Sulphate at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 71.7017

05% of values less than 83.3187

10% of values less than 98.8688

50% of values less than 207.964

90% of values less than 477.869

95% of values less than 567.609

99% of values less than 721.536

Minimum 61.3117

Maximum 854.947

Mean 249.4

Std. Dev. 149.098

Variance 22230.3

At 100 years

01% of values less than 75.7716

05% of values less than 91.0548

10% of values less than 110.055

50% of values less than 231.066

90% of values less than 519.945

95% of values less than 602.768

99% of values less than 750.803

Minimum 63.2331

Maximum 1541.8

Mean 275.196

Std. Dev. 168.042

Variance 28238.1

At 300 years

01% of values less than 73.2946

05% of values less than 85.3862

10% of values less than 102.568

50% of values less than 210.981

90% of values less than 478.756

95% of values less than 572.126

99% of values less than 721.556

Minimum 61.4414

Maximum 881.154

Mean 253.894

Std. Dev. 149.917

Variance 22475.2

At 1000 years

01% of values less than 77.4112

05% of values less than 93.0965

10% of values less than 112.19

50% of values less than 228.482

90% of values less than 506.125

95% of values less than 595.685

99% of values less than 745.526

Minimum 63.7275

Maximum 1000.25

Mean 270.075

Std. Dev. 154.712

Variance 23935.8

Phase: 1A Cell 3

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

At infinity

01% of values less than 69.4878		
05% of values less than 83.1964		
10% of values less than 96.8199		
50% of values less than 206.837		
90% of values less than 476.638		
95% of values less than 567.609		
99% of values less than 721.521		
Minimum 61.1151	Maximum 854.083	
Mean 248.376	Std. Dev. 149.09	Variance 22227.7

Phase: 1A Cell 3*Concentration of Zinc at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697141

Std. Dev. 0.0674253

Variance 0.00454618

At 100 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.0023599

Maximum 0.353858

Mean 0.0697276

Std. Dev. 0.0674329

Variance 0.00454719

At 300 years

01% of values less than 0.00346029

05% of values less than 0.00616961

10% of values less than 0.00906217

50% of values less than 0.0487949

90% of values less than 0.161336

95% of values less than 0.217644

99% of values less than 0.315272

Minimum 0.00238031

Maximum 1.24745

Mean 0.0719728

Std. Dev. 0.077139

Variance 0.00595043

At 1000 years

01% of values less than 0.00398185

05% of values less than 0.00728338

10% of values less than 0.0106595

50% of values less than 0.0590061

90% of values less than 0.190396

95% of values less than 0.258907

99% of values less than 0.376443

Minimum 0.00238031

Maximum 1.21986

Mean 0.087143

Std. Dev. 0.101211

Variance 0.0102436

Phase: 1A Cell 3

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

At infinity

01% of values less than 0.00317217		
05% of values less than 0.00598507		
10% of values less than 0.00856504		
50% of values less than 0.0479656		
90% of values less than 0.159114		
95% of values less than 0.208739		
99% of values less than 0.304347		
Minimum 0.00235824	Maximum 0.356961	
Mean 0.0703008	Std. Dev. 0.0675145	Variance 0.0045582

Phase: 1A Cell 4*Concentration of Ammoniacal_N at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.214438

05% of values less than 0.254501

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193846

Maximum 4.35651

Mean 0.889142

Std. Dev. 0.726708

Variance 0.528104

At 100 years

01% of values less than 0.214469

05% of values less than 0.254684

10% of values less than 0.280565

50% of values less than 0.604494

90% of values less than 1.85349

95% of values less than 2.48067

99% of values less than 3.64697

Minimum 0.193846

Maximum 4.35652

Mean 0.889225

Std. Dev. 0.726732

Variance 0.528139

At 300 years

01% of values less than 0.214517

05% of values less than 0.255391

10% of values less than 0.281415

50% of values less than 0.605319

90% of values less than 1.85427

95% of values less than 2.48067

99% of values less than 3.64785

Minimum 0.193846

Maximum 4.35651

Mean 0.889594

Std. Dev. 0.726839

Variance 0.528295

At 1000 years

01% of values less than 0.214863

05% of values less than 0.257773

10% of values less than 0.284821

50% of values less than 0.614652

90% of values less than 1.85333

95% of values less than 2.48072

99% of values less than 3.65878

Minimum 0.196837

Maximum 4.36217

Mean 0.896901

Std. Dev. 0.727761

Variance 0.529636

Phase: 1A Cell 4

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

At infinity

01% of values less than 0.214438		
05% of values less than 0.255391		
10% of values less than 0.281415		
50% of values less than 0.613596		
90% of values less than 1.85765		
95% of values less than 2.48067		
99% of values less than 3.64681		
Minimum 0.193846	Maximum 4.35651	
Mean 0.892089	Std. Dev. 0.727558	Variance 0.52934

Phase: 1A Cell 4*Concentration of Arsenic at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 100 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 300 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194622

Std. Dev. 0.00158561

Variance 2.51417E-006

At 1000 years

01% of values less than 0.000271123

05% of values less than 0.000403356

10% of values less than 0.00051047

50% of values less than 0.00147559

90% of values less than 0.00438374

95% of values less than 0.00553778

99% of values less than 0.00760394

Minimum 0.000211905

Maximum 0.0103065

Mean 0.00202604

Std. Dev. 0.00164271

Variance 2.6985E-006

Phase: 1A Cell 4

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

At infinity

01% of values less than 0.00027277		
05% of values less than 0.0004051		
10% of values less than 0.000539035		
50% of values less than 0.00162327		
90% of values less than 0.0049042		
95% of values less than 0.00620788		
99% of values less than 0.00871641		
Minimum 0.000208216	Maximum 0.0338597	
Mean 0.00228732	Std. Dev. 0.00216013	Variance 4.66615E-006

Phase: 1A Cell 4*Concentration of Cadmium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.00066079

Std. Dev. 0.0001638

Variance 2.68304E-008

At 100 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.00066079

Std. Dev. 0.0001638

Variance 2.68304E-008

At 300 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.000454216

50% of values less than 0.000642858

90% of values less than 0.000896302

95% of values less than 0.000955182

99% of values less than 0.0010487

Minimum 0.000311797

Maximum 0.00109395

Mean 0.000661276

Std. Dev. 0.000163845

Variance 2.68453E-008

At 1000 years

01% of values less than 0.000351634

05% of values less than 0.000414374

10% of values less than 0.000459398

50% of values less than 0.000653285

90% of values less than 0.000907169

95% of values less than 0.000967251

99% of values less than 0.00107458

Minimum 0.000311831

Maximum 0.00140479

Mean 0.000672101

Std. Dev. 0.000168843

Variance 2.85079E-008

Phase: 1A Cell 4

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

At infinity

01% of values less than 0.000348715		
05% of values less than 0.000408052		
10% of values less than 0.000454717		
50% of values less than 0.000642832		
90% of values less than 0.000891856		
95% of values less than 0.000955393		
99% of values less than 0.00104599		
Minimum 0.000312778	Maximum 0.00109693	
Mean 0.000661908	Std. Dev. 0.000163635	Variance 2.67763E-008

Phase: 1A Cell 4*Concentration of Chloride at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 9.51772

05% of values less than 11.7061

10% of values less than 13.1629

50% of values less than 28.3196

90% of values less than 52.0634

95% of values less than 58.5696

99% of values less than 65.8911

Minimum 8.45667

Maximum 72.366

Mean 30.5608

Std. Dev. 14.6948

Variance 215.937

At 100 years

01% of values less than 11.2678

05% of values less than 14.8662

10% of values less than 17.8515

50% of values less than 41.2422

90% of values less than 127.721

95% of values less than 206.81

99% of values less than 398.737

Minimum 8.80569

Maximum 612.432

Mean 63.7856

Std. Dev. 72.4827

Variance 5253.74

At 300 years

01% of values less than 11.0956

05% of values less than 14.1971

10% of values less than 16.652

50% of values less than 37.6061

90% of values less than 105.107

95% of values less than 167.15

99% of values less than 365.049

Minimum 8.58826

Maximum 777.116

Mean 55.412

Std. Dev. 64.1875

Variance 4120.03

At 1000 years

01% of values less than 12.8325

05% of values less than 18.2567

10% of values less than 23.5328

50% of values less than 59.7189

90% of values less than 236.817

95% of values less than 317.093

99% of values less than 502.245

Minimum 8.73506

Maximum 655.15

Mean 98.3881

Std. Dev. 103.628

Variance 10738.7

Phase: 1A Cell 4

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

At infinity

01% of values less than 9.51772		
05% of values less than 11.7061		
10% of values less than 13.1629		
50% of values less than 28.3196		
90% of values less than 52.0634		
95% of values less than 58.5696		
99% of values less than 65.8911		
Minimum 8.45667	Maximum 72.366	
Mean 30.5607	Std. Dev. 14.6948	Variance 215.936

Phase: 1A Cell 4*Concentration of Chromium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.0034652

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00454838

Std. Dev. 0.00340122

Variance 1.15683E-005

At 100 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.0034652

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208105

Mean 0.00454841

Std. Dev. 0.00340125

Variance 1.15685E-005

At 300 years

01% of values less than 0.00088351

05% of values less than 0.00113149

10% of values less than 0.00141086

50% of values less than 0.00353728

90% of values less than 0.00929249

95% of values less than 0.0117586

99% of values less than 0.0157096

Minimum 0.000721543

Maximum 0.0209448

Mean 0.00460707

Std. Dev. 0.00341023

Variance 1.16297E-005

At 1000 years

01% of values less than 0.000906653

05% of values less than 0.00121976

10% of values less than 0.00154943

50% of values less than 0.00401097

90% of values less than 0.0107301

95% of values less than 0.0131777

99% of values less than 0.0201719

Minimum 0.000757721

Maximum 0.0374402

Mean 0.00526089

Std. Dev. 0.00419404

Variance 1.759E-005

Phase: 1A Cell 4

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

At infinity

01% of values less than 0.000881761		
05% of values less than 0.0011333		
10% of values less than 0.00141086		
50% of values less than 0.00348474		
90% of values less than 0.00930948		
95% of values less than 0.0117642		
99% of values less than 0.0160039		
Minimum 0.000721542	Maximum 0.0208003	
Mean 0.00458643	Std. Dev. 0.00342933	Variance 1.17603E-005

Phase: 1A Cell 4*Concentration of Copper at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 100 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 300 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192558

Std. Dev. 0.00157416

Variance 2.47796E-006

At 1000 years

01% of values less than 0.000262065

05% of values less than 0.000372246

10% of values less than 0.000474076

50% of values less than 0.00144697

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192749

Std. Dev. 0.0015736

Variance 2.47623E-006

Phase: 1A Cell 4

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

At infinity

01% of values less than 0.000274621		
05% of values less than 0.000390152		
10% of values less than 0.000488328		
50% of values less than 0.00145986		
90% of values less than 0.00433571		
95% of values less than 0.00544185		
99% of values less than 0.00712622		
Minimum 0.000211205	Maximum 0.00931697	
Mean 0.00195587	Std. Dev. 0.00157782	Variance 2.48951E-006

Phase: 1A Cell 4*Concentration of Lead at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 100 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 300 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 1000 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546871

Std. Dev. 0.00147276

Variance 2.16903E-006

Phase: 1A Cell 4

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

At infinity

01% of values less than 0.00245999		
05% of values less than 0.0030443		
10% of values less than 0.0035071		
50% of values less than 0.00551686		
90% of values less than 0.00747241		
95% of values less than 0.00800861		
99% of values less than 0.00861303		
Minimum 0.00218689	Maximum 0.0091	
Mean 0.00547855	Std. Dev. 0.00147751	Variance 2.18304E-006

Phase: 1A Cell 4*Concentration of Manganese at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 100 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 300 years

01% of values less than 0.0101858

05% of values less than 0.0196598

10% of values less than 0.030997

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386568

Std. Dev. 0.39461

Variance 0.155717

At 1000 years

01% of values less than 0.0109796

05% of values less than 0.0217064

10% of values less than 0.0335155

50% of values less than 0.263991

90% of values less than 0.92406

95% of values less than 1.22702

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.394066

Std. Dev. 0.394913

Variance 0.155956

Phase: 1A Cell 4

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

At infinity

01% of values less than 0.0101764		
05% of values less than 0.0199909		
10% of values less than 0.0323106		
50% of values less than 0.256224		
90% of values less than 0.914379		
95% of values less than 1.22079		
99% of values less than 1.74519		
Minimum 0.00620559	Maximum 2.08132	
Mean 0.38699	Std. Dev. 0.394719	Variance 0.155803

Phase: 1A Cell 4*Concentration of Mercury at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 100 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 300 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 1000 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

Phase: 1A Cell 4

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

At infinity

01% of values less than 1.41939E-005		
05% of values less than 2.25279E-005		
10% of values less than 3.31581E-005		
50% of values less than 0.000144882		
90% of values less than 0.000880664		
95% of values less than 0.00123619		
99% of values less than 0.0021387		
Minimum 1.08789E-005	Maximum 0.00316083	
Mean 0.000321365	Std. Dev. 0.000439759	Variance 1.93388E-007

Phase: 1A Cell 4*Concentration of Nickel at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 100 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 300 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 1000 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00207436

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738543

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127367

Std. Dev. 0.0156629

Variance 0.000245326

Phase: 1A Cell 4

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

At infinity

01% of values less than 0.0011916		
05% of values less than 0.00163656		
10% of values less than 0.00213072		
50% of values less than 0.00653717		
90% of values less than 0.033337		
95% of values less than 0.0484307		
99% of values less than 0.0738526		
Minimum 0.000927248	Maximum 0.0936101	
Mean 0.0127906	Std. Dev. 0.0156668	Variance 0.00024545

Phase: 1A Cell 4*Concentration of Sulphate at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 69.4882

05% of values less than 83.1965

10% of values less than 96.8199

50% of values less than 206.837

90% of values less than 476.638

95% of values less than 567.609

99% of values less than 721.521

Minimum 61.1151

Maximum 854.083

Mean 248.376

Std. Dev. 149.09

Variance 22227.7

At 100 years

01% of values less than 74.9398

05% of values less than 89.2184

10% of values less than 107.807

50% of values less than 224.914

90% of values less than 494.64

95% of values less than 592.472

99% of values less than 741.248

Minimum 61.2099

Maximum 1135.61

Mean 266.328

Std. Dev. 155.614

Variance 24215.6

At 300 years

01% of values less than 74.7

05% of values less than 86.5588

10% of values less than 106.05

50% of values less than 219.518

90% of values less than 496.451

95% of values less than 592.698

99% of values less than 742.585

Minimum 61.1442

Maximum 1080.47

Mean 262.442

Std. Dev. 154.971

Variance 24016

At 1000 years

01% of values less than 79.2364

05% of values less than 96.6935

10% of values less than 119.81

50% of values less than 254.711

90% of values less than 547.988

95% of values less than 642.531

99% of values less than 854.713

Minimum 61.6762

Maximum 1141.17

Mean 301.357

Std. Dev. 173.404

Variance 30069

Phase: 1A Cell 4

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

At infinity

01% of values less than 69.4878		
05% of values less than 83.1964		
10% of values less than 96.8199		
50% of values less than 206.837		
90% of values less than 476.638		
95% of values less than 567.609		
99% of values less than 721.521		
Minimum 61.1151	Maximum 854.083	
Mean 248.376	Std. Dev. 149.09	Variance 22227.7

Phase: 1A Cell 4*Concentration of Zinc at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697141

Std. Dev. 0.0674253

Variance 0.00454618

At 100 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697143

Std. Dev. 0.0674255

Variance 0.00454619

At 300 years

01% of values less than 0.00337164

05% of values less than 0.00589722

10% of values less than 0.00853903

50% of values less than 0.0483239

90% of values less than 0.161336

95% of values less than 0.214243

99% of values less than 0.304347

Minimum 0.00238031

Maximum 0.353858

Mean 0.0704754

Std. Dev. 0.0677766

Variance 0.00459367

At 1000 years

01% of values less than 0.00358348

05% of values less than 0.0067734

10% of values less than 0.00986754

50% of values less than 0.0544669

90% of values less than 0.182745

95% of values less than 0.246343

99% of values less than 0.343867

Minimum 0.00238031

Maximum 0.682671

Mean 0.0798345

Std. Dev. 0.0792944

Variance 0.0062876

Phase: 1A Cell 4

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

At infinity

01% of values less than 0.00317231		
05% of values less than 0.00589722		
10% of values less than 0.00853824		
50% of values less than 0.0478656		
90% of values less than 0.159119		
95% of values less than 0.208739		
99% of values less than 0.304355		
Minimum 0.00235824	Maximum 0.355708	
Mean 0.0698892	Std. Dev. 0.0674363	Variance 0.00454766

Phase: 1A Cell 5*Concentration of Ammoniacal_N at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.214438

05% of values less than 0.254501

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193846

Maximum 4.35651

Mean 0.889142

Std. Dev. 0.726708

Variance 0.528104

At 100 years

01% of values less than 0.216204

05% of values less than 0.265942

10% of values less than 0.303003

50% of values less than 0.743048

90% of values less than 3.16571

95% of values less than 7.07198

99% of values less than 178.532

Minimum 0.196837

Maximum 1671.81

Mean 7.80616

Std. Dev. 67.8492

Variance 4603.51

At 300 years

01% of values less than 0.216204

05% of values less than 0.265943

10% of values less than 0.303003

50% of values less than 0.743077

90% of values less than 3.16571

95% of values less than 6.82047

99% of values less than 175.257

Minimum 0.196837

Maximum 1671.81

Mean 7.65917

Std. Dev. 67.301

Variance 4529.42

At 1000 years

01% of values less than 0.216204

05% of values less than 0.265159

10% of values less than 0.301865

50% of values less than 0.721899

90% of values less than 2.92671

95% of values less than 4.41471

99% of values less than 47.3404

Minimum 0.196837

Maximum 320.667

Mean 2.79725

Std. Dev. 15.0031

Variance 225.092

Phase: 1A Cell 5

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

At infinity

01% of values less than 0.214517		
05% of values less than 0.260347		
10% of values less than 0.29517		
50% of values less than 0.700601		
90% of values less than 2.55733		
95% of values less than 3.64681		
99% of values less than 23.4395		
Minimum 0.193846	Maximum 155.704	
Mean 1.78565	Std. Dev. 7.17294	Variance 51.451

Phase: 1A Cell 5*Concentration of Arsenic at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 100 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486137

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194636

Std. Dev. 0.00158563

Variance 2.51421E-006

At 300 years

01% of values less than 0.000267716

05% of values less than 0.000389682

10% of values less than 0.000509742

50% of values less than 0.00147584

90% of values less than 0.00456982

95% of values less than 0.0058369

99% of values less than 0.0109969

Minimum 0.000206062

Maximum 0.0484768

Mean 0.00228147

Std. Dev. 0.00308923

Variance 9.54336E-006

At 1000 years

01% of values less than 0.000290141

05% of values less than 0.000429202

10% of values less than 0.000638046

50% of values less than 0.00208653

90% of values less than 0.0225759

95% of values less than 0.0516698

99% of values less than 0.170756

Minimum 0.000206062

Maximum 0.563334

Mean 0.0112909

Std. Dev. 0.0364292

Variance 0.00132709

Phase: 1A Cell 5

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

At infinity

01% of values less than 0.000756031		
05% of values less than 0.00196639		
10% of values less than 0.00328416		
50% of values less than 0.0310539		
90% of values less than 0.183312		
95% of values less than 0.216135		
99% of values less than 0.35152		
Minimum 0.000311733	Maximum 1.47077	
Mean 0.0660371	Std. Dev. 0.0932914	Variance 0.00870329

Phase: 1A Cell 5*Concentration of Cadmium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.00066079

Std. Dev. 0.0001638

Variance 2.68304E-008

At 100 years

01% of values less than 0.000350738

05% of values less than 0.000410862

10% of values less than 0.000457482

50% of values less than 0.000650153

90% of values less than 0.00090378

95% of values less than 0.000970019

99% of values less than 0.00107904

Minimum 0.000311797

Maximum 0.0513298

Mean 0.000766539

Std. Dev. 0.00200728

Variance 4.02919E-006

At 300 years

01% of values less than 0.000353583

05% of values less than 0.000423518

10% of values less than 0.000461069

50% of values less than 0.000665292

90% of values less than 0.000952296

95% of values less than 0.00105508

99% of values less than 0.00241705

Minimum 0.000311797

Maximum 0.0755929

Mean 0.000869173

Std. Dev. 0.00292959

Variance 8.58251E-006

At 1000 years

01% of values less than 0.000356936

05% of values less than 0.00043296

10% of values less than 0.000477704

50% of values less than 0.000696064

90% of values less than 0.00107809

95% of values less than 0.00150938

99% of values less than 0.00360199

Minimum 0.000311797

Maximum 0.00662021

Mean 0.000822038

Std. Dev. 0.000588

Variance 3.45744E-007

Phase: 1A Cell 5

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

At infinity

01% of values less than 0.000361388		
05% of values less than 0.000438502		
10% of values less than 0.000501384		
50% of values less than 0.000729647		
90% of values less than 0.00122342		
95% of values less than 0.00156105		
99% of values less than 0.00260956		
Minimum 0.000328896	Maximum 0.00514486	
Mean 0.000829784	Std. Dev. 0.000421049	Variance 1.77282E-007

Phase: 1A Cell 5*Concentration of Chloride at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 9.52107

05% of values less than 11.7067

10% of values less than 13.1629

50% of values less than 28.3196

90% of values less than 52.0634

95% of values less than 58.5729

99% of values less than 65.8911

Minimum 8.45667

Maximum 72.366

Mean 30.5662

Std. Dev. 14.695

Variance 215.943

At 100 years

01% of values less than 14.0184

05% of values less than 22.6938

10% of values less than 30.2257

50% of values less than 105.576

90% of values less than 2005.9

95% of values less than 4928.48

99% of values less than 31160.7

Minimum 9.81996

Maximum 107574

Mean 1376.4

Std. Dev. 6364.11

Variance 4.05019E+007

At 300 years

01% of values less than 11.7062

05% of values less than 15.4261

10% of values less than 19.3617

50% of values less than 47.7028

90% of values less than 289.942

95% of values less than 633.739

99% of values less than 9690.41

Minimum 8.84631

Maximum 36789.9

Mean 366.376

Std. Dev. 2217.56

Variance 4.91756E+006

At 1000 years

01% of values less than 12.2317

05% of values less than 18.6287

10% of values less than 24.1715

50% of values less than 66.1306

90% of values less than 346.577

95% of values less than 497.45

99% of values less than 807.385

Minimum 8.95581

Maximum 2075.64

Mean 140.981

Std. Dev. 189.935

Variance 36075.4

Phase: 1A Cell 5

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

At infinity

01% of values less than 9.5178		
05% of values less than 11.7061		
10% of values less than 13.163		
50% of values less than 28.3196		
90% of values less than 52.5505		
95% of values less than 58.5696		
99% of values less than 65.8911		
Minimum 8.45667	Maximum 72.366	
Mean 30.5794	Std. Dev. 14.7131	Variance 216.476

Phase: 1A Cell 5*Concentration of Chromium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.0034652

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00454838

Std. Dev. 0.00340122

Variance 1.15683E-005

At 100 years

01% of values less than 0.000899322

05% of values less than 0.00114654

10% of values less than 0.00144506

50% of values less than 0.00362958

90% of values less than 0.0104243

95% of values less than 0.0141234

99% of values less than 0.0627901

Minimum 0.000721542

Maximum 3.39223

Mean 0.012037

Std. Dev. 0.117059

Variance 0.0137028

At 300 years

01% of values less than 0.000923608

05% of values less than 0.0011962

10% of values less than 0.00148938

50% of values less than 0.00417312

90% of values less than 0.0140141

95% of values less than 0.0277323

99% of values less than 0.303744

Minimum 0.000721542

Maximum 3.75149

Mean 0.0255303

Std. Dev. 0.208369

Variance 0.0434175

At 1000 years

01% of values less than 0.000958481

05% of values less than 0.0012771

10% of values less than 0.00161731

50% of values less than 0.00513996

90% of values less than 0.0396896

95% of values less than 0.0833179

99% of values less than 0.32048

Minimum 0.000721542

Maximum 0.798812

Mean 0.021492

Std. Dev. 0.0686854

Variance 0.00471769

Phase: 1A Cell 5

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

At infinity

01% of values less than 0.000987666		
05% of values less than 0.00148938		
10% of values less than 0.0019897		
50% of values less than 0.00695967		
90% of values less than 0.066323		
95% of values less than 0.104308		
99% of values less than 0.232658		
Minimum 0.000800945	Maximum 1.01107	
Mean 0.0237517	Std. Dev. 0.0550554	Variance 0.0030311

Phase: 1A Cell 5*Concentration of Copper at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 100 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144438

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192621

Std. Dev. 0.00157402

Variance 2.47752E-006

At 300 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474892

50% of values less than 0.00145045

90% of values less than 0.00430182

95% of values less than 0.00544185

99% of values less than 0.00727335

Minimum 0.000211205

Maximum 0.00948399

Mean 0.00193782

Std. Dev. 0.00159194

Variance 2.53428E-006

At 1000 years

01% of values less than 0.000274621

05% of values less than 0.000383676

10% of values less than 0.000485143

50% of values less than 0.00147548

90% of values less than 0.00436326

95% of values less than 0.0054918

99% of values less than 0.0074735

Minimum 0.000211205

Maximum 0.0194492

Mean 0.0020035

Std. Dev. 0.00173424

Variance 3.0076E-006

Phase: 1A Cell 5

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

At infinity

01% of values less than 0.000316251		
05% of values less than 0.00046863		
10% of values less than 0.000601887		
50% of values less than 0.00203349		
90% of values less than 0.00614993		
95% of values less than 0.00842995		
99% of values less than 0.0133461		
Minimum 0.000251811	Maximum 0.0392752	
Mean 0.00291961	Std. Dev. 0.00301579	Variance 9.09498E-006

Phase: 1A Cell 5*Concentration of Lead at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 100 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546826

Std. Dev. 0.0014729

Variance 2.16943E-006

At 300 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00547119

Std. Dev. 0.00147146

Variance 2.16519E-006

At 1000 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00553618

90% of values less than 0.00754872

95% of values less than 0.00809028

99% of values less than 0.00870999

Minimum 0.00218678

Maximum 0.0244645

Mean 0.00553116

Std. Dev. 0.00165446

Variance 2.73722E-006

Phase: 1A Cell 5

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

At infinity

01% of values less than 0.00256284		
05% of values less than 0.00309671		
10% of values less than 0.00355295		
50% of values less than 0.00571607		
90% of values less than 0.00803382		
95% of values less than 0.00889575		
99% of values less than 0.016371		
Minimum 0.00218678	Maximum 0.0589888	
Mean 0.00595838	Std. Dev. 0.00283977	Variance 8.0643E-006

Phase: 1A Cell 5*Concentration of Manganese at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 100 years

01% of values less than 0.0101764

05% of values less than 0.0199368

10% of values less than 0.0309615

50% of values less than 0.256633

90% of values less than 0.914379

95% of values less than 1.23051

99% of values less than 1.74984

Minimum 0.00619944

Maximum 2.08132

Mean 0.387734

Std. Dev. 0.396145

Variance 0.156931

At 300 years

01% of values less than 0.0101764

05% of values less than 0.0201865

10% of values less than 0.0316355

50% of values less than 0.263991

90% of values less than 0.935257

95% of values less than 1.24299

99% of values less than 1.81817

Minimum 0.00619944

Maximum 2.78083

Mean 0.394545

Std. Dev. 0.404964

Variance 0.163996

At 1000 years

01% of values less than 0.0108268

05% of values less than 0.0224902

10% of values less than 0.0336217

50% of values less than 0.271599

90% of values less than 0.970016

95% of values less than 1.23107

99% of values less than 1.75718

Minimum 0.0061995

Maximum 2.08132

Mean 0.401535

Std. Dev. 0.399418

Variance 0.159534

Phase: 1A Cell 5

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

At infinity

01% of values less than 0.0143391		
05% of values less than 0.0268948		
10% of values less than 0.0462087		
50% of values less than 0.281908		
90% of values less than 0.969841		
95% of values less than 1.24784		
99% of values less than 1.77931		
Minimum 0.00717456	Maximum 2.08132	
Mean 0.416199	Std. Dev. 0.397714	Variance 0.158177

Phase: 1A Cell 5*Concentration of Mercury at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 100 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 300 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 1000 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

Phase: 1A Cell 5

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

At infinity

01% of values less than 1.42924E-005		
05% of values less than 2.49428E-005		
10% of values less than 3.74994E-005		
50% of values less than 0.000162527		
90% of values less than 0.000956909		
95% of values less than 0.00125858		
99% of values less than 0.0021829		
Minimum 1.0755E-005	Maximum 0.00316083	
Mean 0.000347852	Std. Dev. 0.000454539	Variance 2.06606E-007

Phase: 1A Cell 5*Concentration of Nickel at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 100 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127298

Std. Dev. 0.0156635

Variance 0.000245347

At 300 years

01% of values less than 0.00111883

05% of values less than 0.00162689

10% of values less than 0.00209585

50% of values less than 0.00660797

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127711

Std. Dev. 0.0156514

Variance 0.000244967

At 1000 years

01% of values less than 0.00119152

05% of values less than 0.00167531

10% of values less than 0.00221662

50% of values less than 0.00734796

90% of values less than 0.0366639

95% of values less than 0.0524315

99% of values less than 0.0796742

Minimum 0.000927248

Maximum 0.380316

Mean 0.0146626

Std. Dev. 0.0227259

Variance 0.000516468

Phase: 1A Cell 5

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

At infinity

01% of values less than 0.0017002		
05% of values less than 0.00307788		
10% of values less than 0.00434819		
50% of values less than 0.0180721		
90% of values less than 0.0693898		
95% of values less than 0.0933162		
99% of values less than 0.165477		
Minimum 0.000954268	Maximum 0.663939	
Mean 0.0311191	Std. Dev. 0.042537	Variance 0.00180939

Phase: 1A Cell 5*Concentration of Sulphate at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 69.4878

05% of values less than 83.1965

10% of values less than 96.8199

50% of values less than 206.837

90% of values less than 476.638

95% of values less than 567.61

99% of values less than 721.521

Minimum 61.1207

Maximum 854.083

Mean 248.377

Std. Dev. 149.089

Variance 22227.6

At 100 years

01% of values less than 75.4277

05% of values less than 92.6677

10% of values less than 114.818

50% of values less than 257.95

90% of values less than 661.094

95% of values less than 1042.73

99% of values less than 4296.15

Minimum 68.264

Maximum 21607.9

Mean 465.494

Std. Dev. 1198.66

Variance 1.4368E+006

At 300 years

01% of values less than 72.9084

05% of values less than 85.9638

10% of values less than 103.226

50% of values less than 225.236

90% of values less than 527.939

95% of values less than 641.062

99% of values less than 1100.29

Minimum 62.7513

Maximum 12844.7

Mean 300.396

Std. Dev. 493.186

Variance 243232

At 1000 years

01% of values less than 75.135

05% of values less than 90.3061

10% of values less than 108.758

50% of values less than 233.843

90% of values less than 513.469

95% of values less than 611.402

99% of values less than 758.397

Minimum 67.0694

Maximum 1237.15

Mean 275.644

Std. Dev. 164.356

Variance 27013

Phase: 1A Cell 5

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

At infinity

01% of values less than 69.4878		
05% of values less than 83.1964		
10% of values less than 96.8199		
50% of values less than 206.837		
90% of values less than 476.638		
95% of values less than 567.609		
99% of values less than 721.521		
Minimum 61.1151	Maximum 854.083	
Mean 248.376	Std. Dev. 149.09	Variance 22227.7

Phase: 1A Cell 5*Concentration of Zinc at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697141

Std. Dev. 0.0674253

Variance 0.00454618

At 100 years

01% of values less than 0.0032829

05% of values less than 0.00598719

10% of values less than 0.00853903

50% of values less than 0.0493273

90% of values less than 0.167896

95% of values less than 0.223846

99% of values less than 0.331606

Minimum 0.00235824

Maximum 5.49201

Mean 0.0792493

Std. Dev. 0.189843

Variance 0.0360406

At 300 years

01% of values less than 0.00333477

05% of values less than 0.00638288

10% of values less than 0.00882654

50% of values less than 0.0526102

90% of values less than 0.17556

95% of values less than 0.231764

99% of values less than 0.346771

Minimum 0.00237364

Maximum 4.67568

Mean 0.0839453

Std. Dev. 0.176132

Variance 0.0310223

At 1000 years

01% of values less than 0.00364688

05% of values less than 0.00726427

10% of values less than 0.010319

50% of values less than 0.0576793

90% of values less than 0.182052

95% of values less than 0.243754

99% of values less than 0.340225

Minimum 0.00238031

Maximum 0.552344

Mean 0.0809223

Std. Dev. 0.0759012

Variance 0.00576099

Phase: 1A Cell 5

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

At infinity

01% of values less than 0.0039617		
05% of values less than 0.0068965		
10% of values less than 0.0120378		
50% of values less than 0.0590308		
90% of values less than 0.172574		
95% of values less than 0.224994		
99% of values less than 0.329731		
Minimum 0.0026438	Maximum 0.396619	
Mean 0.079892	Std. Dev. 0.0710237	Variance 0.00504437

Phase: 1a Cell 1b*Concentration of Ammoniacal_N at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.214438

05% of values less than 0.254501

10% of values less than 0.280501

50% of values less than 0.604494

90% of values less than 1.85333

95% of values less than 2.48067

99% of values less than 3.64681

Minimum 0.193846

Maximum 4.35651

Mean 0.889142

Std. Dev. 0.726708

Variance 0.528104

At 100 years

01% of values less than 0.214441

05% of values less than 0.254662

10% of values less than 0.280566

50% of values less than 0.613475

90% of values less than 1.85765

95% of values less than 2.48076

99% of values less than 3.64681

Minimum 0.193846

Maximum 4.35652

Mean 0.890014

Std. Dev. 0.726944

Variance 0.528448

At 300 years

01% of values less than 0.214442

05% of values less than 0.254717

10% of values less than 0.280567

50% of values less than 0.613475

90% of values less than 1.85765

95% of values less than 2.48078

99% of values less than 3.64681

Minimum 0.193846

Maximum 4.35652

Mean 0.890033

Std. Dev. 0.726963

Variance 0.528476

At 1000 years

01% of values less than 0.215671

05% of values less than 0.255491

10% of values less than 0.281415

50% of values less than 0.616069

90% of values less than 1.85981

95% of values less than 2.48564

99% of values less than 3.6472

Minimum 0.193911

Maximum 4.36709

Mean 0.894288

Std. Dev. 0.727621

Variance 0.529432

Phase: 1a Cell 1b

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

At infinity

01% of values less than 0.214438		
05% of values less than 0.254501		
10% of values less than 0.280501		
50% of values less than 0.613475		
90% of values less than 1.85333		
95% of values less than 2.48067		
99% of values less than 3.64681		
Minimum 0.193846	Maximum 4.35651	
Mean 0.88965	Std. Dev. 0.726506	Variance 0.527811

Phase: 1a Cell 1b*Concentration of Arsenic at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 100 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424259

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194621

Std. Dev. 0.00158561

Variance 2.51417E-006

At 300 years

01% of values less than 0.000267665

05% of values less than 0.000388443

10% of values less than 0.000486133

50% of values less than 0.00141575

90% of values less than 0.00424294

95% of values less than 0.00539216

99% of values less than 0.00743542

Minimum 0.000206062

Maximum 0.00899516

Mean 0.00194622

Std. Dev. 0.00158561

Variance 2.51416E-006

At 1000 years

01% of values less than 0.000284663

05% of values less than 0.000391632

10% of values less than 0.000512578

50% of values less than 0.00145965

90% of values less than 0.00438374

95% of values less than 0.00549111

99% of values less than 0.00750029

Minimum 0.000206793

Maximum 0.0101572

Mean 0.00201371

Std. Dev. 0.00161764

Variance 2.61675E-006

Phase: 1a Cell 1b

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

At infinity

01% of values less than 0.000285308		
05% of values less than 0.000406513		
10% of values less than 0.0005603		
50% of values less than 0.0016202		
90% of values less than 0.00473355		
95% of values less than 0.00608816		
99% of values less than 0.0080739		
Minimum 0.000206063	Maximum 0.014315	
Mean 0.0022208	Std. Dev. 0.00185084	Variance 3.4256E-006

Phase: 1a Cell 1b*Concentration of Cadmium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.00066079

Std. Dev. 0.0001638

Variance 2.68304E-008

At 100 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000641711

90% of values less than 0.000891856

95% of values less than 0.000953297

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.000660796

Std. Dev. 0.000163799

Variance 2.683E-008

At 300 years

01% of values less than 0.00034447

05% of values less than 0.000406481

10% of values less than 0.00045276

50% of values less than 0.000643714

90% of values less than 0.000896302

95% of values less than 0.000955182

99% of values less than 0.00104599

Minimum 0.000311797

Maximum 0.00109395

Mean 0.000661909

Std. Dev. 0.000163981

Variance 2.68897E-008

At 1000 years

01% of values less than 0.000351289

05% of values less than 0.000408052

10% of values less than 0.000459436

50% of values less than 0.000661793

90% of values less than 0.000919054

95% of values less than 0.000991632

99% of values less than 0.00110636

Minimum 0.000311797

Maximum 0.0014885

Mean 0.000681258

Std. Dev. 0.000176233

Variance 3.10579E-008

Phase: 1a Cell 1b

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

At infinity

01% of values less than 0.00034447		
05% of values less than 0.000408206		
10% of values less than 0.000454429		
50% of values less than 0.000643045		
90% of values less than 0.000897138		
95% of values less than 0.00095542		
99% of values less than 0.00105096		
Minimum 0.000311797	Maximum 0.00121415	
Mean 0.000662235	Std. Dev. 0.000164621	Variance 2.71E-008

Phase: 1a Cell 1b*Concentration of Chloride at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 9.93059

05% of values less than 13.1629

10% of values less than 15.3737

50% of values less than 35.028

90% of values less than 66.4746

95% of values less than 86.6199

99% of values less than 153.219

Minimum 8.45667

Maximum 413.635

Mean 40.4503

Std. Dev. 30.1458

Variance 908.771

At 100 years

01% of values less than 13.6312

05% of values less than 21.4103

10% of values less than 28.884

50% of values less than 90.8264

90% of values less than 1001.2

95% of values less than 1588.19

99% of values less than 3358.85

Minimum 8.458

Maximum 7028.36

Mean 354.811

Std. Dev. 709.68

Variance 503646

At 300 years

01% of values less than 12.038

05% of values less than 16.1644

10% of values less than 19.8766

50% of values less than 50.5288

90% of values less than 233.438

95% of values less than 449.384

99% of values less than 1144.18

Minimum 8.64376

Maximum 2509.66

Mean 112.062

Std. Dev. 207.344

Variance 42991.5

At 1000 years

01% of values less than 13.0183

05% of values less than 20.1844

10% of values less than 29.575

50% of values less than 102.79

90% of values less than 535.868

95% of values less than 801.556

99% of values less than 1295.41

Minimum 9.27317

Maximum 1937.04

Mean 212.923

Std. Dev. 264.122

Variance 69760.4

Phase: 1a Cell 1b

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

At infinity

01% of values less than 9.51772		
05% of values less than 11.7061		
10% of values less than 13.1629		
50% of values less than 28.3196		
90% of values less than 52.0634		
95% of values less than 58.5696		
99% of values less than 65.8911		
Minimum 8.45667	Maximum 72.366	
Mean 30.5607	Std. Dev. 14.6948	Variance 215.936

Phase: 1a Cell 1b*Concentration of Chromium at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000881761

05% of values less than 0.00113149

10% of values less than 0.00140623

50% of values less than 0.0034652

90% of values less than 0.00926545

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00454838

Std. Dev. 0.00340122

Variance 1.15683E-005

At 100 years

01% of values less than 0.000881761

05% of values less than 0.0011333

10% of values less than 0.00141086

50% of values less than 0.00346952

90% of values less than 0.00929249

95% of values less than 0.0117429

99% of values less than 0.0157096

Minimum 0.000721542

Maximum 0.0208003

Mean 0.00455533

Std. Dev. 0.00340284

Variance 1.15793E-005

At 300 years

01% of values less than 0.000899322

05% of values less than 0.00114654

10% of values less than 0.0014577

50% of values less than 0.00368232

90% of values less than 0.00990506

95% of values less than 0.0130318

99% of values less than 0.0195079

Minimum 0.000721542

Maximum 0.15076

Mean 0.00515475

Std. Dev. 0.00669034

Variance 4.47606E-005

At 1000 years

01% of values less than 0.000906653

05% of values less than 0.00126471

10% of values less than 0.00157878

50% of values less than 0.00445618

90% of values less than 0.0165753

95% of values less than 0.0309315

99% of values less than 0.114815

Minimum 0.000721542

Maximum 0.254432

Mean 0.00973325

Std. Dev. 0.0202736

Variance 0.000411018

Phase: 1a Cell 1b

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

At infinity

01% of values less than 0.00088351		
05% of values less than 0.0011444		
10% of values less than 0.00144093		
50% of values less than 0.00360417		
90% of values less than 0.00968748		
95% of values less than 0.0121509		
99% of values less than 0.017783		
Minimum 0.000721542	Maximum 0.025147	
Mean 0.0047858	Std. Dev. 0.00366682	Variance 1.34456E-005

Phase: 1a Cell 1b*Concentration of Copper at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 100 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192557

Std. Dev. 0.00157416

Variance 2.47798E-006

At 300 years

01% of values less than 0.000262065

05% of values less than 0.000370645

10% of values less than 0.000474076

50% of values less than 0.00144258

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192558

Std. Dev. 0.00157416

Variance 2.47797E-006

At 1000 years

01% of values less than 0.000283743

05% of values less than 0.000380094

10% of values less than 0.000474892

50% of values less than 0.00144438

90% of values less than 0.00429121

95% of values less than 0.00543102

99% of values less than 0.00712619

Minimum 0.000211205

Maximum 0.00923902

Mean 0.00192884

Std. Dev. 0.00157379

Variance 2.47682E-006

Phase: 1a Cell 1b

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

At infinity

01% of values less than 0.000285441		
05% of values less than 0.000386486		
10% of values less than 0.000478222		
50% of values less than 0.00146602		
90% of values less than 0.00433571		
95% of values less than 0.00549016		
99% of values less than 0.00727732		
Minimum 0.000211205	Maximum 0.00930135	
Mean 0.00195321	Std. Dev. 0.00158128	Variance 2.50045E-006

Phase: 1a Cell 1b*Concentration of Lead at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 100 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 300 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546825

Std. Dev. 0.0014729

Variance 2.16943E-006

At 1000 years

01% of values less than 0.00244234

05% of values less than 0.0030443

10% of values less than 0.0035071

50% of values less than 0.00549894

90% of values less than 0.00745952

95% of values less than 0.00798038

99% of values less than 0.00860825

Minimum 0.00218678

Maximum 0.0091

Mean 0.00546872

Std. Dev. 0.00147289

Variance 2.1694E-006

Phase: 1a Cell 1b

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

At infinity

01% of values less than 0.00245999		
05% of values less than 0.00307507		
10% of values less than 0.00353577		
50% of values less than 0.00551686		
90% of values less than 0.0074638		
95% of values less than 0.00800861		
99% of values less than 0.00867094		
Minimum 0.00218678	Maximum 0.0135613	
Mean 0.00549857	Std. Dev. 0.00150576	Variance 2.26733E-006

Phase: 1a Cell 1b*Concentration of Manganese at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 100 years

01% of values less than 0.0101764

05% of values less than 0.0196598

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08132

Mean 0.386178

Std. Dev. 0.394689

Variance 0.15578

At 300 years

01% of values less than 0.0101764

05% of values less than 0.0199909

10% of values less than 0.0309615

50% of values less than 0.256224

90% of values less than 0.913414

95% of values less than 1.22079

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08135

Mean 0.386493

Std. Dev. 0.394587

Variance 0.155699

At 1000 years

01% of values less than 0.0109797

05% of values less than 0.0223579

10% of values less than 0.0334679

50% of values less than 0.266552

90% of values less than 0.931443

95% of values less than 1.23051

99% of values less than 1.74519

Minimum 0.00619944

Maximum 2.08732

Mean 0.394377

Std. Dev. 0.396004

Variance 0.156819

Phase: 1a Cell 1b

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

At infinity

01% of values less than 0.0101764		
05% of values less than 0.0199368		
10% of values less than 0.0317182		
50% of values less than 0.257497		
90% of values less than 0.913414		
95% of values less than 1.2223		
99% of values less than 1.74519		
Minimum 0.00619944	Maximum 2.08132	
Mean 0.38708	Std. Dev. 0.394727	Variance 0.155809

Phase: 1a Cell 1b*Concentration of Mercury at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 100 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 300 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

At 1000 years

01% of values less than 1.3071E-005

05% of values less than 2.18149E-005

10% of values less than 3.1961E-005

50% of values less than 0.000142793

90% of values less than 0.000880664

95% of values less than 0.00123619

99% of values less than 0.0021387

Minimum 1.0755E-005

Maximum 0.00316083

Mean 0.000319314

Std. Dev. 0.000439731

Variance 1.93363E-007

Phase: 1a Cell 1b

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

At infinity

01% of values less than 1.33041E-005		
05% of values less than 2.18149E-005		
10% of values less than 3.1961E-005		
50% of values less than 0.000144337		
90% of values less than 0.000880664		
95% of values less than 0.00123619		
99% of values less than 0.0021387		
Minimum 1.07598E-005	Maximum 0.00316083	
Mean 0.000319798	Std. Dev. 0.000439709	Variance 1.93344E-007

Phase: 1a Cell 1b*Concentration of Nickel at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 100 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.033337

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 300 years

01% of values less than 0.00111883

05% of values less than 0.00160015

10% of values less than 0.00205442

50% of values less than 0.00652145

90% of values less than 0.0333374

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927248

Maximum 0.0936038

Mean 0.0127295

Std. Dev. 0.0156637

Variance 0.000245353

At 1000 years

01% of values less than 0.00113157

05% of values less than 0.0016091

10% of values less than 0.00211719

50% of values less than 0.00656858

90% of values less than 0.0333468

95% of values less than 0.0482727

99% of values less than 0.0738526

Minimum 0.000927254

Maximum 0.0936038

Mean 0.0127846

Std. Dev. 0.0156508

Variance 0.000244948

Phase: 1a Cell 1b

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

At infinity

01% of values less than 0.00119575		
05% of values less than 0.00166327		
10% of values less than 0.00220459		
50% of values less than 0.00674186		
90% of values less than 0.0338867		
95% of values less than 0.0483577		
99% of values less than 0.0738618		
Minimum 0.000927248	Maximum 0.0936755	
Mean 0.0129184	Std. Dev. 0.0157206	Variance 0.000247138

Phase: 1a Cell 1b*Concentration of Sulphate at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 69.8993

05% of values less than 83.4845

10% of values less than 98.6663

50% of values less than 207.424

90% of values less than 476.977

95% of values less than 567.684

99% of values less than 721.594

Minimum 61.1151

Maximum 854.092

Mean 248.8

Std. Dev. 149.038

Variance 22212.4

At 100 years

01% of values less than 74.1995

05% of values less than 90.2225

10% of values less than 107.337

50% of values less than 223.287

90% of values less than 483.311

95% of values less than 588.941

99% of values less than 725.091

Minimum 61.2427

Maximum 868.52

Mean 260.423

Std. Dev. 150.28

Variance 22584.2

At 300 years

01% of values less than 73.0337

05% of values less than 84.7514

10% of values less than 101.208

50% of values less than 209.729

90% of values less than 477.157

95% of values less than 572.138

99% of values less than 721.731

Minimum 61.1336

Maximum 855.92

Mean 251.397

Std. Dev. 148.92

Variance 22177.2

At 1000 years

01% of values less than 75.5423

05% of values less than 91.0419

10% of values less than 108.387

50% of values less than 219.186

90% of values less than 483.627

95% of values less than 574.545

99% of values less than 727.051

Minimum 61.6826

Maximum 886.421

Mean 258.927

Std. Dev. 149.463

Variance 22339.3

Phase: 1a Cell 1b

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

At infinity

01% of values less than 69.4878		
05% of values less than 83.1964		
10% of values less than 96.8199		
50% of values less than 206.837		
90% of values less than 476.638		
95% of values less than 567.609		
99% of values less than 721.521		
Minimum 61.1151	Maximum 854.083	
Mean 248.376	Std. Dev. 149.09	Variance 22227.7

Phase: 1a Cell 1b*Concentration of Zinc at Phase Monitor Well [mg/l]*

At 20 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697141

Std. Dev. 0.0674253

Variance 0.00454618

At 100 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697141

Std. Dev. 0.0674253

Variance 0.00454618

At 300 years

01% of values less than 0.00317217

05% of values less than 0.0056754

10% of values less than 0.00840934

50% of values less than 0.0478656

90% of values less than 0.159114

95% of values less than 0.208739

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697146

Std. Dev. 0.0674253

Variance 0.00454617

At 1000 years

01% of values less than 0.00317522

05% of values less than 0.00577508

10% of values less than 0.00854235

50% of values less than 0.0478656

90% of values less than 0.159411

95% of values less than 0.208741

99% of values less than 0.304347

Minimum 0.00235824

Maximum 0.353858

Mean 0.0697838

Std. Dev. 0.0674194

Variance 0.00454537

Phase: 1a Cell 1b

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

At infinity

01% of values less than 0.00333477		
05% of values less than 0.00577507		
10% of values less than 0.00849264		
50% of values less than 0.0478799		
90% of values less than 0.159114		
95% of values less than 0.208761		
99% of values less than 0.304347		
Minimum 0.00235824	Maximum 0.353858	
Mean 0.0697955	Std. Dev. 0.0674368	Variance 0.00454772