

30 April 2026

Attention: FAO Matt Tanner
Environment Agency
By E-mail

SLR Project No.: 402.065294.00001

RE: Clockhouse Quarry
Addendum to HRA – Hazardous Substances Assessment

Introduction

SLR Consulting Ltd (SLR) has been appointed by Suez Recycling and Recovery UK Ltd (SUEZ) to provide an addendum to the recently submitted Hydrogeological Risk Assessment (HRA) to support an environmental permit application for a Deposit for Recovery (DfR) at Clockhouse Quarry, located at Horsham Road, Capel, Surrey.

The Environment Agency (EA) has requested that we “*provide an assessment of the risks from hazardous substances within the sub water table waste streams noting that the inert WAC contains discernible concentrations of hazardous substances*”.

The modelling previously developed within the HRA have therefore been updated to include the parameters modelled within the above water table wastes within the sub-water table model.

Priority Substances & Environmental Assessment Limits

As outlined within Section 2.4 of the HRA the priority substances identified within the risk assessment included non-hazardous pollutants nickel, chloride and ammoniacal nitrogen and hazardous substances lead, anthracene and benzo(a)pyrene.

The HRA modelling included the non-hazardous substances in models for both the above water table and below water table materials, reflecting that these will potentially be naturally present within the types of inert materials proposed for both wastes, however the hazardous substances were excluded given that the proposed sub-water table waste types will come from single source materials which are well characterised and carry a very low risk of possible contamination.

Whilst very limited literature data is available for the leachate chemistry for single source soils such as those proposed for below the water table at Clockhouse, Suez has provided in-waste monitoring data for two of their sites which have previously accepted similar wastes:

- Runfold AC is a soils landfill in Surrey that was originally permitted and developed for non-haz wastes in 2010 but only ever received selected soils wastes. The site therefore benefits from in-waste leachate wells;
- Kingsley is an inert landfill on the Surrey / Hampshire border – developed between 2014 – 2018 for which Suez installed 4 in-waste gas / leachate wells to support surrender.

A total of 111 samples have been collected from Runfold AC between 2017 and 2026 and four samples collected from Kingsley in 2025. Both sites recorded lead concentrations below detection limit during all monitoring (detection limit varied between <0.00002 and <0.001mg/l). This confirms that there is very low risk to the environment from the leaching of lead from inert soils wastes.

No site specific data is available for PAHs however given the nature of the wastes (naturally occurring and from sites with no evidence of contamination) there is no viable source for PAHs within the waste. Other broader analysis suites for leachate quality testing undertaken at Runfold for organic determinands (volatile organics, semi-volatile organics) has confirmed no substances ever present above current laboratory limits of detection.

Nonetheless as a worst case an assessment of the potential risks from hazardous substances has however been undertaken. The source term for each of the substances modelled in the above water table wastes have therefore been modelled based on their respective detection limits in WAC testing as follows:

- Lead: <0.005mg/kg
- Anthracene: <0.02mg/kg
- Benzo(a)pyrene: <0.02mg/kg

As outlined in Section 2.4 of the HRA the Environmental Assessment Limits (EALs) have been set at the stipulated Minimum Reporting Values (MRVs), as follows:

- Lead: 0.0002mg/l
- Anthracene: 0.00001mg/l
- Benzo(a)pyrene: 0.00001mg/l

All other parameters are as per those presented within the HRA.

Assessment Results

The fate of hazardous substances has been assessed at the down-stream edge of the Site at the down-gradient perimeter groundwater monitoring boreholes (BH22/5 and BH22/9) following dilution but prior to any dispersion or attenuation in the aquifer. The model results are presented in Table 1.

Table 1 – Hazardous Substances – 95th percentile maximum predicted concentrations: Fill below water table.

Determinand	EAL / MRV (mg/l)	95 th percentile Concentration (mg/l)
		Sub Water Table Infill
Lead	0.0002	1.88x10 ⁻⁴
Anthracene	0.00001	5.14x10 ⁻⁶
Benzo(a)pyrene	0.00001	8.53x10 ⁻⁶

The updated model results are presented in Appendix A of this addendum and electronic copies of the models presented in Appendix B.



Requisite Surveillance

We can confirm that even though the risks associated with any possible discharge of Hazardous Substances into the water environment from the proposed restoration scheme is extremely low, the proposed Requisite Surveillance for the permit application does include for the routine monitoring and assessment of lead within the groundwater environment (Section 4.3 of the HRA) and also the combined groundwater / surface water discharge to the local surface water environment (Section 4.4 of the HRA and supporting H1 Risk Assessment, April 2026).



APPENDIX A – RAM MODEL & RESULTS



Source Type

☒ Soil Source ☐ Groundwater Source

Level Number

☐ Level One

☐ Level Two

☒ Level Three

☐ Level Four

☐ Advanced

Parameter Values

☐ Deterministic ☒ Probabilistic

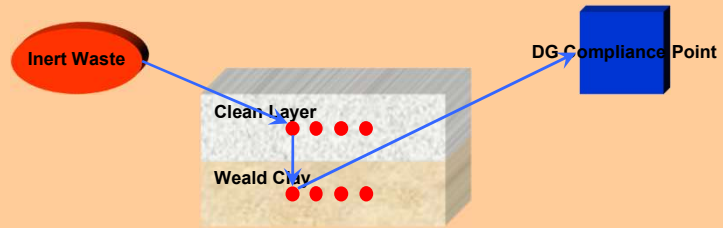
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by: Silas Rowe

Version: 3.34.00x Bmb

Site: Clockhouse_Lower_Infill

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



CONTAMINANT INFORMATION

		Species1
Source determinand names	1	Lead

Receptor Target Concentrations

	Name	Values in mg/L
Quality Standard 1	EAL	0.0002
Quality Standard 2		
Quality Standard 3		
Quality Standard 4		

Generic Contaminant Properties

Contaminants_Organic_Carbon_Water_Partition_Coefficient_Koc	L/kg	27
Distribution		uniform
Contaminants_Organic_Carbon_Water_Partition_Coefficient_Koc_param1		27
Contaminants_Organic_Carbon_Water_Partition_Coefficient_Koc_param2		270000
Contaminants_Organic_Carbon_Water_Partition_Coefficient_Koc_param3		

Contaminants_Free_Water_Diffusion_Coefficient	m2/s	9.45E-10
Distribution		constant
Contaminants_Free_Water_Diffusion_Coefficient_param1		
Contaminants_Free_Water_Diffusion_Coefficient_param2		
Contaminants_Free_Water_Diffusion_Coefficient_param3		

HYDROGEOLOGICAL UNITS

Hydrogeological Units		Clean Laye Weald Clay	
Hydrogeology_Unit_Thickness	m	0.01	10
Distribution	constant	uniform	
Hydrogeology_Unit_Thickness_param1			10
Hydrogeology_Unit_Thickness_param2			11
Hydrogeology_Unit_Thickness_param3			
Hydrogeology_Log_Hydraulic_Conductivity	log(m/s)	-7	-5.398
Distribution	constant	uniform	
Hydrogeology_Log_Hydraulic_Conductivity_param1			-5.4
Hydrogeology_Log_Hydraulic_Conductivity_param2			-5.02
Hydrogeology_Log_Hydraulic_Conductivity_param3			
Hydrogeology_Hydraulic_Conductivity	m/s	1E-07	4.00E-06
Distribution	constant	uniform	
Hydrogeology_Hydraulic_Conductivity_param1			4.00E-06
Hydrogeology_Hydraulic_Conductivity_param2			9.60E-06
Hydrogeology_Hydraulic_Conductivity_param3			
Hydrogeology_Hydraulic_Gradient	[-]	0.0203	0.01
Distribution	constant	uniform	
Hydrogeology_Hydraulic_Gradient_param1			0.01
Hydrogeology_Hydraulic_Gradient_param2			0.013
Hydrogeology_Hydraulic_Gradient_param3			
Hydrogeology_Porosity	[-]	0.34	0.21
Distribution	uniform	uniform	
Hydrogeology_Porosity_param1		0.34	0.21
Hydrogeology_Porosity_param2		0.6	0.41
Hydrogeology_Porosity_param3			
Hydrogeology_Velocity	m/s	5.97E-09	1.90476E-07
Distribution	constant	constant	
Hydrogeology_Velocity_param1			
Hydrogeology_Velocity_param2			
Hydrogeology_Velocity_param3			
Hydrogeology_Tortuosity	[-]	10	10
Distribution	constant	constant	
Hydrogeology_Tortuosity_param1			
Hydrogeology_Tortuosity_param2			
Hydrogeology_Tortuosity_param3			

ATTENUATION PARAMETERS

Hydrogeological Units	Clean Laye Weald Clay
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General properties

Attenuation_Dry_bulk_density	kg/m3	1500	1800
Distribution		constant	uniform
Attenuation_Dry_bulk_density_param1			1800
Attenuation_Dry_bulk_density_param2			2200
Attenuation_Dry_bulk_density_param3			

Attenuation_Fraction_organic_carbon	[-]	0.01	0.0006
Distribution		uniform	triangular
Attenuation_Fraction_organic_carbon_param1		0.01	0.0006
Attenuation_Fraction_organic_carbon_param2		0.1	0.0074
Attenuation_Fraction_organic_carbon_param3			0.062

Contaminant specific parameters

Lead

Attenuation_Partition_Coefficient_Kd_Species_1	L/kg	0	0
Distribution		constant	constant
Attenuation_Partition_Coefficient_Kd_Species_1_param1			
Attenuation_Partition_Coefficient_Kd_Species_1_param2			
Attenuation_Partition_Coefficient_Kd_Species_1_param3			

Attenuation_Retardation_Species_1	[-]	1	1
Distribution		constant	constant
Attenuation_Retardation_Species_1_param1			
Attenuation_Retardation_Species_1_param2			
Attenuation_Retardation_Species_1_param3			

Attenuation_Half_Life_Species_1	days	No decay	No decay
Distribution		constant	constant
Attenuation_Half_Life_Species_1_param1			
Attenuation_Half_Life_Species_1_param2			
Attenuation_Half_Life_Species_1_param3			

Attenuation_Decay_Coefficient_Species_1	1/s	0	0
Distribution		constant	constant
Attenuation_Decay_Coefficient_Species_1_param1			
Attenuation_Decay_Coefficient_Species_1_param2			
Attenuation_Decay_Coefficient_Species_1_param3			

WATER BALANCE

Infiltration through the soil zone source

Source Name: Inert Waste

Effective_Rainfall	100	mm/year
Infiltration_Factor	1	[-]
Infiltration_Rate	100	mm/year
Infiltration_Area	44750	m2
Q_Infiltration	0.000141804	m3/s

PATHWAY SUMMARY

Path 1

Path 1 Type

Path 1 Name

Path 1 Process

Path 1 Standards

Path 1 Parameter1

Path 1 Parameter2

Path 1 Parameter3

Path 1 Parameter4

Path 1 Parameter5

Path 1 Parameter6

Section 1		Section 2		Section 3		Section 4	
Source		Unit		Unit		Receptor	
Inert Waste		Clean Layer: Node 1		Weald Clay: Node 1		DG Compliance Point	
Declining source		ADRD (1D)		ADRD (1D) + Dilution		Monitoring Borehole	
						Target Standard	
Q_managed [m3/s]		0.000E+00	Velocity [m/s]	5.971E-09	Velocity [m/s]	1.905E-07	
Managed time [years]		0.000E+00	Dispersivity [m]	0.0	Dispersivity [m]	3.2	
Q_path [m3/s]		1.418E-04	Travel Distance [m]	0.0	Travel Distance [m]	32.0	
Q_decline [m3/s]		1.418E-04			Mixing Depth [m]	10.5	
					Mixing Width [m]	179.0	
			Q_Dilute [m3/s]	0	Q_Dilute [m3/s]	7.518E-05	Q_dilute [m3/s]
							0.000E+00

BREAKTHROUGH Probabilistic Results

1000 Monte Carlo iterations

Site Name: "Clockhouse_Lower_Infill"

Level3

Pollutant Linkage: Inert Waste, Clean Layer, Weald Clay, DG Compliance Point

95 th Percentile Concentrations in mg/L in DG Compliance Point

Compared with EAL target concentration in mg/L

2.000E-04

Time(years)	Species1
	Lead
1	3.584E-06
2	5.812E-05
5	1.523E-04
10	1.846E-04
15	1.888E-04
20	1.830E-04
25	1.736E-04
30	1.638E-04
35	1.559E-04
40	1.483E-04
45	1.413E-04
50	1.348E-04
75	1.060E-04
100	8.380E-05
150	5.274E-05
200	3.357E-05
250	2.112E-05
300	1.350E-05
400	5.593E-06
500	2.315E-06
750	2.543E-07
1000	2.823E-08
1500	3.556E-10
2000	4.096E-12
3000	0.000E+00
4000	0.000E+00
5000	0.000E+00
6000	0.000E+00
7000	0.000E+00
8000	0.000E+00
9000	0.000E+00
10000	0.000E+00
11000	0.000E+00
12000	0.000E+00
13000	0.000E+00
14000	0.000E+00
15000	0.000E+00
16000	0.000E+00
17000	0.000E+00
18000	1.126E-15
19000	2.488E-15
20000	3.628E-15

Pollutant Linkage: Inert Waste, Clean Layer, Weald Clay, DG Compliance Point

5 th Percentile Remedial Target Concentrations in mg/L in Inert Waste

Time(years)	Species1
Lead	
1	1.911E-02
2	1.202E-03
5	4.591E-04
10	3.791E-04
15	3.706E-04
20	3.822E-04
25	4.028E-04
30	4.237E-04
35	4.473E-04
40	4.709E-04
45	4.951E-04
50	5.186E-04
75	6.600E-04
100	8.346E-04
150	1.324E-03
200	2.079E-03
250	3.304E-03
300	5.175E-03
400	1.251E-02
500	3.004E-02
750	2.747E-01
1000	2.479E+00
1500	1.963E+02
2000	1.699E+04
3000	1.000E+40
4000	1.000E+40
5000	1.000E+40
6000	1.000E+40
7000	1.000E+40
8000	1.000E+40
9000	1.000E+40
10000	1.000E+40
11000	1.000E+40
12000	1.000E+40
13000	1.000E+40
14000	1.000E+40
15000	1.000E+40
16000	1.000E+40
17000	1.000E+40
18000	6.218E+07
19000	2.749E+07
20000	1.909E+07

Compared with source concentrations in mg/L

3.500E-04

Pollutant Linkage: Inert Waste, Clean Layer, Weald Clay, DG Compliance Point

5 th Percentile Dilution Factor

1.646E+00

Pollutant Linkage: Inert Waste, Clean Layer, Weald Clay, DG Compliance Point

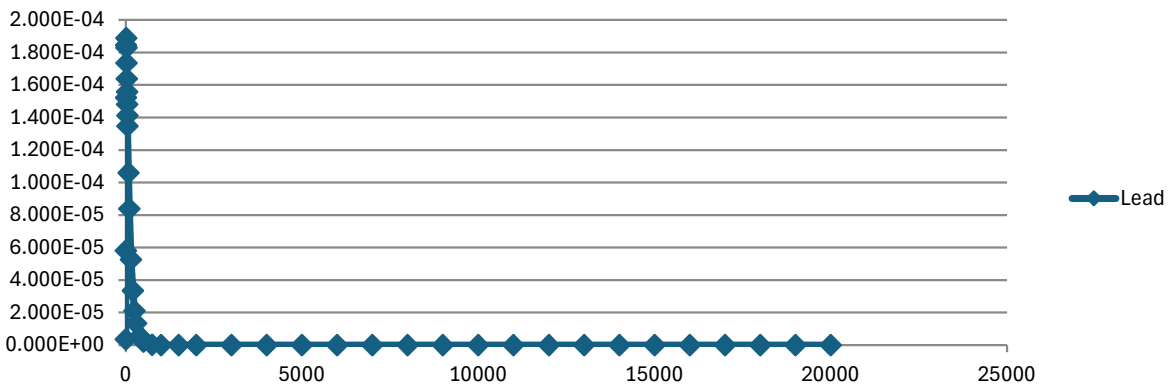
5th Percentile Attenuation Factor

Time(years) Species1

Lead

1	4.225E+01
2	2.597E+00
5	1.060E+00
10	1.065E+00
15	1.098E+00
20	1.141E+00
25	1.192E+00
30	1.247E+00
35	1.304E+00
40	1.363E+00
45	1.425E+00
50	1.487E+00
75	1.854E+00
100	2.307E+00
150	3.573E+00
200	5.523E+00
250	8.551E+00
300	1.324E+01
400	3.169E+01
500	7.577E+01
750	6.696E+02
1000	5.921E+03
1500	4.636E+05
2000	4.016E+07
3000	1.000E+40
4000	1.000E+40
5000	1.000E+40
6000	1.000E+40
7000	1.000E+40
8000	1.000E+40
9000	1.000E+40
10000	1.000E+40
11000	1.000E+40
12000	1.000E+40
13000	1.000E+40
14000	1.000E+40
15000	1.000E+40
16000	1.000E+40
17000	1.000E+40
18000	1.564E+11
19000	6.929E+10
20000	4.732E+10

Pollutant Linkage: Inert Waste, Clean Layer, Weald Clay, DG Compliance Point



Source Type

☒ Soil Source ☐ Groundwater Source

Level Number

☐ Level One

☐ Level Two

☒ Level Three

☐ Level Four

☐ Advanced

Parameter Values

☐ Deterministic ☒ Probabilistic

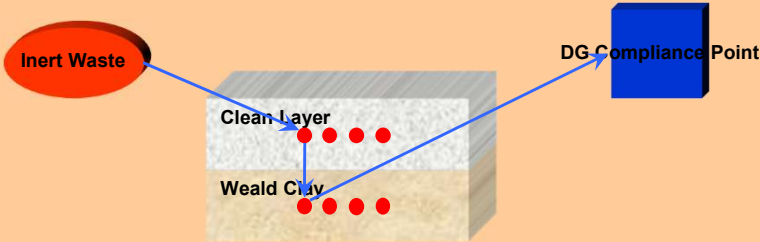
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by: Silas Rowe

Version: 3.34.00x Bmb

Site: Clockhouse_Lower_Infill

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



CONTAMINANT INFORMATION

		Species1	Species2
Source determinand names		2 Anthracene	Benzo(a)pyrene

Receptor Target Concentrations

	Name	Values in mg/L	
Quality Standard 1	EAL	0.00001	0.00001
Quality Standard 2			
Quality Standard 3			
Quality Standard 4			

Generic Contaminant Properties

Contaminants_Solubility	mg/L	0.03	0.0038
Distribution		constant	constant
Contaminants_Solubility_param1			
Contaminants_Solubility_param2			
Contaminants_Solubility_param3			

Contaminants_Henrys_Law_Constant	[-]	0.00016	0.000019
Distribution		constant	constant
Contaminants_Henrys_Law_Constant_param1			
Contaminants_Henrys_Law_Constant_param2			
Contaminants_Henrys_Law_Constant_param3			

Contaminants_Organic_Carbon_Water_Partition_Coefficient_Koc	L/kg	77624	128825
Distribution		constant	constant
Contaminants_Organic_Carbon_Water_Partition_Coefficient_Koc_param1			
Contaminants_Organic_Carbon_Water_Partition_Coefficient_Koc_param2			
Contaminants_Organic_Carbon_Water_Partition_Coefficient_Koc_param3			

Contaminants_Free_Water_Diffusion_Coefficient	m2/s	3.80E-10	3.67E-10
Distribution		constant	constant
Contaminants_Free_Water_Diffusion_Coefficient_param1			
Contaminants_Free_Water_Diffusion_Coefficient_param2			
Contaminants_Free_Water_Diffusion_Coefficient_param3			

HYDROGEOLOGICAL UNITS

Hydrogeological Units		Clean Laye Weald Clay	
Hydrogeology_Unit_Thickness	m	0.01	10
Distribution	constant	uniform	
Hydrogeology_Unit_Thickness_param1			10
Hydrogeology_Unit_Thickness_param2			11
Hydrogeology_Unit_Thickness_param3			
Hydrogeology_Log_Hydraulic_Conductivity	log(m/s)	-7	-5.398
Distribution	constant	uniform	
Hydrogeology_Log_Hydraulic_Conductivity_param1			-5.4
Hydrogeology_Log_Hydraulic_Conductivity_param2			-5.02
Hydrogeology_Log_Hydraulic_Conductivity_param3			
Hydrogeology_Hydraulic_Conductivity	m/s	1E-07	4.00E-06
Distribution	constant	uniform	
Hydrogeology_Hydraulic_Conductivity_param1			4.00E-06
Hydrogeology_Hydraulic_Conductivity_param2			9.60E-06
Hydrogeology_Hydraulic_Conductivity_param3			
Hydrogeology_Hydraulic_Gradient	[-]	0.0203	0.01
Distribution	constant	uniform	
Hydrogeology_Hydraulic_Gradient_param1			0.01
Hydrogeology_Hydraulic_Gradient_param2			0.013
Hydrogeology_Hydraulic_Gradient_param3			
Hydrogeology_Porosity	[-]	0.34	0.21
Distribution	uniform	uniform	
Hydrogeology_Porosity_param1		0.34	0.21
Hydrogeology_Porosity_param2		0.6	0.41
Hydrogeology_Porosity_param3			
Hydrogeology_Velocity	m/s	5.97E-09	1.90476E-07
Distribution	constant	constant	
Hydrogeology_Velocity_param1			
Hydrogeology_Velocity_param2			
Hydrogeology_Velocity_param3			
Hydrogeology_Tortuosity	[-]	10	10
Distribution	constant	constant	
Hydrogeology_Tortuosity_param1			
Hydrogeology_Tortuosity_param2			
Hydrogeology_Tortuosity_param3			

ATTENUATION PARAMETERS

Hydrogeological Units	Clean Laye Weald Clay
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General properties

Attenuation_Dry_bulk_density	kg/m3	1500	1800
Distribution		constant	uniform
Attenuation_Dry_bulk_density_param1			1800
Attenuation_Dry_bulk_density_param2			2200
Attenuation_Dry_bulk_density_param3			

Attenuation_Fraction_organic_carbon	[-]	0.01	0.0006
Distribution		uniform	triangular
Attenuation_Fraction_organic_carbon_param1		0.01	0.0006
Attenuation_Fraction_organic_carbon_param2		0.1	0.0074
Attenuation_Fraction_organic_carbon_param3			0.062

Contaminant specific parameters

Anthracene

Attenuation_Partition_Coefficient_Kd_Species_1	L/kg	0	0
Distribution		constant	constant
Attenuation_Partition_Coefficient_Kd_Species_1_param1			
Attenuation_Partition_Coefficient_Kd_Species_1_param2			
Attenuation_Partition_Coefficient_Kd_Species_1_param3			

Attenuation_Retardation_Species_1	[-]	1	1
Distribution		constant	constant
Attenuation_Retardation_Species_1_param1			
Attenuation_Retardation_Species_1_param2			
Attenuation_Retardation_Species_1_param3			

Attenuation_Half_Life_Species_1	days	No Decay	No decay
Distribution		constant	constant
Attenuation_Half_Life_Species_1_param1			
Attenuation_Half_Life_Species_1_param2			
Attenuation_Half_Life_Species_1_param3			

Attenuation_Decay_Coefficient_Species_1	1/s	0	0
Distribution		constant	constant
Attenuation_Decay_Coefficient_Species_1_param1			
Attenuation_Decay_Coefficient_Species_1_param2			
Attenuation_Decay_Coefficient_Species_1_param3			

Benzo(a)pyrene

Attenuation_Partition_Coefficient_Kd_Species_2	L/kg	0	0
Distribution		constant	constant
Attenuation_Partition_Coefficient_Kd_Species_2_param1			
Attenuation_Partition_Coefficient_Kd_Species_2_param2			
Attenuation_Partition_Coefficient_Kd_Species_2_param3			

Attenuation_Retardation_Species_2	[-]	1	1
Distribution		constant	constant
Attenuation_Retardation_Species_2_param1			
Attenuation_Retardation_Species_2_param2			
Attenuation_Retardation_Species_2_param3			

Attenuation_Half_Life_Species_2	days	No Decay	No Decay
Distribution		constant	constant
Attenuation_Half_Life_Species_2_param1			
Attenuation_Half_Life_Species_2_param2			
Attenuation_Half_Life_Species_2_param3			

Attenuation_Decay_Coefficient_Species_2	1/s	0	0
Distribution		constant	constant
Attenuation_Decay_Coefficient_Species_2_param1			
Attenuation_Decay_Coefficient_Species_2_param2			
Attenuation_Decay_Coefficient_Species_2_param3			

WATER BALANCE

Infiltration through the soil zone source

Source Name: Inert Waste

Effective_Rainfall	100	mm/year
Infiltration_Factor	1	[-]
Infiltration_Rate	100	mm/year
Infiltration_Area	44750	m2
Q_Infiltration	0.000141804	m3/s

PATHWAY SUMMARY

Path 1

Path 1 Type

Path 1 Name

Path 1 Process

Path 1 Standards

Path 1 Parameter1

Path 1 Parameter2

Path 1 Parameter3

Path 1 Parameter4

Path 1 Parameter5

Path 1 Parameter6

Section 1		Section 2		Section 3		Section 4	
Source		Unit		Unit		Receptor	
Inert Waste		Clean Layer: Node 1		Weald Clay: Node 1		DG Compliance Point	
Declining source		ADRD (1D)		ADRD (1D) + Dilution		Monitoring Borehole	
						Target Standard	
Q_managed [m3/s]		0.000E+00	Velocity [m/s]	5.971E-09	Velocity [m/s]	1.905E-07	
Managed time [years]		0.000E+00	Dispersivity [m]	0.0	Dispersivity [m]	3.2	
Q_path [m3/s]		1.418E-04	Travel Distance [m]	0.0	Travel Distance [m]	32.0	
Q_decline [m3/s]		1.418E-04			Mixing Depth [m]	10.5	
					Mixing Width [m]	179.0	
			Q_Dilute [m3/s]	0	Q_Dilute [m3/s]	7.518E-05	Q_dilute [m3/s]
							0.000E+00

BREAKTHROUGH Probabilistic Results

1000 Monte Carlo iterations

Site Name: "Clockhouse_Lower_Infill"

Level3

Pollutant Linkage: Inert Waste, Clean Layer, Weald Clay, DG Compliance Point

95 th Percentile Concentrations in mg/L in DG Compliance Point

Compared with EAL target concentration in mg/L

1.000E-05 1.000E-05

Time(years)	Species1 Anthracene	Species2 Benzo(a)pyrene
1	5.696E-08	3.429E-08
5	6.544E-06	3.944E-06
10	9.128E-06	5.501E-06
15	9.345E-06	5.631E-06
20	9.349E-06	5.634E-06
25	9.349E-06	5.634E-06
50	9.348E-06	5.634E-06
75	9.348E-06	5.633E-06
100	9.347E-06	5.633E-06
125	9.346E-06	5.633E-06
150	9.345E-06	5.633E-06
200	9.344E-06	5.632E-06
250	9.343E-06	5.632E-06
300	9.341E-06	5.631E-06
400	9.339E-06	5.630E-06
500	9.336E-06	5.629E-06
750	9.329E-06	5.627E-06
1000	9.322E-06	5.624E-06
1250	9.315E-06	5.622E-06
1500	9.308E-06	5.619E-06
2000	9.294E-06	5.614E-06
2500	9.281E-06	5.609E-06
3000	9.267E-06	5.604E-06
3500	9.253E-06	5.599E-06
4000	9.240E-06	5.594E-06
4500	9.226E-06	5.589E-06
5000	9.212E-06	5.584E-06
6000	9.185E-06	5.574E-06
7000	9.158E-06	5.564E-06
8000	9.131E-06	5.554E-06
9000	9.104E-06	5.544E-06
10000	9.073E-06	5.535E-06
11000	9.044E-06	5.525E-06
12000	9.021E-06	5.515E-06
13000	8.997E-06	5.505E-06
14000	8.970E-06	5.495E-06
15000	8.944E-06	5.485E-06
16000	8.918E-06	5.475E-06
17000	8.891E-06	5.462E-06
18000	8.865E-06	5.452E-06
19000	8.839E-06	5.444E-06
20000	8.813E-06	5.435E-06

Pollutant Linkage: Inert Waste, Clean Layer, Weald Clay, DG Compliance Point

5 th Percentile Remedial Target Concentrations in mg/kg in Inert Waste

Time(years)	Species1 Anthracene	Species2 Benzo(a)pyrene
1	3.504E+00	5.833E+00
5	3.051E-02	5.063E-02
10	2.189E-02	3.632E-02
15	2.132E-02	3.537E-02
20	2.126E-02	3.528E-02
25	2.126E-02	3.527E-02
50	2.126E-02	3.527E-02
75	2.126E-02	3.528E-02
100	2.126E-02	3.528E-02
125	2.126E-02	3.528E-02
150	2.127E-02	3.528E-02
200	2.127E-02	3.528E-02
250	2.127E-02	3.529E-02
300	2.128E-02	3.529E-02
400	2.128E-02	3.530E-02
500	2.129E-02	3.531E-02
750	2.131E-02	3.532E-02
1000	2.132E-02	3.534E-02
1250	2.134E-02	3.536E-02
1500	2.136E-02	3.537E-02
2000	2.139E-02	3.541E-02
2500	2.143E-02	3.544E-02
3000	2.146E-02	3.547E-02
3500	2.149E-02	3.551E-02
4000	2.153E-02	3.554E-02
4500	2.158E-02	3.558E-02
5000	2.162E-02	3.561E-02
6000	2.170E-02	3.568E-02
7000	2.178E-02	3.576E-02
8000	2.187E-02	3.585E-02
9000	2.195E-02	3.593E-02
10000	2.203E-02	3.601E-02
11000	2.209E-02	3.610E-02
12000	2.216E-02	3.618E-02
13000	2.223E-02	3.627E-02
14000	2.229E-02	3.635E-02
15000	2.235E-02	3.643E-02
16000	2.241E-02	3.652E-02
17000	2.246E-02	3.658E-02
18000	2.253E-02	3.665E-02
19000	2.259E-02	3.671E-02
20000	2.265E-02	3.678E-02

Compared with source concentrations in mg/kg

2.000E-02 2.000E-02

Pollutant Linkage: Inert Waste, Clean Layer, Weald Clay, DG Compliance Point

5 th Percentile Dilution Factor

1.652E+00

Pollutant Linkage: Inert Waste, Clean Layer, Weald Clay, DG Compliance Point

5 th Percentile Attenuation Factor

Time(years)	Species1	Species2
	Anthracene	Benzo(a)pyrene
1	4.297E+01	4.305E+01
5	1.030E+00	1.030E+00
10	1.000E+00	1.000E+00
15	1.000E+00	1.000E+00
20	1.000E+00	1.000E+00
25	1.000E+00	1.000E+00
50	1.000E+00	1.000E+00
75	1.000E+00	1.000E+00
100	1.000E+00	1.000E+00
125	1.000E+00	1.000E+00
150	1.000E+00	1.000E+00
200	1.000E+00	1.000E+00
250	1.000E+00	1.000E+00
300	1.000E+00	1.000E+00
400	1.000E+00	1.000E+00
500	1.000E+00	1.000E+00
750	1.000E+00	1.000E+00
1000	1.000E+00	1.000E+00
1250	1.001E+00	1.000E+00
1500	1.001E+00	1.000E+00
2000	1.001E+00	1.001E+00
2500	1.001E+00	1.001E+00
3000	1.001E+00	1.001E+00
3500	1.002E+00	1.001E+00
4000	1.002E+00	1.001E+00
4500	1.002E+00	1.001E+00
5000	1.002E+00	1.001E+00
6000	1.003E+00	1.002E+00
7000	1.003E+00	1.002E+00
8000	1.004E+00	1.002E+00
9000	1.004E+00	1.003E+00
10000	1.005E+00	1.003E+00
11000	1.005E+00	1.003E+00
12000	1.006E+00	1.003E+00
13000	1.006E+00	1.004E+00
14000	1.006E+00	1.004E+00
15000	1.007E+00	1.004E+00
16000	1.007E+00	1.004E+00
17000	1.008E+00	1.005E+00
18000	1.008E+00	1.005E+00
19000	1.009E+00	1.005E+00
20000	1.009E+00	1.006E+00

**Pollutant Linkage: Inert Waste, Clean Layer, Weald
Clay, DG Compliance Point**

