

Appendix D Contamination results and GQRA

Contamination test results



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DETS Report No: 23-04496

Site Reference: Amethvst Road

Project / Job Ref: 20764

Order No: 20764

Sample Receipt Date: 30/03/2023

Sample Scheduled Date: 30/03/2023

Report Issue Number: 1

Reporting Date: 11/04/2023

Authorised by:

Kevin Old
Operations Director

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



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Soil Analysis Certificate						
DETS Report No: 23-04496	Date Sampled	15/03/23	15/03/23	15/03/23	15/03/23	15/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS1	WS1	WS3	WS3	WS3
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.25	0.40	0.50	1.60	1.90
Reporting Date: 11/04/2023	DETS Sample No	644450	644451	644452	644453	644454

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.4	7.6	7.5	7.7	7.4
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Elemental Sulphur	mg/kg	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Fraction Organic Carbon (FOC)	Units	< 0.001	MCERTS	0.019	0.005	0.013	0.011	0.002
Arsenic (As)	mg/kg	< 2	MCERTS	22	11	14	12	19
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.5	< 0.5	< 0.5	< 0.5	< 0.5
W/S Boron	mg/kg	< 1	NONE	1.4	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.8	0.4	0.6	0.5	0.9
Chromium (Cr)	mg/kg	< 2	MCERTS	24	11	14	15	28
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	30	7	14	15	12
Lead (Pb)	mg/kg	< 3	MCERTS	748	25	49	19	11
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	12	9	10	14	24
Vanadium (V)	mg/kg	< 1	MCERTS	30	25	30	24	55
Zinc (Zn)	mg/kg	< 3	MCERTS	207	29	45	35	48
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40) : EH 1D Total	mg/kg	< 6	MCERTS			< 6		
Tentative Petroleum Type : EH_1D	N/a	N/a	NONE			N/a		
Coal Tar Presence / Absence	N/a	N/a	NONE			Absent		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation



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Soil Analysis Certificate						
DETS Report No: 23-04496	Date Sampled	15/03/23	14/03/23	14/03/23	14/03/23	14/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS4	WS5	WS6	WS6	WS7
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.25	0.20	0.10	0.80	0.40
Reporting Date: 11/04/2023	DETS Sample No	644455	644456	644457	644458	644459

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	8.0	7.9	7.5	6.9	7.1
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Elemental Sulphur	mg/kg	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Fraction Organic Carbon (FOC)	Units	< 0.001	MCERTS	0.002	0.084	0.017	0.007	0.016
Arsenic (As)	mg/kg	< 2	MCERTS	11	5	13	9	18
Beryllium (Be)	mg/kg	< 0.5	MCERTS	< 0.5	0.6	< 0.5	< 0.5	< 0.5
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	1.8
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	0.5	0.5	0.5	0.8
Chromium (Cr)	mg/kg	< 2	MCERTS	7	4	13	13	16
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	5	7	16	7	17
Lead (Pb)	mg/kg	< 3	MCERTS	8	13	72	20	51
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	4	3	9	9	13
Vanadium (V)	mg/kg	< 1	MCERTS	14	4	25	27	34
Zinc (Zn)	mg/kg	< 3	MCERTS	30	48	76	30	67
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40) : EH 1D Total	mg/kg	< 6	MCERTS		27	15		< 6
Tentative Petroleum Type : EH_1D	N/a	N/a	NONE		Typical of lubricating oil range organics	Typical of PAHs		Typical of lubricating oil range organics
Coal Tar Presence / Absence	N/a	N/a	NONE		Absent	Absent		Absent

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
 Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 23-04496	Date Sampled	14/03/23	15/03/23	15/03/23	15/03/23	15/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS7	TPSA1	TPSA1	TPSA1	WS3
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.90	0.20	0.50	0.50	1.00
Reporting Date: 11/04/2023	DETS Sample No	644460	644461	644462	644463	644464

Determinand	Unit	RL	Accreditation	(n)				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected		Not Detected
pH	pH Units	N/a	MCERTS	7.7	8.3	7.7		7.3
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1		< 1
Elemental Sulphur	mg/kg	< 10	NONE	< 10	< 10	< 10		< 10
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5		< 5
Fraction Organic Carbon (FOC)	Units	< 0.001	MCERTS	0.004	0.012	0.005		0.008
Arsenic (As)	mg/kg	< 2	MCERTS	11	9	7		27
Beryllium (Be)	mg/kg	< 0.5	MCERTS	< 0.5	< 0.5	< 0.5		< 0.5
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1		< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.7	0.2	0.3		0.9
Chromium (Cr)	mg/kg	< 2	MCERTS	18	5	7		19
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2		< 2
Copper (Cu)	mg/kg	< 4	MCERTS	7	9	6		15
Lead (Pb)	mg/kg	< 3	MCERTS	9	86	54		48
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1		< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	12	4	5		18
Vanadium (V)	mg/kg	< 1	MCERTS	33	10	14		40
Zinc (Zn)	mg/kg	< 3	MCERTS	29	84	64		61
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2		< 2
EPH (C10 - C40) : EH 1D Total	mg/kg	< 6	MCERTS					
Tentative Petroleum Type : EH_1D	N/a	N/a	NONE					
Coal Tar Presence / Absence	N/a	N/a	NONE					

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 Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 23-04496	Date Sampled	15/03/23	16/03/23	14/03/23	15/03/23	
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Amethyst Road	TP / BH No	WS3	BH1	WS6	WS5	
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: 20764	Depth (m)	1.00	0.20	0.40	0.70	
Reporting Date: 11/04/2023	DETS Sample No	644465	644466	644467	644468	

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025		Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS		7.8	7.5	7.3
Total Cyanide	mg/kg	< 1	NONE		< 1	< 1	< 1
Elemental Sulphur	mg/kg	< 10	NONE		< 10	< 10	< 10
Sulphide	mg/kg	< 5	NONE		< 5	< 5	< 5
Fraction Organic Carbon (FOC)	Units	< 0.001	MCERTS		0.053	0.026	0.003
Arsenic (As)	mg/kg	< 2	MCERTS		170	21	19
Beryllium (Be)	mg/kg	< 0.5	MCERTS		2.5	< 0.5	< 0.5
W/S Boron	mg/kg	< 1	NONE		< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		< 0.2	0.9	1
Chromium (Cr)	mg/kg	< 2	MCERTS		6	13	24
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS		9	21	12
Lead (Pb)	mg/kg	< 3	MCERTS		76	91	10
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS		7	12	23
Vanadium (V)	mg/kg	< 1	MCERTS		9	31	52
Zinc (Zn)	mg/kg	< 3	MCERTS		363	76	53
Total Phenols (monohydric)	mg/kg	< 2	NONE		< 2	< 2	< 2
EPH (C10 - C40) : EH 1D Total	mg/kg	< 6	MCERTS				
Tentative Petroleum Type : EH_1D	N/a	N/a	NONE				
Coal Tar Presence / Absence	N/a	N/a	NONE				

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
 Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-04496	Date Sampled	15/03/23	15/03/23	15/03/23	15/03/23	15/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS1	WS1	WS3	WS3	WS3
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.25	0.40	0.50	1.60	1.90
Reporting Date: 11/04/2023	DETS Sample No	644450	644451	644452	644453	644454

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.12	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.38	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	0.34	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.21	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	0.23	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.33	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.12	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.27	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.21	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.16	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	2.4	< 1.6	< 1.6	< 1.6	< 1.6

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-04496	Date Sampled	15/03/23	14/03/23	14/03/23	14/03/23	14/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS4	WS5	WS6	WS6	WS7
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.25	0.20	0.10	0.80	0.40
Reporting Date: 11/04/2023	DETS Sample No	644455	644456	644457	644458	644459

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.16	< 0.1	0.23	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	0.14	< 0.1	0.19	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.13	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.17	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.14	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.13	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-04496	Date Sampled	14/03/23	15/03/23	15/03/23	15/03/23	16/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS7	TPSA1	TPSA1	WS3	BH1
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.90	0.20	0.50	1.00	0.20
Reporting Date: 11/04/2023	DETS Sample No	644460	644461	644462	644464	644466

Determinand	Unit	RL	Accreditation	(n)				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	0.13	< 0.1	< 0.1	4.32
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	2.83
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	0.87	< 0.1	< 0.1	15.90
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.12	< 0.1	< 0.1	2.24
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.73	< 0.1	< 0.1	16.20
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.51	< 0.1	< 0.1	9.06
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.16	< 0.1	< 0.1	1.81
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	0.16	< 0.1	< 0.1	1.41
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.20	< 0.1	< 0.1	0.48
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.15
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.17	< 0.1	< 0.1	0.31
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.13	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	0.16	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	3.3	< 1.6	< 1.6	54.7



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-04496	Date Sampled	14/03/23	15/03/23			
Soils Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Amethyst Road	TP / BH No	WS6	WS5			
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied			
Order No: 20764	Depth (m)	0.40	0.70			
Reporting Date: 11/04/2023	DETS Sample No	644467	644468			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	0.12	< 0.1		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	0.34	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	0.32	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.16	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	0.20	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.29	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.26	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.16	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.14	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	2	< 1.6		



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-04496	Date Sampled	15/03/23	14/03/23	14/03/23	14/03/23	
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Amethyst Road	TP / BH No	WS3	WS5	WS6	WS7	
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: 20764	Depth (m)	0.50	0.20	0.10	0.40	
Reporting Date: 11/04/2023	DETS Sample No	644452	644456	644457	644459	

Determinand	Unit	RL	Accreditation	(n)				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.23	< 0.1	
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.19	< 0.1	
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.13	< 0.1	
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.17	< 0.1	
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.14	< 0.1	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.13	< 0.1	
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Coronene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	< 1.7	< 1.7	< 1.7	< 1.7	

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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-04496	Date Sampled	15/03/23	15/03/23	15/03/23	15/03/23	15/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS1	WS1	WS3	WS3	WS3
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.25	0.40	0.50	1.60	1.90
Reporting Date: 11/04/2023	DETS Sample No	644450	644451	644452	644453	644454

Determinand	Unit	RL	Accreditation	(n)		(n)	
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42

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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-04496	Date Sampled	15/03/23	14/03/23	14/03/23	14/03/23	14/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS4	WS5	WS6	WS6	WS7
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.25	0.20	0.10	0.80	0.40
Reporting Date: 11/04/2023	DETS Sample No	644455	644456	644457	644458	644459

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-04496	Date Sampled	14/03/23	15/03/23	15/03/23	15/03/23	15/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS7	TPSA1	TPSA1	TPSA1	WS3
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.90	0.20	0.50	0.50	1.00
Reporting Date: 11/04/2023	DETS Sample No	644460	644461	644462	644463	644464

Determinand	Unit	RL	Accreditation	(n)				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10		< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21	< 21		< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3		< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10		< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21	< 21		< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42	< 42	< 42		< 42



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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-04496	Date Sampled	15/03/23	16/03/23	14/03/23	15/03/23	
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Amethyst Road	TP / BH No	WS3	BH1	WS6	WS5	
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: 20764	Depth (m)	1.00	0.20	0.40	0.70	
Reporting Date: 11/04/2023	DETS Sample No	644465	644466	644467	644468	

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	6	< 2	< 2	
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	32	< 3	< 3	
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	29	< 3	< 3	
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	48	< 10	< 10	
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	115	< 21	< 21	
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	4	< 2	< 2	
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	65	< 2	< 2	
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	119	< 3	< 3	
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	119	< 10	< 10	
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	306	< 21	< 21	
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	421	< 42	< 42	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-04496	Date Sampled	15/03/23	15/03/23	15/03/23	15/03/23	15/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS1	WS1	WS3	WS3	WS3
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.25	0.40	0.50	1.60	1.90
Reporting Date: 11/04/2023	DETS Sample No	644450	644451	644452	644453	644454

Determinand	Unit	RL	Accreditation	(n)	(n)
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-04496	Date Sampled	15/03/23	14/03/23	14/03/23	14/03/23	14/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS4	WS5	WS6	WS6	WS7
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.25	0.20	0.10	0.80	0.40
Reporting Date: 11/04/2023	DETS Sample No	644455	644456	644457	644458	644459

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	3	< 2	< 2	< 2
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-04496	Date Sampled	14/03/23	15/03/23	15/03/23	15/03/23	16/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS7	TPSA1	TPSA1	WS3	BH1
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.90	0.20	0.50	1.00	0.20
Reporting Date: 11/04/2023	DETS Sample No	644460	644461	644462	644464	644466

Determinand	Unit	RL	Accreditation	(n)				
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-04496	Date Sampled	14/03/23	15/03/23			
Soils Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Amethyst Road	TP / BH No	WS6	WS5			
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied			
Order No: 20764	Depth (m)	0.40	0.70			
Reporting Date: 11/04/2023	DETS Sample No	644467	644468			

Determinand	Unit	RL	Accreditation				
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2		
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5		
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2		
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2		
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2		
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - PCB (12 Congeners)						
DETS Report No: 23-04496	Date Sampled	15/03/23	15/03/23	15/03/23	15/03/23	15/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS1	WS1	WS3	WS3	WS3
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.25	0.40	0.50	1.60	1.90
Reporting Date: 11/04/2023	DETS Sample No	644450	644451	644452	644453	644454

Determinand	Unit	RL	Accreditation	(n)		(n)	
PCB Congener 77	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 81	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 105	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 114	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 123	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 126	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 156	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 157	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 167	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 169	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 189	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
Total PCB (12 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C

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Soil Analysis Certificate - PCB (12 Congeners)						
DETS Report No: 23-04496	Date Sampled	15/03/23	14/03/23	14/03/23	14/03/23	14/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS4	WS5	WS6	WS6	WS7
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.25	0.20	0.10	0.80	0.40
Reporting Date: 11/04/2023	DETS Sample No	644455	644456	644457	644458	644459

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
PCB Congener 77	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 81	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 105	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 114	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 123	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 126	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 156	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 157	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 167	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 169	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 189	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total PCB (12 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - PCB (12 Congeners)						
DETS Report No: 23-04496	Date Sampled	14/03/23	15/03/23	15/03/23	15/03/23	16/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS7	TPSA1	TPSA1	WS3	BH1
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.90	0.20	0.50	1.00	0.20
Reporting Date: 11/04/2023	DETS Sample No	644460	644461	644462	644464	644466

Determinand	Unit	RL	Accreditation	(n)				
PCB Congener 77	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 81	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 105	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 114	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 123	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 126	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 156	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 157	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 167	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 169	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 189	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total PCB (12 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - PCB (12 Congeners)						
DETS Report No: 23-04496	Date Sampled	14/03/23	15/03/23			
Soils Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Amethyst Road	TP / BH No	WS6	WS5			
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied			
Order No: 20764	Depth (m)	0.40	0.70			
Reporting Date: 11/04/2023	DETS Sample No	644467	644468			

Determinand	Unit	RL	Accreditation			
PCB Congener 77	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 81	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 105	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 114	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 123	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 126	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 156	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 157	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 167	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 169	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 189	mg/kg	0.008	NONE	< 0.008	< 0.008	
Total PCB (12 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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4480

Leachate Analysis Certificate						
DETS Report No: 23-04496	Date Sampled	15/03/23	14/03/23	14/03/23	14/03/23	15/03/23
Soils Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Amethyst Road	TP / BH No	WS3	WS5	WS6	WS7	TPSA1
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 20764	Depth (m)	0.50	0.20	0.10	0.40	0.50
Reporting Date: 11/04/2023	DETS Sample No	644452	644456	644457	644459	644463

Determinand	Unit	RL	Accreditation	(n)				
pH	pH Units	N/a	ISO17025					7.2
Total Cyanide	ug/l	< 5	ISO17025					< 5
Sulphur	mg/l	< 1	NONE					1.2
Elemental Sulphur	ug/l	< 84	NONE					< 84.0
Arsenic	ug/l	< 5	ISO17025					< 5
Beryllium	ug/l	< 3	ISO17025					< 3
Boron	ug/l	< 5	ISO17025					26
Cadmium	ug/l	< 0.4	ISO17025					< 0.4
Chromium	ug/l	< 5	ISO17025					< 5
Chromium (hexavalent)	ug/l	< 20	NONE					< 20
Copper	ug/l	< 5	ISO17025					< 5
Lead	ug/l	< 5	ISO17025					< 5
Mercury	ug/l	< 0.05	ISO17025					< 0.05
Nickel	ug/l	< 5	ISO17025					< 5
Vanadium	ug/l	< 5	ISO17025					< 5
Zinc	ug/l	< 2	ISO17025					7

Subcontracted analysis⁽⁵⁾

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4480

Leachate Analysis Certificate						
DETS Report No: 23-04496	Date Sampled	15/03/23	14/03/23			
Soils Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Amethyst Road	TP / BH No	WS3	WS6			
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied			
Order No: 20764	Depth (m)	1.00	0.40			
Reporting Date: 11/04/2023	DETS Sample No	644465	644467			

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	ISO17025	7.3			
Total Cyanide	ug/l	< 5	ISO17025	< 5			
Sulphur	mg/l	< 1	NONE	< 1.0			
Elemental Sulphur	ug/l	< 84	NONE	< 84.0			
Arsenic	ug/l	< 5	ISO17025	< 5			
Beryllium	ug/l	< 3	ISO17025	< 3			
Boron	ug/l	< 5	ISO17025	18			
Cadmium	ug/l	< 0.4	ISO17025	< 0.4			
Chromium	ug/l	< 5	ISO17025	< 5			
Chromium (hexavalent)	ug/l	< 20	NONE	< 20			
Copper	ug/l	< 5	ISO17025	< 5			
Lead	ug/l	< 5	ISO17025	< 5			
Mercury	ug/l	< 0.05	ISO17025	< 0.05			
Nickel	ug/l	< 5	ISO17025	< 5			
Vanadium	ug/l	< 5	ISO17025	< 5			
Zinc	ug/l	< 2	ISO17025	21			

Subcontracted analysis ⁽⁵⁾



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Leachate Analysis Certificate - Speciated PAH						
DETS Report No: 23-04496	Date Sampled	15/03/23	15/03/23			
Soils Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Amethyst Road	TP / BH No	TPSA1	WS3			
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied			
Order No: 20764	Depth (m)	0.50	1.00			
Reporting Date: 11/04/2023	DETS Sample No	644463	644465			

Determinand	Unit	RL	Accreditation			
Naphthalene	ug/l	< 0.01	NONE	0.04	0.12	
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01	< 0.01	
Acenaphthene	ug/l	< 0.01	NONE	< 0.01	0.25	
Fluorene	ug/l	< 0.01	NONE	0.03	0.17	
Phenanthrene	ug/l	< 0.01	NONE	< 0.01	0.17	
Anthracene	ug/l	< 0.01	NONE	< 0.01	0.08	
Fluoranthene	ug/l	< 0.01	NONE	0.03	0.03	
Pyrene	ug/l	< 0.01	NONE	< 0.01	0.02	
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01	
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008	< 0.008	
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16	0.84	



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Leachate Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-04496	Date Sampled	15/03/23	15/03/23			
Soils Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Amethyst Road	TP / BH No	TPSA1	WS3			
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied			
Order No: 20764	Depth (m)	0.50	1.00			
Reporting Date: 11/04/2023	DETS Sample No	644463	644465			

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C6 - C8 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C8 - C10 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C10 - C12 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C12 - C16 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C16 - C21 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C21 - C34 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	ug/l	< 70	NONE	< 70	< 70			
Aromatic >C5 - C7 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C7 - C8 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C8 - C10 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C10 - C12 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C12 - C16 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C16 - C21 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C21 - C35 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	ug/l	< 70	NONE	< 70	< 70			
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	ug/l	< 140	NONE	< 140	< 140			



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Leachate Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-04496	Date Sampled	15/03/23	15/03/23			
Soils Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Amethyst Road	TP / BH No	TPSA1	WS3			
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied			
Order No: 20764	Depth (m)	0.50	1.00			
Reporting Date: 11/04/2023	DETS Sample No	644463	644465			

Determinand	Unit	RL	Accreditation				
Benzene : HS 1D MS	ug/l	< 1	ISO17025	< 1	< 1		
Toluene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5		
Ethylbenzene : HS_1D_MS	ug/l	< 5	ISO17025	< 5	< 5		
p & m-xylene : HS_1D_MS	ug/l	< 10	ISO17025	< 10	< 10		
o-xylene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5		
MTBE : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10		



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Leachate Analysis Certificate - PCB (12 Congeners)						
DETS Report No: 23-04496	Date Sampled	15/03/23	15/03/23			
Soils Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Amethyst Road	TP / BH No	TPSA1	WS3			
Project / Job Ref: 20764	Additional Refs	None Supplied	None Supplied			
Order No: 20764	Depth (m)	0.50	1.00			
Reporting Date: 11/04/2023	DETS Sample No	644463	644465			

Determinand	Unit	RL	Accreditation					
PCB Congener 77	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 81	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 105	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 114	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 118	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 123	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 126	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 156	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 157	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 167	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 169	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 189	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Total PCB (12 Congeners)	ug/l	< 0.7	NONE	< 0.7	< 0.7			

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3																																							
DETS Report No: 23-04496		Date Sampled	15/03/23		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: left; padding: 5px;">Landfill Waste Acceptance Criteria Limits</th> </tr> <tr> <th style="width: 33%; padding: 5px;">Inert Waste Landfill</th> <th style="width: 33%; padding: 5px;">Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</th> <th style="width: 33%; padding: 5px;">Hazardous Waste Landfill</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">3%</td> <td style="text-align: center;">5%</td> <td style="text-align: center;">6%</td> </tr> <tr> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> <td style="text-align: center;">10%</td> </tr> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">500</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">100</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">--</td> <td style="text-align: center;">>6</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">--</td> <td style="text-align: center;">To be evaluated</td> <td style="text-align: center;">To be evaluated</td> </tr> </tbody> </table>					Landfill Waste Acceptance Criteria Limits			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
Landfill Waste Acceptance Criteria Limits																																							
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																					
3%	5%	6%																																					
--	--	10%																																					
6	--	--																																					
1	--	--																																					
500	--	--																																					
100	--	--																																					
--	>6	--																																					
--	To be evaluated	To be evaluated																																					
Soils Ltd		Time Sampled	None Supplied																																				
Site Reference: Amethyst Road		TP / BH No	WS3																																				
Project / Job Ref: 20764		Additional Refs	None Supplied																																				
Order No: 20764		Depth (m)	0.50																																				
Reporting Date: 11/04/2023		DETS Sample No	644452																																				
Determinand	Unit	MDL																																					
TOC ^{MU}	%	< 0.1	1.3																																				
Loss on Ignition ^{MU}	%	< 0.01	2.50																																				
BTEX ^{MU}	mg/kg	< 0.05	< 0.05																																				
Sum of PCBs	mg/kg	< 0.1	< 0.1																																				
Mineral Oil ^{MU}	mg/kg	< 10	< 10																																				
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7																																				
pH ^{MU}	pH Units	N/a	7.5																																				
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1																																				
Eluate Analysis			2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																																
Arsenic ^U			< 0.01	< 0.01		< 0.2	0.5	2	25																														
Barium ^U			< 0.02	< 0.02		< 0.1	20	100	300																														
Cadmium ^U			< 0.0005	< 0.0005		< 0.02	0.04	1	5																														
Chromium ^U			< 0.005	< 0.005		< 0.20	0.5	10	70																														
Copper ^U			< 0.01	< 0.01		< 0.5	2	50	100																														
Mercury ^U			< 0.0005	< 0.0005		< 0.005	0.01	0.2	2																														
Molybdenum ^U			0.003	0.001		< 0.1	0.5	10	30																														
Nickel ^U			< 0.007	< 0.007		< 0.2	0.4	10	40																														
Lead ^U			< 0.005	< 0.005		< 0.2	0.5	10	50																														
Antimony ^U			< 0.005	< 0.005		< 0.05	0.06	0.7	5																														
Selenium ^U			< 0.005	< 0.005		< 0.05	0.1	0.5	7																														
Zinc ^U			< 0.005	< 0.005		< 0.2	4	50	200																														
Chloride ^U			1	2		15	800	15000	25000																														
Fluoride ^U			0.5	< 0.5		< 1	10	150	500																														
Sulphate ^U			2	2		21	1000	20000	50000																														
TDS			70	49		522	4000	60000	100000																														
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-																																
DOC	8.2	14.9		139	500	800	1000																																
Leach Test Information																																							
Sample Mass (kg)	0.20																																						
Dry Matter (%)	87.2																																						
Moisture (%)	14.8																																						
Stage 1																																							
Volume Eluate L2 (litres)	0.32																																						
Filtered Eluate VE1 (litres)	0.27																																						
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation M Denotes MCERTS accredited test U Denotes ISO17025 accredited test																																							

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3																																							
DETS Report No: 23-04496		Date Sampled		14/03/23		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: left; padding: 5px;">Landfill Waste Acceptance Criteria Limits</th> </tr> <tr> <th style="width: 33%; padding: 5px;">Inert Waste Landfill</th> <th style="width: 33%; padding: 5px;">Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</th> <th style="width: 33%; padding: 5px;">Hazardous Waste Landfill</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">3%</td> <td style="text-align: center;">5%</td> <td style="text-align: center;">6%</td> </tr> <tr> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> <td style="text-align: center;">10%</td> </tr> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">500</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">100</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">--</td> <td style="text-align: center;">>6</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">--</td> <td style="text-align: center;">To be evaluated</td> <td style="text-align: center;">To be evaluated</td> </tr> </tbody> </table>				Landfill Waste Acceptance Criteria Limits			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
Landfill Waste Acceptance Criteria Limits																																							
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																					
3%	5%	6%																																					
--	--	10%																																					
6	--	--																																					
1	--	--																																					
500	--	--																																					
100	--	--																																					
--	>6	--																																					
--	To be evaluated	To be evaluated																																					
Soils Ltd		Time Sampled		None Supplied																																			
Site Reference: Amethyst Road		TP / BH No		WS6																																			
Project / Job Ref: 20764		Additional Refs		None Supplied																																			
Order No: 20764		Depth (m)		0.40																																			
Reporting Date: 11/04/2023		DETS Sample No		644467																																			
Determinand		Unit		MDL																																			
TOC ^{MU}		%		< 0.1		2.6																																	
Loss on Ignition ^{MU}		%		< 0.01		4.50																																	
BTEX ^{MU}		mg/kg		< 0.05		< 0.05																																	
Sum of PCBs		mg/kg		< 0.1		< 0.1																																	
Mineral Oil ^{MU}		mg/kg		< 10		< 10																																	
Total PAH ^{MU}		mg/kg		< 1.7		2																																	
pH ^{MU}		pH Units		N/a		7.5																																	
Acid Neutralisation Capacity		mol/kg (+/-)		< 1		< 1																																	
Eluate Analysis				2:1 mg/l		8:1 mg/l		Cumulative 10:1 mg/kg		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																													
Arsenic ^U				0.01		< 0.01		< 0.2		0.5																													
Barium ^U				< 0.02		< 0.02		0.1		2																													
Cadmium ^U				< 0.0005		< 0.0005		< 0.02		100																													
Chromium ^U				< 0.005		< 0.005		< 0.20		5																													
Copper ^U				< 0.01		< 0.01		< 0.5		70																													
Mercury ^U				< 0.0005		< 0.0005		< 0.005		100																													
Molybdenum ^U				0.004		< 0.001		< 0.1		2																													
Nickel ^U				< 0.007		< 0.007		< 0.2		0.01																													
Lead ^U				< 0.005		< 0.005		< 0.2		0.2																													
Antimony ^U				< 0.005		< 0.005		< 0.05		50																													
Selenium ^U				< 0.005		< 0.005		< 0.05		0.7																													
Zinc ^U				< 0.005		< 0.005		< 0.2		0.5																													
Chloride ^U				3		3		28		4																													
Fluoride ^U				1.8		0.8		9.6		50																													
Sulphate ^U				6		3		31		15000																													
TDS				110		63		700		10000																													
Phenol Index				< 0.01		< 0.01		< 0.5		1																													
DOC				16.6		22.7		218		500																													
Leach Test Information																																							
Sample Mass (kg)				0.20																																			
Dry Matter (%)				85.6																																			
Moisture (%)				16.8																																			
Stage 1																																							
Volume Eluate L2 (litres)				0.32																																			
Filtered Eluate VE1 (litres)				0.26																																			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion

Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation

M Denotes MCERTS accredited test

U Denotes ISO17025 accredited test



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 23-04496	
Soils Ltd	
Site Reference: Amethyst Road	
Project / Job Ref: 20764	
Order No: 20764	
Reporting Date: 11/04/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
\$ 644450	WS1	None Supplied	0.25	9	Brown sandy clay with stones and vegetation
\$ 644451	WS1	None Supplied	0.40	6.3	Brown sandy clay with vegetation
\$ 644452	WS3	None Supplied	0.50	12.9	Brown sandy clay with stones
\$ 644453	WS3	None Supplied	1.60	6.7	Brown gravel with stones
\$ 644454	WS3	None Supplied	1.90	5.3	Brown sandy gravel with stones
\$ 644455	WS4	None Supplied	0.25	8.7	Brown sandy gravel with stones
\$ 644456	WS5	None Supplied	0.20	2.2	Brown sandy gravel with stones and concrete
\$ 644457	WS6	None Supplied	0.10	12.7	Brown sandy clay with stones and vegetation
\$ 644458	WS6	None Supplied	0.80	11	Brown sandy clay with stones
\$ 644459	WS7	None Supplied	0.40	11.1	Brown sandy clay
\$ 644460	WS7	None Supplied	0.90	10.4	Light brown sandy clay
\$ 644461	TPSA1	None Supplied	0.20	5	Brown sandy gravel with stones and concrete
\$ 644462	TPSA1	None Supplied	0.50	10.5	Brown sandy clay with stones
\$ 644464	WS3	None Supplied	1.00	10.8	Brown sandy clay with stones
\$ 644466	BH1	None Supplied	0.20	6.2	Brown sandy clay with stones
\$ 644467	WS6	None Supplied	0.40	14.4	Brown sandy clay with stones
\$ 644468	WS5	None Supplied	0.70	11.5	Light brown sandy clay

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/5}

& samples received in inappropriate containers for hydrocarbon analysis

\$ samples exceeded recommended holding times



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-04496

Soils Ltd

Site Reference: Amethyst Road

Project / Job Ref: 20764

Order No: 20764

Reporting Date: 11/04/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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Tel : 01622 850410



4480

Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-04496

Soils Ltd

Site Reference: Amethyst Road

Project / Job Ref: 20764

Order No: 20764

Reporting Date: 11/04/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazine followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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List of HWOL Acronyms and Operators	
DETS Report No: 23-04496	
Soils Ltd	
Site Reference: Amethyst Road	
Project / Job Ref: 20764	
Order No: 20764	
Reporting Date: 11/04/2023	

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
Benzene - HS_1D_MS
EPH (C10 - C40) - EH_1D_Total
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
Mineral Oil (C10 - C40) (BS EN 12457-3) - EH_CU_1D_AL
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aliphatic C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Aromatic C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Tentative Petroleum Type - EH_1D
Toluene - HS_1D_MS
Total BTEX (BS EN 12457-3) - HS_1D_MS_Total
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	10.4	%
Loss on Ignition	Soil	BS EN 12457	16.9	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	21.1	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	17.9	%
pH	Soil	BS EN 12457	0.282	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	19.5	%
Barium	Leachate	BS EN 12457	12.2	%
Cadmium	Leachate	BS EN 12457	17.2	%
Chromium	Leachate	BS EN 12457	20.7	%
Copper	Leachate	BS EN 12457	14.1	%
Mercury	Leachate	BS EN 12457	16.7	%
Molybdenum	Leachate	BS EN 12457	13.3	%
Nickel	Leachate	BS EN 12457	14.0	%
Lead	Leachate	BS EN 12457	12.1	%
Antimony	Leachate	BS EN 12457	16.1	%
Selenium	Leachate	BS EN 12457	15.5	%
Zinc	Leachate	BS EN 12457	14.0	%
Chloride	Leachate	BS EN 12457	15.7	%
Fluoride	Leachate	BS EN 12457	19.1	%
Sulphate	Leachate	BS EN 12457	27.6	%
TDS	Leachate	BS EN 12457	10.0	%
Phenol Index	Leachate	BS EN 12457	12.9	%
DOC	Leachate	BS EN 12457	20.4	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	16.9	%
pH	Soil	BS 3882: 2015	0.282	Units
Carbonate	Soil	BS 3882: 2015	12.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	19.8	%
Copper	Soil	BS 3882: 2015	23.2	%
Nickel	Soil	BS 3882: 2015	32.6	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%

GAC derivation

Background

Initially, the Hydrock GAC were derived following the publishing of soil guideline values (SGV), toxicological (TOX) reports and associated publications by the Environment Agency (EA) in 2009 referenced under Science Report SC050021 (EA, 2009a, b, c, d). The Hydrock GAC have then been periodically updated following publication of new information on toxicological, physico-chemical, land use or receptor parameters, namely:

- » LQM/CIEH, 2009. LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment, second edition. Nathaniel, C. P., McCaffrey, C., Ashmore, M., Cheng, Y., Gillet, A. G., Ogden, R. C. and Scott, D.
- » CL:AIRE, 2010. 'The EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment'. Environmental Industries Commission, The Association of Geotechnical and Geoenvironmental Specialists and Contaminated Land: Applications in Real Environment.
- » CL:AIRE, 2014. 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010. Contaminated Land: Applications in Real Environment.
- » LQM/CIEH, 2015. 'The LQM/CIEH S4ULs for Human Health Risk Assessment'. Nathaniel, C. P., McCaffrey, C., Gillet, A. G., Ogden, R. C. and Nathaniel, J. F.
- » CL:AIRE, 2021. 'C4SL Phase 2 Technical Reports'. Contaminated Land: Applications in Real Environment.

Land use scenarios

Hydrock has derived generic assessment criteria (GAC) for human health based on the six exposure scenarios defined in CL:AIRE (2014) using generic default assumptions from published guidance. GAC for each exposure scenario have been derived for three soil organic matter (SOM) contents, 1%, 2.5% and 6%.

All GAC have been rounded to two significant figures.

Exposure parameters

The exposure parameters used for the Hydrock GAC are the default parameters stated in SR3, unless updated in CL:AIRE (2014) where the CL:AIRE (2014) values have been adopted.

Approach to consumption rates

Hydrock have adopted the 90th percentile consumption rates from Table 3.4 of CL:AIRE (2014) for all produce types. This is noted to be more conservative than the "top two" approach taken in the derivation of C4SLs.

Approach to plant uptake for GAC omitted in CL:AIRE (2010)

Plant uptake factors were not identified in CL:AIRE (2010) for antimony, barium and molybdenum. Hydrock has sourced the required parameter values from ORNL (1984) in order to derive GAC that are inclusive of the homegrown produce exposure pathway.

Chemical and toxicity parameters

The chemical and toxicity parameters have been adopted based on the following documents:

- » IRIS, 2016. 'Toxicological Review of Trimethylbenzenes'. Integrated Risk Information System, National Centre for Environmental Assessment, office of Research and Development, U.S. Environmental Protection Agency.
- » LQM/CIEH, 2015.

- » ORNL, 1984. 'ORNL-5786. A Review and Analysis of Parameters for Assessing Transport of Environmentally released Radionuclides through Agriculture'. Oak Ridge National Laboratory.
- » CL:AIRE, 2010.
- » RIVM, 2001. RIVM Report 711701 025 'HCV Re-evaluation of human-toxicological maximum-permissible risk levels'. National Institute of Public Health and the Environment.
- » LQM/CIEH, 2009.
- » EA, 2009a.

Approach to Cyanide GAC

The Hydrock GAC for free cyanide have been derived based on ingestion of a bolus of contaminated soil. The GAC are derived for acute exposure of a child (0-6 years old) for all land uses except commercial, where the GAC are derived for acute exposure of an adult (16-65 years old). For the purpose of GQRA, the child value may be adopted for all land use scenarios.

For complex cyanide, the GAC have been derived based on chronic exposure, using the default exposure scenarios but excluding the consumption of homegrown produce, soil attached to homegrown produce, indoor vapour and outdoor vapour pathways. The chronic health criteria value (HCV) for complex cyanide is based on the EA (2009a) HCV for free cyanide and the ratio of toxicity between free and complex cyanide proposed by RIVM (2001).

Approach to Phenol GAC

In accordance with the EA Science Report SC050021 / Phenol SGV, a GACing/inh has been derived for ingested and inhaled phenol using the CLEA model, with a GACderm derived for dermal contact using Equation 5.7 within SR3. The lower of the GACing/inh and GACderm has been adopted as the final GAC.

Approach to PCB GAC

GAC for assessing the non-dioxin-like risk from PCBs have been based on the "Dutch 7". As the TDI used by the authors of the Dutch guidance is for the sum of the 7 individual congeners, the TDI has been divided by 7 to create a TDI for each congener. The non-dioxin-like risk from PCBs is therefore assessed using a Hazard Index approach as for total petroleum hydrocarbons (TPH).

Sub-surface soil to indoor air correction factors

Reflecting the approach taken by the Environment Agency in the development of revised SGV in 2009 for BTEX, a sub-surface soil to indoor air correction factor of 10 has been applied for petroleum hydrocarbons in order to account for over-prediction of vapour intrusion into building using the Johnson and Ettinger approach.

The correction factor of 10 has been applied to the following petroleum hydrocarbons (it makes negligible difference to less volatile TPH and PAH compounds):

- » TPHCWG fractions, namely aliphatic EC>5-44 and aromatic EC>6-44;
- » PAHs (acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene), benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, phenanthrene, pyrene);
- » BTEX;
- » Isopropylbenzene;
- » Propylbenzene;
- » 1,2,4- and 1,3,5-trimethylbenzene; and
- » Styrene.

Approach to saturation limits

The CLEA model includes a traffic light colour system to highlight when saturated soil conditions have potentially been exceeded for the vapour pathways during calculation of assessment criteria. The colours represent:

- » Green: the assessment criteria do not exceed the saturated soil concentration.
- » Amber: the assessment criteria exceed the saturated soil concentration but the contribution of the indoor and outdoor vapour pathway to total exposure is less than 10% and will not significantly affect the assessment criteria.
- » Red: the assessment criteria exceed the saturated soil concentration and the contribution of the indoor and outdoor vapour pathway to total exposure is greater than 10% and will significantly affect the assessment criteria.

Hydrock have not applied any further calculations or assessment in relation to saturation limits during GAC derivation, with the CLEA-modelled GAC being presented as the GAC. Consideration of saturation limits is undertaken during the data assessment stage.

References

CL:AIRE, 2010. 'The EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment'. Environmental Industries Commission, The Association of Geotechnical and Geoenvironmental Specialists and Contaminated Land: Applications in Real Environment.

CL:AIRE, 2014. 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010. Contaminated Land: Applications in Real Environment

CL:AIRE, 2021. C4SL Phase 2 Technical Reports for tetrachloroethene, trichloroethene and vinyl chloride. Contaminated Land: Applications in Real Environment.

EA, 2009a. 'Science Reports SC050021 – SGV and TOX reports for: benzene, toluene, ethylbenzene, xylene, arsenic, nickel, mercury, selenium, cadmium, inorganic cyanide, phenol, dioxins, furans and dioxin-like PCBs'; 'Supplementary information for the derivation of SGV for: benzene, toluene, ethylbenzene, xylene, arsenic, nickel, mercury, selenium, cadmium, inorganic cyanide, phenol, dioxins, furans and dioxin-like PCBs'; and 'Contaminants in soil: updated collation of toxicological data and intake values for humans: benzene, toluene, ethylbenzene, xylene, arsenic, nickel, mercury, selenium, cadmium, inorganic cyanide, phenol, dioxins, furans and dioxin-like PCBs'. Environment Agency.

EA, 2009b. 'Science Report – SC050021/SR2. Human health toxicological assessment of contaminants in soil'. Environment Agency.

EA, 2009c. 'Science Report – SC050021/SR3. Updated technical background to the CLEA model'. Environment Agency.

EA, 2009d. 'Science Report – SC050021/SR4. CLEA Software (version 1.05) Handbook'. Environment Agency.

IRIS, 2016. 'Toxicological Review of Trimethylbenzenes'. Integrated Risk Information System, National Centre for Environmental Assessment, office of Research and Development, U.S. Environmental Protection Agency.

LQM/CIEH, 2009. LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment, second edition. Nathania, C. P., McCaffrey, C., Ashmore, M., Cheng, Y., Gillet, A. G., Ogden, R. C. and Scott, D.

LQM/CIEH, 2015. 'The LQM/CIEH S4ULs for Human Health Risk Assessment'. Nathania, C. P., McCaffrey, C., Gillet, A. G., Ogden, R. C. and Nathania, J. F.

ORNL, 1984. 'ORNL-5786. A Review and Analysis of Parameters for Assessing Transport of Environmentally released Radionuclides through Agriculture'. Oak Ridge National Laboratory.

RIVM, 2001. RIVM Report 711701 025 'HCV Re-evaluation of human-toxicological maximum-permissible risk levels'. National Institute of Public Health and the Environment.

Human health GQRA

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter: Client: Site: Job no.: Lab. report no(s).: Default - Human Health - POSresi (1%SOM) Reading Borough Council Amethyst Lane 26887 23-04496.1 Data Filters Zone All Strata LH Depth Min (m bgl) 0.1 Depth Max (m bgl) 1.9														W53 @ 1.9 W56 @ 0.8 W57 @ 0.9 W55 @ 0.7 W53 @ 1.9 W56 @ 0.8 W57 @ 0.9 W55 @ 0.7 W53 @ 1.9 W56 @ 0.8 W57 @ 0.9 W55 @ 0.7 W53 @ 1.9 W56 @ 0.8 W57 @ 0.9 W55 @ 0.7													
All values in mg/kg unless otherwise stated Dataset mean SOM% 0.69 Scenario SOM% 1														Date 15/03/23	14/03/23	14/03/23	15/03/23										
														Zone													
														Location	W53	W56	W57	W55									
														Depth (m bgl)	1.9	0.8	0.9	0.7									
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @1% SOM	GAC	GAC Source	Strata	LH	LH	LH	LH									
-	Asbestos																										
P1020	Asbestos Identified	text	Y/N	17	-	-	-	-	No. of detects:	0	-	-	-		N	N	N	N									
-	Hydrock Default Suite - FOC / SOM / pH										-																
P1085	FOC (dimensionless)		0.001	4	0.002	0.007	0.004	0.004	0.00		-	-	-		0.002	0.007	0.004	0.003									
-	SOM (calculated)	%	0.1724	4	0.34	1.21	0.69	0.60	0.37		-	-	-		0.3448	1.2068	0.6896	0.5172									
P1334	pH (su)	pH Units	0.1	4	6.90	7.70	7.33	7.35	0.33		-	-	-		7.4	6.9	7.7	7.3									
-	Hydrock Default Suite - Metals & PAH																										
7440-38-2	Arsenic	mg/kg	2	4	9.00	19.00	14.50	15.00	5.26	0	NR	79	C4SL - CL:AIRE 2014		19	9	11	19									
7440-41-7	Beryllium	mg/kg	0.5	4	0.50	0.50	0.50	0.50	0.00	0	NR	2.2	Hydrock Derived		<0.5	<0.5	<0.5	<0.5									
7440-42-8	Boron	mg/kg	1	4	1.00	1.00	1.00	1.00	0.00	0	NR	21000	Hydrock Derived		<1	<1	<1	<1									
7440-43-9	Cadmium	mg/kg	0.2	4	0.50	1.00	0.78	0.80	0.22	0	NR	220	C4SL - CL:AIRE 2014		0.9	0.5	0.7	1									
18540-29-9	Chromium (VI)	mg/kg	2	4	2.00	2.00	2.00	2.00	0.00	0	NR	23	C4SL - CL:AIRE 2014		<2	<2	<2	<2									
7440-47-3	Chromium (Total)	mg/kg	2	4	13.00	28.00	20.75	21.00	6.60			-			28	13	18	24									
7440-50-8	Copper	mg/kg	4	4	7.00	12.00	9.50	9.50	2.89	0	NR	12000	Hydrock Derived		12	7	7	12									
7439-92-1	Lead	mg/kg	3	4	9.00	20.00	12.50	10.50	5.07	0	NR	630	C4SL - CL:AIRE 2014		11	20	9	10									
7439-97-6	Mercury, inorganic	mg/kg	1	4	1.00	1.00	1.00	1.00	0.00	0	NR	120	Hydrock Derived		<1	<1	<1	<1									
7440-02-0	Nickel	mg/kg	3	4	9.00	24.00	17.00	17.50	7.62	0	NR	230	Hydrock Derived		24	9	12	23									
7440-62-2	Vanadium	mg/kg	1	4	27.00	55.00	41.75	42.50	13.84	0	NR	2000	Hydrock Derived		55	27	33	52									
7440-66-6	Zinc	mg/kg	3	4	29.00	53.00	40.00	39.00	12.30	0	NR	81000	Hydrock Derived		48	30	29	53									
P1095	Cyanide (free)	mg/kg	1	4	1.00	1.00	1.00	1.00	0.00	0	NR	24	Acute Risk - SoBRA 2020		<1	<1	<1	<1									
P1186	Total Phenols (Monohydric)	mg/kg	2	4	2.00	2.00	2.00	2.00	0.00	0	24237	440	Hydrock Derived		<2	<2	<2	<2									
83-32-9	Acenaphthene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	57	15000	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
208-96-8	Acenaphthylene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	86	15000	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
120-12-7	Anthracene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	1.17	74000	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
56-55-3	Benz(a)anthracene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	1.71	29	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
50-32-8	Benzo(a)pyrene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	0.91	10	C4SL - CL:AIRE 2014		<0.1	<0.1	<0.1	<0.1									
205-99-2	Benzo(b)fluoranthene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	1.22	7.2	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
191-24-2	Benzo(ghi)perylene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	0.02	640	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
207-08-9	Benzo(k)fluoranthene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	0.69	190	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
218-01-9	Chrysene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	0.44	57	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	0.004	0.57	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
206-44-0	Fluoranthene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	19	3100	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
86-73-7	Fluorene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	31	9900	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
193-39-5	Indeno(123cd)pyrene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	0.06	82	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
91-20-3	Naphthalene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	76	3900	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
85-01-8	Phenanthrene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	36	3100	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
129-00-0	Pyrene	mg/kg	0.1	4	0.10	0.10	0.10	0.10	0.00	0	2.2	7400	Hydrock Derived		<0.1	<0.1	<0.1	<0.1									
P1310	PAH 16 Total	mg/kg	1.6	4	1.60	1.60	1.60	1.60	0.00			-			<1.6	<1.6	<1.6	<1.6									
-	TPH fractions																										
P1407	TPH ali EC05-EC06	mg/kg	0.01	4	0.01	0.01	0.01	0.01	0.000	0	304	570000	Hydrock Derived		<0.01	<0.01	<0.01	<0.01									
P1408	TPH ali >EC06-EC08	mg/kg	0.05	4	0.05	0.05	0.05	0.05	0.000	0	144	600000	Hydrock Derived		<0.05	<0.05	<0.05	<0.05									
P1409	TPH ali >EC08-EC10	mg/kg	2	4	2.00	2.00	2.00	2.00	0.000	0	78	13000	Hydrock Derived		<2	<2	<2	<2									
P1410	TPH ali >EC10-EC12	mg/kg	2	4	2.00	2.00	2.00	2.00	0.00	0	48	13000	Hydrock Derived		<2	<2	<2	<2									
P1411	TPH ali >EC12-EC16	mg/kg	3	4	3.00	3.00	3.00	3.00	0.00	0	24	13000	Hydrock Derived		<3	<3	<3	<3									
P1412	TPH ali >EC16-EC21	mg/kg	3	4	3.00	3.00	3.00	3.00	0.00		-				<3	<3	<3	<3									
P1413	TPH ali >EC21-EC35	mg/kg	10	4	10.00	10.00	10.00	10.00	0.00		-				<10	<10	<10	<10									
P1418	TPH ali >EC5-EC35	mg/kg	21	4	21.00	21.00	21.00	21.00	0.00		-				<21	<21	<21	<21									
P1441	TPH aro EC05-EC07	mg/kg	0.01	4	0.01	0.01	0.01	0.01	0.00	0	1218	56000	Hydrock Derived		<0.01	<0.01	<0.01	<0.01									
P1355	TPH aro >EC07-EC08	mg/kg	0.05	4	0.05	0.05	0.05	0.05	0.00	0	869	56000	Hydrock Derived		<0.05	<0.05	<0.05	<0.05									
P1356	TPH aro >EC08-EC10	mg/kg	2	4	2.00	2.00	2.00	2.00	0.00	0	613	5000	Hydrock Derived		<2	<2	<2	<2									
P1357	TPH aro >EC10-EC12	mg/kg	2	4	2.00	2.00	2.00	2.00	0.00	0	364	5000	Hydrock Derived		<2	<2	<2	<2									

Hydrock

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Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:		Default - Human Health - POSresi (2.5%SOM)																															
Client:		Reading Borough Council								Data Filters																							
Site:		Amethyst Lane								Zone				All																			
Job no.:		26887								Strata				MGSB																			
Lab. report no(s):		23-04496.1								Depth Min (m bgl)				0.1																			
										Depth Max (m bgl)				1.9																			
All values in mg/kg unless otherwise stated														Dataset mean SOM%				5.03															
														Scenario SOM%				2.5															
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source	Strata	MGSB	MGSB	MGSB	MGSB	MGSB	MGSB													
-	Asbestos																																
P1020	Asbestos Identified	text	Y/N	17	-	-	-	-	No. of detects:	0	-	-	-		N	N	N	N	N	N													
-	Hydrock Default Suite - FOC / SOM / pH										-																						
P1085	FOC (dimensionless)		0.001	6	0.002	0.084	0.029	0.016	0.03		-	-	-		0.019	0.005	0.002	0.084	0.012	0.053													
-	SOM (calculated)	%	0.1724	6	0.34	14.48	5.03	2.67	5.61		-	-	-		3.2756	0.862	0.3448	14.4816	2.0688	9.1372													
P1334	pH (su)	pH Units	0.1	6	7.40	8.30	7.83	7.85	0.31		-	-	-		7.4	7.6	8	7.9	8.3	7.8													
-	Hydrock Default Suite - Metals & PAH																																
7440-38-2	Arsenic	mg/kg	2	6	5.00	170.00	38.00	11.00	64.91	1	NR	79	C4SL - CL:AIRE 2014		22	11	11	5	9	170													
7440-41-7	Beryllium	mg/kg	0.5	6	0.50	2.50	0.85	0.50	0.81	1	NR	2.2	Hydrock Derived		0.5	<0.5	<0.5	0.6	<0.5	2.5													
7440-42-8	Boron	mg/kg	1	6	1.00	1.40	1.07	1.00	0.16	0	NR	21000	Hydrock Derived		1.4	<1	<1	<1	<1	<1													
7440-43-9	Cadmium	mg/kg	0.2	6	0.20	0.80	0.33	0.20	0.24	0	NR	220	C4SL - CL:AIRE 2014		0.8	0.4	<0.2	<0.2	0.2	<0.2													
18540-29-9	Chromium (VI)	mg/kg	2	6	2.00	2.00	2.00	2.00	0.00	0	NR	23	C4SL - CL:AIRE 2014		<2	<2	<2	<2	<2	<2													
7440-47-3	Chromium (Total)	mg/kg	2	6	4.00	24.00	9.50	6.50	7.50			-			24	11	7	4	5	6													
7440-50-8	Copper	mg/kg	4	6	5.00	30.00	11.17	8.00	9.35	0	NR	12000	Hydrock Derived		30	7	5	7	9	9													
7439-92-1	Lead	mg/kg	3	6	8.00	748.00	159.33	50.50	290.25	1	NR	630	C4SL - CL:AIRE 2014		748	25	8	13	86	76													
7439-97-6	Mercury, inorganic	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	NR	120	Hydrock Derived		<1	<1	<1	<1	<1	<1													
7440-02-0	Nickel	mg/kg	3	6	3.00	12.00	6.50	5.50	3.51	0	NR	230	Hydrock Derived		12	9	4	3	4	7													
7440-62-2	Vanadium	mg/kg	1	6	4.00	30.00	15.33	12.00	10.07	0	NR	2000	Hydrock Derived		30	25	14	4	10	9													
7440-66-6	Zinc	mg/kg	3	6	29.00	363.00	126.83	66.00	133.57	0	NR	81000	Hydrock Derived		207	29	30	48	84	363													
P1095	Cyanide (free)	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	NR	24	Acute Risk - SoBRA 2020		<1	<1	<1	<1	<1	<1													
P1186	Total Phenols (Monohydric)	mg/kg	2	6	2.00	2.00	2.00	2.00	0.00	0	38058	690	Hydrock Derived		<2	<2	<2	<2	<2	<2													
83-32-9	Acenaphthene	mg/kg	0.1	6	0.10	4.32	0.81	0.10	1.72	0	141	15000	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	0.13	4.32													
208-96-8	Acenaphthylene	mg/kg	0.1	6	0.10	0.10	0.10	0.10	0.00	0	212	15000	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1													
120-12-7	Anthracene	mg/kg	0.1	6	0.10	2.24	0.46	0.10	0.87	0	2.91	74000	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	0.12	2.24													
56-55-3	Benz(a)anthracene	mg/kg	0.1	6	0.10	1.81	0.41	0.13	0.69	0	4.28	29	Hydrock Derived		0.21	<0.1	<0.1	<0.1	0.16	1.81													
50-32-8	Benzo(a)pyrene	mg/kg	0.1	6	0.10	0.31	0.18	0.14	0.09	0	2.28	10	C4SL - CL:AIRE 2014		0.27	<0.1	<0.1	<0.1	0.17	0.31													
205-99-2	Benzo(b)fluoranthene	mg/kg	0.1	6	0.10	0.48	0.22	0.15	0.16	0	3.04	7.2	Hydrock Derived		0.33	<0.1	<0.1	<0.1	0.2	0.48													
191-24-2	Benzo(ghi)perylene	mg/kg	0.1	6	0.10	0.16	0.12	0.10	0.03	0	0.04	640	Hydrock Derived		0.16	<0.1	<0.1	<0.1	0.16	<0.1													
207-08-9	Benzo(k)fluoranthene	mg/kg	0.1	6	0.10	0.15	0.11	0.10	0.02	0	1.72	190	Hydrock Derived		0.12	<0.1	<0.1	<0.1	<0.1	0.15													
218-01-9	Chrysene	mg/kg	0.1	6	0.10	1.41	0.35	0.13	0.52	0	1.10	57	Hydrock Derived		0.23	<0.1	<0.1	<0.1	0.16	1.41													
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.1	6	0.10	0.10	0.10	0.10	0.00	0	0.010	0.57	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1													
206-44-0	Fluoranthene	mg/kg	0.1	6	0.10	16.20	2.95	0.27	6.50	0	47	3100	Hydrock Derived		0.38	<0.1	0.16	<0.1	0.73	16.2													
86-73-7	Fluorene	mg/kg	0.1	6	0.10	2.83	0.56	0.10	1.11	0	77	9900	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	2.83													
193-39-5	Indeno(123cd)pyrene	mg/kg	0.1	6	0.10	0.21	0.12	0.10	0.04	0	0.15	82	Hydrock Derived		0.21	<0.1	<0.1	<0.1	0.13	<0.1													
91-20-3	Naphthalene	mg/kg	0.1	6	0.10	0.10	0.10	0.10	0.00	0	183	4100	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1													
85-01-8	Phenanthrene	mg/kg	0.1	6	0.10	15.90	2.87	0.11	6.39	0	90	3100	Hydrock Derived		0.12	<0.1	<0.1	<0.1	0.87	15.9													
129-00-0	Pyrene	mg/kg	0.1	6	0.10	9.06	1.71	0.24	3.61	0	5.5	7400	Hydrock Derived		0.34	<0.1	0.14	<0.1	0.51	9.06													
P1310	PAH 16 Total	mg/kg	1.6	6	1.60	54.70	10.87	2.00	21.48			-			2.4	<1.6	<1.6	<1.6	3.3	54.7													
-	TPH fractions																																
P1407	TPH ali EC05-EC06																																

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02/05/2023, 14:37

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02/05/2023, 14:37

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:		Default - Human Health - residential with home-grown produce (1%SOM)																												
Client:		Reading Borough Council											Data Filters																	
Site:		Amethyst Lane											Zone		All															
Job no.:		26887											Strata		MGG															
Lab. report no(s).:		23-04496.1											Depth Min (m bgl)		0.1															
													Depth Max (m bgl)		1.9															
All values in mg/kg unless otherwise stated													Dataset mean SOM%		2.36															
													Scenario SOM%		1															
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @1% SOM	GAC	GAC Source	Strata	MGG	MGG	MGG	MGG	MGG	MGG	MGG									
-	Asbestos																													
P1020	Asbestos Identified	text	Y/N	17	-	-	-	-	No. of detects:	0	-	-	-		N	N	N	N	N	N	N									
-	Hydrock Default Suite - FOC / SOM / pH										-																			
P1085	FOC (dimensionless)	l	0.001	7	0.005	0.026	0.014	0.013	0.01		-	-	-		0.013	0.011	0.017	0.016	0.005	0.008	0.026									
-	SOM (calculated)	%	0.1724	7	0.86	4.48	2.36	2.24	1.18		-	-	-		2.2412	1.8964	2.9308	2.7584	0.862	1.3792	4.4824									
P1334	pH (su)	pH Units	0.1	7	7.10	7.70	7.47	7.50	0.21		-	-	-		7.5	7.7	7.5	7.1	7.7	7.3	7.5									
-	Hydrock Default Suite - Metals & PAH																													
7440-38-2	Arsenic	mg/kg	2	7	7.00	27.00	16.00	14.00	6.58	0	NR	37	C4SL - CL:AIRE 2014		14	12	13	18	7	27	21									
7440-41-7	Beryllium	mg/kg	0.5	7	0.50	0.50	0.50	0.50	0.00	0	NR	1.7	Hydrock Derived		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5									
7440-42-8	Boron	mg/kg	1	7	1.00	1.80	1.11	1.00	0.30	0	NR	300	Hydrock Derived		<1	<1	<1	1.8	<1	<1	<1									
7440-43-9	Cadmium	mg/kg	0.2	7	0.30	0.90	0.64	0.60	0.23	0	NR	22	C4SL - CL:AIRE 2014		0.6	0.5	0.5	0.8	0.3	0.9	0.9									
18540-29-9	Chromium (VI)	mg/kg	2	7	2.00	2.00	2.00	2.00	0.00	0	NR	21	C4SL - CL:AIRE 2014		<2	<2	<2	<2	<2	<2	<2									
7440-47-3	Chromium (Total)	mg/kg	2	7	7.00	19.00	13.86	14.00	3.67			-			14	15	13	16	7	19	13									
7440-50-8	Copper	mg/kg	4	7	6.00	21.00	14.86	15.00	4.53	0	NR	2500	Hydrock Derived		14	15	16	17	6	15	21									
7439-92-1	Lead	mg/kg	3	7	19.00	91.00	54.86	51.00	22.30	0	NR	200	C4SL - CL:AIRE 2014		49	19	72	51	54	48	91									
7439-97-6	Mercury, inorganic	mg/kg	1	7	1.00	1.00	1.00	1.00	0.00	0	NR	40	Hydrock Derived		<1	<1	<1	<1	<1	<1	<1									
7440-02-0	Nickel	mg/kg	3	7	5.00	18.00	11.57	12.00	4.12	0	NR	130	Hydrock Derived		10	14	9	13	5	18	12									
7440-62-2	Vanadium	mg/kg	1	7	14.00	40.00	28.29	30.00	8.30	0	NR	410	Hydrock Derived		30	24	25	34	14	40	31									
7440-66-6	Zinc	mg/kg	3	7	35.00	76.00	60.57	64.00	15.41	0	NR	3900	Hydrock Derived		45	35	76	67	64	61	76									
P1095	Cyanide (free)	mg/kg	1	7	1.00	1.00	1.00	1.00	0.00	0	NR	24	Acute Risk - SoBRA 2020		<1	<1	<1	<1	<1	<1	<1									
P1186	Total Phenols (Monohydric)	mg/kg	2	7	2.00	2.00	2.00	2.00	0.00	0	24237	120	Hydrock Derived		<2	<2	<2	<2	<2	<2	<2									
83-32-9	Acenaphthene	mg/kg	0.1	7	0.10	0.10	0.10	0.10	0.00	0	57	230	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
208-96-8	Acenaphthylene	mg/kg	0.1	7	0.10	0.10	0.10	0.10	0.00	0	86	180	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
120-12-7	Anthracene	mg/kg	0.1	7	0.10	0.10	0.10	0.10	0.00	0	1.17	2400	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
56-55-3	Benz(a)anthracene	mg/kg	0.1	7	0.10	0.16	0.11	0.10	0.02	0	1.71	8.9	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.16									
50-32-8	Benzo(a)pyrene	mg/kg	0.1	7	0.10	0.26	0.13	0.10	0.06	0	0.91	5	C4SL - CL:AIRE 2014		<0.1	<0.1	0.14	<0.1	<0.1	<0.1	0.26									
205-99-2	Benzo(b)fluoranthene	mg/kg	0.1	7	0.10	0.29	0.14	0.10	0.07	0	1.22	2.6	Hydrock Derived		<0.1	<0.1	0.17	<0.1	<0.1	<0.1	0.29									
191-24-2	Benzo(ghi)perylene	mg/kg	0.1	7	0.10	0.14	0.11	0.10	0.02	0	0.02	320	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.14									
207-08-9	Benzo(k)fluoranthene	mg/kg	0.1	7	0.10	0.10	0.10	0.10	0.00	0	0.69	78	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
218-01-9	Chrysene	mg/kg	0.1	7	0.10	0.20	0.12	0.10	0.04	0	0.44	15	Hydrock Derived		<0.1	<0.1	0.13	<0.1	<0.1	<0.1	0.2									
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.1	7	0.10	0.10	0.10	0.10	0.00	0	0.004	0.25	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
206-44-0	Fluoranthene	mg/kg	0.1	7	0.10	0.34	0.15	0.10	0.10	0	19	290	Hydrock Derived		<0.1	<0.1	0.23	<0.1	<0.1	<0.1	0.34									
86-73-7	Fluorene	mg/kg	0.1	7	0.10	0.10	0.10	0.10	0.00	0	31	180	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
193-39-5	Indeno(123cd)pyrene	mg/kg	0.1	7	0.10	0.16	0.11	0.10	0.02	0	0.06	28	Hydrock Derived		<0.1	<0.1	0.13	<0.1	<0.1	<0.1	0.16									
91-20-3	Naphthalene	mg/kg	0.1	7	0.10	0.10	0.10	0.10	0.00	0	76	1																		

Assessment of Chemicals of Potential Concern to Human Health

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Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:		Default - Human Health - residential with home-grown produce (2.5%SOM)																											
Client:		Reading Borough Council												Data Filters															
Site:		Amethyst Lane												Zone		All													
Job no.:		26887												Strata		MGSB													
Lab. report no(s).:		23-04496.1												Depth Min (m bgl)		0.1													
														Depth Max (m bgl)		1.9													
All values in mg/kg unless otherwise stated														Dataset mean SOM%		5.03													
														Scenario SOM%		2.5													
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source	Strata	MGSB	MGSB	MGSB	MGSB	MGSB	MGSB									
-	Asbestos																												
P1020	Asbestos Identified	text	Y/N	17	-	-	-	-	No. of detects:	0	-	-	-		N	N	N	N	N	N									
-	Hydrock Default Suite - FOC / SOM / pH										-																		
P1085	FOC (dimensionless)		0.001	6	0.002	0.084	0.029	0.016	0.03		-	-	-		0.019	0.005	0.002	0.084	0.012	0.053									
-	SOM (calculated)	%	0.1724	6	0.34	14.48	5.03	2.67	5.61		-	-	-		3.2756	0.862	0.3448	14.4816	2.0688	9.1372									
P1334	pH (su)	pH Units	0.1	6	7.40	8.30	7.83	7.85	0.31		-	-	-		7.4	7.6	8	7.9	8.3	7.8									
-	Hydrock Default Suite - Metals & PAH																												
7440-38-2	Arsenic	mg/kg	2	6	5.00	170.00	38.00	11.00	64.91	1	NR	37	C4SL - CL:AIRE 2014		22	11	11	5	9	170									
7440-41-7	Beryllium	mg/kg	0.5	6	0.50	2.50	0.85	0.50	0.81	1	NR	1.7	Hydrock Derived		0.5	<0.5	<0.5	0.6	<0.5	2.5									
7440-42-8	Boron	mg/kg	1	6	1.00	1.40	1.07	1.00	0.16	0	NR	300	Hydrock Derived		1.4	<1	<1	<1	<1	<1									
7440-43-9	Cadmium	mg/kg	0.2	6	0.20	0.80	0.33	0.20	0.24	0	NR	22	C4SL - CL:AIRE 2014		0.8	0.4	<0.2	<0.2	0.2	<0.2									
18540-29-9	Chromium (VI)	mg/kg	2	6	2.00	2.00	2.00	2.00	0.00	0	NR	21	C4SL - CL:AIRE 2014		<2	<2	<2	<2	<2	<2									
7440-47-3	Chromium (Total)	mg/kg	2	6	4.00	24.00	9.50	6.50	7.50			-			24	11	7	4	5	6									
7440-50-8	Copper	mg/kg	4	6	5.00	30.00	11.17	8.00	9.35	0	NR	2500	Hydrock Derived		30	7	5	7	9	9									
7439-92-1	Lead	mg/kg	3	6	8.00	748.00	159.33	50.50	290.25	1	NR	200	C4SL - CL:AIRE 2014		748	25	8	13	86	76									
7439-97-6	Mercury, inorganic	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	NR	40	Hydrock Derived		<1	<1	<1	<1	<1	<1									
7440-02-0	Nickel	mg/kg	3	6	3.00	12.00	6.50	5.50	3.51	0	NR	130	Hydrock Derived		12	9	4	3	4	7									
7440-62-2	Vanadium	mg/kg	1	6	4.00	30.00	15.33	12.00	10.07	0	NR	410	Hydrock Derived		30	25	14	4	10	9									
7440-66-6	Zinc	mg/kg	3	6	29.00	363.00	126.83	66.00	133.57	0	NR	3900	Hydrock Derived		207	29	30	48	84	363									
P1095	Cyanide (free)	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	NR	24	Acute Risk - SoBRA 2020		<1	<1	<1	<1	<1	<1									
P1186	Total Phenols (Monohydric)	mg/kg	2	6	2.00	2.00	2.00	2.00	0.00	0	38058	210	Hydrock Derived		<2	<2	<2	<2	<2	<2									
83-32-9	Acenaphthene	mg/kg	0.1	6	0.10	4.32	0.81	0.10	1.72	0	141	540	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	0.13	4.32									
208-96-8	Acenaphthylene	mg/kg	0.1	6	0.10	0.10	0.10	0.10	0.00	0	212	440	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
120-12-7	Anthracene	mg/kg	0.1	6	0.10	2.24	0.46	0.10	0.87	0	2.91	5500	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	0.12	2.24									
56-55-3	Benz(a)anthracene	mg/kg	0.1	6	0.10	1.81	0.41	0.13	0.69	0	4.28	12	Hydrock Derived		0.21	<0.1	<0.1	<0.1	0.16	1.81									
50-32-8	Benzo(a)pyrene	mg/kg	0.1	6	0.10	0.31	0.18	0.14	0.09	0	2.28	5	C4SL - CL:AIRE 2014		0.27	<0.1	<0.1	<0.1	0.17	0.31									
205-99-2	Benzo(b)fluoranthene	mg/kg	0.1	6	0.10	0.48	0.22	0.15	0.16	0	3.04	3.3	Hydrock Derived		0.33	<0.1	<0.1	<0.1	0.2	0.48									
191-24-2	Benzo(ghi)perylene	mg/kg	0.1	6	0.10	0.16	0.12	0.10	0.03	0	0.04	340	Hydrock Derived		0.16	<0.1	<0.1	<0.1	0.16	<0.1									
207-08-9	Benzo(k)fluoranthene	mg/kg	0.1	6	0.10	0.15	0.11	0.10	0.02	0	1.72	93	Hydrock Derived		0.12	<0.1	<0.1	<0.1	<0.1	0.15									
218-01-9	Chrysene	mg/kg	0.1	6	0.10	1.41	0.35	0.13	0.52	0	1.10	22	Hydrock Derived		0.23	<0.1	<0.1	<0.1	0.16	1.41									
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.1	6	0.10	0.10	0.10	0.10	0.00	0	0.010	0.29	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
206-44-0	Fluoranthene	mg/kg	0.1	6	0.10	16.20	2.95	0.27	6.50	0	47	560	Hydrock Derived		0.38	<0.1	0.16	<0.1	0.73	16.2									
86-73-7	Fluorene	mg/kg	0.1	6	0.10	2.83	0.56	0.10	1.11	0	77	420	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	2.83									
193-39-5	Indeno(123cd)pyrene	mg/kg	0.1	6	0.10	0.21	0.12	0.10	0.04	0	0.15	36	Hydrock Derived		0.21	<0.1	<0.1	<0.1	0.13	<0.1									
91-20-3	Naphthalene	mg/kg	0.1	6	0.10	0.10	0.10	0.10	0.00	0	183	30	Hydrock Derived		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
85-01-8	Phenanthrene	mg/kg	0.1	6	0.10	15.90	2.87	0.11	6.39	0	90	220	Hydrock Derived		0.12	<0.1	<0.1	<0.1	0.87	15.9									
129-00-0	Pyrene	mg/kg	0.1	6	0.10	9.06	1.71	0.24	3.61	0	5.5	1200	Hydrock Derived		0.34	<0.1	0.14	<0.1	0.51	9.06									
P1310	PAH 16 Total	mg/kg	1.6	6	1.60	54.70	10.87	2.00	21.48			-			2.4	<1.6	<1.6	<1.6	3.3	54.7									
-	TPH fractions																												
P1407	TPH ali EC05-EC06</																												

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Phytotoxic GQRA

Assessment of Chemicals of Potential Concern to Plant Life

Risk parameter:Phytotoxic pH 7 Client:Reading Borough Council Site:Amethyst Lane Job no.:26887 Lab. report no(s):23-04496.1 Data Filters ZoneAll StrataLH Depth Min (m bgl)0.1 Depth Max (m bgl)1.9 Hydrock 23-04496.1 All values in mg/kg unless otherwise stated Dataset mean pH7.33 Scenario pH7 WS3 WS4 WS5 WS6 WS7 WS8 WS9 WS10 WS11 WS12 WS13 WS14 WS15 WS16 WS17 WS18 WS19 WS20 WS21 WS22 WS23 WS24 WS25 WS26 WS27 WS28 WS29 WS30 WS31 WS32 WS33 WS34 WS35 WS36 WS37 WS38 WS39 WS40 WS41 WS42 WS43 WS44 WS45 WS46 WS47 WS48 WS49 WS50 WS51 WS52 WS53 WS54 WS55 WS56 WS57 WS58 WS59 WS60 WS61 WS62 WS63 WS64 WS65 WS66 WS67 WS68 WS69 WS70 WS71 WS72 WS73 WS74 WS75 WS76 WS77 WS78 WS79 WS80 WS81 WS82 WS83 WS84 WS85 WS86 WS87 WS88 WS89 WS90 WS91 WS92 WS93 WS94 WS95 WS96 WS97 WS98 WS99 WS100													Date15/03/2314/03/2314/03/2315/03/23			
													Zone			
													Location	WS3	WS6	WS7
													WS5			
													Depth (m bgl)	1.9	0.8	0.9
													0.7			
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	GAC	GAC Source	Strata	LH	LH	LH
-	Hydrock Default Suite - FOC / SOM / pH															
P1334	pH (su)	pH Units	0.1	4	6.90	7.70	7.33	7.35	0.33		-	-		7.4	6.9	7.7
-	Hydrock Default Suite - Metals & PAH															
7440-38-2	Arsenic	mg/kg	2	4	9.00	19.00	14.50	15.00	5.26	0	250	MAFF 1998		19	9	11
7440-42-8	Boron	mg/kg	1	4	1.00	1.00	1.00	1.00	0.00	0	5	Nable, et al. 1997		<1	<1	<1
18540-29-9	Chromium (VI)	mg/kg	2	4	2.00	2.00	2.00	2.00	0.00	0	25	ICRCL 70/90 1990		<2	<2	<2
7440-50-8	Copper	mg/kg	4	4	7.00	12.00	9.50	9.50	2.89	0	135	BS3882 2015		12	7	7
7440-02-0	Nickel	mg/kg	3	4	9.00	24.00	17.00	17.50	7.62	0	75	BS3882 2015		24	9	12
7440-66-6	Zinc	mg/kg	3	4	29.00	53.00	40.00	39.00	12.30	0	300	BS3882 2015		48	30	29
Legend: MGGMade Ground General MGSBMade Ground Sub Base LHLynch Hill Gravel Member <0.02 0.02 <10 Y - • Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Value greater than, or equal to, the generic assessment criterion (GAC). Value excluded from statistical analysis Text result Represents a determinand that was not tested. represents a data point that is not included in the current filter settings																
Template Version:103_09/11/22																

Assessment of Chemicals of Potential Concern to Plant Life

[illegible]

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Risk parameter:Phytotoxic pH 7 Client:Reading Borough Council Site:Amethyst Lane Job no.:26887 Lab. report no(s):23-04496.1 All values in mg/kg unless otherwise stated Data Filters ZoneAll StrataMGSB Depth Min (m bgl)0.1 Depth Max (m bgl)1.9 Dataset mean pH7.83 Scenario pH7 Hydrock WS1 2 0.25WS1 2 0.4WS1 2 0.4WS1 2 0.4WS1 2 0.4TPSA1 2 0.1BH1 2 0.2													Date15/03/2315/03/2315/03/2314/03/2315/03/2316/03/23			
													Zone			
													Location	WS1	WS1	WS4
													Depth (m bgl)	0.25	0.4	0.25
													Strata	MGSB	MGSB	MGSB
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	GAC	GAC Source				
-	Hydrock Default Suite - FOC / SOM / pH															
P1334	pH (su)	pH Units	0.1	6	7.40	8.30	7.83	7.85	0.31		-	-		7.4	7.6	8
-	Hydrock Default Suite - Metals & PAH															
7440-38-2	Arsenic	mg/kg	2	6	5.00	170.00	38.00	11.00	64.91	0	250	MAFF 1998		22	11	11
7440-42-8	Boron	mg/kg	1	6	1.00	1.40	1.07	1.00	0.16	0	5	Nable, et al. 1997		1.4	<1	<1
18540-29-9	Chromium (VI)	mg/kg	2	6	2.00	2.00	2.00	2.00	0.00	0	25	ICRCL 70/90 1990		<2	<2	<2
7440-50-8	Copper	mg/kg	4	6	5.00	30.00	11.17	8.00	9.35	0	135	BS3882 2015		30	7	5
7440-02-0	Nickel	mg/kg	3	6	3.00	12.00	6.50	5.50	3.51	0	75	BS3882 2015		12	9	4
7440-66-6	Zinc	mg/kg	3	6	29.00	363.00	126.83	66.00	133.57	1	300	BS3882 2015		207	29	30
Legend: MGGMade Ground General MGSBMade Ground Sub Base LHLynch Hill Gravel Member <0.02 0.02 <10 Y - • Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Value greater than, or equal to, the generic assessment criterion (GAC). Value excluded from statistical analysis Text result Represents a determinand that was not tested. represents a data point that is not included in the current filter settings																
Template Version:103_09/11/22																

Controlled waters GQRA

Remedial Targets Methodology Data Table

Hydrock Scenario: Scenario A - DWS RTM Level: RTM Level 1 - Soil Zone Assessment - leachate samples Water body receptor(s): Groundwater and surface water Secondary receptor(s): Human health (abstraction) Data set: Leachate Client: Reading Borough Council Site: Amethyst Lane Job no: 27754 Test Certificates(s): 23-04496.1 Dataset: ALL ZONES																																																							
PNEC calculated (inland EQS) 123* Exceeds solubility value <1 Grey text and "<" sign if value <= LoD 999 Red text if value > DWS																																																							
Surface Water Representative Hardness as mg/l CaCO ₃ 10																																																							
<table border="1"> <thead> <tr> <th>Strata / Zone</th> <th>15/03/2023</th> <th>15/03/2023</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <th>Date sampled:</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <th></th> <th>TPSA1 0.50m</th> <th>WS3 1.00m</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> </table>														Strata / Zone	15/03/2023	15/03/2023												Date sampled:															TPSA1 0.50m	WS3 1.00m											
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Date sampled:																																																							
	TPSA1 0.50m	WS3 1.00m																																																					
CAS / AGS Number	Chemical of Potential Concern (µg/l)	WFD Designation	Hazardous Substance Status	Solubility Limit (µg/l)	No. of samples	Limit of Detection	DWS																																																
7440-22-4	Silver (Ag) (dissolved)				0																																																		
7429-90-5	Aluminium (Al) (dissolved)				0		200																																																
7440-38-2	Arsenic (As) (dissolved)	SP	H		2	5	10		<5	<5																																													
7440-42-8	Boron (B) (dissolved)		NP		2	5	1000		26	18																																													
7440-39-3	Barium (Ba) (dissolved)				0		1300																																																
7440-43-9	Cadmium (Cd) (dissolved)	PH	NP		2	0.4	5		<0.4	<0.4																																													
7440-48-4	Cobalt (Co) (dissolved)		NP		0																																																		
18540-29-9	Chromium (VI) (Cr) (dissolved)	SP	H		2	20			<20	<20																																													
16065-83-1	Chromium (III) (Cr) (dissolved)	SP			0																																																		
7440-47-3	Chromium (Cr) (total) (dissolved)				2	5	50		<5	<5																																													
7440-50-8	Copper (Cu) (dissolved)	SP	NP		2	5	2000		<5	<5																																													
7439-89-6	Iron (Fe) (dissolved)	SP			0		200																																																
7439-97-6	Mercury (Hg) (dissolved)	PH	H		2	0.05	1		<0.05	<0.05																																													
P1286	Manganese (Mn) (dissolved)	SP			0		50																																																
7440-23-5	Sodium (Na) (dissolved)				0		200000																																																
7440-02-0	Nickel (Ni) (dissolved)	P	NP		2	5	20		<5	<5																																													
7439-92-1	Lead (Pb) (dissolved)	P	H		2	5	10		<5	<5																																													
7440-36-0	Antimony (Sb) (dissolved)		NP		0		5																																																
7782-49-2	Selenium (Se) (dissolved)		NP		0		10																																																
7440-31-5	Tin (Sn) (dissolved)				0																																																		
7440-62-2	Vanadium (V) (dissolved)				2	5			<5	<5																																													
7440-66-6	Zinc (Zn) (dissolved)	SP	NP		2	2			7	21																																													
P1095	Cyanide (free) (hydrogen cyanide)	SP	NP		0																																																		
57-12-5	Cyanide (total)				2	5	50		<5	<5																																													
P1140	Ammonium (NH ₄ ⁺)		NP		0		500																																																
P1238	Ammoniacal Nitrogen (as N)		NP		0																																																		
P1720	Ammonia (unionised) (NH ₃ as N) (free ammonia)	SP	NP		0																																																		
15541-45-4	Bromate (BrO ₃ ⁻)				0		10																																																
16887-00-6	Chloride (Cl ⁻)				0		250000																																																
16984-48-8	Fluoride (F ⁻)				0		1500																																																
P1348	Nitrate (NO ₃ ⁻)				0		50000																																																
P1349	Nitrite (NO ₂ ⁻)				0		500																																																
14808-79-8	Sulfate (SO ₄ ²⁻)				0		250000																																																
P1134	pH (min.) (su)				0		6.5																																																
P1134	pH (max.) (su)				2	0	9.5		7.2	7.3																																													
P1287	Electrical conductivity (µS/cm)				0		2500																																																
120-12-7	Anthracene	PH	H	56	2	0.01			<0.01	0.08																																													
50-32-8	Benzo(a)pyrene	PH	H	3.8	2	0.01	0.01		<0.01	<0.01																																													
206-44-0	Fluoranthene	P	H	230	2	0.01			0.03	0.03																																													
91-20-3	Naphthalene	P	NP	19000	2	0.01			0.04	0.12																																													
	PAHs = sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene																																																						
GRP01		P	H		0		0.1																																																
P1877	Phenol	SP	NP	84100000	0																																																		
P1407	Ali EC5-EC6			35900	2	10	15000		<10	<10																																													
P1408	Ali >EC6-EC8			5370	2	10	15000		<10	<10																																													
P1409	Ali >EC8-EC10			427	2	10	300		<10	<10																																													
P1410	Ali >EC10-EC12			33.9	2	10	300		<10	<10																																													
P1411	Ali >EC12-EC16			0.759	2	10	300		<10	<10																																													
P1938	Ali >EC16-EC35			0.00254	0																																																		
P1415	Ali >EC35-EC44			0.00254	0																																																		
P1441	Aro EC5-EC7			1780000	2	10	1		<10	<10																																													
P1355	Aro >EC7-EC8			590000	2	10	700		<10	<10																																													
P1356	Aro >EC8-EC10			64600	2	10	300		<10	<10																																													
P1357	Aro >EC10-EC12			24500	2	10	90		<10	<10																																													
P1358	Aro > EC12-EC16			5750	2	10	90		<10	<10																																													
P1359	Aro >EC16-EC21			653	2	10	90		<10	<10																																													
P1360	Aro >EC21-EC35			6.61	2	10	90		<10	<10																																													
P1362	Aro >EC35-EC44			6.61	0																																																		
71-43-2	Benzene	P	H	1780000	2	1	1		<1	<1																																													
108-88-3	Toluene	SP	H	590000	2	5	700		<5	<5																																													
100-41-4	Ethylbenzene		H	180000	2	5	300		<5	<5																																													

Remedial Targets Methodology Data Table



Water body receptor(s): Groundwater and surface water Secondary receptor(s): Human health (abstraction) Data set: Leachate Client: Reading Borough Council Site: Amethyst Lane Job no: 27754 Test Certificates(s): 23-04496.1 Dataset ALL ZONES										PNEC calculated (inland EQS)		123*		Exceeds solubility value <1 Grey text and "<" sign if value <= LoD 999 Red text if value > DWS							
										Surface Water Representative Hardness as mg/l CaCO ₃ 10											
										Strata / Zone											
										Date sampled:		15/03/2023		15/03/2023							
CAS / AGS Number	Chemical of Potential Concern (µg/l)	WFD Designation	Hazardous Substance Status	Solubility Limit (µg/l)	No. of samples	Limit of Detection	DWS		TPSA1 0.50m	WS3 1.00m											
95-47-6	o-Xylene		H	173000	2	5	500		<5	<5											
P1374	m,p-Xylene		H	200000	2	10	500		<10	<10											
1634-04-04	Methyl tertiary butyl ether (MTBE)		NP	48000000	2	10	15		<10	<10											