Date: **July 2023**
Planning Ref.: **CDN/22/0810**
LKC Ref.: **LKC 23 1248-D1**

MIRABEL HOUSE, MANCHESTER - VALIDATION REPORT

1 INTRODUCTION

LK Consult Ltd (LKC) has been appointed by Hookstone Group Ltd to provide a Validation Report for Mirabel House, Manchester. Figure 1 indicates the site location and boundary. Figure 2 indicates the proposed development.

The following reports have been undertaken for the site:

- Preliminary Risk Assessment (PRA) report, undertaken by LKC (Ref: CL-602- LKC 18 1208-01, dated 1st June 2018).
- Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy report, undertaken by LKC (Ref. CL-602-LKC 21 1684-01-R1, dated January 2023).
- Additional Ground Investigation and Revise Remediation Strategy report, undertaken by LKC (Ref. LKC 21 1684-B1R1-Additional GI, dated 24th March 2023).

Elevated naphthalene was identified in one sample of made ground (CP101 0.10-0.50m) during the Phase 2 investigation undertaken by LKC. The elevated naphthalene was thought to be related to tarmacadam inclusions in the shallow made ground. No further elevated naphthalene concentrations were identified in soils tested across the remainder of the site, including TP103 which is located to the south of CP101. The Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy report recommended a naphthalene delineation exercise localised around CP101. The removal of shallow made ground (0.10-0.50m) with tarmacadam inclusions was recommended, followed by validation testing of the excavation area, including the site surface following the excavation.

The aim of the Validation Report is to demonstrate to the Local Authority that the naphthalene hotspot removal has been undertaken in line with the Remediation Strategy.

2 SUPERVISION OF NAPHTHALENE HOTSPOT REMOVAL

LKC attended site on 20th April 2023 to supervise the excavation of the shallow made ground around CP101 with tarmacadam inclusions, as outlined in the Remediation Strategy. An area of approximately 3.90m x 2.40m was excavated in the area of CP101, to a depth of approximately 0.70m below ground level. Once the excavation was completed to LKC satisfaction (using visual and olfactory evidence for tarmacadam inclusions), LKC collected composite samples across the base of the excavation and samples from each side of the excavation (5no. samples in total). A photograph of the excavation is provided in Appendix A.

Soil samples of approximately 500g were recovered in amber jars and plastic tubs. All the samples were labelled and stored in cool boxes prior to being collected by courier at the end of the day for delivery to the DETS laboratory in Maidstone for chemical testing. If collection was not possible the same day then samples were stored in the sample storage fridge at the LK Group offices below 4˚C. Samples were tracked using appropriate Chain of Custody forms provided by DETS.

All of the contamination tests are MCERTS accredited and further details are given in the Certificate of Analysis presented in Appendix B. The testing undertaken is summarised in Table 2-1 below.

Contaminants	No. Samples	Location	Justification
Metals / metalloids, pH, water soluble sulphate, speciated PAHs, SOM and asbestos screen.	5	Side 1 (composite) Side 2 (composite) Side 3 (composite) Side 4 (composite) Base (composite)	Validation samples from the side and base of the naphthalene hotspot removal.

Table 2-1. Summary of soil sample testing undertaken.
Notes: PAH=polycyclic aromatic hydrocarbons, SOM=soil organic matter.

Sample locations are shown on Figure 3.

The excavated soils were stockpiled on site and subsequently to Booth Ventures in Harwood. The Waste Transfer Note is provided in Appendix C.

3 SOIL RISK ASSESSMENT

For the risk from inhalation of naphthalene vapours from soils, LKC have used the following generic assessment criteria:

- LQM Suitable 4 Use Levels (S4ULs).

All criteria have been generated using the CLEA V1.06 model[1] based either on 1%, 2.5% and 6% Soil Organic matter (SOM). Results will be compared to the nearest appropriate SOM.

A summary of the generic assessment criteria is provided in Appendix D.

Results have been compared to the assessment criteria and no elevated naphthalene concentrations were identified. The maximum concentration of 1.27mg/kg (SOM 5.5%) is below the naphthalene S4ULs of 5.6mg/kg (2.5% SOM) and 13mg/kg (6% SOM).

4 SUMMARY CONCLUSIONS

LKC attended site to supervise the excavation of naphthalene impacted soils. Validation samples taken from the sides and base of the excavation were subjected to chemical analysis and no exceedances of naphthalene were identified. The impacted soils were stockpiled and removed from site.

LKC did not observe any other unexpected contamination during the excavation of the naphthalene impacted soils. LKC therefore consider that the work has been validated in accordance with the agreed Remediation Strategy.

Report prepared by:

Ella Mcleod
Geo-Environmental Consultant

Report checked by:

Colin Crompton
Director

[1] EA (2008). "CLEA Software (Version 1.05) Handbook." Science Report – SC050021/SR4.

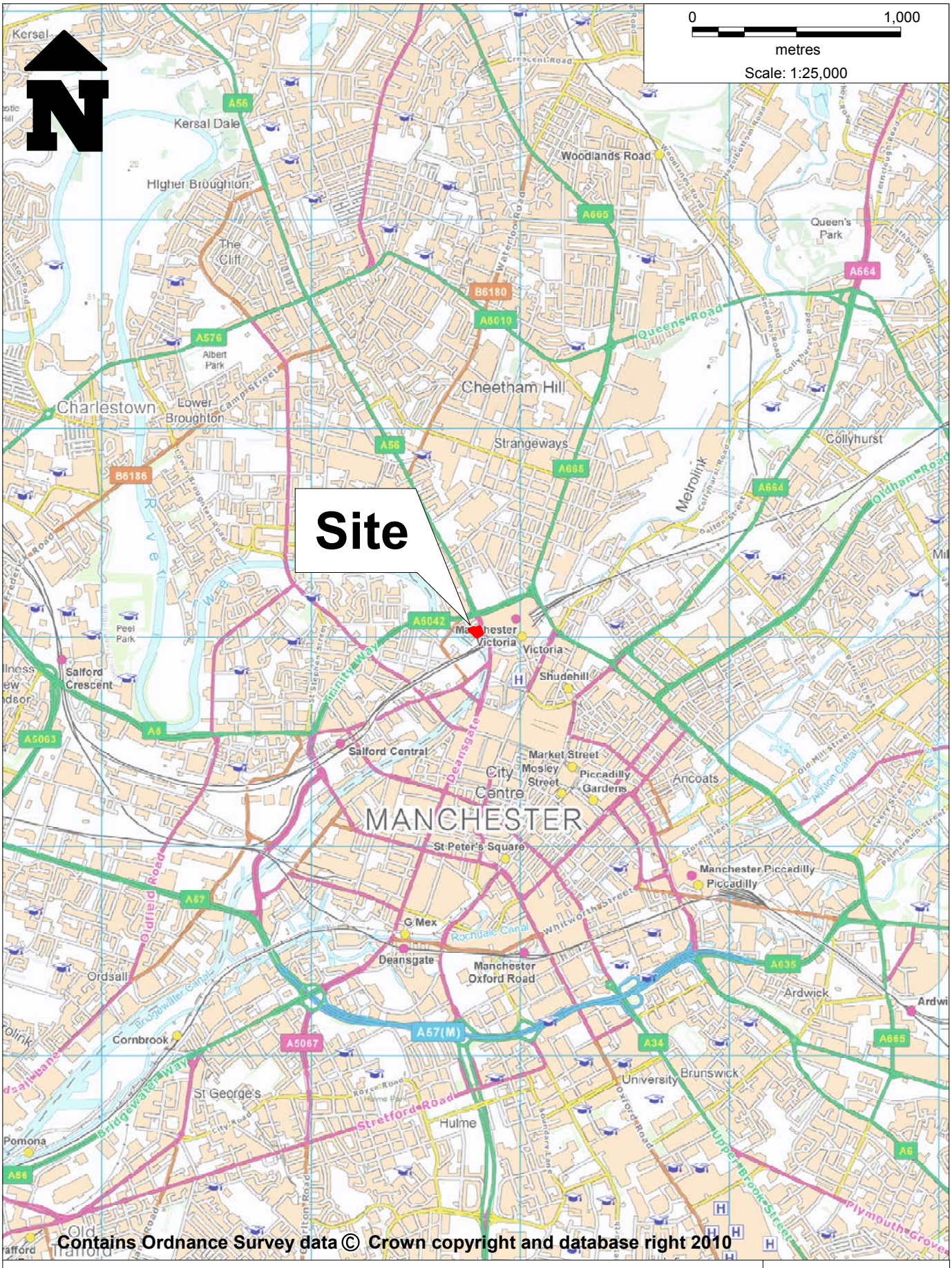
Enc:

Figures
Appendix A: Photograph of Excavation
Appendix B: Certificates of Analysis
Appendix C: Waste Transfer Note
Appendix D: Generic Assessment Criteria

Disclaimer

This report has been prepared by LKC who have exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant experienced in preparing reports of a similar scope. However, to the extent that the report is based on or relies upon information contained in records, reports or other materials provided to LKC which have not been independently produced or verified, LKC gives no warranty, representation or assurance as to the accuracy or completeness of such information. This report is issued on the condition that LKC will not be held liable for any loss arising from ground conditions between sampling points (i.e. boreholes/trial pits/hand augers/surface samples) which have not been shown by the sampling points or related testing carried out during the investigation, nor for any loss arising from conditions below the maximum depth of the investigation, or for any works done to the garden areas following the date of inspection. Opinions on such conditions, where given, are for general guidance only. This report is prepared solely for the benefit of Hookstone Group Ltd. It may not be relied upon by, or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance and regulatory approval, until all invoices have been settled in full. Those using this information in subsequent assessments or evaluations do so at their own risk.

Figures

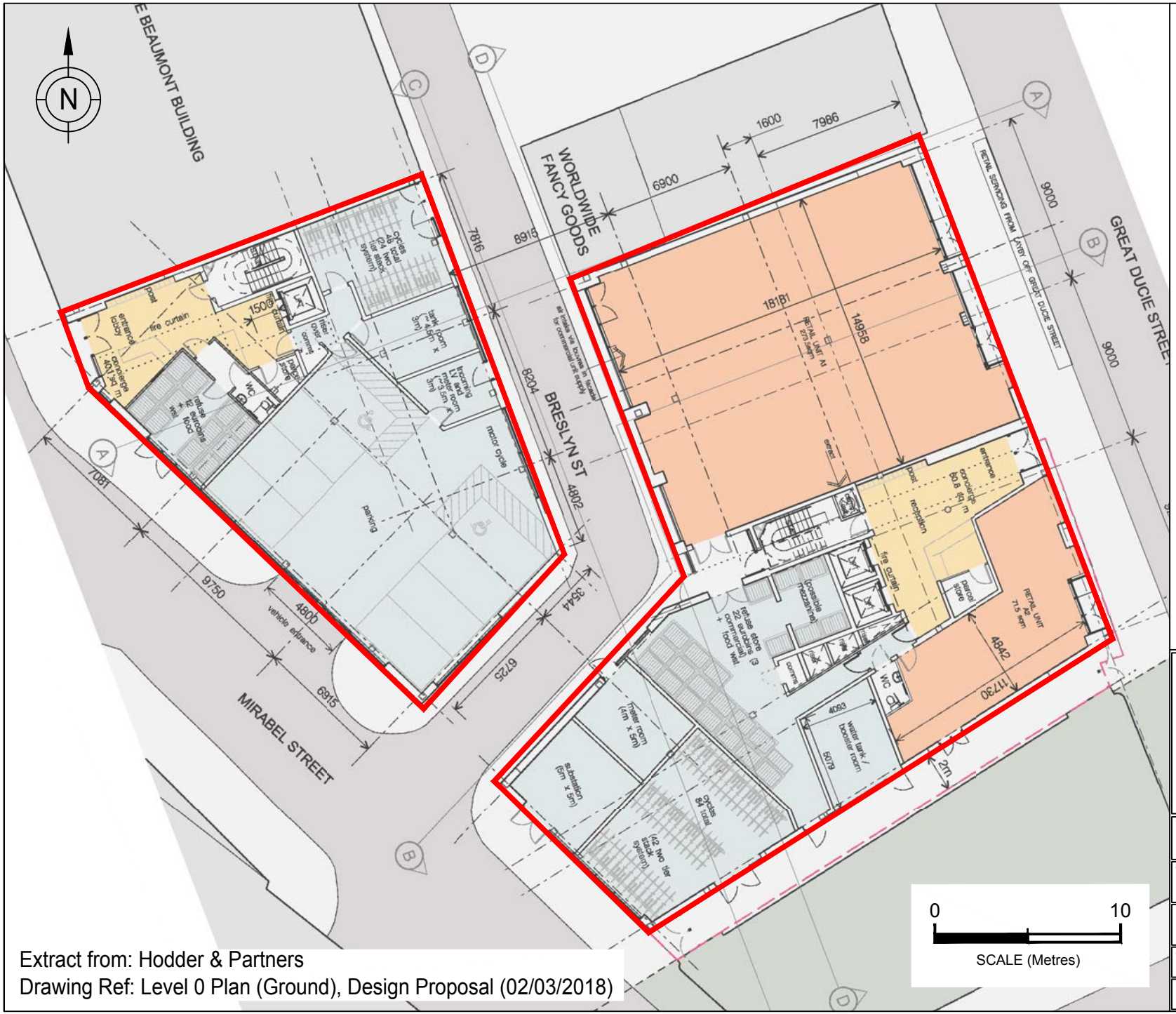


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Figure 1: Site Location Plan, Mirabel House, Great Ducie Street, Manchester

Drawn: June 2018 Scale: 1:25,000 @ A4 (see scale bar)

LK CONSULT LIMITED



Extract from: Hodder & Partners
Drawing Ref: Level 0 Plan (Ground), Design Proposal (02/03/2018)

KEY

Site Boundary

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.

LK CONSULT LIMITED

Client: Hookstone Group Ltd

Site: Mirabel House, Great Ducie Street, Manchester

Title: Proposed Site Use

Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 21 1684	See Scale Bar	2	

Drawn By:	Checked By:	Drawn:
AC	CB	Jun 2018



Extract from: © Google Maps
Drawing Ref: Mirabel House, Great Ducie Street, Manchester

KEY

- Site Boundary
- Remediation Area (2.4m x 3.9m)
- Trial Pit (TP) (LKC December 2022)
- Window Sample Borehole (WS) (LKC 2021)
- Hand Dug Trial Pit (HD) (LKC 2021)
- Cable Percussive Borehole (CP) with Rotary Follow-On Where Indicated (RCP) (LKC 2021)

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.

LK CONSULT LIMITED

Client:	Hookstone Group Ltd
Site:	Mirabel House, Great Ducie Street, Manchester
Title:	Remediation Plan

Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 23 1248	See Scale Bar	3	

Drawn By:	Checked By:	Drawn:
AC	EM	Jun 2023

Appendix A – Photograph of Excavation



Photograph 1: View south of excavation.

Appendix B – Certificates of Analysis

Colin Crompton
LK Consult Limited
Unit 29 Eton Business Park
Eton Hill Road
Manchester
M26 2ZS

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 23-05355

Site Reference:	Mirabel House
Project / Job Ref:	LKC 23 1248
Order No:	LKC231248-CC
Sample Receipt Date:	21/04/2023
Sample Scheduled Date:	21/04/2023
Report Issue Number:	1
Reporting Date:	28/04/2023

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.

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate						
DETS Report No: 23-05355	**Date Sampled**	20/04/23	20/04/23	20/04/23	20/04/23	20/04/23
LK Consult Limited	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Mirabel House	**TP / BH No**	Base	Side 1	Side 2	Side 3	Side 4
Project / Job Ref: LKC 23 1248	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC231248-CC	**Depth (m)**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 28/04/2023	**DETS Sample No**	648030	648031	648032	648033	648034

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen (S)	N/a	N/a	**ISO17025**	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	**MCERTS**	7.7	8.0	8.5	8.5	8.1
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	**MCERTS**	1610	1590	1520	1440	1630
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	**MCERTS**	1.61	1.59	1.52	1.44	1.63
Organic Matter (SOM)	%	< 0.1	**MCERTS**	7.9	3.9	5.5	5.3	4.8
Arsenic (As)	mg/kg	< 2	**MCERTS**	17	12	10	10	19
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	0.4	0.3	0.3	0.4	0.4
Chromium (Cr)	mg/kg	< 2	**MCERTS**	11	12	13	14	17
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	**MCERTS**	123	38	34	36	40
Lead (Pb)	mg/kg	< 3	**MCERTS**	802	230	162	172	179
Mercury (Hg)	mg/kg	< 1	**MCERTS**	2.4	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	**MCERTS**	13	10	11	12	15
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	**MCERTS**	15	17	22	20	28
Zinc (Zn)	mg/kg	< 3	**MCERTS**	316	123	91	154	254

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)

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-05355	**Date Sampled**	20/04/23	20/04/23	20/04/23	20/04/23	20/04/23
LK Consult Limited	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Mirabel House	**TP / BH No**	Base	Side 1	Side 2	Side 3	Side 4
Project / Job Ref: LKC 23 1248	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: LKC231248-CC	**Depth (m)**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 28/04/2023	**DETS Sample No**	648030	648031	648032	648033	648034

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	0.85	0.29	1.27	0.47	0.39
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	0.39	0.30	0.74	0.46	0.29
Fluorene	mg/kg	< 0.1	MCERTS	0.29	0.19	0.63	0.36	0.24
Phenanthrene	mg/kg	< 0.1	MCERTS	2.72	1.74	5.60	3.90	2.62
Anthracene	mg/kg	< 0.1	MCERTS	0.53	0.36	1.15	0.99	0.64
Fluoranthene	mg/kg	< 0.1	MCERTS	2.26	1.96	5.46	7.15	3.09
Pyrene	mg/kg	< 0.1	MCERTS	2.36	2	5.37	7.02	3.01
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.97	0.87	2.35	3.94	1.39
Chrysene	mg/kg	< 0.1	MCERTS	1.04	0.87	2.30	3.44	1.22
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.73	0.71	2.09	4.16	1.13
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.20	0.22	0.66	1.62	0.35
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.77	0.72	2.30	4.89	1.24
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.31	0.35	0.95	2.03	0.50
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.25	0.44	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.29	0.29	0.84	1.58	0.41
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	13.7	10.9	32	42.4	16.5

DETS Ltd
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Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 23-05355	
LK Consult Limited	
Site Reference: Mirabel House	
Project / Job Ref: LKC 23 1248	
Order No: LKC231248-CC	
Reporting Date: 28/04/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
& 648030	Base	None Supplied	None Supplied	19.6	Brown gravelly sand with stones and brick
& 648031	Side 1	None Supplied	None Supplied	13.8	Brown clayey sand with stones and brick
& 648032	Side 2	None Supplied	None Supplied	12	Brown gravelly sand with stones and brick
& 648033	Side 3	None Supplied	None Supplied	11.2	Brown clayey sand with stones and brick
& 648034	Side 4	None Supplied	None Supplied	17.5	Brown gravelly sand with stones

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
& samples received in inappropriate containers for hydrocarbon analysis

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Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

4480

Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 23-05355
LK Consult Limited
Site Reference: Mirabel House
Project / Job Ref: LKC 23 1248
Order No: LKC231248-CC
Reporting Date: 28/04/2023

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

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

4480

List of HWOL Acronyms and Operators
DETS Report No: 23-05355
LK Consult Limited
Site Reference: Mirabel House
Project / Job Ref: LKC 23 1248
Order No: LKC231248-CC
Reporting Date: 28/04/2023

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

Appendix C – Waste Transfer Note

DHI Excavations Ltd

11 - 13 Church Street, Farnworth, Bolton. BL4 8AG

Serial No. DHI/ 002031

Duty of Care - Controlled Waste Transfer Note

SIC Code: 41.20/1

Official use only

A — Description of the waste

1. How is the waste contained?
   ☐ Loose ☐ Skips ☐ Sacks ☐ Drums ☐ Other (Specify): .....
2. Describe the waste being transferred ..... NON HAZ SOIL FROM LOCATION: ..... Classification code: .....
3. Quantity ..... 100 ..... kg/Tonnes/m3 Group number: .....
4. The Landfill Tax (Qualifying Material) order schedule 2011 ☐ Applicable

B — Producer Details

1. Full name (print): ..... HOOKSTONE GROUP LTD. .....
2. Company name, address and postcode: ..... UNIT 1 JUNCTION MILLS, TONG RD, LEEDS, LS12 4NQ .....
3. Which of the following are you? (Please tick one or more boxes)

A	☑ Waste producer ☐ Soil Producer ☐ Waste collection/disposal authority ☐ Broker
B	☐ Holder of disposal / management licence ☐ Exempt from carrier Licence / Carrier number(s) ..... Issued by: .....
C	☐ Exempt from licensing requirements ☐ Exempt from carrier registration Reason: .....

C — Carrier Details

1. Full name (print): **DHI Excavations Ltd**
2. Company name, address and postcode: **11 - 13 Church Street, Farnworth, Bolton. BL4 8AG**

☑ Registered carrier (give number): **CBDU181466 SIC: 43120**

We have fulfilled our obligation with regards to the waste heirachy regulations 12 of Waste (England and Wales) Regulations 2011

D — First Transfer (producer to carrier)

1. Place of transfer: MIRABEL ST M/C M3 7NG.
2. Date of transfer: 2014/23 TO 2015/23.
   (for multiple transfer give between dates, see notes)
3. Name and address of broker arranging transfer (if applicable): .....
   ..... WCL No. .....
4. Producers representatives — Name (print): DAVID LOVD — Signed: .....
   Carriers representatives — Name (print): SEAN KINGSTON — Signed: .....

E — Disposer Details

☐ Waste
☐ Soils

1. Full name (print): BOOTH VENTURES LTD.
2. Company name, address and postcode: 78 CHORLEY RD BOLTON BL1 4BY
3. Which of the following are you? (Please tick one or more boxes)
   ☐ Holder of waste disposal / management licence (give number): EPR/BV8741IL Issued by: EA
   ☐ Exempt from licence requirements (give reason): .....

F — Second Transfer (carrier to disposer)

1. Place of transfer: HALWOOD QUARRY, BROOKFOLD LANE, BOLTON, BL2 4JT
2. Date of transfer: 2014/23 TO 2015/23
   (for multiple consignments give between dates)
3. Name and address of broker arranging transfer (if applicable): .....
4. Carriers representatives — Name (print): SEAN KINGSTON — Signed: ..... — Company name: ~~DHI Excavations Ltd~~
   Disposers representatives — Name (print): L Place — Signed: L Place — Company name: BOOTH VENTURES LTD

Important: This page must be retained by you, on a register held by you, for at least two years from the date of the last transfer to which the note applies.

White - DHI copy, **Blue** - Disposer copy, **Yellow** - Producer copy, **Pink** - Spare

Appendix D – Generic Assessment Criteria

Summary Table for the Generic Assessment Criteria for Human Health Risk Assessment Land Quality Management (LQM) S4ULs.

All GAC are based on sandy loam soils with a pH 7.

	Contaminant	SOM	LQM Generic Assessment Criteria (mg/kg) Dry weight soil					
			Res +	Res -	Allot.	Comm.	POS_{resi}	POS_{park}
Metals	Inorganic Arsenic	6%	37	40	43	640	79	170
	Beryllium	6%	1.7	1.7	35	12	2.2	63
	Boron	6%	290	11,000	45	240,000	21,000	46,000
	Cadmium	6%	11	85	1.9	190	120	532
	Chromium (III)	6%	910	910	18,000	8,600	1,500	33,000
	Chromium (VI)	6%	6.0	6.0	1.8	33	7.7	220
	Copper	6%	2,400	7,100	520	68,000	12,000	44,000
	Elemental Mercury	6%	1.2	1.2	21	58 (25.8) vap	16	30 (25.8) vap
	Inorganic Mercury	6%	40	56	19	1,100	120	240
	Methylmercury	6%	11	15	6.0	320	40	68
	Nickel (update 2015)	6%	126	181	53	983	231	804
	Selenium	6%	250	430	88	12,000	1,100	1,800
	Vanadium	6%	410	1,200	91	9,000	2,000	5,000
	Zinc	6%	3,700	40,000	620	730,000	81,000	170,000
BTEX Compounds	Benzene	1%	0.087	0.38	0.017	27	72	90
		2.5%	0.17	0.70	0.034	47	72	100
		6%	0.37	1.4	0.075	90	73	110
	Toluene	1%	130	880 (869) vap	22	56,000 (869) vap	56,000	87,000 (869) vap
		2.5%	290	1,900	51	110,000 (1,920) vap	56,000	95,000 (1,920) vap
		6%	660	3,900	120	180,000 (4,360) vap	56,000	100,000 (4,360) vap
	Ethylbenzene	1%	47	83	16	5,700 (518) vap	24,000	17,000 (518) vap
		2.5%	110	190	39	13,000 (1,220) vap	24,000	22,000 (1,220) vap
		6%	260	440	91	27,000 (2,840) vap	25,000	27,000 (2,840) vap
	o-xylene	1%	60	88	28	6,600 (478) sol	41,000	17,000 (478) sol
		2.5%	140	210	67	15,000 (1,120) sol	42,000	24,000 (1,120) sol
		6%	330	480	160	33,000 (2,620) sol	43,000	33,000 (2,620) sol
	m-xylene	1%	59	82	31	6,200 (625) vap	41,000	17,000 (625) vap
		2.5%	140	190	74	14,000 (1,470) vap	42,000	24,000 (1,470) vap
		6%	320	450	170	31,000 (3,460) vap	43,000	32,000 (3,460) vap
	p-xylene	1%	56	79	29	5,900 (576) sol	41,000	17,000 (576) sol
		2.5%	130	180	69	14,000 (1,350) sol	42,000	23,000 (1,350) sol
		6%	310	430	160	30,000 (3,170) sol	43,000	31,000 (3,170) sol

NOTES

Sol / vap = solubility / vapour limit (potentially use if free product identified, although highly conservative).

f = oral, dermal and inhalation exposures compared to oral HCV.

All GAC are based on sandy loam soils with a pH 7.

			LQM Generic Assessment Criteria (mg/kg) Dry weight soil					
	Contaminant	**SOM**	**Res +**	**Res -**	**Allot.**	**Comm.**	**POS_{resi}**	**POS_{park}**
Polycyclic Aromatic Hydrocarbons (PAHs)	Acenaphthene	1%	210	3,000 (57.1) [sol]	34	84,000 (57.0) [sol]	15,000	29,000
		2.5%	510	4,700 (141) [sol]	85	97,000 (141) [sol]	15,000	30,000
		6%	1,100	6,000 (336) [sol]	200	100,000	15,000	30,000
	Acenaphthylene	1%	170	2,900 (86.1) [sol]	28	83,000 (86.1) [sol]	15,000	29,000
		2.5%	420	4,600 (212) [sol]	69	97,000 (212) [sol]	15,000	30,000
		6%	920	6,000 (506) [sol]	160	100,000	15,000	30,000
	Anthracene	1%	2,400	31,000 (1.17) [vap]	380	520,000	74,000	150,000
		2.5%	5,400	35,000	950	540,000	74,000	150,000
		6%	11,000	37,000	2,200	540,000	74,000	150,000
	Benz(a)anthracene	1%	7.2	11	2.9	170	29	49
		2.5%	11	14	6.5	170	29	56
		6%	13	15	13	180	29	62
	Benzo(a)pyrene (only)	1%	2.2	3.2	0.97	35	5.7	11
		2.5%	2.7	3.2	2.0	35	5.7	12
		6%	3.0	3.2	3.5	36	5.7	13
	Benzo(b)fluoranthene	1%	2.6	3.9	0.99	44	7.1	13
		2.5%	3.3	4.0	2.1	44	7.2	15
		6%	3.7	4.0	3.9	45	7.2	16
	Benzo(ghi)perylene	1%	320	360	290	3,900	640	1,400
		2.5%	340	360	470	4,000	640	1,500
		6%	350	360	640	4,000	640	1,600
	Benzo(k)fluoranthene	1%	77	110	37	1,200	190	370
		2.5%	93	110	75	1,200	190	410
		6%	100	110	130	1,200	190	440
	Chrysene	1%	15	30	4.1	350	57	93
		2.5%	22	31	9.4	350	57	110
		6%	27	32	19	350	57	120
	Dibenzo(ah)anthracene	1%	0.24	0.31	0.14	3.5	0.57	1.1
		2.5%	0.28	0.32	0.27	3.6	0.58	1.3
		6%	0.3	0.32	0.43	3.6	0.58	1.4
	Fluoranthene	1%	280	1,500	52	23,000	3,100	6,300
		2.5%	560	1,600	130	23,000	3,100	6,300
		6%	890	1,600	290	23,000	3,100	6,400
	Fluorene	1%	170	2,800 (36.0) [sol]	27	63,000 (30.9) [sol]	9,900	20,000
		2.5%	400	3,800 (76.5) [sol]	67	68,000	9,900	20,000
		6%	860	4,500 (183) [sol]	160	71,000	9,900	20,000
	Indeno(123-cd)pyrene	1%	27	45	9.5	500	82	150
		2.5%	36	46	21	510	82	170
		6%	41	46	39	510	82	180
	Naphthalene	1%	2.3 [f]	2.3 [f]	4.1 [f]	190 [f] (76.4) [sol]	4,900 [f]	1,200 [f] (76.4) [sol]
		2.5%	5.6 [f]	5.6 [f]	10 [f]	460 [f] (183) [sol]	4,900 [f]	1,900 [f] (183) [sol]
		6%	13 [f]	13 [f]	24 [f]	1,100 [f] (432) [sol]	4,900 [f]	3,000
	Phenanthrene	1%	95	1,300 (36.0) [sol]	15	22,000	3,100	6,200
		2.5%	220	1,500	38	22,000	3,100	6,200
		6%	440	1,500	90	22,000	3,100	6,300
	Pyrene	1%	620	3,700	110	54,000	7,400	15,000
		2.5%	1,200	3,800	270	54,000	7,400	15,000
		6%	2,000	3,800	620	54,000	7,400	15,000
	Coal Tar (B(a)P as surrogate marker)	1%	0.79	1.2	0.32	15	2.2	4.4
		2.5%	0.98	1.2	0.67	15	2.2	4.7
		6%	1.1	1.2	1.2	15	2.2	4.8

NOTES

[Sol / vap] = solubility / vapour limit (potentially use if free product identified, although highly conservative).

f = naphthalene is based on comparison of inhalation exposure with TDI_{inhal} for localised effect.

All GAC are based on sandy loam soils with a pH 7.

LQM Generic Assessment Criteria (mg/kg) Dry weight soil

	Contaminant	SOM	Res +	Res -	Allot.	Comm.	POS_{resi}	POS_{park}
Petroleum Hydrocarbons	**Aliphatic**							
	EC 5-6	1%	42	42	730	3,200 (304) [sol]	570,000(304)[sol]	95,000 (304) [sol]
	EC>6-8	1%	100	100	2,300	7,800 (144) [sol]	600,000	150,000 (144) [sol]
	EC>8-10	1%	27	27	320	2,000 (78) [sol]	13,000	14,000 (78) [vap]
	EC>10-12	1%	130 (48) [vap]	130 (48) [vap]	2,200	9,700 (48) [sol]	13,000	21,000 (48) [vap]
	EC>12-16	1%	1,100 (24) [sol]	1,100 (24) [sol]	11,000	59,000 (24) [sol]	13,000	25,000 (24) [sol]
	EC>16-35	1%	65,000 (8.48) [f,sol]	65,000 (8.48) [f,sol]	260,000 [f]	160,000 [f]	250,000 [f]	450,000 [f]
	EC>35-44	1%	65,000 (8.48) [f,sol]	65,000 (8.48) [f,sol]	260,000 [f]	160,000 [f]	250,000 [f]	450,000 [f]
	Aliphatic							
	EC 5-6	2.5%	78	78	1,700	5,900 (558) [sol]	590,000	130,000 (558) [sol]
	EC>6-8	2.5%	230	230	5,600	17,000 (322) [sol]	610,000	220,000 (322) [sol]
	EC>8-10	2.5%	65	65	770	4,800 (190) [vap]	13,000	18,000 (190) [vap]
	EC>10-12	2.5%	330 (118) [vap]	330 (118) [vap]	4,400	23,000 (118) [vap]	13,000	23,000 (118) [vap]
	EC>12-16	2.5%	2,400 (59) [sol]	2,400 (59) [sol]	13,000	82,000 (59) [sol]	13,000	25,000 (59) [sol]
	EC>16-35	2.5%	92,000 (21) [f,sol]	92,000 (21) [f,sol]	270,000 [f]	1,700,000 [f]	250,000 [f]	480,000 [f]
	EC>35-44	2.5%	92,000 (21) [f,sol]	92,000 (21) [f,sol]	270,000 [f]	1,700,000 [f]	250,000 [f]	480,000 [f]
	Aliphatic							
	EC 5-6	6%	160	160	3,900	12,000 (1,150) [sol]	600,000	180,000 (1,150) [sol]
	EC>6-8	6%	530	530	13,000	40,000 (736) [sol]	620,000	320,000 (736) [sol]
	EC>8-10	6%	150	150	1,700	11,000 (451) [vap]	13,000	21,000 (451) [vap]
	EC>10-12	6%	760 (283) [vap]	760 (283) [vap]	7,300	47,000 (283) [vap]	13,000	24,000 (283) [vap]
	EC>12-16	6%	4,300 (142) [sol]	4,400 (142) [sol]	13,000	90,000 (142) [sol]	13,000	26,000 (142) [sol]
	EC>16-35	6%	110,000[f]	110,000[f]	270,000 [f]	1,800,000[f]	250,000 [f]	490,000 [f]
	EC>35-44	6%	110,000[f]	110,000[f]	270,000 [f]	1,800,000[f]	250,000 [f]	490,000 [f]
	Aromatic							
	EC5-7(benzene as non-threshold)	1%	70	370	13	26,000 (1,220) [sol]	56,000	76,000 (1,220) [sol]
	EC>7-8(toluene)	1%	130	860	22	56,000 (869) [vap]	56,000	87,000 (869) [vap]
	EC>8-10	1%	34	47	8.6	3,500 (613) [vap]	5,000	7,200 (613) [vap]
	EC>10-12	1%	74	250	13	16,000 (364) [sol]	5,000	9,200 (364) [sol]
	EC>12-16	1%	140	1,800	23	36,000 (169) [sol]	5,100	10,000
	EC>16-21	1%	260 [f]	1,900 [f]	46 [f]	28,000 [f]	3,800 [f]	7,600 [f]
	EC>21-35	1%	1,100 [f]	1,900 [f]	370 [f]	28,000 [f]	3,800 [f]	7,800 [f]
	EC>35-44	1%	1,100 [f]	1,900 [f]	370[f]	28,000 [f]	3,800 [f]	7,800 [f]
	Aromatic							
	EC5-7(benzene as non-threshold)	2.5%	140	690	27	46,000 (2,260) [sol]	56,000	84,000 (2,260) [sol]
	EC>7-8(toluene)	2.5%	290	1,800	51	110,000 (1,920) [sol]	56,000	95,000 (1,920) [sol]
	EC>8-10	2.5%	83	110	21	8,100 (1,500) [vap]	5,000	8,500 (1,500) [vap]
	EC>10-12	2.5%	180	590	31	28,000 (899) [sol]	5,000	9,700 (899) [sol]
	EC>12-16	2.5%	330	2,300 (419) [sol]	57	37,000	5,100	10,000
	EC>16-21	2.5%	540 [f]	1,900 [f]	110 [f]	28,000 [f]	3,800 [f]	7,700 [f]
	EC>21-35	2.5%	1,500 [f]	1,900 [f]	820 [f]	28,000 [f]	3,800 [f]	7,800 [f]
	EC>35-44	2.5%	1,500 [f]	1,900 [f]	820 [f]	28,000 [f]	3,800 [f]	7,800 [f]
	Aromatic							
	EC5-7(benzene as non-threshold)	6%	300	1,400	57	86,000 (4,710) [sol]	56,000	92,000 (4,710) [sol]
	EC>7-8(toluene)	6%	660	3,900	120	180,000 (4,360) [vap]	56,000	100,000 (4,360) [vap]
	EC>8-10	6%	190	270	51	17,000 (3,580) [vap]	5,000	9,300 (3,580) [vap]
	EC>10-12	6%	380	1,200	74	34,000 (2,150) [sol]	5,000	10,000
	EC>12-16	6%	660	2,500	130	38,000	5,100	10,000
	EC>16-21	6%	930[f]	1,900 [f]	260 [f]	28,000 [f]	3,800 [f]	7,800 [f]
	EC>21-35	6%	1,700 [f]	1,900 [f]	1,600 [f]	28,000 [f]	3,800 [f]	7,900 [f]
	EC>35-44	6%	1,700 [f]	1,900 [f]	1,600 [f]	28,000 [f]	3,800 [f]	7,900 [f]
	Aliphatic	1%	1,600 [f]	1,900 [f]	1,200 [f]	28,000 [f]	3,800 [f]	7,800 [f]
	+Aromatic	2.5%	1,800 [f]	1,900 [f]	2,100 [f]	28,000 [f]	3,800 [f]	7,800 [f]
	>EC44	6%	1,900 [f]	1,900 [f]	3,000 [f]	28,000 [f]	3,800 [f]	7,900 [f]

NOTES

[Sol / vap] = solubility / vapour limit (potentially use if free product identified, although highly conservative).

f = oral, dermal and inhalation exposures compared to oral HCV.

All GAC are based on sandy loam soils with a pH 7.

	Contaminant	SOM	LQM Generic Assessment Criteria (mg/kg) Dry weight soil: Res +	Res -	Allot.	Comm.	POS_{resi}	POS_{park}
Chloalkanes and Alkenes & Explosives	1,2 Dichloroethane (DCA)	1%	7.1E-03	9.2E-03	4.6E-03	0.67	29	21
		2.5%	1.1E-02	1.3E-02	8.3E-03	0.97	29	24
		6%	1.9E-02	2.3E-02	1.6E-02	1.7	29	28
	1,1,1 Trichloroethane (TCA)	1%	8.8	9.0	48	660	140,000	57,000 (1,425) vap
		2.5%	18	18	110	1,300	140,000	76,000 (2,915) vap
		6%	39	40	240	3,000	140,000	100,000 (6,392) vap
	1,1,2,2-Tetrachloroethanes (PCA)	1%	1.6	3.9	0.41	270	1,400	1,800
		2.5%	3.4	8.0	0.89	550	1,400	2,100
		6%	7.5	17	2.0	1,100	1,400	2,300
	1,1,1,2-Tetrachloroethanes (PCA)	1%	1.2	1.5	0.79	110	1,400	1,500
		2.5%	2.8	3.5	1.9	250	1,400	1,800
		6%	6.4	8.2	4.4	560	1,400	2,100
	Tetrachloroethene (PCE)	1%	0.18	0.18	0.65	19	1,400	810 (424) sol
		2.5%	0.39	0.40	1.5	42	1,400	1,100 (951) sol
		6%	0.90	0.92	3.6	95	1,400	1,500
	Tetrachloromethane (carbon tetrachloride)	1%	2.6E-02	2.6E-02	0.45	2.9	890	190
		2.5%	5.6E-02	5.6E-02	1.0	6.3	920	270
		6%	0.13	0.13	2.4	14	950	400
	Trichloroethene (TCE)	1%	1.6E-02	1.7E-02	4.1E-02	1.2	120	70
		2.5%	3.4E-02	3.6E-02	9.1E-02	2.6	120	91
		6%	7.5E-02	8.0E-02	0.21	5.7	120	120
	Trichloromethane (chloroform)	1%	0.91	1.2	0.42	99	2,500	2,600
		2.5%	1.7	2.1	0.83	170	2,500	2,800
		6%	3.4	4.2	1.7	350	2,500	3,100
	Chloroethene (vinyl chloride)	1%	6.4E-04	7.7E-04	5.5E-04	5.9E-02	3.5	4.8
		2.5%	8.7E-04	1.0E-03	1.0E-03	7.7E-02	3.5	5.0
		6%	1.4E-03	1.5E-03	1.8E-03	0.12	3.5	5.4
	2,4,6-Trinitritoluene (TNT)	1%	1.6	65	0.24	1,000	130	260
		2.5%	3.7	66	0.58	1,000	130	270
		6%	8.1	66	1.4	1,000	130	270
	RDX	1%	120	13,000	17	210,000	26,000	49,000 (18.7) sol
		2.5%	250	13,000	38	210,000	26,000	51,000
		6%	540	13,000	85	210,000	27,000	53,000
	HMX	1%	5.7	6,700	0.86	110,000	13,000	23,000 (0.35) vap
		2.5%	13	6,700	1.9	110,000	13,000	23,000 (0.39) vap
		6%	26	6,700	3.9	110,000	13,000	24,000 (0.48) vap
Pesticides	Aldrin	1%	5.7	7.3	3.2	170	18	30
		2.5%	6.6	7.4	6.1	170	18	31
		6%	7.1	7.5	9.8	170	18	31
	Dieldrin	1%	0.97	7.0	0.17	170	18	30
		2.5%	2.0	7.3	0.41	170	18	30
		6%	3.5	7.4	0.96	170	18	31
	Atrazine	1%	3.3	610	0.5	9,300	1,200	2,300
		2.5%	7.8	620	1.2	9,400	1,200	2,400
		6%	17.4	620	2.7	9,400	1,200	2,400
	Dichlorvos	1%	3.2E-02	6.4	4.9E-03	140	16	26
		2.5%	6.6E-02	6.5	1.0E-02	140	16	26
		6%	0.14	6.6	2.2E-02	140	16	27
	Endosulfanns (2 isomers)	1%	7.4	160 (3.0E-03) vap	1.2	5,600 (3.0E-03) vap	1,200	2,300
		2.5%	18	280 (7.0E-03) vap	2.9	7,400 (7.0E-03) vap	1,200	2,400
		6%	41	410 (1.6E-02) vap	6.8	8,400 (1.6E-02) vap	1,200	2,500
	Hexachlorocyclohexane (3 isomers), inc Lindane	1%	8.5E-02	3.7	1.3E-02	65	8.1	15
		2.5%	0.2	3.8	3.2E-02	65	8.1	15
		6%	0.46	3.8	7.7E-02	65	8.1	16

NOTES

Sol / vap = solubility / vapour limit (potentially use if free product identified, although highly conservative).

All GAC are based on sandy loam soils with a pH 7.

	Contaminant	SOM	LQM Generic Assessment Criteria (mg/kg) Dry weight soil					
			Res +	Res -	Allot.	Comm.	POS_{resi}	POS_{park}
Chlorobenzenes	Chlorobenzene	1%	0.46	0.46	5.9	56	11,000	1,300 (675) [sol]
		2.5%	1.0	1.0	14	130	13,000	2,000 (1,520) [sol]
		6%	2.4	2.4	32	290	14,000	2,900
	Dichlorobenzenes (3 isomers)	1%	23	24	94	2,000 (571) [sol]	90,000	24,000 (571) [sol]
		2.5%	55	57	230	4,800 (1,370) [sol]	95,000	36,000 (1,370) [sol]
		6%	130	130	540	11,000 (3,240) [sol]	98,000	51,000 (3,270) [sol]
	Trichlorobenzenes (3 isomers)	1%	2.6	2.6	55	220	15,000	1,700 (318) [vap]
		2.5%	6.4	6.4	140	530	17,000	2,600 (786) [vap]
		6%	15	15	320	1,300	19,000	4,000 (1,880) [vap]
	Tetrachlorobenzenes (3 isomers)	1%	0.66	0.75	0.38	49 (39.4) [vap]	78	110 (39) [vap]
		2.5%	1.6	1.9	0.90	120 (98.1) [vap]	79	120
		6%	3.7	4.3	2.2	240 (235) [vap]	79	130
	Pentachlorobenzene	1%	5.8	19	1.2	640 (43.0) [sol]	100	190
		2.5%	12	30	3.1	770 (107) [sol]	100	190
		6%	22	38	7.0	830	100	190
	Hexachlorobenzene	1%	1.8 (0.20) [vap]	4.1 (0.20) [vap]	0.47	110 (0.20) [vap]	16	30
		2.5%	3.3 (0.50) [vap]	5.7 (0.50) [vap]	1.1	120	16	30
		6%	4.9	6.7 (1.2) [vap]	2.5	120	16	30
Chlorophenol	Chlorophenols (4 congeners)	1%	0.87 [g]	94	0.13 [g]	3,500	620	1,100
		2.5%	2.0	150	0.30	4,000	620	1,100
		6%	4.5	210	0.70	4,300	620	1,100
	Pentachlorophenol	1%	0.22	27 (16.4) [vap]	3.0E-02	400	60	110
		2.5%	0.52	29	8.0E-02	400	60	120
		6%	1.2	31	0.19	400	60	120
Others	Carbon Disulphide	1%	0.14	0.14	4.8	11	11,000	1,300
		2.5%	0.29	0.29	10	22	11,000	1,900
		6%	0.62	0.62	23	47	11,000	2,700
	Hexachlorobutadiene	1%	0.29	0.32	0.25	31	25	48
		2.5%	0.7	0.78	0.61	66	25	50
		6%	1.6	1.8	1.4	120	25	51
	Phenol	1%	280	750	66	760 [dir] (31,000)	760 [dir] (11,000)	760 [dir] (8,600)
		2.5%	550	1,300	140	1,500 [dir] (35,000)	1,500 [dir] (11,000)	1,500 [dir] (9,700)
		6%	1,100	2,300	280	3,200 [dir] (37,000)	3,200 [dir] (11,000)	3,200 [dir] (11,000)

NOTES

[Sol / vap] = solubility / vapour limit (potentially use if free product identified, although highly conservative).

[dir] = S4uls based on threshold protective of direct skin contact with phenol (brackets long term exposure for illustration purposes).

[g] = derived based on 2,3,4,6-tetrachlorophenol.