



Wyvols Court Farm, Swallowfield

**Phase 2 Geo-Environmental Investigation, Risk Assessment
and Outline Remediation Strategy**

Job Number
LKC251507

Report Date
9th October 2025

Client
Rory Waterer



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EXECUTIVE SUMMARY

Site Details

Location	West of Basingstoke Road, west of The Street, Swallowfield, Reading. Centred at approximate National Grid Reference 472015E, 164790N.
Area	4,300m ² .
Topography	50 metres above ordnance datum (AOD). Site is approximately level.
Current Site Use	Pasture / agricultural land.
Proposed Development	Erection of 3no. commercial units to the south of current business park.

Site Setting

Current Site Use & Pertinent Features	Vacant land consisting of two fields with a road running through the centre.
Proposed Development	3no. commercial units.
Main Historical Features	Onsite: Vacant Land, Access Road, Agricultural Land/commercial units. Surrounding Area: Ponds, Orchard, Gravel Pit, Poultry Farm/ Wyvols Court Farm.
Geology / Hydrogeology	Artificial: No BGS recorded artificial. Superficial: No BGS recorded superficial. Bedrock: London Clay Formation. Unproductive Strata.
Landfills / Infilled ground	No recorded landfills. Potentially infilled ground identified.
Recommendations	Site Investigation was recommended to further assess geo-environmental risk.

Ground Investigation Work Undertaken

Date of Investigation:	11 th September 2025
Intrusive Investigation Work Undertaken:	7no. window sample boreholes. Contamination and geotechnical testing.

Ground Conditions

Made Ground	Made ground was recorded in all boreholes to depths of 0.40-0.50mbgl. The made ground comprised horizons of gravel and sand with anthropogenic material including brick, ash and timber.
Superficial	Superficial strata was encountered comprising of horizons of stiff to very stiff gravelly clay to 1.45-2.20mbgl. This is likely to be River Terrace Deposits indicated locally on the geology maps. It was only not encountered in WS103.
Bedrock	The London Clay Formation bedrock was encountered from depths of 0.40-2.20mbgl.
Groundwater	No groundwater was encountered in any window sample boreholes.
Obstructions	No obstructions were identified within any investigation location.

Geotechnical Assessment

Allowable Bearing Pressure	175kN/m ² at 1.00-1.50mbgl in River Terrace Deposits and London Clay Formation for 1m wide foundations.
Anticipated Foundation Type	Traditional shallow foundations strips or pads.
Groundwater	Not anticipated to be a significant issue at this site.
Concrete Requirements	Based on BRE Digest 2005 ¹ – DS-2 AC-1s recommended due to London Clay being a gypsum bearing mineral formation.
Plasticity	Foundations should be designed based on proposed planting with formation assumed to be of high plasticity.
Road / Pavement Design	A design CBR value of 7% can be adopted.

Contamination Risk Assessment

Pollutant Linkage		Risk	Assessment
1	Asbestos, Metals, PAHs	Low	No remediation required.
2	PAHs	Low	No remediation required.
3	Hazardous gas: methane, carbon dioxide	Moderate / Low	No remediation required.
4	Metals, PAHs	Low	No remediation required.
5	Naphthalene	Low	No remediation required. Utility provider risk assessment to be completed.

PL	Recommendation
1	No remediation required.
2	No remediation required.
3	No remediation required.
4	No remediation required.
5	No remediation required. Utility provider risk assessment to be completed.

Further Work Requirements
Site Completion Report

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1. Introduction

1.1. Background

LK Consult Ltd (LKC) has been commissioned to carry out a Phase 2 Geo-Environmental Investigation, Risk Assessment and Outline Remediation Strategy for Wyvols Court Farm, Swallowfield. The investigation was undertaken in support of a planning application to develop the site with three commercial units.

The following work has previously been undertaken:

- Preliminary Risk Assessment (PRA) report, undertaken by LKC (Ref: LKC251507, dated 20th August 2025).

This investigation has been undertaken to confirm the ground conditions below the site and to allow a contamination and geotechnical assessment to be undertaken.

The investigation will aim to confirm the risks of the potential pollutant linkages identified in the PRA and recommend further assessment / remediation, as required.

The aims of this report are also to establish the feasibility of developing this site, to demonstrate to the Local Planning Authority that in accordance with the National Planning Policy Framework (NPPF)² the site may be developed for a commercial end use and that appropriate site investigation and risk assessment works are in place to allow conditional approval of any future planning application.

A summary of the site details is presented in Table 1-1. Figure 1 indicates the site location and boundary plan. Figure 2 indicates the proposed development.

Location	West of Basingstoke Road, west of The Street, Swallowfield, Reading. Centred at approximate National Grid Reference 472015E, 164790N.
Area	4,300m ² .
Topography	50 metres above ordnance datum (AOD). Site is approximately level.
Current Site Use	Pasture / agricultural land.
Proposed Development	Erection of 3no. commercial units to the south of current business park.

Table 1-1: Summary of site details.

2. Summary of Preliminary Risk Assessment (PRA)

2.1. Phase 1 Preliminary Risk Assessment (PRA)

Pertinent information has been summarised from the PRA in Table 2-1.

Current Site Use & Pertinent Features	Vacant land
Proposed Development	3no. commercial units.
Main Historical Features	Onsite: Vacant Land, Access Road, Agricultural Land. Surrounding Area: Ponds, Orchard, Gravel Pit, Poultry Farm/ Wyvols Court Farm/Commercial Units.
Geology / Hydrogeology	Artificial: No BGS recorded artificial. Superficial: No BGS recorded superficial. Bedrock: London Clay Formation. Unproductive Strata.
Landfills / Infilled ground	No recorded landfills. Potentially infilled ground identified.

Table 2-1: Summary of site details, historical review, environmental settings, and site reconnaissance.

Table 2-2 summarises the geotechnical constraints.

Coal Mining	Site is not within a Development High Risk Area. No further assessment required.
Slope Stability	No further assessment required.
Made Ground	Unknown depth and constituent of made ground across the site. Initial information indicates relatively shallow made ground.
Superficial	None recorded.
Bedrock	Unknown depth to bedrock.
Groundwater	Unknown depth and variability of groundwater.
Plasticity	Plasticity of clay deposits should be confirmed, particularly where trees are present or proposed, to identify the shrink / swell risk. Clay recorded on site.
Sulphate	Strata is identified as a principal sulphate / sulphide bearing strata in England and Wales ³ .
Road / Pavement Design	Unknown CBR values for footpath and road design.

Table 2-2: Summary of geotechnical constraints.

2.2. Conceptual Model

The preliminary contamination conceptual model using contaminant-pathway-receptor linkages based on guidance in LCRM⁴ has been summarised in Table 2-3.

Each pollutant linkage is described along with an assessment of the risk based upon guidance on probabilities and consequences outlined in CIRIA C552⁵. The risk matrix is provided in Appendix A.

PL	Contaminants of Concern (source)	Pathway	Receptor	Probability	Consequence	Risk	Assessment and Recommendations
1	Asbestos, Metals, PAHs (Made ground, Poultry Farm/ Wyvols Court Farm)	Dermal contact. Inhalation of soil, fibres, and dust. Ingestion of soils, dust. Windblown dust.	Future site users. Offsite receptors.	Low Likelihood	Medium	Moderate / Low	Low Likelihood as the site has remained relatively undeveloped. Small scale agricultural use may have led to contamination of the site. Recommendation: Intrusive investigation required to include soil sampling.
2	PAHs (Made Ground)	Inhalation of vapours. Migration via permeable strata and preferential pathways.	Future site users. Offsite receptors.	Low Likelihood	Medium	Moderate/ Low	Unlikely as minimal made ground anticipated on site. Recommendations: no further work.
3	Hazardous gas: methane, carbon dioxide (Made Ground)	Migration via permeable strata and preferential pathways. Inhalation of gas. Explosion in confined spaces.	Future site users. Buildings. Offsite receptors.	Unlikely	Severe	Moderate / Low	Unlikely as made ground anticipated. Recommendations: No gas monitoring required.
4	Metals, PAHs (Made Ground)	Migration via permeable strata and preferential pathways.	Groundwater	Low Likelihood	Medium	Moderate / Low	Low likelihood as clay anticipated, limiting downward migration. Recommendations: No water sampling or leaching tests required unless evidence of significant potentially mobile contamination is identified in the soil.
5	Naphthalene (Made Ground)	Ingestion of tainted water supply.	Future site users. Water pipes.	Low Likelihood	Medium	Moderate / Low	Low likelihood as made ground not anticipated at pipeline depths. Recommendations: Sampling and analysis of soils if made ground / impacted natural ground at anticipated pipeline depths (c. 0.75-1.35mbgl). Water pipe assessment required.

Table 2-3: Preliminary Contamination Conceptual Model.

3. Ground Investigation

3.1. Site Investigation Design and Methodology

The investigation was carried out on 11th September 2025 and comprised the following:

- 7no. window sample boreholes drilled to 1.45-6.45 metres below ground level (mbgl) (ref. WS101 to WS107).

All site investigation locations are shown in Figure 3.

The locations were chosen to allow adequate assessment of ground conditions across the site. All profile logs are provided in Appendix B and are in line with BS14688-1⁶ and BS5930⁷.

3.2. Sampling Protocol

3.2.1. Soil Sampling (Contamination)

Standard sampling protocol and preservation of samples was undertaken as described in the EA guidance on site investigation⁸.

Soil samples of approximately 500g were recovered in amber jars and plastic tubs. All the samples were sent to DETS laboratory for chemical testing.

Many of the contamination tests are UKAS or MCERTS accredited and further details are given in the Certificate of Analysis presented in Appendix C. Table 3-1 shows the soil testing undertaken.

Testing	No. Samples	Justification
Metals / metalloids, pH, water soluble sulphate, speciated PAHs, SOM and asbestos screen.	4	A basic suite with a broad selection of contaminants where no significant evidence of contamination was identified (except for occasional ash).
Metals / metalloids, pH, water soluble sulphate, cyanide suite, phenol, TPHCWG, BTEX, MTBE, speciated PAHs, SOM and asbestos screen.	1	Although no evidence of contamination identified, detailed suite undertaken to confirm the absence of contamination and to support waste classification.

Table 3-1: Summary of Soil Testing.

Notes:

If asbestos present during screen identification and quantification will be undertaken.

Metal/metalloids=arsenic, cadmium, chromium, (total and hexavalent), copper, lead, mercury, nickel, selenium, vanadium, zinc, and boron; TPHCWG=carbon banded and aromatic/aliphatic split petroleum hydrocarbons; PAH=polycyclic aromatic hydrocarbons, BTEX=benzene, toluene, ethylbenzene, and xylenes; MTBE=Methyl tert-butyl ether, SOM=Soil Organic Matter.

3.2.2. Soil Sampling (Geotechnical)

Soil samples taken during the investigation were collected in tubs and sent to GSTL for geotechnical testing.

Further details are given in the laboratory report presented in Appendix D. Table 3-2 shows the geotechnical testing undertaken.

Testing	No. Samples
Moisture Content	4
Atterberg Limits (plasticity testing)	4
BRE Suite Short	3

Table 3-2: Summary of Geotechnical Testing Undertaken.

3.2.3. Water Sampling / Leaching Testing

Groundwater sampling / leaching testing was not carried out as part of this investigation.

A low risk was identified in the preliminary contamination conceptual model for controlled waters (Pollutant Linkage 4) and further action was only recommended if significant soil contamination was identified on site. Based on the ground conditions encountered, LKC did not consider testing to be required. This is discussed further in Section 6.4.

3.3. In-situ Testing

3.3.1. Geotechnical Testing

In-situ geotechnical tests were performed in the boreholes to further characterise the sub-soil conditions. The following tests were undertaken:

- Standard Penetration Tests (SPTs) were performed in the window sample boreholes at approximately 1m intervals.
- Pocket penetrometer tests (giving undrained shear strength) were performed in the window sample boreholes within cohesive strata.
- Clegg Hammer Tests were undertaken to provide equivalent CBR values for road and pavement design.

Pocket penetrometer tests were not always possible due to the gravel rich nature of some of the clay deposits.

The results are provided within Appendix B.

3.4. Gas Monitoring

Gas monitoring was not carried out as part of this investigation.

A low risk was identified in the preliminary contamination conceptual model for gas (Pollutant Linkage 3) and further action was only recommended if significant organic / putrescible material was identified on site. Based on the ground conditions encountered, LKC did not consider gas monitoring to be required. This is discussed further in Section 6.3.

4. Ground Conditions

4.1. Geology

The ground conditions beneath the site are summarised below. Logs are provided in Appendix B.

4.1.1. Made Ground

Made ground was recorded in all boreholes to depths of 0.40-0.50mbgl. The made ground comprised horizons of gravel and sand with anthropogenic material including brick, ash and timber.

4.1.2. Natural Strata

Superficial strata was encountered comprising of horizons of stiff to very stiff gravelly clay to 1.45-2.20mbgl. This is likely to be River Terrace Deposits indicated locally on the geology maps. It was only not encountered in WS103.

The London Clay Formation bedrock was encountered at depths between 0.40-2.20mbgl.

4.1.3. Contamination

There was no visual / olfactory evidence of hydrocarbons or volatile contaminants in any locations.

4.1.4. Obstructions

No obstructions were identified within any investigation location.

4.2. Groundwater

4.2.1. Groundwater Levels

No groundwater was encountered in any window sample boreholes.

5. Geotechnical Assessment

5.1. Proposed Development

Full details of the development are not currently available. The outline of the proposed commercial units is shown in Figure 2. It is assumed that they will be conventional steel framed structures with associated infrastructure.

Details of the proposed loadings are not known.

The finished ground levels have not been provided; however,, it is anticipated that they will not vary significantly from current levels. Should the development proposals or finished levels be altered then the comments/recommendations in this section may require revising.

Given the nature of the proposed development the structure meets the criteria of Geotechnical Category 2 of Eurocode 7⁹.

Given the nature of the development the acceptable risk from settlement is a total settlement value of 25mm for a masonry structure.

5.2. Summary of Ground Conditions

Ground conditions identified at the site are detailed in Section 4.1 and typically comprises a thin veneer of Topsoil/Made Ground over cohesive River Terrace Deposits to depths of 1.45/2.20m+. These deposits are underlain by The London Clay Formation to the completion depths investigated.

5.3. Site Preparation

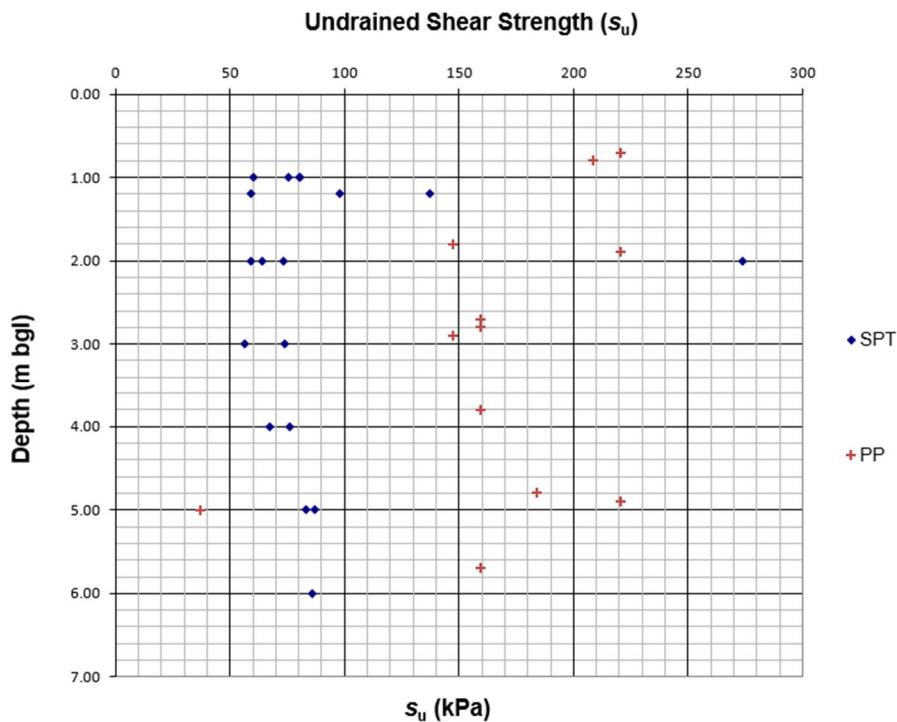
The site should be cleared and any vegetation below areas of proposed development stripped in accordance with Series 200 of the Specification for Highway Works¹⁰.

The near surface cohesive soils will be potentially disturbed by weathering and site traffic. Precautions should be taken to avoid this, as excessive disturbance may result in more onerous floor slab design, road cap thickness and increased amount of site disposal etc. Based on site observations the near surface soils may require at least some treatment or reinforcing to allow safe movement of construction plant and labour.

5.4. Foundation Conditions and Bearing Capacity

5.4.1. General

The natural cohesive material has been assessed using in-situ testing by SPT and pocket penetrometer (PP) tests to obtain the undrained shear strength (s_u) of the material. The results of the testing have been plotted against depth and is shown in Graph 5-1.



Graph 5-1: Summary of S_u Vs. Depth from In-Situ SPT and PP Testing.

Graph 5-1 demonstrates that the strength of the cohesive deposits increases slightly with depth.

The groundwater table has not been encountered and consequently either the River Terrace Deposits or the Weathered London Clay Formation, which are of similar cohesive strengths can provide an adequate bearing stratum for strip, pad or other spread footings.

The following design bearing pressures are given for guidance:

Depth (m) BGL	Stratum	Design Bearing Pressure (kN/m ²)		
		1m*	2m*	3m*
1.0-2.0	Firm to stiff River Terrace Deposits or Weathered London Clay Formation (Cu – 65-75kN/m ²)	175	100	65

Notes: * Indicates width of foundation

All foundations must be in line with the recommendations and guidance given in NHBC Chapter 4.2 'Building near Trees', if there is to be new planting within influencing distance of the new commercial units. The classification tests suggest that the founding strata will be of high shrinkage potential and a brief assessment suggests that footings would have a minimum depth of 1.0m but should be assessed based on any proposed planting.

5.5. Ground Floor Slabs

Following suitable preparation of the sub-grade, by a combination of excavation and re-compaction, a ground bearing floor slab should be suitable for the proposed structure. Floor slabs should be designed by a suitably experienced structural engineer.

The Atterberg Limit determinations show the clay to be of intermediate to high plasticity and as such liable to heave.

5.6. Pavement Construction

An assessment of the likely California Bearing Ratio (CBR) for the made ground has been assessed from the following sources:

- In Situ CBR tests undertaken using the Clegg Hammer.
- Description of the materials encountered in the exploratory holes.

Based on this a CBR in excess of 7% would account for variability in the shallow depth soils. It is, however, recommended that this be confirmed using on site plate tests of the formation. It is possible that a higher design may be achievable.

Topsoil is not suitable for use as a sub-grade. It should be removed to a depth of 0.5m below formation level and sorted to remove any unsuitable or deleterious materials. The sub formation should be rolled, and suitable excavated material can then be replaced, up to formation level, in fully compacted thin layers. Any deficit should be made up with suitable imported fill compacted as above.

5.7. Drainage

The soils at this site should be considered as impermeable for the purposes of drainage design.

5.8. Concrete Durability

Based upon the results of the chemical analyses (Appendix D), subsurface concrete can be designed in accordance with Design Sulphate Class DS-1, Aggressive Chemical Environment for Concrete Classification (ACEC) AC-1s in accordance with the recommendations provided in BRE Special Digest 1 (2005).

However, we would recommend upgrading to DS-2 due to the presence of the London Clay, a geological formation which contains gypsum bearing minerals.

5.9. Excavations

Site observations indicated that excavations should be feasible in the near surface with normal plant.

No groundwater seepages were recorded in the boreholes, excavations in the cohesive soils should stay open in the short term.

6. Generic Risk Assessment

6.1. Introduction

Current good practice requires that the findings from a site investigation should be evaluated on a site-specific basis, using a risk-based approach. Risk assessment involves identification and evaluation of the hazards presented by the concentrations of contaminants measured followed by an evaluation of the risks which are associated with these hazards (LCRM¹¹). Information gathered from the risk assessment has been collated in the revised contamination conceptual model in Section 6.6.

6.2. Soil Risk Assessment

6.2.1. Methodology

With regards to the soil risk assessment LKC will use the following hierarchy:

- Category 4 Screening Levels (C4SLs) ^{12, 13}.
- LQM Suitable 4 Use Levels (S4ULs) ^{14, 15, 16, 17}.

The proposed development is for 3no. commercial units therefore the commercial assessment criteria has been used.

All criteria have been generated using the CLEA V1.06 model¹⁸ 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 used in this assessment is provided in Appendix H.

B(a)P as Surrogate Marker

LKC consider the main risk drivers for PAHs are benzo(a)pyrene (B(a)P) and naphthalene. This is due to B(a)P possibly being a carcinogen and most toxic of the PAHs^{19,20} and naphthalene the most volatile and soluble²¹. The C4SLs indicate B(a)P as a surrogate marker for carcinogenic PAHs, if it falls within appropriate limits, since the risk from other non-carcinogenic PAHs are considered negligible²². For B(a)P to be used as a surrogate marker it should follow the profile described by the HPA (2008)²³ and CL:AIRE (2013). Naphthalene will be treated separately using the LQM S4ULs.

LKC undertook an assessment of the PAH data for the site with regards to using B(a)P as a surrogate marker for carcinogenic PAHs as per HPA and CL:AIRE guidelines. The primary toxicological study related to Culp *et.al*²⁴, which was based on coal tar mixtures (>80,000mg/kg of total PAHs) fed in food to mice over a two-year carcinogenicity study.

An assessment of the data should be undertaken to confirm B(a)P is a suitable surrogate marker by assessing the ratios of carcinogenic PAHs to BaP. However, as most of the PAHs were recorded as less than detection limits, the assessment could not be undertaken.

6.2.2. Soil Results Comparison against Assessment Criteria

All analysis sheets are presented in Appendix C.

Results have been compared to the relevant assessment criteria, and no elevated contaminants were identified.

No asbestos was identified in any soil samples analysed.

6.2.3. Direct Contact Risk – Pollutant Linkage 1

No elevated PAHs and metals have been identified on site; therefore, the probability of PAH and metal contamination affecting site users is unlikely. With a medium consequence, the risk is considered to be low, and no remediation is recommended.

No asbestos was identified in any of the samples; therefore, the probability of asbestos affecting site users is considered to be unlikely. With a medium consequence, the risk is low. At this stage, a low risk is assumed (as no asbestos identified) and remediation is not required. However, as a precaution, construction workers should be and vigilant for any suspected ACM during groundworks (discussed further in Section 8.2).

6.2.4. Risk from Inhalation of Vapours – Pollutant Linkage 2

No visual / olfactory evidence of volatile contaminants was identified during the investigation. Confirmatory soil analysis did not detect any VOCs above detection limits.

LKC therefore consider the probability of volatile contaminants affecting site users as unlikely. The consequence is expected to be medium, giving a low risk and no remediation is required.

6.3. Gas Risk Assessment

Gas monitoring was not carried out as part of this assessment. The PRA identified a moderate / low risk, and no gas monitoring was recommended as shallow made ground was anticipated across the site.

The investigation confirmed minimal made ground, and no significant gas source or pathway was identified.

LKC considers the probability of gas posing a risk to site users as unlikely. The consequence is severe, which gives a moderate / low risk. Given the known ground conditions, LKC considers there to be a low risk and no further action is required with respect to Pollutant Linkage 3.

6.4. Controlled Water Assessment

The PRA identified a moderate / low risk with respect to controlled waters as no significant source of mobile contamination was anticipated. Furthermore, the site is located upon unproductive strata, no abstractions have been identified within influencing distance, and the site is not located in a Source Protection Zone. The surface water is not considered to be a significant receptor.

The site investigation did not identify any significant sources of likely mobile contamination within the soils. This confirms an unlikely probability of onsite contamination affecting controlled waters. With a medium consequence the risk is anticipated to be low, and no remediation is required.

6.5. Potable Water Supply (Pollutant Linkage 5)

Soil results were compared to UKWIR²⁵ guidance. Only contaminants of concern, based on the preliminary conceptual model and ground conditions encountered were analysed.

No elevated organic contaminants were located on site. The probability of organic contaminants affecting potable water pipes is unlikely. Given the consequence is considered to be moderate, the risk (Pollutant Linkage 5) is anticipated to be low risk and no remediation is recommended.

It should be noted that the utility provider may request a Water Pipe Risk Assessment is undertaken prior to connection to the mains.

6.6. Revised Contamination Conceptual Model

The preliminary contamination conceptual model (Table 2-3) has been revised following the risk assessments undertaken in Sections 6.1-6.4. The revised contamination conceptual model follows the same methodology and guidance used in the preliminary contamination conceptual model. The risk matrix is provided in Appendix A.

The revised contamination conceptual model is presented in Table 6-1.

Where a very low risk or low risk is identified no specific remediation is required.

Where there is a moderate / low risk is identified, some form of remediation may be required depending on the pollutant linkage, the type and concentration of contaminants present and the proposed development.

Where LKC identifies a moderate or higher risk, remediation or further investigation work is recommended.

PL	Contaminants of Concern	Pathway	Receptor	Probability	Consequence	Risk	Recommendations
1	Asbestos, Metals, PAHs	Dermal contact. Inhalation of soil, fibres, and dust. Ingestion of soils, dust. Windblown dust.	Future site users. Offsite receptors.	Low Likelihood	Medium	Low	No remediation required.
2	PAHs	Inhalation of vapours. Migration via permeable strata and preferential pathways.	Future site users. Offsite receptors.	Low Likelihood	Medium	Low	No remediation required.
3	Hazardous gas: methane, carbon dioxide	Migration via permeable strata and preferential pathways. Inhalation of gas. Explosion in confined spaces.	Future site users. Buildings. Offsite receptors.	Unlikely	Severe	Moderate / Low	Low risk assumed. No remediation required.
4	Metals, PAHs	Migration via permeable strata and preferential pathways.	Groundwater	Low Likelihood	Medium	Low	No remediation required.
5	Naphthalene	Ingestion of tainted water supply.	Future site users. Water pipes.	Low Likelihood	Medium	Low	No remediation required*.

Table 6-1: Revised Contamination Conceptual Model.

*It should be noted that the utility provider may request a Water Pipe Risk Assessment is undertaken prior to connection to the mains.

7. Summary Conclusions

7.1. Ground Conditions

Ground conditions are summarised in Table 7-1 below.

Made Ground	Made ground was recorded in all boreholes to depths of 0.40-0.50mbgl. The made ground comprised horizons of gravel and sand with anthropogenic material including brick, ash and timber.
Natural Strata	Superficial strata comprised River Terrace Deposits consisting of horizons of stiff to very stiff gravelly clay to 1.45-2.20mbgl. The London Clay Formation bedrock was encountered from depths of 0.40-2.20mbgl.
Groundwater	No groundwater was encountered in any window sample boreholes.
Obstructions	No obstructions were identified within any investigation location.

Table 7-1: Summary of Ground Conditions.

7.2. Geotechnical

Geotechnical observations and conclusions are contained in Table 7-2 below, more detailed discussions are contained within Section 5.

Allowable Bearing Pressure	175kN/m ² at 1.00-1.50mbgl in River Terrace Deposits and London Clay Formation for 1m wide foundations.
Anticipated Foundation Type	Traditional shallow foundations strips or pads.
Groundwater	Not anticipated to be a significant issue at this site.
Concrete Requirements	Based on BRE Digest 2005 ²⁶ – DS-2 AC-1s recommended due to London Clay being a gypsum bearing mineral formation.
Plasticity	Foundations should be design based on proposed planting with formation assumed to be of high plasticity.
Road / Pavement Design	A design CBR value of 7% can be adopted.

Table 7-2: Geotechnical Conclusions Table.

7.3. Contamination Assessment

A revised contamination conceptual model has been produced by LKC which is summarised in Table 7-3 below (more detailed model provided in Section 6).

PL	Contaminant	Risk	Recommendations
1	Asbestos, Metals, PAHs	Low	No remediation required.
2	PAHs	Low	No remediation required.
3	Hazardous gas: methane, carbon dioxide	Moderate / Low	No remediation required.
4	Metals, PAHs	Low	No remediation required.
5	Naphthalene	Low	No remediation required.

Table 7-3: Summary Risk Table.

PL=Pollutant Linkage, see Table 6-1 for details.

8. Remediation Strategy

The recommendations/requirements provided below are considered appropriate for the site based on the site investigation work undertaken. LKC should stress that no remediation, enabling works or designing works should take place until Regulatory approval has been obtained.

A summary of remediation requirements is included in Table 8-1.

PL	Recommendation
1	No remediation required.
2	No remediation required.
3	No remediation required.
4	No remediation required.
5	No remediation required*.

Table 8-1: Remediation Summary.

* It should be noted that the utility provider may request a Water Pipe Risk Assessment is undertaken prior to connection to the mains.

Based on the findings of the site investigation and risk assessment, no remediation is required. A watching brief for any unexpected contamination should be maintained during groundworks (refer to Section 8.1.1), and any imported soils brought to site for use in gardens / soft landscaping should be validated to ensure they are suitable for use (refer to Section 8.2).

8.1. Other Considerations

8.1.1. Unexpected Contamination

The relevant contractors should be briefed that during development works at the site should any unusual ground conditions and / or visual or olfactory evidence of contamination (including asbestos containing material) be encountered at the site, LKC and the Local Authority should be informed, and further assessment of the material may be required.

Impacted soils should be placed on an impermeable surface to await further assessment, treatment, or removal from site (this may be subject to chemical testing to confirm suitable waste facility). The work should be done under the supervision and instruction of an environmental consultant.

To determine that significantly impacted soils have been removed, verification samples will be collected from the base and sides of the excavation. If all impacted ground cannot be removed and contamination remains on the ground, further remediation may need to be considered.

Validation requirements should include a log of work undertaken, including photographs and details of any sampling undertaken and validation of any potential additional remedial work.

8.1.2. Re-use of Site Generated Material

To ensure material is compliant with appropriate waste regulations, any site won material re-used onsite should be in recourse to appropriate exemptions. A U1 and T5 exemption should be registered. This will allow the following to be used onsite or brought in for use onsite (refer to guidance for types of waste that can be used²⁷):

- 5,000 tonnes (c. 2,500m³) treatment of crushed concrete / stone.
- 1,000 tonnes (c. 500m³) use of non-hazardous soil.
- 5,000 tonnes (c. 2,500m³) use of clays, sand, gravel, brick, concrete, stone etc.
- 50,000 tonnes (c. 25,000m³) use of bituminous material to be used in roadways.

A Materials Management Plan (MMP) with recourse to the CL:AIRE Code of Practice²⁸ may be required if volumes exceed exemption limits. This must be registered before material movement starts onsite.

If an MMP is required, this needs to be registered by a Qualified Person (QP) and there must be 'certainty of use' for any material re-used onsite or exported to site to ensure there is no 'sham recovery'.

For all the above material will need to be tested at the rate and analytical suites presented in Table 8-2.

8.1.3. Stockpile Management

Stockpiled material should be suitably managed. Material should be segregated by type and source. For example, construction / demolition arisings, site won subsoil. Stockpiles may also require covering to minimise the generation of vapours, fibres, dust, and possible nuisance to adjacent receptors, and to prevent rainwater ingress. The source of each stockpile should be recorded and appropriate validation testing for re-use or potential offsite disposal should be undertaken as required.

8.1.4. Disposal

Material required to be removed from site should be undertaken under an appropriate duty of care and the results of chemical analysis should be provided to a licensed landfill for confirmation of waste classification.

Waste records such as disposal tickets and waste carrier licences should be provided in the Site Completion Report. Photographic evidence of removal and waste removal tickets should be retained and included in the validation report.

8.1.5. Health and Safety Considerations

In working with, removing, or treating any contaminating material it is important that any potential risks associated with the actual site works are mitigated by good environmental management of the site during the remedial phases. Standard health and safety precautions (as per HSE guidance²⁹) should be adopted by all workers involved with site enabling and construction works.

8.2. Validation of Imported / Site Won Soils

Chemical validation of all imported and site-won soils to be used on site in soft landscaping areas should be undertaken. Imported soils should be accompanied by a certificate of analysis and source details.

A summary of the required imported material sampling requirements is presented in Table 8-2 and is based on the slightly modified YALPAG guidance (2021)³⁰ based on a general worst case scenario. Ideally, the material should be sampled at source to prevent double handling if soil fails, with confirmatory sampling undertaken on importation to site. Where this is not possible then material imported should be segregated based on source and soil type. Validation samples should be taken prior to placement in gardens to ensure suitability for use.

Material Type	Source	Suite of Analysis	Sampling Rate
Virgin Quarried Material	First generation quarried material (stone / subsoil)	Suite A	1 or 2 depending upon the type of stone / subsoil utilised to confirm the inert nature of the material.
Crushed Hardcore Stone and Brick (excluding asphalt)	Recycled (no volatile staining)	Suite A*	1 sample per 500m ³
General Fill	Imported fill – Greenfield / manufactured	Suite A*	1 sample per 500m ³
	Imported fill - Brownfield	Suite B*	
Topsoil / Subsoil	Greenfield / manufactured / natural site-won soil	Suite A*	^A 1 sample per 50m ³
	Brownfield / Screened Soils / site won made ground	Suite B**	^B 1 sample per 50m ³

Table 8-2: Sampling Requirements for Imported and Site Won Soils.

Notes:

Suite A - Heavy metals, pH, water soluble sulphate, speciated PAH, soil organic matter and asbestos screen.

Suite B - Heavy metals, pH, water soluble sulphate, speciated PAH, phenol, total and free cyanide, soil organic matter, asbestos screen, banded petroleum hydrocarbons (TPH CWG), BTEX, MTBE.

*Minimum sampling rate of 3 samples per source.

**Minimum sampling rate of 6 samples per source.

^A YAPALG states Between 1 sample per 50m³ and 1 sample per 250m³. Worst case assumed.

^B YAPALG states Between 1 sample per 50m³ and 1 sample per 100m³. Worst case assumed.

Any soil with visual or olfactory evidence of hydrocarbons should be rejected.

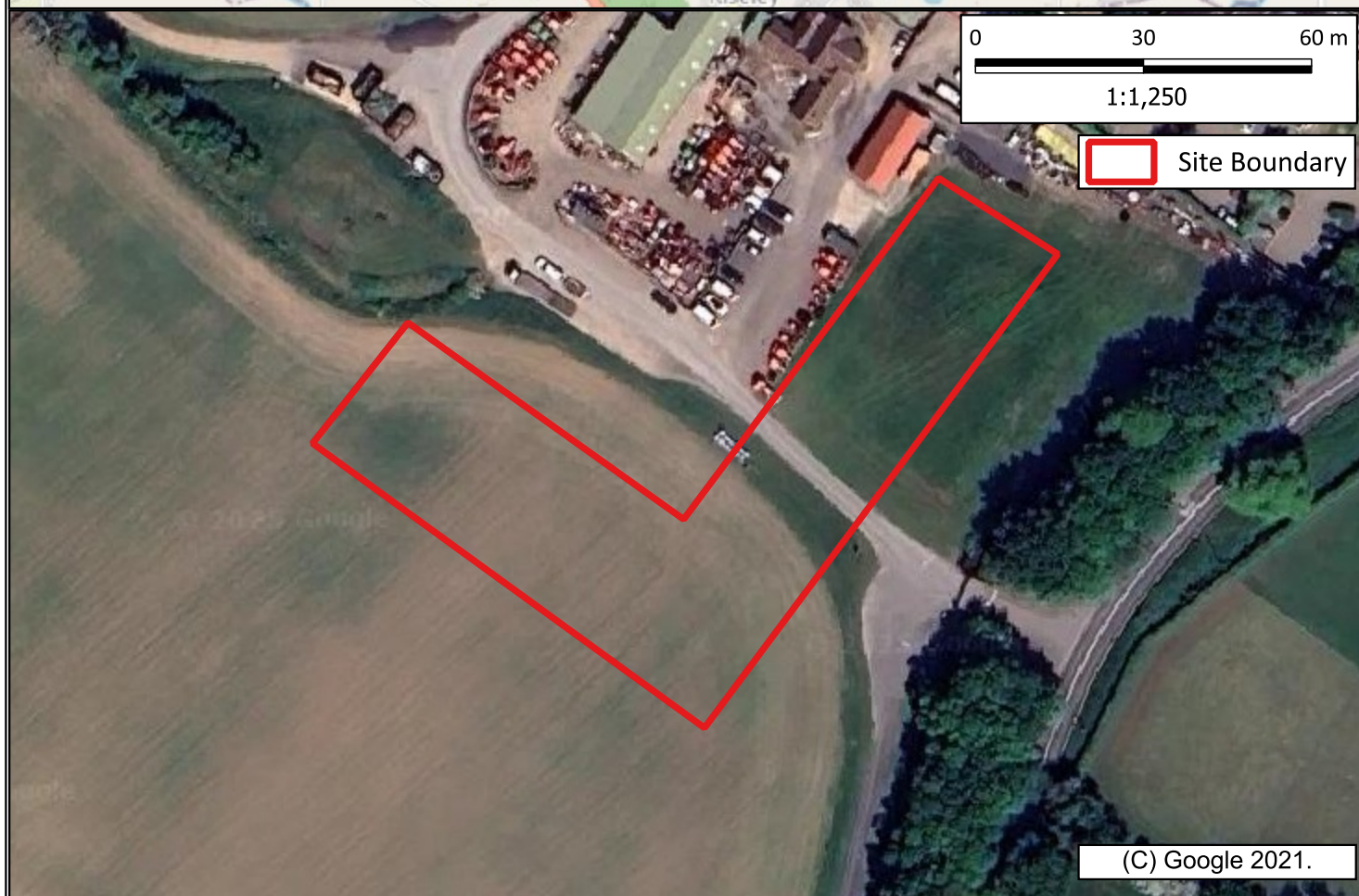
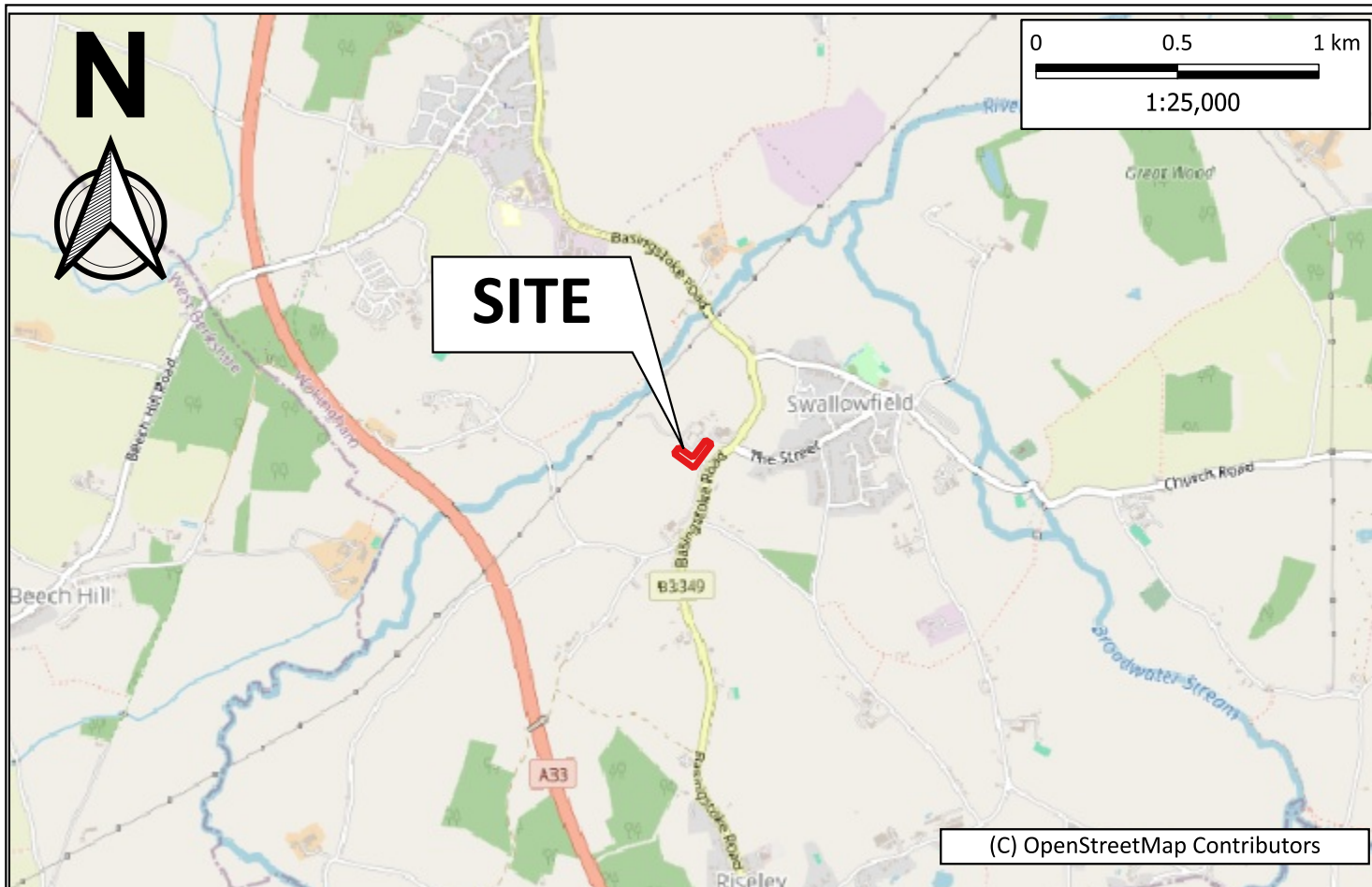
It should be ensured that the matrix of imported topsoil is suitable as a growing medium in line with BS3882³¹. Topsoil soil shall be free of weeds, roots or perennial weeds, pests, diseases, debris, tree roots, sticks, subsoil and foreign matter and shall be capable of being broken down to a fine tilth. LKC advise this information is provided by the supplier before material is imported onto site.

Imported material to be used in gardens will be compared against commercial criteria (as used in the contamination risk assessment in Section 6).

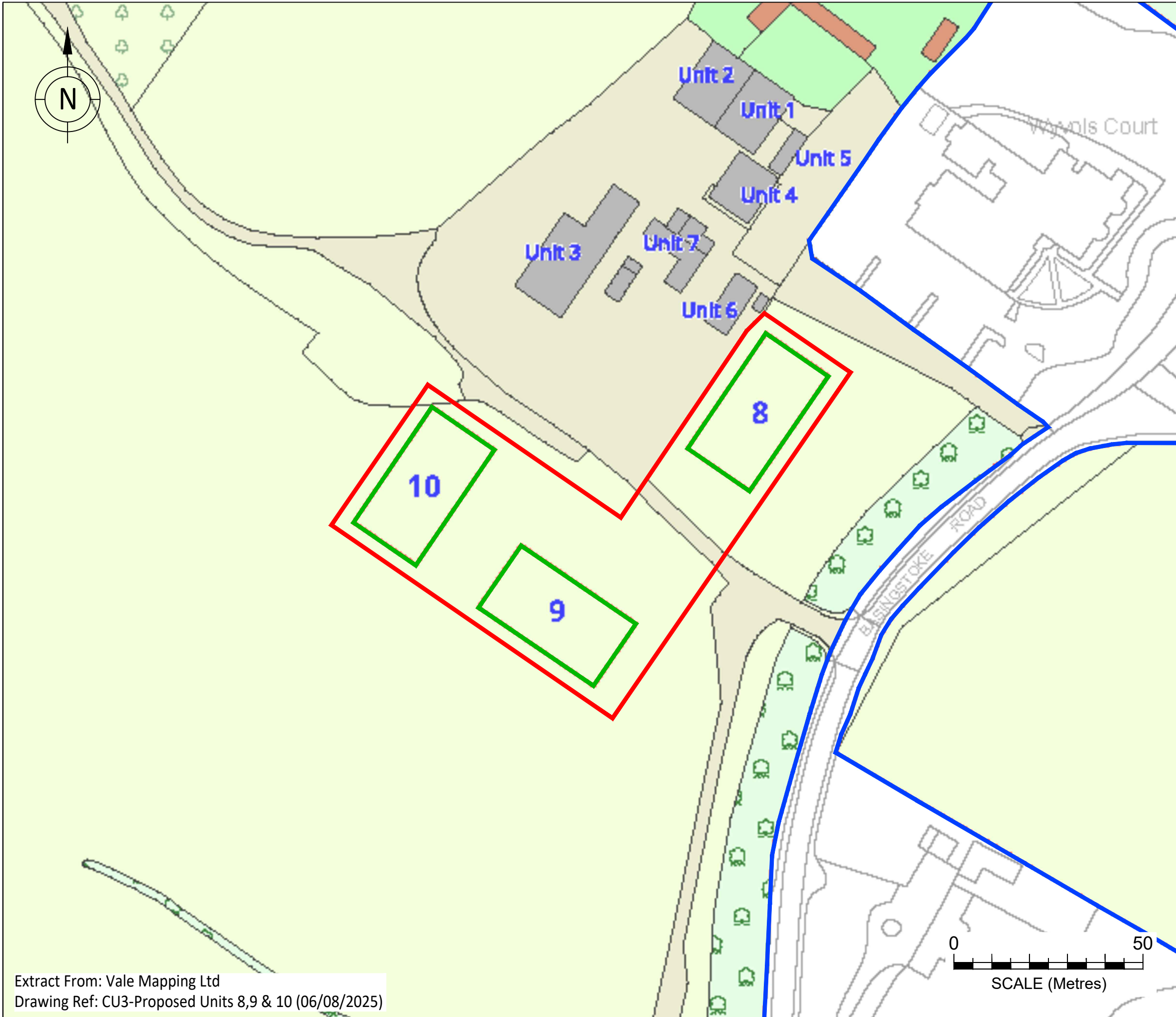
8.3. Site Completion Report

All remediation and validation work should be documented in a Site Completion Report. The Site Completion Report will allow discharge of relevant planning conditions.

Figures



Client: Rory Waterer				Title: Site Location & Boundary Plan		 LK CONSULT	
Site: Wyvols Court Farm, Swallowfield				Scale (see scale bar): 1:25,000 & 1:1250 @ A4			
Job No.: LKC 251507 Drawn By: MS Checked By: CW Drawn: Sep 2025				Figure: 1			



KEY

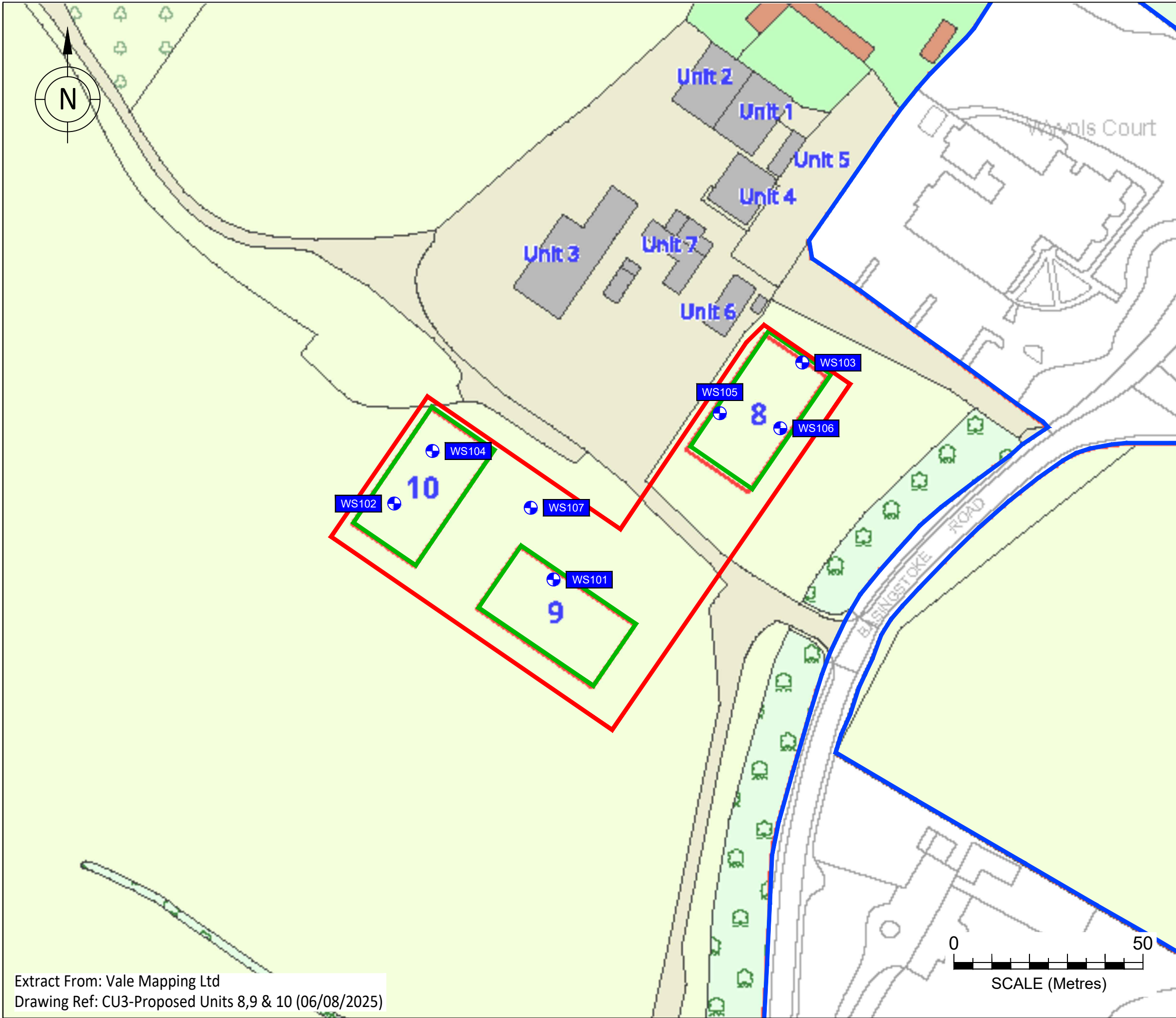
- Site Boundary (Proposed Units 8,9 & 10)
- Proposed Units 8,9 & 10
- Ownership Boundary
- Pasture
- Cricket bat willow
- Woodland
- Water
- Building (residential)
- Garden
- Building (commercial)
- Track / hardstanding

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

Client: Rory Waterer			
Site: Wyvols Court Farm			
Title: Proposed Development Plan			
Job No.: LKC251507	Scale (See Scale Bar): 1:1000 @ A3	Figure: 2	Revision:
Drawn By: AC	Checked By: MS	Drawn: Sep 2025	



KEY

- Site Boundary
- Proposed Units 8,9 & 10
- Ownership Boundary
- Window Sample Borehole (WS)
- Pasture
- Cricket bat willow
- Woodland
- Water
- Building (residential)
- Garden
- Building (commercial)
- Track / hardstanding

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

Client:

Rory Waterer

Site:

Wyvols Court Farm

Title:

Exploratory Hole Location Plan

Job No.:

LKC251507

Drawn By:

AC

Scale (See Scale Bar):

1:1000 @ A3

Checked By:

MS

Figure:

3

Revision:

Drawn:

Sep 2025

Extract From: Vale Mapping Ltd

Drawing Ref: CU3-Proposed Units 8,9 & 10 (06/08/2025)

Appendix A – Risk Matrix

RISK EVALUATION

The method for risk evaluation is a qualitative method of interpreting the output from the risk estimation stage of the assessment, based on CIRIA 552³². It involves the classification of the:

- Magnitude of the potential consequence (severity) of the risk occurring (Table A).
- Magnitude of the probability (likelihood) of the risk occurring (Table B).

Consequence (Severity)		
Classification	Definition	Example
Severe	Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short term risk of pollution (note: water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/properties. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem (note: the definition of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	High Concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled waters. Explosion, causing building collapse (can also equate to short term human health risk if buildings are occupied).
Medium	Chronic damage to Human Health ('significant harm' as defined in DETR, 2000). Pollution of sensitive water resources (note Water Resources Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentrations of a contaminant from site exceed generic, or site-specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer (Principal and Secondary). Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures, and services ('significant harm' as defined in DETR, 2000). Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g., foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc). Easily repairable damage to buildings, structures, and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.

Table A. Classification of Consequence

Probability (Likelihood)	
Classification	Definition
High Likelihood	There is a pollutant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollutant linkage, and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.
Unlikely	There is a pollutant linkage, but circumstances are such that it is improbable that an event would occur in the very long term.

Table B. Classification of Probability.

These classifications are then compared to indicate the risk presented by each pollutant linkage (Table C). It is important that this classification is only applied where there is a possibility (which can range from high likelihood to unlikely) of a pollutant linkage existing.

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate / Low Risk
	Likely	High Risk	Moderate Risk	Moderate / Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate / Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate / Low Risk	Low Risk	Very Low Risk	Very Low Risk

Table C. Comparison of Consequence against Probability

Once the risk has been determined the corresponding action can be assessed (Table D).

Risk	Action Required
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate Risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Table D. Description of the Classification and Likely Action Required.

Where a very low risk is identified no specific remediation is required.

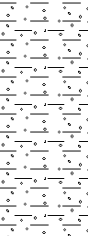
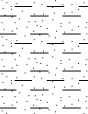
Where a low risk is identified, some form of remediation may be required depending on the pollutant linkage, the type and concentration of contaminants present and the proposed development.

Where there is a moderate/low risk is identified, an assessment will be undertaken to establish what category the pollutant linkage will fall into.

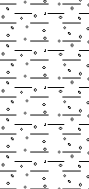
Where LKC identifies a moderate or higher risk, remediation or further investigation work is recommended.

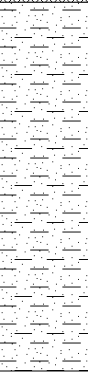
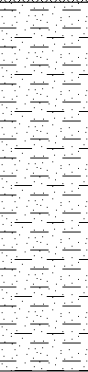
Appendix B – Profile Logs

[illegible]

 LK CONSULT		Window Sample Borehole Log				Location Number: WS102	
Project Name: Wyvois Court Farm, Swallowfield			Client: Blue Fox Planning Ltd		Date: 11/09/2025		
Project No. : LKC251507			Contractor: KDS Site Investigations Ltd		Co-ords: 471938.00E, 164786.00N		
Equipment: Window Sample Rig: Premier Compact 110 Series			Level 52.30m AOD	Logged By MS	Scale 1:40	Page Number Sheet 1 of 1	
Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description			Level (m)
0.00-0.50 0.20 0.40 0.60-0.80	ES D CBR=18% CBR=25% ES D	0.50		MADE GROUND: Brown sandy GRAVEL with frequent wood and rootlets, and rare ash. Sand is fine to coarse. Gravel is fine to medium, subangular to rounded comprising flint.			51.80
1.00-1.45 1.00 1.50-1.80	SPT N=28 (6,6/6,8,7,7) D	1.80		Very stiff consistency high strength brown gravelly CLAY. Gravel is fine to coarse, rounded comprising flint. [River Terrace Deposits]			
2.00-2.45 2.00	SPT N=60 (12,12/14,15,15,16)	2.45		Very stiff consistency very high strength orangish brown sandy CLAY. Sand is fine to coarse. [London Clay Formation]			2
				End of Borehole at 2.45m			49.85
							3
							4
							5
							6
							7
							8
Remarks: Borehole dry and stable.							

[illegible]

 LK CONSULT		Window Sample Borehole Log				Location Number: WS104	
Project Name: Wyvois Court Farm, Swallowfield			Client: Blue Fox Planning Ltd		Date: 11/09/2025		
Project No. : LKC251507			Contractor: KDS Site Investigations Ltd		Co-ords: 471964.00E, 164795.00N		
Equipment: Window Sample Rig: Premier Compact 110 Series			Level 52.34m AOD	Logged By MS	Scale 1:40	Page Number Sheet 1 of 1	
Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description			Level (m)
0.00-0.40	ES D	0.40		MADE GROUND: Brown sandy GRAVEL with frequent timber and rootlets. Sand is fine to coarse. Gravel is fine to medium, subangular to rounded comprising flint.			51.94
0.20	CBR=16%						
0.40	CBR=18%						
0.80-0.90	ES D	1.45		Very stiff consistency high strength orangish brown gravelly CLAY. Gravel is fine to coarse, subrounded to rounded comprising flint. [River Terrace Deposits]			1
1.00-1.45	SPT						
1.00	N=16 (4,4/4,4,4,4)						
				End of Borehole at 1.45m			50.89
							2
							3
							4
							5
							6
							7
							8
Remarks: Borehole dry and stable.							

 LK CONSULT		Window Sample Borehole Log				Location Number: WS105	
Project Name: Wyvois Court Farm, Swallowfield			Client: Blue Fox Planning Ltd		Date: 11/09/2025		
Project No. : LKC251507			Contractor: KDS Site Investigations Ltd		Co-ords: 472040.00E, 164805.00N		
Equipment: Window Sample Rig: Premier Compact 110 Series			Level 51.70m AOD	Logged By MS	Scale 1:40	Page Number Sheet 1 of 1	
Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description			Level (m)
0.00-0.30	ES D	0.50		MADE GROUND: Brown sandy GRAVEL with frequent brick fragments and rootlets. Sand is fine to coarse. Gravel is fine to medium, subangular to rounded comprising flint.			51.20
0.30	CBR=16%						
0.50	CBR=20%						
0.70-0.90	ES D						
0.80	PP=208.5kPa						
1.00-1.45	SPT				1		
1.00	N=15 (2,3/4,3,4,4)	2.45					
1.20	PP=134.9kPa						
1.60-1.90	D						
1.80	PP=147.2kPa						2
2.00-2.45	SPT						
2.00	N=16 (2,4/4,4,4,4)	End of Borehole at 2.45m				49.25	
							3
							4
							5
							6
							7
							8
Remarks: Borehole dry and stable.							

 LK CONSULT		Window Sample Borehole Log				Location Number: WS106	
Project Name: Wyvois Court Farm, Swallowfield			Client: Blue Fox Planning Ltd		Date: 11/09/2025		
Project No. : LKC251507			Contractor: KDS Site Investigations Ltd		Co-ords: 472056.00E, 164801.00N		
Equipment: Window Sample Rig: Premier Compact 110 Series			Level 51.50m AOD	Logged By MS	Scale 1:40	Page Number Sheet 1 of 1	
Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description			Level (m)
0.00-0.40	ES D	0.40		MADE GROUND: Brown sandy GRAVEL with frequent brick fragments and rootlets. Sand is fine to coarse. Gravel is fine to medium, subangular to rounded comprising flint.			51.10
0.20	CBR=15%			Stiff consistency orangish brown gravelly CLAY. Gravel is fine to coarse, subrounded to rounded comprising flint. [River Terrace Deposits]			
0.40	CBR=20%	1.45		End of Borehole at 1.45m			1
1.00	N=12 (2,2/3,3,3,3)						2
							3
							4
							5
							6
							7
							8
Remarks: Borehole dry and stable.							

 LK CONSULT		Window Sample Borehole Log				Location Number: WS107	
Project Name: Wyvois Court Farm, Swallowfield			Client: Blue Fox Planning Ltd		Date: 11/09/2025		
Project No. : LKC251507			Contractor: KDS Site Investigations Ltd		Co-ords: 471990.00E, 164780.00N		
Equipment: Window Sample Rig: Premier Compact 110 Series			Level 52.40m AOD	Logged By MS	Scale 1:40	Page Number Sheet 1 of 1	
Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description			Level (m)
0.00-0.40	ES D	0.40		MADE GROUND: Brown sandy GRAVEL with frequent brick fragments and rootlets. Sand is fine to coarse. Gravel is fine to medium, subangular to rounded comprising flint.			52.00
0.20	CBR=13%			Very stiff consistency orangish brown gravelly CLAY. Gravel is fine to coarse, subrounded to rounded comprising flint. [River Terrace Deposits]			
0.40	CBR=11%						
0.60-0.80	ES D	1.45		End of Borehole at 1.45m			50.95
1.00-1.45	SPT						
1.00	N=16 (4,4/4,4,4,4)						
						1	
						2	
						3	
						4	
						5	
						6	
						7	
						8	
Remarks: Borehole dry and stable.							

Appendix C – Certificates of Analysis (Soil)

Michaela Sheppard
LK Consult Limited
Unit 29 Eton Business Park
Eton Hill Road
Manchester
M26 2ZS

Normec DETS Limited
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 25-08158

Site Reference: Wyvols Court Farm

Project / Job Ref: LKC251507

Order No: PO-C001844

Sample Receipt Date: 15/09/2025

Sample Scheduled Date: 16/09/2025

Report Issue Number: 1

Reporting Date: 22/09/2025

Authorised by:



Steve Knight
Customer Support Manager

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.

Soil Analysis Certificate						
DETS Report No: 25-08158	~Date Sampled	11/09/25	11/09/25	11/09/25	11/09/25	11/09/25
LK Consult Limited	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Wyvols Court Farm	~TP / BH No	WS102	WS104	WS101	WS101	WS103
~Project / Job Ref: LKC251507	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: PO-C001844	~Depth (m)	0.00 - 0.50	0.00 - 0.40	0.70 - 0.90	0.00 - 0.40	0.00 - 0.40
Reporting Date: 22/09/2025	DETS Sample No	789764	789765	789766	789767	789768

Determinand	Unit	RL	Accreditation					
Asbestos Screen ⁽⁵⁾	N/a	N/a	ISO17025	Not Detected	Not Detected		Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	6.5	6.3	7.0	7.2	7.0
Total Cyanide	mg/kg	< 1	NONE				< 1	
Free Cyanide	mg/kg	< 1	NONE				< 1	
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Organic Matter (SOM)	%	< 0.1	MCERTS	3.7	3.1		2.9	2.1
W/S Chloride (2:1)	mg/kg	< 1	MCERTS			5		
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS			2.3		
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	< 3	MCERTS			< 3		
Water Soluble Nitrate (2:1) as NO ₃	mg/l	< 1.5	MCERTS			< 1.5		
Arsenic (As)	mg/kg	< 2	MCERTS	6	8		6	6
W/S Boron	mg/kg	< 1	NONE				< 1	
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2		< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	16	17		15	12
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2		< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	17	17		13	12
Lead (Pb)	mg/kg	< 3	MCERTS	40	30		28	28
W/S Magnesium	mg/l	< 0.1	NONE			0.9		
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1		< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	8	9		7	6
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2		< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	26	30		25	22
Zinc (Zn)	mg/kg	< 3	MCERTS	63	58		42	38
Total Phenols (monohydric)	mg/kg	< 2	NONE				< 2	

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
Analysis carried out on the dried sample is corrected for the stone content

Soil Analysis Certificate

DETS Report No: 25-08158	~Date Sampled	11/09/25	11/09/25	11/09/25		
LK Consult Limited	~Time Sampled	None Supplied	None Supplied	None Supplied		
~Site Reference: Wyvols Court Farm	~TP / BH No	WS103	WS106	WS106		
~Project / Job Ref: LKC251507	~Additional Refs	None Supplied	None Supplied	None Supplied		
~Order No: PO-C001844	~Depth (m)	0.50 - 1.00	0.00 - 0.40	1.40 - 1.60		
Reporting Date: 22/09/2025	DETS Sample No	789769	789770	789771		

Determinand	Unit	RL	Accreditation				
Asbestos Screen ⁽⁵⁾	N/a	N/a	ISO17025		Not Detected		
pH	pH Units	N/a	MCERTS	7.3	6.9	7.3	
Total Cyanide	mg/kg	< 1	NONE				
Free Cyanide	mg/kg	< 1	NONE				
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	43	< 10	< 10	
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.04	< 0.01	< 0.01	
Organic Matter (SOM)	%	< 0.1	MCERTS		0.6		
W/S Chloride (2:1)	mg/kg	< 1	MCERTS	7		3	
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS	3.5		1.6	
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	< 3	MCERTS	< 3		< 3	
Water Soluble Nitrate (2:1) as NO ₃	mg/l	< 1.5	MCERTS	< 1.5		< 1.5	
Arsenic (As)	mg/kg	< 2	MCERTS		6		
W/S Boron	mg/kg	< 1	NONE				
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS		12		
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2		
Copper (Cu)	mg/kg	< 4	MCERTS		11		
Lead (Pb)	mg/kg	< 3	MCERTS		34		
W/S Magnesium	mg/l	< 0.1	NONE	2.6		0.4	
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS		6		
Selenium (Se)	mg/kg	< 2	MCERTS		< 2		
Vanadium (V)	mg/kg	< 1	MCERTS		20		
Zinc (Zn)	mg/kg	< 3	MCERTS		43		
Total Phenols (monohydric)	mg/kg	< 2	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
Analysis carried out on the dried sample is corrected for the stone content

Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 25-08158	~Date Sampled	11/09/25	11/09/25	11/09/25	11/09/25	11/09/25
LK Consult Limited	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Wyvols Court Farm	~TP / BH No	WS102	WS104	WS101	WS103	WS106
~Project / Job Ref: LKC251507	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: PO-C001844	~Depth (m)	0.00 - 0.50	0.00 - 0.40	0.00 - 0.40	0.00 - 0.40	0.00 - 0.40
Reporting Date: 22/09/2025	DETS Sample No	789764	789765	789767	789768	789770

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	0.36	< 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	0.19	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	0.20	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	1.49	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	0.32	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	1.14	< 0.1	< 0.1	0.24	0.15
Pyrene	mg/kg	< 0.1	MCERTS	0.87	< 0.1	< 0.1	0.20	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.30	< 0.1	< 0.1	0.12	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	0.30	< 0.1	< 0.1	0.13	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.23	< 0.1	< 0.1	0.15	0.14
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	0.20	< 0.1	< 0.1	0.13	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
**Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	5.6	< 1.6	< 1.6	< 1.6	< 1.6

Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 25-08158	~Date Sampled	11/09/25				
LK Consult Limited	~Time Sampled	None Supplied				
~Site Reference: Wyvols Court Farm	~TP / BH No	WS101				
~Project / Job Ref: LKC251507	~Additional Refs	None Supplied				
~Order No: PO-C001844	~Depth (m)	0.00 - 0.40				
Reporting Date: 22/09/2025	DETS Sample No	789767				

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01			
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05			
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2			
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2			
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3			
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3			
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10			
Aliphatic >C34 - C44 : EH_CU_1D_AL	mg/kg	< 10	NONE	< 10			
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21			
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01			
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05			
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3			
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10			
Aromatic >C35 - C44 : EH_CU_1D_AR	mg/kg	< 10	NONE	< 10			
Aromatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21			
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42			

Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 25-08158	~Date Sampled	11/09/25				
LK Consult Limited	~Time Sampled	None Supplied				
~Site Reference: Wyvols Court Farm	~TP / BH No	WS101				
~Project / Job Ref: LKC251507	~Additional Refs	None Supplied				
~Order No: PO-C001844	~Depth (m)	0.00 - 0.40				
Reporting Date: 22/09/2025	DETS Sample No	789767				

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

Soil Analysis Certificate - Sample Descriptions

DETS Report No: 25-08158	
LK Consult Limited	
~Site Reference: Wyvols Court Farm	
~Project / Job Ref: LKC251507	
~Order No: PO-C001844	
Reporting Date: 22/09/2025	

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
789764	WS102	None Supplied	0.00 - 0.50	9.3	Brown sandy clay with stones and vegetation
789765	WS104	None Supplied	0.00 - 0.40	9.7	Brown sandy clay with stones
789766	WS101	None Supplied	0.70 - 0.90	11.8	Brown sandy clay
789767	WS101	None Supplied	0.00 - 0.40	9	Brown sandy clay with stones
789768	WS103	None Supplied	0.00 - 0.40	8.5	Brown sandy clay with stones
789769	WS103	None Supplied	0.50 - 1.00	13.8	Light brown clay
789770	WS106	None Supplied	0.00 - 0.40	8.5	Brown sandy clay with stones and vegetation
789771	WS106	None Supplied	1.40 - 1.60	8.3	Brown sandy clay with stones

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

Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 25-08158
LK Consult Limited
~Site Reference: Wyvols Court Farm
~Project / Job Ref: LKC251507
~Order No: PO-C001844
Reporting Date: 22/09/2025

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 diphénylcarbazine 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

List of HWOL Acronyms and Operators
DETS Report No: 25-08158
LK Consult Limited
~Site Reference: Wyvols Court Farm
~Project / Job Ref: LKC251507
~Order No: PO-C001844
Reporting Date: 22/09/2025

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
~	Sample details provided by customer and can affect the validity of results

Benzene - HS_1D_MS
 Ethylbenzene - HS_1D_MS
 MTBE - HS_1D_MS
 TPH - Aliphatic >C34 - C44 - raw data - 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 >C34 - C44 - EH_CU_1D_AL
 TPH CWG - Aliphatic >C5 - C44 - HS_1D_MS+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 - 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 >C35 - C44 - EH_CU_1D_AR
 TPH CWG - Aromatic >C5 - C44 - 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 - Total >C5 - C44 - HS_1D_MS+EH_CU_1D_Total
 Toluene - HS_1D_MS
 m & p-xylene - HS_1D_MS
 o-Xylene - HS_1D_MS

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

Certificate Key

Symbol	Description
F	Filtered sample
UF	Unfiltered sample
D	Dried sample
AR	As received sample
RL	Reporting limit
~	Sample details provided by customer and can affect the validity of results
M/S	Missing Sample
*	The Dutch 10 PAH compounds consist of Naphthalene, Anthracene, Phenanthrene, Fluoranthene, Benz(a)anthracene, Chrysene, Benzo(k)fluoranthene, Benzo(a)pyrene, Benzo(g,h,i)perylene, and Indeno(1,2,3-cd)pyrene
**	Total EPA-16 PAHs consist of the following polycyclic aromatic hydrocarbons: Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo(a,h)anthracene, and Benzo(ghi)perylene.
***	Total WAC-17 PAHs consist of the following polycyclic aromatic hydrocarbons: Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo(a,h)anthracene, Benzo(ghi)perylene and Coronene.
^	No sampling date provided; unable to confirm if samples are within acceptable holding times
\$	Samples exceeded their recommended holding times
n	Please note that we are MCERTS soil accredited (UK soils only) for sand, loam, and clay, and UKAS accredited for groundwater, tap water, surface water, and generated leachates. Other matrices are outside our scope of accreditation.
S	Subcontracted analysis
M	MCERTS accredited test
U	UKAS accredited test

Appendix D – Certificates of Analysis (Geotechnical)



Laboratory Report



Contract Number: 80994

Client Ref: **LKC251507**
Client PO: **PO-C001845**

Date Received: **19-09-2025**
Date Completed: **06-10-2025**
Report Date: **06-10-2025**

Client: **LK Consult Ltd**

This report has been checked and approved by:

Contract Title: **Wyvols Court Farm, Swallowfield**
For the attention of: **Michaela Sheppard**

Shaun Jones
Laboratory manager

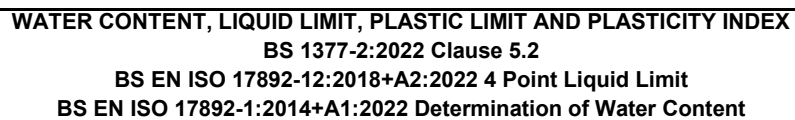
Description	Qty
Determination of water content BS EN ISO 17892-1:2014 - @ Non Accredited Test	4
4 Point Liquid & Plastic Limit.. BS EN ISO 17892-12 - * UKAS	4
BRE Reduced Suite includes pH, water & acid soluble sulphate and total sulphur Sub-contracted Test#	3

Notes: Observations and Interpretations are outside the UKAS Accreditation
* - denotes test included in laboratory scope of accreditation
- denotes test carried out by approved contractor
@ - denotes non accredited tests

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 test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

Approved Signatories:

Brendan Evans (Business Support Co-ordinator) - Brendan Evans (Business Support Co-ordinator) - Darren Bourne (Quality Senior Technician)
Luke Williams (Laboratory Technician) - Paul Evans (Director) - Richard John (Quality/Technical Manager)
Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (HR & HSE Manager)

[illegible]

Analytical Test Report	L25/10056/GSL/25-83503	Tested on Behalf of
Clients Project Reference	Wyvols Court Farm, Swallowfield (LKC251507)	GSTL
Clients Order Number	80994	Unit 3-4 Heol Aur
Sample(s) Analysed	3	Dafen Ind Estate
Sample(s) received / instructed	25/09/2025 / 25/09/2025	Dafen
Sample(s) Tested	26/09/2025 to 03/10/2025	
Report issued	06/10/2025	SA14 8QN
Report issue number	1	

Signed



David Ratcliffe
Director of Analytical Services

Notes:

General

This report shall not be reproduce except in full

Please refer to Methodologies page for details pertaining to the analytical methods undertaken.

Samples were supplied by customer, results apply to the samples as received.

Samples will be retained for 14 days after issue of this report unless otherwise requested.

Where specification limits are included these are for guidance only. Where a measured value has been highlighted this is not implying acceptance or failure and certainty of measurement values have not been taken into account.

Uncertainty of measurement values are available on request.

Moisture Content was determined in accordance with CTS method statement MS - CL - Sample Prep, oven dried at <30°C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2

Stone Content was determined in accordance with CTS method statement MS - CL - Sample Prep and refers to the percentage of stones retained on a 10mm BS test sieve.

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

Deviating Samples

On receipt samples are compared against our sample holding and handling protocols, where any deviations have been noted these are reported on our deviating sample page (if present)

Accreditation Key

U = UKAS Accreditation, M = MCERTS Accreditation, N = Unaccredited, SC = Subcontracted

L25/10056/GSL/25-83503

Wyvols Court Farm, Swallowfield (LKC251507)

Analytical Test Results - ENV Analysis Soils

Lab Reference				602133	602134	602135
Client Sample ID				-	-	-
Client Sample Location				WS101	WS102	WS103
Client Sample Type				-	-	-
Client Sample Number				-	-	-
Depth - Top (m)				1.9	1.5	2.5
Depth - Bottom (m)				2	1.8	2.8
Date of Sampling				-	-	-
Time of Sampling				-	-	-
Sample Matrix				Clay	Clay	Clay
Determinant	Units	LOD	Accreditation			
pH	pH units	1	M	8.8	8.7	8.4
Water Soluble Sulphate (as SO ₄)	mg/L	10	N	45	51	290
Total Sulphur Content (as S)	%	0.01	U	0.01	< 0.01	0.02
Acid Soluble Sulphate	%	0.01	N	< 0.01	< 0.01	0.04

L25/10056/GSL/25-83503

Wyvols Court Farm, Swallowfield (LKC251507)

Sample Descriptions

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)	Passing 2mm test sieve (%)
602133	-	WS101	SOIL	-	Brown silty clay with occasional rootlets	-	-	100
602134	-	WS102	SOIL	-	Brown gravelly sandy silty clay	-	-	63
602135	-	WS103	SOIL	-	Brown silty clay	-	-	100

L25/10056/GSL/25-83503

Wyvols Court Farm, Swallowfield (LKC251507)

Analysis Methodologies - Please refer to sample comments page (if present) for any changes to methods Methods

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Details
1377PREP	BS1377 Prep			Sample preparation of Soil for testing in accordance with BS1377:Part 3
1377TS-ELT	BS1377 Total Sulphur Content by HTC	Oven dried	BS1377 : Part 1 : 2016	Total Sulphur Content testing of Soil in accordance with BS 1377 : Part 3 : 2018 + A1 : 2021 Clause 7.10 (using Eltra CS-800 Analyser)
ANIONSEXS	MS - CL - Anions by Aquakem (E)		Passing 2mm test sieve	Extraction of soils for Anions analysis in accordance with MS - CL - Anions by Aquakem
ANIONSS	MS - CL - Anions by Aquakem (2:1Extract)	Oven dried	Passing 2mm test sieve	Determination of Anions (inc Sulphate, chloride etc.) in soils by Aquakem. Analysis is based on a 2:1 water to soil extraction ratio
ASSO4EXS	MS - CL - Acid Soluble Sulphate (E)			Extraction of soil for total sulphate in accordance with MS - CL - Acid Soluble Sulphate
ASSO4S	MS - CL - Acid Soluble Sulphate	Oven Dried	Passing 2mm test sieve	Determination of total sulphate in soils by acid extraction followed by ICP analysis
PHS	MS - CL - pH in Soils	As received	Passing 10mm test sieve	Determination of pH in soils using a pH probe (using a 1:3 soil to water extraction)
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Preparation of samples (including determination of moisture content) to allow for subsequent analysis

L25/10056/GSL/25-83503

Wyvols Court Farm, Swallowfield (LKC251507)

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

W - No time of sampling provided

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 2 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
602133		WS101	SOIL			A
602134		WS102	SOIL			A
602135		WS103	SOIL			A

Appendix E – Generic Assessment Criteria Values

Generic Assessment Criteria Values

Contaminant		SOM	Res +	Res -	Allot.	Comm.	POS _{resi}	POS _{park}	Source
Metals	Inorganic Arsenic	N/A	37	40	49	640	79	168	DEFRA C4SL
	Beryllium	N/A	1.7	1.7	35	12	2.2	63	LQM S4UL
	Boron	N/A	290	11,000	45	240,000	21,000	46,000	LQM S4UL
	Cadmium	N/A	26	149	4.9	410	220	880	DEFRA C4SL
	Chromium (III)	N/A	910	910	18,000	8,600	1,500	33,000	LQM S4UL
	Chromium (VI)	N/A	21.0	21.0	170.0	49	23.0	250	DEFRA C4SL
	Copper	N/A	2,400	7,100	520	68,000	12,000	44,000	LQM S4UL
	Lead	N/A	200	310	80	2,330	630	1,300	DEFRA C4SL
	Elemental Mercury	N/A	1.2	1.2	21	58 (25.8) ^{vap}	16	30 (25.8) ^{vap}	LQM S4UL
	Inorganic Mercury	N/A	40	56	19	1,100	120	240	LQM S4UL
	Methylmercury	N/A	11	15	6.0	320	40	68	LQM S4UL
	Nickel	N/A	130	180	53	980	230	800	LQM S4UL
	Selenium	N/A	250	430	88	12,000	1,100	1,800	LQM S4UL
Polycyclic Aromatic Hydrocarbons (PAHs)	Vanadium	N/A	410	1,200	91	9,000	2,000	5,000	LQM S4UL
	Zinc	N/A	3,700	40,000	620	730,000	81,000	170,000	LQM S4UL
	Acenaphthene	1%	210	3,000 (57.1) ^{sol}	34	84,000 (57.0) ^{sol}	15,000	29,000	LQM S4UL
		2.5%	510	4,700 (141) ^{sol}	85	97,000 (141) ^{sol}	15,000	30,000	LQM S4UL
		6%	1,100	6,000 (336) ^{sol}	200	100,000	15,000	30,000	LQM S4UL
	Acenaphthylene	1%	170	2,900 (86.1) ^{sol}	28	83,000 (86.1) ^{sol}	15,000	29,000	LQM S4UL
		2.5%	420	4,600 (212) ^{sol}	69	97,000 (212) ^{sol}	15,000	30,000	LQM S4UL
		6%	920	6,000 (506) ^{sol}	160	100,000	15,000	30,000	LQM S4UL
	Anthracene	1%	2,400	31,000 (1.17) ^{vap}	380	520,000	74,000	150,000	LQM S4UL
		2.5%	5,400	35,000	950	540,000	74,000	150,000	LQM S4UL
		6%	11,000	37,000	2,200	540,000	74,000	150,000	LQM S4UL
	Benz(a)anthracene	1%	7.2	11	2.9	170	29	49	LQM S4UL
		2.5%	11	14	6.5	170	29	56	LQM S4UL
		6%	13	15	13	180	29	62	LQM S4UL
	Benzo(a)pyrene (only)	1%	5.0	5.3	5.70	77	10.0	21	DEFRA C4SL
		2.5%	5.0	5.3	5.70	77	10.0	21	DEFRA C4SL
		6%	5.0	5.3	5.70	77	10.0	21	DEFRA C4SL
	Benzo(a)pyrene (surrogate marker Coal Tar)	1%	0.8	1.2	0.32	15	2.2	4	LQM S4UL
		2.5%	1.0	1.2	0.67	15	2.2	5	LQM S4UL
		6%	1.1	1.2	1.20	15	2.2	5	LQM S4UL
	Benzo(b)fluoranthene	1%	2.6	3.9	0.99	44	7.1	13	LQM S4UL
		2.5%	3.3	4.0	2.1	44	7.2	15	LQM S4UL
		6%	3.7	4.0	3.9	45	7.2	16	LQM S4UL
	Benzo(ghi)perylene	1%	320	360	290	3,900	640	1,400	LQM S4UL
		2.5%	340	360	470	4,000	640	1,500	LQM S4UL
		6%	350	360	640	4,000	640	1,600	LQM S4UL
	Benzo(k)fluoranthene	1%	77	110	37	1,200	190	370	LQM S4UL
		2.5%	93	110	75	1,200	190	410	LQM S4UL
		6%	100	110	130	1,200	190	440	LQM S4UL
	Chrysene	1%	15	30	4.1	350	57	93	LQM S4UL
		2.5%	22	31	9.4	350	57	110	LQM S4UL
		6%	27	32	19	350	57	120	LQM S4UL
	Dibenzo(ah)anthracene	1%	0.24	0.31	0.14	3.5	0.57	1.1	LQM S4UL
		2.5%	0.28	0.32	0.27	3.6	0.58	1.3	LQM S4UL
		6%	0.3	0.32	0.43	3.6	0.58	1.4	LQM S4UL
	Fluoranthene	1%	280	1,500	52	23,000	3,100	6,300	LQM S4UL
		2.5%	560	1,600	130	23,000	3,100	6,300	LQM S4UL
		6%	890	1,600	290	23,000	3,100	6,400	LQM S4UL
	Fluorene	1%	170	2,800 (36.0) ^{sol}	27	63,000 (30.9) ^{sol}	9,900	20,000	LQM S4UL
		2.5%	400	3,800 (76.5) ^{sol}	67	68,000	9,900	20,000	LQM S4UL
		6%	860	4,500 (183) ^{sol}	160	71,000	9,900	20,000	LQM S4UL
	Indeno(123-cd)pyrene	1%	27	45	9.5	500	82	150	LQM S4UL
		2.5%	36	46	21	510	82	170	LQM S4UL
		6%	41	46	39	510	82	180	LQM S4UL
	Naphthalene	1%	15	15	65	1600 f	11000 f	800 f	C4SL
		2.5%	36	36	130	3700 f	15000 f	1200 f	C4SL
		6%	85	85	200	8400 f	17000 f	1900 f	C4SL
	Phenanthrene	1%	95	1,300 (36.0) ^{sol}	15	22,000	3,100	6,200	LQM S4UL
		2.5%	220	1,500	38	22,000	3,100	6,200	LQM S4UL
		6%	440	1,500	90	22,000	3,100	6,300	LQM S4UL
	Pyrene	1%	620	3,700	110	54,000	7,400	15,000	LQM S4UL
		2.5%	1,200	3,800	270	54,000	7,400	15,000	LQM S4UL
		6%	2,000	3,800	620	54,000	7,400	15,000	LQM S4UL
	Coal Tar (B(a)P as surrogate marker)	1%	0.79	1.2	0.32	15	2.2	4.4	LQM S4UL
		2.5%	0.98	1.2	0.67	15	2.2	4.7	LQM S4UL
		6%	1.1	1.2	1.2	15	2.2	4.8	LQM S4UL

Generic Assessment Criteria Values

Contaminant		SOM	Res +	Res -	Allot.	Comm.	POS _{resi}	POS _{park}	Source
BTEx Compounds	Benzene	1%	0.087	0.38	0.017	27	72	90	LQM S4UL
		2.5%	0.17	0.70	0.034	47	72	100	LQM S4UL
		6%	0.37	1.4	0.075	90	73	110	LQM S4UL
		6%	0.87	3.3	0.180	98	140	230	C4SL
	Toluene	1%	130	880 (869) ^{vap}	22	56,000 (869) ^{vap}	56,000	87,000 (869) ^{vap}	LQM S4UL
		2.5%	290	1,900	51	110,000 (1,920) ^{vap}	56,000	95,000 (1,920) ^{vap}	LQM S4UL
		6%	660	3,900	120	180,000 (4,360) ^{vap}	56,000	100,000 (4,360) ^{vap}	LQM S4UL
	Ethylbenzene	1%	47	83	16	5,700 (518) ^{vap}	24,000	17,000 (518) ^{vap}	LQM S4UL
		2.5%	110	190	39	13,000 (1,220) ^{vap}	24,000	22,000 (1,220) ^{vap}	LQM S4UL
		6%	260	440	91	27,000 (2,840) ^{vap}	25,000	27,000 (2,840) ^{vap}	LQM S4UL
	o-xylene	1%	60	88	28	6,600 (478) ^{sol}	41,000	17,000 (478) ^{sol}	LQM S4UL
		2.5%	140	210	67	15,000 (1,120) ^{sol}	42,000	24,000 (1,120) ^{sol}	LQM S4UL
		6%	330	480	160	33,000 (2,620) ^{sol}	43,000	33,000 (2,620) ^{sol}	LQM S4UL
	m-xylene	1%	59	82	31	6,200 (625) ^{vap}	41,000	17,000 (625) ^{vap}	LQM S4UL
		2.5%	140	190	74	14,000 (1,470) ^{vap}	42,000	24,000 (1,470) ^{vap}	LQM S4UL
		6%	320	450	170	31,000 (3,460) ^{vap}	43,000	32,000 (3,460) ^{vap}	LQM S4UL
	p-xylene	1%	56	79	29	5,900 (576) ^{sol}	41,000	17,000 (576) ^{sol}	LQM S4UL
		2.5%	130	180	69	14,000 (1,350) ^{sol}	42,000	23,000 (1,350) ^{sol}	LQM S4UL
		6%	310	430	160	30,000 (3,170) ^{sol}	43,000	31,000 (3,170) ^{sol}	LQM S4UL
Petroleum Hydrocarbons	Aliphatic								
	EC 5-6	1%	42	42	730	3,200 (304) ^{sol}	570,000(304) ^{sol}	95,000 (304) ^{sol}	LQM S4UL
	EC>6-8	1%	100	100	2,300	7,800 (144) ^{sol}	600,000	150,000 (144) ^{sol}	LQM S4UL
	EC>8-10	1%	27	27	320	2,000 (78) ^{sol}	13,000	14,000 (78) ^{vap}	LQM S4UL
	EC>10-12	1%	130 (48) ^{vap}	130 (48) ^{vap}	2,200	9,700 (48) ^{sol}	13,000	21,000 (48) ^{vap}	LQM S4UL
	EC>12-16	1%	1,100 (24) ^{sol}	1,100 (24) ^{sol}	11,000	59,000 (24) ^{sol}	13,000	25,000 (24) ^{sol}	LQM S4UL
	EC>16-35	1%	65,000 (8.48)	65,000 (8.48) ^{f, sol}	260,000 ^f	160,000 ^f	250,000 ^f	450,000 ^f	LQM S4UL
	EC>35-44	1%	65,000 (8.48)	65,000 (8.48) ^{f, sol}	260,000 ^f	160,000 ^f	250,000 ^f	450,000 ^f	LQM S4UL
	Aliphatic								
	EC 5-6	2.5%	78	78	1,700	5,900 (558) ^{sol}	590,000	130,000 (558) ^{sol}	LQM S4UL
	EC>6-8	2.5%	230	230	5,600	17,000 (322) ^{sol}	610,000	220,000 (322) ^{sol}	LQM S4UL
	EC>8-10	2.5%	65	65	770	4,800 (190) ^{vap}	13,000	18,000 (190) ^{vap}	LQM S4UL
	EC>10-12	2.5%	330 (118) ^{vap}	330 (118) ^{vap}	4,400	23,000 (118) ^{vap}	13,000	23,000 (118) ^{vap}	LQM S4UL
	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}	LQM S4UL
	EC>16-35	2.5%	92,000 (21)	92,000 (21) ^{f, sol}	270,000 ^f	1,700,000 ^f	250,000 ^f	480,000 ^f	LQM S4UL
	EC>35-44	2.5%	92,000 (21)	92,000 (21) ^{f, sol}	270,000 ^f	1,700,000 ^f	250,000 ^f	480,000 ^f	LQM S4UL
	Aliphatic								
	EC 5-6	6%	160	160	3,900	12,000 (1,150) ^{sol}	600,000	180,000 (1,150) ^{sol}	LQM S4UL
	EC>6-8	6%	530	530	13,000	40,000 (736) ^{sol}	620,000	320,000 (736) ^{sol}	LQM S4UL
	EC>8-10	6%	150	150	1,700	11,000 (451) ^{vap}	13,000	21,000 (451) ^{vap}	LQM S4UL
	EC>10-12	6%	760 (283) ^{vap}	760 (283) ^{vap}	7,300	47,000 (283) ^{vap}	13,000	24,000 (283) ^{vap}	LQM S4UL
	EC>12-16	6%	4,300 (142) ^{sol}	4,400 (142) ^{sol}	13,000	90,000 (142) ^{sol}	13,000	26,000 (142) ^{sol}	LQM S4UL
	EC>16-35	6%	110,000 ^f	110,000 ^f	270,000 ^f	1,800,000 ^f	250,000 ^f	490,000 ^f	LQM S4UL
	EC>35-44	6%	110,000 ^f	110,000 ^f	270,000 ^f	1,800,000 ^f	250,000 ^f	490,000 ^f	LQM S4UL
	Aromatic								
	EC5-7(benzene as non-	1%	70	370	13	26,000 (1,220) ^{sol}	56,000	76,000 (1,220) ^{sol}	LQM S4UL
	EC>7-8(toluene)	1%	130	860	22	56,000 (869) ^{vap}	56,000	87,000 (869) ^{vap}	LQM S4UL
	EC>8-10	1%	34	47	8.6	3,500 (613) ^{vap}	5,000	7,200 (613) ^{vap}	LQM S4UL
	EC>10-12	1%	74	250	13	16,000 (364) ^{sol}	5,000	9,200 (364) ^{sol}	LQM S4UL
	EC>12-16	1%	140	1,800	23	36,000 (169) ^{sol}	5,100	10,000	LQM S4UL
	EC>16-21	1%	260 ^f	1,900 ^f	46 ^f	28,000 ^f	3,800 ^f	7,600 ^f	LQM S4UL
	EC>21-35	1%	1,100 ^f	1,900 ^f	370 ^f	28,000 ^f	3,800 ^f	7,800 ^f	LQM S4UL
	EC>35-44	1%	1,100 ^f	1,900 ^f	370 ^f	28,000 ^f	3,800 ^f	7,800 ^f	LQM S4UL
	Aromatic								
	EC5-7(benzene as non-	2.5%	140	690	27	46,000 (2,260) ^{sol}	56,000	84,000 (2,260) ^{sol}	LQM S4UL
	EC>7-8(toluene)	2.5%	290	1,800	51	110,000 (1,920) ^{sol}	56,000	95,000 (1,920) ^{sol}	LQM S4UL
	EC>8-10	2.5%	83	110	21	8,100 (1,500) ^{vap}	5,000	8,500 (1,500) ^{vap}	LQM S4UL
	EC>10-12	2.5%	180	590	31	28,000 (899) ^{sol}	5,000	9,700 (899) ^{sol}	LQM S4UL
	EC>12-16	2.5%	330	2,300 (419) ^{sol}	57	37,000	5,100	10,000	LQM S4UL
	EC>16-21	2.5%	540 ^f	1,900 ^f	110 ^f	28,000 ^f	3,800 ^f	7,700 ^f	LQM S4UL
	EC>21-35	2.5%	1,500 ^f	1,900 ^f	820 ^f	28,000 ^f	3,800 ^f	7,800 ^f	LQM S4UL
	EC>35-44	2.5%	1,500 ^f	1,900 ^f	820 ^f	28,000 ^f	3,800 ^f	7,800 ^f	LQM S4UL
	Aromatic								
	EC5-7(benzene as non-	6%	300	1,400	57	86,000 (4,710) ^{sol}	56,000	92,000 (4,710) ^{sol}	LQM S4UL
	EC>7-8(toluene)	6%	660	3,900	120	180,000 (4,360) ^{vap}	56,000	100,000 (4,360) ^{vap}	LQM S4UL
	EC>8-10	6%	190	270	51	17,000 (3,580) ^{vap}	5,000	9,300 (3,580) ^{vap}	LQM S4UL
	EC>10-12	6%	380	1,200	4	34,000 (2,150) ^{sol}	5,000	10,000	LQM S4UL
	EC>12-16	6%	660	2,500	130	38,000	5,100	10,000	LQM S4UL
	EC>16-21	6%	930 ^f	1,900 ^f	260 ^f	28,000 ^f	3,800 ^f	7,800 ^f	LQM S4UL
	EC>21-35	6%	1,700 ^f	1,900 ^f	1,600 ^f	28,000 ^f	3,800 ^f	7,900 ^f	LQM S4UL
	EC>35-44	6%	1,700 ^f	1,900 ^f	1,600 ^f	28,000 ^f	3,800 ^f	7,900 ^f	LQM S4UL
	Aliphatic +Aromatic >EC44	1%	1,600 ^f	1,900 ^f	1,200 ^f	28,000 ^f	3,800 ^f	7,800 ^f	LQM S4UL
		2.5%	1,800 ^f	1,900 ^f	2,100 ^f	28,000 ^f	3,800 ^f	7,800 ^f	LQM S4UL
		6%	1,900 ^f	1,900 ^f	3,000 ^f	28,000 ^f	3,800 ^f	7,900 ^f	LQM S4UL

Generic Assessment Criteria Values

Contaminant		SOM	Res +	Res -	Allot.	Comm.	POS _{resi}	POS _{park}	Source
Chloalkanes and Alkenes & Explosives	1,2 Dichloroethane (DCA)	1%	0.11	0.16	0.05	12.0	300	300	DEFRA C4SL
		2.5%	0.18	0.24	0.10	17.0	310	330	DEFRA C4SL
		6%	0.31	0.41	0.19	29.0	310	330	DEFRA C4SL
	1,1,1 Trichloroethane (TCA)	1%	8.8	9.0	48	660	140,000	57,000 (1,425) ^{vap}	LQM S4UL
		2.5%	18	18	110	1,300	140,000	76,000 (2,915) ^{vap}	LQM S4UL
		6%	39	40	240	3,000	140,000	100,000 (6,392)	LQM S4UL
	1,1,2,2-Tetrachloroethanes (PCA)	1%	1.6	3.9	0.41	270	1,400	1,800	LQM S4UL
		2.5%	3.4	8.0	0.89	550	1,400	2,100	LQM S4UL
		6%	7.5	17	2.0	1,100	1,400	2,300	LQM S4UL
	1,1,1,2-Tetrachloroethanes (PCA)	1%	1.2	1.5	0.79	110	1,400	1,500	LQM S4UL
		2.5%	2.8	3.5	1.9	250	1,400	1,800	LQM S4UL
		6%	6.4	8.2	4.4	560	1,400	2,100	LQM S4UL
	Tetrachloroethene (PCE)	1%	0.31	0.32	2.00	24	3,200	1400	DEFRA C4SL
		2.5%	0.70	0.71	4.8	55	3,300	1900	DEFRA C4SL
		6%	1.60	1.60	11.0	130	3,400	2,500	DEFRA C4SL
	Tetrachloromethane (carbon tetrachloride)	1%	0.03	0.03	0.45	2.9	890	190	LQM S4UL
		2.5%	0.06	0.06	1.0	6.3	920	270	LQM S4UL
		6%	0.13	0.13	2.4	14	950	400	LQM S4UL
	Trichloroethene (TCE)	1%	0.009	0.010	0.032	0.7	76.0	41.0	DEFRA C4SL
		2.5%	0.020	0.020	0.072	1.5	78.0	51.0	DEFRA C4SL
		6%	0.043	0.045	0.160	3.4	79.0	69.0	DEFRA C4SL
	cis 1,2-dichloroethene	1%	0.46	0.50	0.890	38	3,800	2,000	DEFRA C4SL
		2.5%	0.78	0.84	1.70	64	3,800	2,400	DEFRA C4SL
		6%	1.50	1.60	3.60	120	3,900	3,100	DEFRA C4SL
	Trichloromethane (chloroform)	1%	0.91	1.2	0.42	99	2,500	2,600	LQM S4UL
		2.5%	1.7	2.1	0.83	170	2,500	2,800	LQM S4UL
		6%	3.4	4.2	1.7	350	2,500	3,100	LQM S4UL
	Trans-1,2 Dichloroethene	1%	0.9	0.9	3.7	69	13,000	5,600	DEFRA C4SL
		2.5%	1.6	1.7	7.5	120	13,000	7,000	DEFRA C4SL
		6%	3.3	3.4	16.0	260	13,000	9,100	DEFRA C4SL
	Chloroethene (vinyl chloride)	1%	0.006	0.015	0.0017	1.1E+00	7.8	18.0	DEFRA C4SL
		2.5%	0.010	0.019	0.0031	1.4E+00	7.8	19.0	DEFRA C4SL
		6%	0.017	0.029	0.0058	2.20	7.8	19.0	DEFRA C4SL
	2,4,6-Trinitrotoluene (TNT)	1%	1.6	65	0.24	1,000	130	260	LQM S4UL
		2.5%	3.7	66	0.58	1,000	130	270	LQM S4UL
		6%	8.1	66	1.4	1,000	130	270	LQM S4UL
	RDX	1%	120	13,000	17	210,000	26,000	49,000 (18.7) ^{sol}	LQM S4UL
		2.5%	250	13,000	38	210,000	26,000	51,000	LQM S4UL
		6%	540	13,000	85	210,000	27,000	53,000	LQM S4UL
	HMX	1%	5.7	6,700	0.86	110,000	13,000	23,000 (0.35) ^{vap}	LQM S4UL
		2.5%	13	6,700	1.9	110,000	13,000	23,000 (0.39) ^{vap}	LQM S4UL
		6%	26	6,700	3.9	110,000	13,000	24,000 (0.48) ^{vap}	LQM S4UL
Pesticides	Aldrin	1%	5.7	7.3	3.2	170	18	30	LQM S4UL
		2.5%	6.6	7.4	6.1	170	18	31	LQM S4UL
		6%	7.1	7.5	9.8	170	18	31	LQM S4UL
	Dieldrin	1%	0.97	7.0	0.17	170	18	30	LQM S4UL
		2.5%	2.0	7.3	0.41	170	18	30	LQM S4UL
		6%	3.5	7.4	0.96	170	18	31	LQM S4UL
	Atrazine	1%	3.3	610	0.5	9,300	1,200	2,300	LQM S4UL
		2.5%	7.8	620	1.2	9,400	1,200	2,400	LQM S4UL
		6%	17.4	620	2.7	9,400	1,200	2,400	LQM S4UL
	Dichlorvos	1%	3.2E-02	6.4	4.9E-03	140	16	26	LQM S4UL
		2.5%	6.6E-02	6.5	1.0E-02	140	16	26	LQM S4UL
		6%	0.14	6.6	2.2E-02	140	16	27	LQM S4UL
	Endosulfanns (2 isomers)	1%	7.4	160 (3.0E-03) ^{vap}	1.2	5,600 (3.0E-03) ^{vap}	1,200	2,300	LQM S4UL
		2.5%	18	280 (7.0E-03) ^{vap}	2.9	7,400 (7.0E-03) ^{vap}	1,200	2,400	LQM S4UL
		6%	41	410 (1.6E-02) ^{vap}	6.8	8,400 (1.6E-02) ^{vap}	1,200	2,500	LQM S4UL
	Hexachlorocyclohexane (3 isomers), inc Lindane	1%	8.5E-02	3.7	1.3E-02	65	8.1	15	LQM S4UL
		2.5%	0.2	3.8	3.2E-02	65	8.1	15	LQM S4UL
		6%	0.46	3.8	7.7E-02	65	8.1	16	LQM S4UL
Chlorobenzenes	Chlorobenzene	1%	0.46	0.46	5.9	56	11,000	1,300 (675) ^{sol}	LQM S4UL
		2.5%	1.0	1.0	14	130	13,000	2,000 (1,520) ^{sol}	LQM S4UL
		6%	2.4	2.4	32	290	14,000	2,900	LQM S4UL
	Dichlorobenzenes (3 isomers)	1%	23	24	94	2,000 (571) ^{sol}	90,000	24,000 (571) ^{sol}	LQM S4UL
		2.5%	55	57	230	4,800 (1,370) ^{sol}	95,000	36,000 (1,370) ^{sol}	LQM S4UL
		6%	130	130	540	11,000 (3,240) ^{sol}	98,000	51,000 (3,270) ^{sol}	LQM S4UL
	Trichlorobenzenes (3 isomers)	1%	2.6	2.6	55	220	15,000	1,700 (318) ^{vap}	LQM S4UL
		2.5%	6.4	6.4	140	530	17,000	2,600 (786) ^{vap}	LQM S4UL
		6%	15	15	320	1,300	19,000	4,000 (1,880) ^{vap}	LQM S4UL
	Tetrachlorobenzenes (3 isomers)	1%	0.66	0.75	0.38	49 (39.4) ^{vap}	78	110 (39) ^{vap}	LQM S4UL
		2.5%	1.6	1.9	0.90	120 (98.1) ^{vap}	79	120	LQM S4UL
		6%	3.7	4.3	2.2	240 (235) ^{vap}	79	130	LQM S4UL
	Pentachlorobenzene	1%	5.8	19	1.2	640 (43.0) ^{sol}	100	190	LQM S4UL
		2.5%	12	30	3.1	770 (107) ^{sol}	100	190	LQM S4UL
		6%	22	38	7.0	830	100	190	LQM S4UL
	Hexachlorobenzene	1%	1.8 (0.20) ^{vap}	4.1 (0.20) ^{vap}	0.47	110 (0.20) ^{vap}	16	30	LQM S4UL
		2.5%	3.3 (0.50) ^{vap}	5.7 (0.50) ^{vap}	1.1	120	16	30	LQM S4UL
		6%	4.9	6.7 (1.2) ^{vap}	2.5	120	16	30	LQM S4UL

Generic Assessment Criteria Values

Contaminant		SOM	Res +	Res -	Allot.	Comm.	POS _{resi}	POS _{park}	Source
Chlorophenol	Chlorophenols (4 congeners)	1%	0.87 ^g	94	0.13 ^g	3,500	620	1,100	LQM S4UL
		2.5%	2.0	150	0.30	4,000	620	1,100	LQM S4UL
		6%	4.5	210	0.70	4,300	620	1,100	LQM S4UL
	Pentachlorophenol	1%	0.22	27 (16.4) ^{vap}	3.0E-02	400	60	110	LQM S4UL
		2.5%	0.52	29	8.0E-02	400	60	120	LQM S4UL
		6%	1.2	31	0.19	400	60	120	LQM S4UL
Others	Carbon Disulphide	1%	0.14	0.14	4.8	11	11,000	1,300	LQM S4UL
		2.5%	0.29	0.29	10	22	11,000	1,900	LQM S4UL
		6%	0.62	0.62	23	47	11,000	2,700	LQM S4UL
	Hexachlorobutadiene	1%	0.29	0.32	0.25	31	25	48	LQM S4UL
		2.5%	0.7	0.78	0.61	66	25	50	LQM S4UL
		6%	1.6	1.8	1.4	120	25	51	LQM S4UL
	Phenol	1%	120	440 (460)	23	440 ^{dir} (26,000)	440 ^{dir} (10,000)	440 ^{dir} (7,600)	LQM S4UL
		2.5%	200	690	42	690 ^{dir} (30,000)	690 ^{dir} (10,000)	690 ^{dir} (8,300)	LQM S4UL
		6%	380	1,200	83	1,300 ^{dir} (34,000)	1,300 ^{dir} (10,000)	1,300 ^{dir} (9,300)	LQM S4UL

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
f = oral, dermal and inhalation exposures compared to oral HCV
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-tetrachlorophenol

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