



Contamination Investigation Report

at

**Land at Gorelands Farm, Stane Street, North Heath,
Horsham, West Sussex RH20 1DN**

for

Batcheller Monkhouse

**Reference: 22307/CIR Rev1.0
March 2026**

Control Document

Project

Land at Gorelands Farm, Stane Street, North Heath, Horsham, West Sussex RH20 1DN

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This is not a valid document for use in the design of the project unless it is titled Final in the document status box.

Current regulations and good practice were used in the preparation of this report. The recommendations given in this report must be reviewed by an appropriately qualified person at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.



Commission

This document comprises the Contamination Investigation Report (CIR) and incorporates the results, discussion, and conclusions to this intrusive works. General site data is recorded below:

Commission Record	
Client	Batcheller Monkhouse
Site Name	Land at Gorelands Farm, Stane Street, North Heath, Horsham, West Sussex RH20 1DN
Grid Reference	TQ064208
Soils Limited Quotation Ref	Q30886 dated 20 th January 2026
Clients Purchase Order	Q30886 dated 21 st January 2026

The record of revision to this document is presented below:

Record Of Revisions		
Revision	Date	Reason
Rev1.0	March 26	Final

Note(s): The latest revised document supersedes all previous revisions of the CIR produced by Soils Limited.

Documents associated with this development that must be referred to are given below.

Record Of Associated Documents			
Reference	Type	Date	Creator
LS9050	Phase I Geo-Environmental Assessment	Jan 26	Land Science
154_2502	Site Block Plan	Dec 25	Simon Harvey Designs
154_02	Site Block Plan	Apr 25	Simon Harvey Designs

Limitations and Disclaimers

The report was prepared solely for the brief described in Section 1.1 of this report.

The contents, recommendations and advice given in the report are subject to the Terms and Conditions given in Soils Limited's Quotation

Soils Limited disclaims any responsibility to the Client and others in respect of any matters outside the scope of the above.

This report has been prepared by Soils Limited, with all reasonable skill, care and diligence within the terms of the Contract with the Client, incorporation of our General Conditions of Contract of Business and taking into account the resources devoted to us by agreement with the Client.

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The ground is a product of continuing natural and artificial processes. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time. Whilst a ground investigation will mitigate to a greater or lesser degree against the resulting risk from variation, the risks cannot be eliminated.

The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the Client in accordance with their brief. As such these do not necessarily address all aspects of ground behaviour at the site.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

If the term "competent person" is used in this report or any Soils Limited document, it means an engineering geologist or civil engineer with a minimum of three years post graduate experience in the understanding and application of the appropriate codes of practice.

Unless the site investigation works have been designed and specified in accordance with EC7, this report is a Geotechnical Investigation Report and is not necessarily a Ground Investigation Report as defined by EC7 (Eurocode 7 Part 1, §3.4, Part 2, §6.1) or a Geotechnical Design Report (Eurocode 7 Part 1, §2.8) as defined by Eurocode 7 and as

such may not characterise the ground conditions and additional works may be required to comply with the requirements of EC7.

Within the report reference to ground level relates to the site level at the time of the investigation, unless otherwise stated.

Exploratory hole is a generic term used to describe a method of direct investigation. The term trial pit, borehole or window sample borehole implies the specific technique used to produce an exploratory hole.

The chemical analyses were undertaken by Construction Testing Solutions (CTS) in accordance with their UKAS and MCERTS accredited test methods or their documented in-house testing procedures. This investigation did not comprise an environmental audit of the site or its environs.

Ownership of land brings with it onerous legal liabilities in respect of harm to the environment. "Contaminated Land" is defined in Section 57 of the Environment Act 1995 (as updated 2021) as:

"Land which is in such a condition by reason of substances in, on or under the land that significant harm is being caused or that there is a significant possibility of such harm being caused or that pollution of controlled waters is being, or is likely to be caused".

It must be noted that a detailed survey of the possible presence or absence of invasive species, such as Japanese Knotweed, is outside of the scope of investigation.

Deleterious materials may be present in any Made Ground that pose a potential risk to site workers, end users and adjacent vulnerable receptors. These could include a range of contaminants, including asbestos, especially if the material includes large fractions of demolition derived materials.

The investigation, analysis or recommendations in respect of contamination are made solely in respect of the prevention of harm to vulnerable receptors, using where possible best practice at the date of preparation of the report. The investigation and report do not address, define or make recommendations in respect of environmental liabilities. A separate environmental audit and liaison with statutory authorities is required to address these issues.

All environmental works are undertaken in the context of, and in compliance with, BS10175+A2 2017 and LCRM (EA 2021) and all other pertinent planning, standards, documentation and guidance appropriate to the site at the time of production which may include, but are not necessarily limited to, documents provided by BS/CEN/ISO, NHBC, AGS, CIEH, CIRIA, SoBRA and CLAIRE.

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Section I Introduction

I.1 Objective of Investigation

The Client commissioned Soils Limited to conduct an intrusive ground investigation to assess potential contamination on site and produce a Contamination Investigation Report to aid site-specific development.

Soil samples from exploratory holes underwent contamination testing to inform safe site redevelopment and protect any vulnerable receptors, in line with the findings of the Conceptual Site Model (CSM) in the Preliminary Investigation Report undertaken for the site by Land Science (LS9050, dated January 2026) and/or the Revised Conceptual Site Model presented in Appendix C.1.

I.2 Site Description

The site comprised a single storey brick-built farm building understood to be used as a lambing shed / stable, small central concrete yard area and a separate single storey wooden stable / outbuilding.

The central concrete slab showed no cracks or staining. The surrounding site area consisted of soft landscaping. Mature trees and hedgerows were noted along the site boundary.

The site's overall topography was dipping $<2^\circ$ towards the east.

The site location plan is given in Figure I. An aerial photograph of the site and its close environs has been included in

Figure 2.

1.3 Proposed Development

The proposed development comprised the conversion of the brick agricultural building to a 1 bedroom dwelling house with a driveway and a large rear garden.

In compiling this report reliance was placed on drawing numbers 154_2502 and 154_02 dated December and April 2025 by Simon Harvey Designs. The recommendations provided within this report are made exclusively in relation to the scheme outlined above, and must not be applied to any other scheme without further consultation with Soils Limited. Soils Limited must be notified about any change or deviation from the scheme outlined.

Development plans provided by the Client are presented in Appendix D.

1.4 Anticipated Geology

The 1:50,000 BGS map showed the site to be located directly upon the bedrock Weald Clay Formation with no overlying superficial deposits

1.4.1 Weald Clay Formation

The Weald Clay Formation consists of shales and mudstones with occasionally thin beds of siltstones, sandstone, shelly limestone and clay ironstone. When fresh the beds are normally dark grey weathering to mottled yellow and brown near the surface or at outcrop. Bands of red clay occur within the bed, usually in association with the sandstone.

Section 2 Site Works

2.1 Proposed Project Works

The proposed intrusive investigation was designed to provide information on the ground conditions and to assist the safe development of the site. The intended investigation, as outlined within the Soils Limited quotation (Q30886 dated 20th January 2026), was to comprise the following items:

- All holes to be scanned with CAT and Genny
- 6-8No. 2-3m deep windowless sampler boreholes
- Contamination laboratory analysis

2.1.1 Actual Project Works

The actual project works were undertaken on 20th February 2026, with subsequent sample logging, laboratory testing, and reporting. The actual works comprised:

- All holes to be scanned with CAT and Genny
- 8No. 2-3m deep windowless sampler boreholes
- Contamination laboratory analysis

The eight windowless sampler boreholes (WS1-WS8) were backfilled with gravel. All exploratory hole locations have been presented in Figure 3.

Following completion of site works, soil cores were logged and sub-sampled so that samples could be sent to the laboratory for contamination testing.

2.2 Ground Conditions

On 20th February 2026, eight windowless sampler boreholes (WS1-WS8) were drilled using a Premier Rig to depths ranging between 2.00-3.00m bgl at locations selected by Soils Limited, using a development plan provided by the client.

The maximum depths of exploratory holes have been included in Table 2.1.

Table 2.1 Final Depth of Exploratory Holes

Exploratory Hole	Depth (m bgl)	Exploratory Hole	Depth (m bgl)
WS1	2.70	WS5	3.00
WS2	3.00	WS6	3.00
WS3	2.30	WS7	3.00
WS4	2.00	WS8	3.00

Note(s): The depths given were taken from the ground level on-site at the time of investigation.

Soil conditions were logged and sampled as required, with depths measured from ground level. Soils with organic content or natural weathering were classified as Topsoil, while those altered or placed by humans (with >5% non-natural material) were labelled Made Ground. Full details are given in Appendix B. For discussion, the soil conditions

found in the exploratory holes, from top to bottom, are summarised as follows:

**Made Ground/Topsoil (MG/TS)
Weald Clay Formation (WC)**

The ground conditions encountered in the exploratory holes are summarised in Table 2.2.

Table 2.2 Ground Conditions

Strata	Depth Encountered (m bgl)		Typical Thickness (m)	Typical Description
	Top	Bottom		
MG	0.00	0.20-0.30	0.25	Soft black slightly sandy, gravelly CLAY. Gravel is fine to coarse concrete, flint, rare brick, charcoal, clinker and rubber. Abundant rootlets.
TS		0.20	0.20	Dark brown slightly sandy, slightly gravelly CLAY. Gravel is subangular fine to medium flint. Sand is fine. Abundant rootlets.
WC	0.20-0.30	2.00 ¹ -3.00 ¹	Not Proven ²	Soft to firm orangish brown mottled light brown and brownish grey, slightly sandy CLAY. Occasional pockets of dark orangish brown ferruginous fine sand/nodules. Rare rootlets

Note(s): ¹ Final depth of exploratory hole. ² Base of strata not encountered. The depths given in this table are taken from the ground level on-site at the time of investigation.

2.3 Ground Conditions Encountered in Exploratory Holes

The ground conditions encountered in exploratory holes have been described below in descending order. The engineering logs are presented in Appendix B.1.

2.3.1 Made Ground and Topsoil

Soils described as Made Ground were encountered in three out of the eight exploratory holes from ground level to depths ranging between 0.20m (WS8) and 0.30m (WS4 and WS7) below ground level.

The Made Ground typically comprised of soft black slightly sandy, gravelly CLAY. Gravel is fine to coarse concrete, flint, rare brick, charcoal, clinker and rubber. Abundant rootlets.

Soils described as Topsoil were encountered in five exploratory holes from ground level to a depth of 0.20m bgl.

The Topsoil comprised of dark brown slightly sandy, slightly gravelly CLAY. Gravel is subangular fine to medium flint. Sand is fine. Abundant rootlets

The established depth of Made Ground and Topsoil found at each exploratory hole location has been included in Table 2.3.

Table 2.3 Established Depth of Made Ground/Topsoil

Exploratory Hole	Strata	Depth (m bgl)
WS1	TS	0.20
WS2	TS	0.20
WS3	TS	0.20
WS4	MG	0.30
WS5	TS	0.20
WS6	TS	0.20
WS7	MG	0.30
WS8	MG	0.20

2.3.2 Weald Clay Formation

The Weald Clay Formation was noted directly beneath the Made Ground/Topsoil to the full depth of the exploratory holes.

The Weald Clay Formation was typically described as soft to firm orangish brown mottled light brown and brownish grey, slightly sandy CLAY. Occasional pockets of dark orangish brown ferruginous fine sand/nodules. Rare rootlets.

The established depth of the Weald Clay Formation found at each exploratory hole location has been included in Table 2.4.

Table 2.4 Established Depth of Weald Clay Formation

Exploratory Hole	Depth (m bgl)	Exploratory Hole	Depth (m bgl)
WS1	2.70 ¹	WS5	3.00 ¹
WS2	3.00 ¹	WS6	3.00 ¹
WS3	2.30 ¹	WS7	3.00 ¹
WS4	2.00 ¹	WS8	3.00 ¹

Note(s): ¹ Final depth of exploratory hole. The depths given were taken from the ground level on-site at the time of investigation.

2.4 Groundwater

Groundwater was recorded in five of the eight exploratory holes and struck at depths ranging between 1.30m and 1.80m bgl.

Changes in groundwater level occur for a number of reasons including seasonal effects and variations in drainage. The investigation was conducted in February (2026), when groundwater levels should be rising from their annual minimum (lowest) elevation, which typically occurs around September to the annual maximum (highest) which typically occurs around March.

Groundwater equilibrium conditions may only be conclusively established, if a series of observations are made via groundwater monitoring wells.

Section 3 Determination of Chemical Analysis

3.1 Site Characterisation and Revised Conceptual Site Model

The Preliminary Investigation Report undertaken by Land Science (report ref: LS9050 dated January 2026) identified a very low to high risk of ground contamination from previous usage of the site and offsite sources.

This investigation identified Made Ground to depths between 0.20m and 0.30m bgl.

There were no significant visual or olfactory indicators of contamination noted.

WS1 was noted to have decaying organic matter noted at 0.65m-0.70m bgl and 0.72-0.90m bgl.

The conceptual site model was updated to reflect the above findings, where required, and is presented in Appendix C.1.

3.2 Soil Sampling

Exploratory hole locations were established to provide an overview of ground conditions across the site in relation to the proposed construction, together with enabling the collection of samples to enable chemical characterisation of the underlying strata.

Representative samples for potential environmental testing were obtained from the exploratory holes at depths of between 0.10m and 1.10m to allow appropriate representation of the materials encountered, with additional samples to be obtained, if necessary, where there was visual or olfactory evidence of contamination.

Unless otherwise stated, analytical testing was based initially on a screening suite of commonly identified inorganic and organic contaminants, taking into account the prevailing site conditions and the findings of the initial conceptual site model.

3.3 Determination of Chemical Analysis

The driver for determination of the analysis suite was the information obtained from the Preliminary Investigation Report and this intrusive investigation.

The chemical analyses were carried out on one sample of Made Ground, two samples of Topsoil and five samples of the Weald Clay Formation. The nature of the analyses is detailed in Table 3.1.

Table 3.1 Chemical Analyses Suites - Soil

Determinants	Soil Tested		
	MG	TS	WC
Metal suites: Arsenic, Boron (Water Soluble), Cadmium, Chromium (total & hexavalent), Copper, Lead, Mercury, Nickel, Selenium, Vanadium, Zinc	2		5
Organic Matter	2		5
pH	2		5
Polycyclic aromatic hydrocarbons (PAH) – (EPA 16)	2		5
Phenols – total monohydric	2		5
Extractable petroleum hydrocarbons (EPH) – Texas banding	1		1
Total petroleum hydrocarbons (TPH) – CWG banding	2		5
BTEX and MTBE	1		1
Cyanide total & free	1		1
Polychlorinated biphenyls (PCB) – 7 Congeners	1		1
Asbestos screening	2		5
Herbicides and Pesticides		1	

The soil testing was carried out in compliance with the MCERTS performance standard, and the results are shown in Appendix C.2, test report E26/03047/SLT.

Section 4 Qualitative Risk Assessment

4.1 Assessment Criteria

The assessment criteria used to determine risks to human health are derived and explained within Appendix C.3.

4.2 Representative Contamination Criteria - Soil

In compiling this report reliance was placed on drawing numbers 154_2502 and 154_02 dated December and April 2025 by Simon Harvey Designs. The recommendations provided within this report are made exclusively in relation to the scheme outlined above, and must not be applied to any other scheme without further consultation with Soils Limited. Soils Limited must be notified about any change or deviation from the scheme outlined.

Based on the proposed development, the results of the chemical analysis have been compared against generic assessment criteria (GAC) for a '**Residential with home grown produce**,' end use, as presented in SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination December 2014 (C4SL), derived for the protection of human health. Where this document has not published screening values for determinants, GACs derived for the same end use have been adopted from the following published guidance; DEFRA Soil Guideline Values (SGV) and LQM/CIEH/Suitable 4 Use Level (S4UL).

To assess the potential toxicity of organic determinants (Petroleum Hydrocarbons and Polyaromatic Hydrocarbons) to human health, soils samples were analysed for Soil Organic Matter (SOM). The selected samples analysed recorded, SOM values of between 0.9% and 12%. For each soil sample tested, the resultant SOM allowed for the correct comparison to be made with the appropriate guideline value for each organic determinant analysed.

4.3 Risk Assessment – Made Ground/Topsoil

None of the samples tested exceeded the GAC for a residential with home grown produce.

The risk assessment established that there were no pollutant linkages in relation to human health within the Made Ground and Topsoil.

4.4 Risk Assessment – Weald Clay

None of the samples tested exceeded the GAC for a residential with home grown produce.

The risk assessment established that there were no pollutant linkages in relation to human health within the Weald Clay Formation.

4.5 Asbestos

The test certificate for each sample submitted for contamination analysis during this investigation includes the results of an Asbestos Screen.

In each case 'Not detected' was reported.

This finding does not obviate the risk of asbestos being present on the site and the Client must seek advice from qualified and competent asbestos specialist during and prior to undertaking works to ensure compliance with appropriate legislation and guidance.

4.6 Risk to Groundwater

The site is located on an unproductive stratum, is not within a groundwater source protection zone and there are no groundwater abstractions within 1km of the site.

The nearest surface watercourse feature is the River Arun, located immediately east from site.

None of the samples tested, exceeded the GAC for a residential end use, which is the most onerous GAC, and limited Made Ground was noted. Despite there being moderate vulnerability due to the adjacent River Arun, there is overall a very low risk of groundwater contamination and therefore no further assessment is required.

4.7 Risk from Ground Gas Ingression

Potential sources of ground gas within influencing distance of the site identified within the CSM comprise:

- Made Ground

However, due to the limited Made Ground, the risk was very low and therefore no further assessment is required.

4.7.1 Radon

The site **was not** within an area where protection or risk assessment against the ingress of radon was required. Radon protection measures **will not be required** within the proposed new development. Should a basement be part of the development then the Local authority may require precautionary measures.

4.8 Generic Quantitative Risk Assessment

Quantitative risk assessments are undertaken for the soil. The CSM has been updated to take account of the assessments below and presented in Appendix C.1. The full laboratory chemical report is presented in Appendix C.2.

4.8.1 Soils

There were no exceedances recorded in any of the samples tested.

The Tier 1 Quantitative risk assessment therefore established that there was **no risk to the human health receptors** of construction workers or future end-users.

4.9 Recommendations

The investigation has not established any risk to the Human Health, Building Structures and Services and Groundwater receptors, so remediation is not required.

A discovery strategy must be put in place to address any unexpected contamination during the development works.

All recommendations are subject to local authority agreement and approval, which should be sought at the soonest opportunity.

4.10 Protection of Services

Contamination of the ground may pose a risk to human health by permeating potable water supply pipes. To fulfil their statutory obligations, UK water supply companies require robust evidence from developers to demonstrate either that the ground in which new plastic supply pipes will be laid is free from contaminants specified in UKWIR Report 10/WM/03/21 Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites (UKWIR, 2010), or that the proposed remedial strategy will mitigate any existing risk.

4.11 Duty of Care

Groundworkers must maintain a good standard of personal hygiene including the wearing of overalls, boots, gloves and eye protectors and the use of dust masks during periods of dry weather.

4.12 Excavated Material

Excavated material as waste must be defined or classified prior to any disposal, transport, recycling or re-use at or by an appropriately licensed or exempt carrier and/or off-site disposal facility. The requirements inherent in both Duty of Care and Health and Safety must also be complied with. In order to determine what is to happen, what is suitable, appropriate and most effective in the disposal of wastes, especially those subject to CDM waste management plan requirements, several factors must be considered, and competent advice must always be sought.

4.13 HazWasteOnline

Further consideration of results using HazWasteOnline™ can be undertaken on request to give an indication of potentially hazardous properties in the materials analysed.

4.14 Re-use of Excavated Material On-site

The re-use of on-site soils may be undertaken either under the Environmental Permitting Regulations 2007 (EPR), in which case soils other than uncontaminated soils are classed as waste, or under the CL:AIRE Voluntary Code of Practice (CoP) which was published in September 2008 and is accepted as an alternative regime to the EPR.

4.15 Imported Material

Any soil, which is to be imported onto the site, must undergo chemical analysis to permit classification prior to its importation and placement in order to ascertain its status with specific regard to contamination, i.e. to prove that it is suitable for the purpose for which it is intended.

4.16 Discovery Strategy

There may be areas of contamination not identified during the course of the investigation. Such occurrences may also be discovered during the demolition and construction phases for the redevelopment of the site.

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Figure 1 – Site Location Map



Job Number
22307

Project
Land at Gorelands Farm, Stane Street, North Heath,
Horsham, RH20 1DN

Client
Batcheller Monkhouse

Date
March 2026



Figure 2 – Aerial Photograph

Job Number
22307

Project

Land at Gorelands Farm, Stane Street, North Heath,
Horsham, RH20 1DN

Client
Batcheller Monkhouse

Date
March 2026



Figure 3 – Exploratory Hole Plan

Job Number

22307

Project

Land at Gorelands Farm, Stane Street, North Heath,
Horsham, RH20 1DN

Client

Batcheller Monkhouse

Date

March 2026

Appendix A Standards and Resources

The site works, soil descriptions and testing were undertaken in accordance with the following standards where applicable:

- BS 5930:2015+A1:2020 and BS EN ISO 22476-2 2005+A1:2011
- BS EN ISO 14688-1:2018 - Geotechnical investigation and testing - Identification and description
- BS EN ISO 14688-2:2018 - Geotechnical investigation and testing - Principles for a classification
- BS 10175:2026 - Investigation of potentially contaminated sites
- LCRM 2021 Environment Agency
- SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination December 2014
- Soil Guideline Value (SGV) (Environment Agency, 2009)
- Suitable 4 Use Level (S4UL) (Nathanail et al, 2015)
- Google Earth
- British Geological Survey Website & iGeology App

Appendix B Field Work

Appendix B.1 Engineers Logs

		Window Sampler				WS1 Sheet 1 of 1				
		Hole Type WS	Easting	Northing	Ground Level (m)	Scale 1:50				
		Project Name Land at Gorelands Farm	Project No. 22307	Start Date 2026-02-27	End Date 2026-02-27					
Client Batcheller Monkhouse		Consultant KM		Contractor						
Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata			
		Depth (m)	Type/ Ref	Results			Legend	Description		
		0.10	ES			(0.20) 0.20		Soft dark brown slightly silty CLAY. Frequent rootlets [TOPSOIL]		
						(0.40) 0.60		soft to firm orangish brown and brown mottled slightly sandy CLAY. [WEATHERED WEALD CLAY FORMATION]	0.5	
		0.60	ES							
		0.90	ES			(1.30)		Soft to firm light grey, bluish grey and orange mottled CLAY [WEATHERED WEALD CLAY FORMATION]	1.0	
								decaying wood (0.65 - 0.70m)		
		1.50	ES					decaying wood (0.72 - 0.90m)	1.5	
					1.90		Firm light grey and orange mottled clayey SAND. Sand is medium [WEATHERED WEALD CLAY FORMATION]	2.0		
					(0.80)			2.5		
					2.70			End of Borehole at 2.70m	3.0	
									3.5	
									4.0	
									4.5	
									5.0	
									5.5	
									6.0	
									6.5	
									7.0	
									7.5	
									8.0	
									8.5	
									9.0	
									9.5	
									10.0	
Remarks Smells strongly of decaying organic matter. Roots to 2.30m bgl							Method, Plant, Stability, Dimensions 0.00 - 2.70m		Logger KM	



WS1

SUPPLEMENTARY INFO

Hole Type WS	Easting	Northing	Ground Level (m)	Scale 1:50
Project Name Land at Gorelands Farm		Project No. 22307	Start Date 2026-02-27	End Date 2026-02-27

Client	Batcheller Monkhouse
---------------	----------------------

Consultant
KM

Contractor

Water Strike - General

Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks
1.50				

Water Strike - Details

Struck (m)	Rose To (m)	Time (mins)	Remarks
1.50	1.00	20	

Sample Details

Sample ID	Type	Water Level (m)	Remarks
	ES		
	ES		
	ES		
	ES		

Remarks
Smells strongly of decaying organic matter. Roots to 2.30m bgl

Method, Plant, Stability, Dimensions
0.00 - 2.70m

Logger
KM



SUPPLEMENTARY INFO

Client	Consultant	Contractor
Batcheller Monkhouse	KM	

Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks
				Groundwater not encountered

Struck (m)	Rose To (m)	Time (mins)	Remarks
	1.20	20	

Sample ID	Type	Water Level (m)	Remarks
	ES		
	ES		
	ES		

Remarks Rootlets observed to 2.1m bgl.	Method, Plant, Stability, Dimensions 0.00 - 3.00m	Logge TV
--	---	--------------------

[illegible]

Logger
TW

	Window Sampler				WS3
					SUPPLEMENTARY INFO
	Hole Type WS	Easting	Northing	Ground Level (m)	Scale 1:50
Project Name Land at Gorelands Farm		Project No. 22307		Start Date 2026-02-27	End Date 2026-02-27
Client Batcheller Monkhouse		Consultant KM		Contractor	
Water Strike - General					
Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks	
1.30					
Water Strike - Details					
Struck (m)	Rose To (m)	Time (mins)	Remarks		
1.30					
Sample Details					
Sample ID	Type	Water Level (m)	Remarks		
	ES				
	ES				
	ES				
Remarks Rootlets observed to 1.8m bgl.			Method, Plant, Stability, Dimensions 0.00 - 2.30m		Logger TW



SUPPLEMENTARY INFO

Client	Consultant	Contractor
Batcheller Monkhouse	KM	

Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks
				Groundwater not encountered

Struck (m)	Rose To (m)	Time (mins)	Remarks
------------	-------------	-------------	---------

Sample ID	Type	Water Level (m)	Remarks
	ES		
	ES		
	ES		

Logger
TW



Sheet 1 of 1

Hole Type WS	Easting	Northing	Ground Level (m)	Scale 1:50
Project Name Land at Gorelands Farm		Project No. 22307	Start Date 2026-02-27	End Date 2026-02-27

Client
Batcheller Monkhouse

Consultant
KM

Contractor

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (thickness) (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.10	ES			(0.20) 0.20		Dark brown slightly sandy, slightly gravelly CLAY. Gravel is fine to medium subangular flint. Sand is fine. Abundant rootlets. [TOPSOIL]	
		0.40	ES			(0.80)		Firm brown, becoming orangish brown with depth, mottled yellowish brown and brownish grey, slightly sandy CLAY. Sand is fine. Rare pockets of dark orangish brown ferruginous fine sand/nodules. Occasional rootlets.	
		0.80	ES			1.00		[WEATHERED WEALD CLAY FORMATION]	
		1.50	ES			(0.40)		Firm orangish brown mottled greyish brown, slightly sandy CLAY. Sand is fine. Frequent, becoming abundant below 1.2m bgl., pockets of dark orangish brown ferruginous fine sand/nodules. [WEATHERED WEALD CLAY FORMATION]	
						1.40		Light grey mottled orangish brown, slightly clayey, weakly laminated fine SAND. [WEATHERED WEALD CLAY FORMATION]	
						(1.30)		Base of overlying unit has thin layer of dark orangish brown ferruginous fine sand/nodules. (1.40 - 1.42m)	
						2.70 (0.30)		Soft orangish brown mottled light grey, very sandy CLAY. Sand is fine. [WEATHERED WEALD CLAY FORMATION]	
						3.00			

Remarks
Rootlets observed to 1.0m bgl.

Method, Plant, Stability, Dimensions
0.00 - 3.00m

Logger
TW



SUPPLEMENTARY INFO

Client	Consultant	Contractor
Batcheller Monkhouse	KM	

Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks
1.70				

Struck (m)	Rose To (m)	Time (mins)	Remarks
1.70	1.10	20	

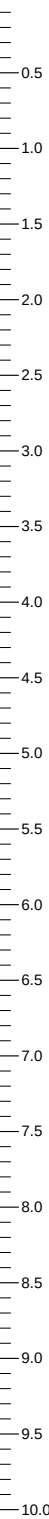
Sample ID	Type	Water Level (m)	Remarks
	ES		
	ES		
	ES		
	ES		

Logger
TW

[illegible]

Created using Pebble Geo

	Window Sampler				WS7
					SUPPLEMENTARY INFO
	Hole Type WS	Easting	Northing	Ground Level (m)	Scale 1:50
Project Name Land at Gorelands Farm		Project No. 22307	Start Date 2026-02-27	End Date 2026-02-27	
Client Batcheller Monkhouse		Consultant KM	Contractor		
Water Strike - General					
Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks	
1.80					
Water Strike - Details					
Struck (m)	Rose To (m)	Time (mins)	Remarks		
1.80	1.60	20			
Sample Details					
Sample ID	Type	Water Level (m)	Remarks		
	ES				
	ES				
	ES				
Remarks Roots to 0.95m bgl			Method, Plant, Stability, Dimensions 0.00 - 3.00m		
			Logger TW		

		Window Sampler				WS8 Sheet 1 of 1			
		Hole Type WS	Easting	Northing	Ground Level (m)	Scale 1:50			
		Project Name Land at Gorelands Farm	Project No. 22307	Start Date 2026-02-27	End Date 2026-02-27				
Client Batcheller Monkhouse		Consultant KM		Contractor					
Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.10	ES			(0.20)		Soft dark brown slightly sandy, gravelly CLAY. Gravel is fine to medium subangular flint and rare charcoal. Sand is fine. Abundant rootlets.	
		0.40	ES			(0.50)		[MADE GROUND]	
		1.10	ES			0.70		Firm yellowish brown mottled, brownish grey. Slightly sandy CLAY. Sand is fine. Frequent rootlets. Occasional fine gravel sized lignite.	
						(0.90)		[WEATHERED WEALD CLAY FORMATION]	
						1.60		Firm to stiff greyish brown mottled brownish grey CLAY. Occasional thin (<15mm) layers and lenses of mudstone. Occasional rootlets.	
						(0.60)		[WEATHERED WEALD CLAY FORMATION]	
						2.20		Soft brownish grey, mottled yellowish brown, slightly sandy CLAY. Sand is fine. Abundant fine to medium gravel sized lignite and occasional pockets of dark orangish brown ferruginous fine sand/nodules.	
						(0.80)		[WEATHERED WEALD CLAY FORMATION]	
						3.00		Soft light grey mottled yellowish brown, slightly silty CLAY. Rare rootlets.	
								[WEATHERED WEALD CLAY FORMATION]	
End of Borehole at 3.00m									
Remarks Rootlets observed to 1.6m bgl.							Method, Plant, Stability, Dimensions 0.00 - 3.00m		Logger TW



SUPPLEMENTARY INFO

Client	Consultant	Contractor
Batcheller Monkhouse	KM	

Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks
1.80				

Struck (m)	Rose To (m)	Time (mins)	Remarks
1.80	1.80	20	

Sample ID	Type	Water Level (m)	Remarks
	ES		
	ES		
	ES		

Method, Plant, Stability, Dimensions
0.00 - 3.00m

Logger
TW

Appendix C Chemical Laboratory Analyses

Appendix C.1 Conceptual Site Model

Table C.I.I CSM Revised Pre-Chemical Analyses from Land Science (Ref: LS9050)

Source	Exposure Pathway	Receptor	Initial Assessment from Desk Study and Contamination Investigation Report Information			Proposed Investigation
			Severity	Probability	Risk	
On Site: - Made Ground - Agricultural Land	Dermal Contact with soil and soil borne dust	End Users	Mild	Low	Low	Taking representative samples for chemical analyses consistent with the ground conditions, and potential sources and contaminants recorded
	Ingestion of soil and soil borne dust	End Users	Mild	Unlikely	Very Low	
	Inhalation of soil borne dust	End Users	Mild	Low	Low	
	Consumption of home grown produce	End Users	Mild	Low	Low	
	Inhalation of soil borne dust	Adjacent Land	Mild	Unlikely	Very Low	
	Plant uptake phytotoxic effects	Planting	Mild	Low	Low	
	Chemical attack	Concrete	Minor	Unlikely	Very Low	
	Chemical attack	Pipework	Minor	Unlikely	Very Low	
	Leaching out, migration to water table	Groundwater	Minor	Unlikely	Very Low	
	Leaching out, migration to water bodies	Surface Water	Minor	Unlikely	Very Low	
Off Site: - Agricultural Land	Dermal Contact with soil and soil borne dust	End Users	Minor	Unlikely	Very Low	
	Ingestion of soil and soil borne dust	End Users	Minor	Unlikely	Very Low	
	Inhalation of soil borne dust	End Users	Minor	Unlikely	Very Low	
	Consumption of home grown produce	End Users	Minor	Unlikely	Very Low	
	Inhalation of soil borne dust	Adjacent Land	Minor	Unlikely	Very Low	
	Plant uptake phytotoxic effects	Planting	Minor	Unlikely	Very Low	
	Chemical attack	Concrete	Minor	Unlikely	Very Low	
	Chemical attack	Pipework	Minor	Unlikely	Very Low	
	Leaching out, migration to water table	Groundwater	Minor	Unlikely	Very Low	
	Leaching out, migration to water bodies	Surface Water	Minor	Unlikely	Very Low	

Table C.I.2 CSM Revised Post-Chemical Analyses

Source	Exposure Pathway	Receptor	Initial Assessment from Desk Study and Contamination Investigation Report Information			Proposed Investigation
			Severity	Probability	Risk	
None identified	Dermal Contact with soil and soil borne dust	End Users	None	None	None	No further works necessary
	Ingestion of soil and soil borne dust	End Users	None	None	None	
	Inhalation of soil borne dust	End Users	None	None	None	
	Consumption of home grown produce	End Users	None	None	None	
	Inhalation of soil borne dust	Adjacent Land	None	None	None	
	Plant uptake phytotoxic effects	Planting	None	None	None	
	Chemical attack	Concrete	None	None	None	
	Chemical attack	Pipework	None	None	None	
	Leaching out, migration to water table	Groundwater	None	None	None	
	Leaching out, migration to water bodies	Surface Water	None	None	None	

Appendix C.2 Chemical Laboratory Results

Analytical Test Report**E26/03047/SLT/26-09473****Tested on Behalf of**

Clients Project Reference

Gorelands 22307

SOILS LIMITED

Clients Order Number

22307/KM

Newton House

Sample(s) Analysed

8

Cross Road

Sample(s) received / instructed

05/03/2026 / 05/03/2026

Surrey

Sample(s) Tested

05/03/2026 to 16/03/2026

Report issued

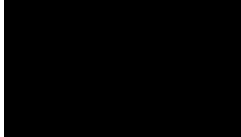
16/03/2026

KT20 5SR

Report issue number

1

Signed



James Gane
Analytical Services Manager

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 with the exception of the asbestos test portion which is held for 6 months 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

Please note: Where further analysis is required samples identified as containing asbestos are screened and tested on an as received basis. No correction is made for moisture content and other than the asbestos test(s) these results are not covered by our accreditation

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

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

E26/03047/SLT/26-09473

Gorelands 22307

Analytical Test Results - ENV Analysis Solids

Lab Reference					723298	723299	723301
Client Sample ID					-	-	-
Client Sample Location					WS1	WS2	WS4
Client Sample Type					ES	ES	ES
Client Sample Number					-	-	-
Depth - Top (m)					0.6	0.4	0.1
Depth - Bottom (m)					0.6	0.4	0.1
Date of Sampling					27/02/2026	27/02/2026	27/02/2026
Time of Sampling					-	-	-
Sample Matrix					Clay	Clay	Clay
Determinant	Code	Units	LOD	Accreditation			
Arsenic	ICPMETS	mg/kg	10	M	10	< 10	13
Boron (Water Soluble)	WSBORONS	mg/kg	2.5	N	< 2.5	< 2.5	< 2.5
Cadmium	ICPMETS	mg/kg	0.2	M	0.7	0.7	0.9
Chromium (Total)	ICPMETS	mg/kg	1	U	10	9.1	11
Copper	ICPMETS	mg/kg	2	M	15	12	41
Lead	ICPMETS	mg/kg	1.5	M	20	14	59
Mercury	ICPMETS	mg/kg	2.5	U	< 2.5	< 2.5	< 2.5
Nickel	ICPMETS	mg/kg	1	M	13	11	24
Selenium	ICPMETS	mg/kg	8	N	< 8.0	< 8.0	< 8.0
Vanadium	ICPMETS	mg/kg	0.5	U	34	34	37
Zinc	ICPMETS	mg/kg	2	M	52	41	220
Total Phenols	SKALARPHS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Cyanide (Total)	SKALARCNS	mg/kg	1	M	< 1.0	-	< 1.0
Cyanide (Free)	SKALARCNS	mg/kg	1	N	< 1.0	-	< 1.0
Chromium (Hexavalent)	SKALARHCS	mg/kg	1	N	< 1.0	< 1.0	1.6
pH	PHS	pH units	1	M	7.3	7.2	7.2
SOM	TOCS	%	0.86	U	2.2	1.2	12
Asbestos	ASB	p/a	-	U	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Acenaphthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Acenaphthylene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Anthracene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Benzo[a]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.06
Benzo[a]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.07
Benzo[b]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.09
Benzo[ghi]perylene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.06
Benzo[k]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.04
Chrysene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.07
Dibenzo[a,h]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.17
Fluorene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Indeno[1,2,3-cd]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.05

E26/03047/SLT/26-09473

Gorelands 22307

Analytical Test Results - ENV Analysis Solids

Lab Reference					723302	723304	723305
Client Sample ID					-	-	-
Client Sample Location					WS5	WS7	WS8
Client Sample Type					ES	ES	ES
Client Sample Number					-	-	-
Depth - Top (m)					0.6	0.4	1.1
Depth - Bottom (m)					0.6	0.4	1.1
Date of Sampling					27/02/2026	27/02/2026	27/02/2026
Time of Sampling					-	-	-
Sample Matrix					Clay	Clay	Clay
Determinant	Code	Units	LOD	Accreditation			
Arsenic	ICPMETS	mg/kg	10	M	< 10	10	< 10
Boron (Water Soluble)	WSBORONS	mg/kg	2.5	N	< 2.5	< 2.5	< 2.5
Cadmium	ICPMETS	mg/kg	0.2	M	0.7	0.6	0.6
Chromium (Total)	ICPMETS	mg/kg	1	U	7.2	13	11
Copper	ICPMETS	mg/kg	2	M	13	25	22
Lead	ICPMETS	mg/kg	1.5	M	15	19	19
Mercury	ICPMETS	mg/kg	2.5	U	< 2.5	< 2.5	< 2.5
Nickel	ICPMETS	mg/kg	1	M	14	21	17
Selenium	ICPMETS	mg/kg	8	N	< 8.0	< 8.0	< 8.0
Vanadium	ICPMETS	mg/kg	0.5	U	27	28	27
Zinc	ICPMETS	mg/kg	2	M	42	84	55
Total Phenols	SKALARPHS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Cyanide (Total)	SKALARCNS	mg/kg	1	M	-	-	-
Cyanide (Free)	SKALARCNS	mg/kg	1	N	-	-	-
Chromium (Hexavalent)	SKALARHCS	mg/kg	1	N	< 1.0	< 1.0	< 1.0
pH	PHS	pH units	1	M	7.8	8.0	7.7
SOM	TOCS	%	0.86	U	< 0.9	< 0.9	< 0.9
Asbestos	ASB	p/a	-	U	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Acenaphthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Acenaphthylene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Anthracene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Benzo[a]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[a]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[b]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[ghi]perylene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[k]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Chrysene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Dibenzo[a,h]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Fluorene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Indeno[1,2,3-cd]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02

E26/03047/SLT/26-09473

Gorelands 22307

Analytical Test Results - ENV Analysis Solids

Lab Reference					723298	723299	723301
Client Sample ID					-	-	-
Client Sample Location					WS1	WS2	WS4
Client Sample Type					ES	ES	ES
Client Sample Number					-	-	-
Depth - Top (m)					0.6	0.4	0.1
Depth - Bottom (m)					0.6	0.4	0.1
Date of Sampling					27/02/2026	27/02/2026	27/02/2026
Time of Sampling					-	-	-
Sample Matrix					Clay	Clay	Clay
Determinant	Code	Units	LOD	Accreditation			
Naphthalene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Phenanthrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.08
Pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.15
Total PAH (Sum of USEPA 16)	PAHASRDS	mg/kg	0.32	U	< 0.32	< 0.32	1.0
PCB 28	PCB7S	mg/kg	0.004	M	< 0.004	-	< 0.004
PCB 52	PCB7S	mg/kg	0.004	M	< 0.004	-	< 0.004
PCB 101	PCB7S	mg/kg	0.004	M	< 0.004	-	< 0.004
PCB 118	PCB7S	mg/kg	0.004	M	< 0.004	-	< 0.004
PCB 138	PCB7S	mg/kg	0.004	M	< 0.004	-	< 0.004
PCB 153	PCB7S	mg/kg	0.004	M	< 0.004	-	< 0.004
PCB 180	PCB7S	mg/kg	0.004	M	< 0.004	-	< 0.004
Total TPH (>C8 to C10) [1]	TPHS	mg/kg	5	M	-	< 5.0	-
Total TPH (>C10 to C12) [1]	TPHS	mg/kg	5	M	-	< 5.0	-
Total TPH (>C12 to C16) [1]	TPHS	mg/kg	5	M	-	< 5.0	-
Total TPH (>C16 to C21) [1]	TPHS	mg/kg	5	M	-	< 5.0	-
Total TPH (>C21 to C40) [1]	TPHS	mg/kg	10	M	-	24	-
Total TPH (C6 toC40) [3]	TPHS	mg/kg	15	N	-	31	-

E26/03047/SLT/26-09473

Gorelands 22307

Analytical Test Results - ENV Analysis Solids

Lab Reference					723302	723304	723305
Client Sample ID					-	-	-
Client Sample Location					WS5	WS7	WS8
Client Sample Type					ES	ES	ES
Client Sample Number					-	-	-
Depth - Top (m)					0.6	0.4	1.1
Depth - Bottom (m)					0.6	0.4	1.1
Date of Sampling					27/02/2026	27/02/2026	27/02/2026
Time of Sampling					-	-	-
Sample Matrix					Clay	Clay	Clay
Determinant	Code	Units	LOD	Accreditation			
Naphthalene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Phenanthrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Total PAH (Sum of USEPA 16)	PAHASRDS	mg/kg	0.32	U	< 0.32	< 0.32	< 0.32
PCB 28	PCB7S	mg/kg	0.004	M	-	-	-
PCB 52	PCB7S	mg/kg	0.004	M	-	-	-
PCB 101	PCB7S	mg/kg	0.004	M	-	-	-
PCB 118	PCB7S	mg/kg	0.004	M	-	-	-
PCB 138	PCB7S	mg/kg	0.004	M	-	-	-
PCB 153	PCB7S	mg/kg	0.004	M	-	-	-
PCB 180	PCB7S	mg/kg	0.004	M	-	-	-
Total TPH (>C8 to C10) [1]	TPHS	mg/kg	5	M	< 5.0	< 5.0	< 5.0
Total TPH (>C10 to C12) [1]	TPHS	mg/kg	5	M	< 5.0	< 5.0	< 5.0
Total TPH (>C12 to C16) [1]	TPHS	mg/kg	5	M	< 5.0	< 5.0	< 5.0
Total TPH (>C16 to C21) [1]	TPHS	mg/kg	5	M	< 5.0	< 5.0	< 5.0
Total TPH (>C21 to C40) [1]	TPHS	mg/kg	10	M	< 15.0	< 15.0	< 15.0
Total TPH (C6 to C40) [3]	TPHS	mg/kg	15	N	18	19	19

E26/03047/SLT/26-09473

Gorelands 22307

Analytical Test Results - EPHVPHS

Lab Reference					723298	723299	723301
Client Sample ID					-	-	-
Client Sample Location					WS1	WS2	WS4
Client Sample Type					ES	ES	ES
Client Sample Number					-	-	-
Depth - Top (m)					0.6	0.4	0.1
Depth - Bottom (m)					0.6	0.4	0.1
Date of Sampling					27/02/2026	27/02/2026	27/02/2026
Time of Sampling					-	-	-
Sample Matrix					Clay	Clay	Clay
Determinant	Code	Units	LOD	Accreditation			
Benzene	VPHS	mg/kg	0.01	M	< 0.01	-	< 0.01
Toluene	VPHS	mg/kg	0.01	M	< 0.01	-	< 0.01
Ethylbenzene	VPHS	mg/kg	0.01	M	< 0.01	-	< 0.01
m&p Xylene	VPHS	mg/kg	0.02	M	< 0.02	-	< 0.02
o-Xylene	VPHS	mg/kg	0.01	M	< 0.01	-	< 0.01
Methyl tert-butyl ether (MTBE)	VPHS	mg/kg	0.01	M	< 0.01	-	< 0.01
Aliphatic >C5 to C6 [5]	VPHS	mg/kg	0.06	M	< 0.06	-	< 0.06
Aliphatic >C6 to C8 [5]	VPHS	mg/kg	0.06	M	< 0.06	-	< 0.06
Aliphatic >C8 to C10 [5]	VPHS	mg/kg	0.06	M	< 0.06	-	< 0.06
Aliphatic >C10-C12 [13]	GCXGCS	mg/kg	1	M	< 1.0	-	< 1.0
Aliphatic >C12-C16 [13]	GCXGCS	mg/kg	1	M	< 1.0	-	< 1.0
Aliphatic >C16-C21 [13]	GCXGCS	mg/kg	1	M	< 1.0	-	2.7
Aliphatic >C21-C35 [13]	GCXGCS	mg/kg	2	M	4.3	-	19
Aliphatic >C35-C44 [13]	GCXGCS	mg/kg	5	N	< 5.0	-	< 5.0
Aromatic >C5 to C7 [6]	VPHS	mg/kg	0.01	M	< 0.01	-	< 0.01
Aromatic >C7 to C8 [6]	VPHS	mg/kg	0.01	M	< 0.01	-	< 0.01
Aromatic >C8 to C10 [6]	VPHS	mg/kg	0.06	M	< 0.06	-	< 0.06
Aromatic >C10-C12 [14]	GCXGCS	mg/kg	1	M	< 1.0	-	< 1.0
Aromatic >C12-C16 [14]	GCXGCS	mg/kg	1	M	< 1.0	-	< 1.0
Aromatic >C16-C21 [14]	GCXGCS	mg/kg	1	M	2.9	-	2.9
Aromatic >C21-C35 [14]	GCXGCS	mg/kg	2	M	7.1	-	19
Aromatic >C35-C44 [14]	GCXGCS	mg/kg	5	N	< 5.0	-	< 5.0
Total >C5-C35 (Ali/Aro) [10]	CWGS	mg/kg	10	M	14	-	44
Total >C5-C40 (Ali/Aro) [10]	CWGS	mg/kg	10	M	14	-	47
Total TPH (C6-C8) [7]	VPHS	mg/kg	0.16	N	-	< 0.16	-
Total TPH (>C8 to C10) [1]	TPHS	mg/kg	5	M	-	< 5.0	-
Total TPH (>C10 to C12) [1]	TPHS	mg/kg	5	M	-	< 5.0	-
Total TPH (>C12 to C16) [1]	TPHS	mg/kg	5	M	-	< 5.0	-
Total TPH (>C16 to C21) [1]	TPHS	mg/kg	5	M	-	< 5.0	-
Total TPH (>C21 to C40) [1]	TPHS	mg/kg	10	M	-	24	-
Total TPH (C6 to C40) [3]	TPHS	mg/kg	15	N	-	31	-

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Analytical Test Results - EPHVPHS

Lab Reference					723302	723304	723305
Client Sample ID					-	-	-
Client Sample Location					WS5	WS7	WS8
Client Sample Type					ES	ES	ES
Client Sample Number					-	-	-
Depth - Top (m)					0.6	0.4	1.1
Depth - Bottom (m)					0.6	0.4	1.1
Date of Sampling					27/02/2026	27/02/2026	27/02/2026
Time of Sampling					-	-	-
Sample Matrix					Clay	Clay	Clay
Determinant	Code	Units	LOD	Accreditation			
Benzene	VPHS	mg/kg	0.01	M	-	-	-
Toluene	VPHS	mg/kg	0.01	M	-	-	-
Ethylbenzene	VPHS	mg/kg	0.01	M	-	-	-
m&p Xylene	VPHS	mg/kg	0.02	M	-	-	-
o-Xylene	VPHS	mg/kg	0.01	M	-	-	-
Methyl tert-butyl ether (MTBE)	VPHS	mg/kg	0.01	M	-	-	-
Aliphatic >C5 to C6 [5]	VPHS	mg/kg	0.06	M	-	-	-
Aliphatic >C6 to C8 [5]	VPHS	mg/kg	0.06	M	-	-	-
Aliphatic >C8 to C10 [5]	VPHS	mg/kg	0.06	M	-	-	-
Aliphatic >C10-C12 [13]	GCXGCS	mg/kg	1	M	-	-	-
Aliphatic >C12-C16 [13]	GCXGCS	mg/kg	1	M	-	-	-
Aliphatic >C16-C21 [13]	GCXGCS	mg/kg	1	M	-	-	-
Aliphatic >C21-C35 [13]	GCXGCS	mg/kg	2	M	-	-	-
Aliphatic >C35-C44 [13]	GCXGCS	mg/kg	5	N	-	-	-
Aromatic >C5 to C7 [6]	VPHS	mg/kg	0.01	M	-	-	-
Aromatic >C7 to C8 [6]	VPHS	mg/kg	0.01	M	-	-	-
Aromatic >C8 to C10 [6]	VPHS	mg/kg	0.06	M	-	-	-
Aromatic >C10-C12 [14]	GCXGCS	mg/kg	1	M	-	-	-
Aromatic >C12-C16 [14]	GCXGCS	mg/kg	1	M	-	-	-
Aromatic >C16-C21 [14]	GCXGCS	mg/kg	1	M	-	-	-
Aromatic >C21-C35 [14]	GCXGCS	mg/kg	2	M	-	-	-
Aromatic >C35-C44 [14]	GCXGCS	mg/kg	5	N	-	-	-
Total >C5-C35 (Ali/Aro) [10]	CWGS	mg/kg	10	M	-	-	-
Total >C5-C40 (Ali/Aro) [10]	CWGS	mg/kg	10	M	-	-	-
Total TPH (C6-C8) [7]	VPHS	mg/kg	0.16	N	< 0.16	< 0.16	< 0.16
Total TPH (>C8 to C10) [1]	TPHS	mg/kg	5	M	< 5.0	< 5.0	< 5.0
Total TPH (>C10 to C12) [1]	TPHS	mg/kg	5	M	< 5.0	< 5.0	< 5.0
Total TPH (>C12 to C16) [1]	TPHS	mg/kg	5	M	< 5.0	< 5.0	< 5.0
Total TPH (>C16 to C21) [1]	TPHS	mg/kg	5	M	< 5.0	< 5.0	< 5.0
Total TPH (>C21 to C40) [1]	TPHS	mg/kg	10	M	< 15.0	< 15.0	< 15.0
Total TPH (C6 to C40) [3]	TPHS	mg/kg	15	N	18	19	19

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Analytical Test Results - GC Pesticides - Solids

Lab Reference					723300	723303
Client Sample ID					-	-
Client Sample Location					WS3	WS6
Client Sample Type					ES	ES
Client Sample Number					-	-
Depth - Top (m)					0.1	0.1
Depth - Bottom (m)					0.1	0.1
Date of Sampling					27/02/2026	27/02/2026
Time of Sampling					-	-
Sample Matrix					Clay	Clay
Determinant	Code	Units	LOD	Accreditation		
4,4'-DDD (p,p'-DDD)	OCPS	mg/kg	0.1	N	< 0.1	< 0.1
4,4'-DDE (p,p'-DDE)	OCPS	mg/kg	0.1	N	< 0.1	< 0.1
4,4'-DDT (p,p'-DDT)	OCPS	mg/kg	0.1	N	< 0.2	< 0.2
Aldrin	OCPS	mg/kg	0.1	N	< 0.1	< 0.1
alpha-BHC	OCPS	mg/kg	0.1	N	< 0.1	< 0.1
beta-BHC	OCPS	mg/kg	0.1	N	< 0.1	< 0.1
cis-Chlordane	OCPS	mg/kg	0.1	N	< 0.1	< 0.1
delta-BHC	OCPS	mg/kg	0.1	N	< 0.1	< 0.1
Dieldrin	OCPS	mg/kg	0.1	N	< 0.2	< 0.2
Endosulfan I	OCPS	mg/kg	0.1	N	< 0.2	< 0.2
Endosulfan II	OCPS	mg/kg	0.1	N	< 0.2	< 0.2
Endosulfan Sulfate	OCPS	mg/kg	0.1	N	< 0.2	< 0.2
Endrin	OCPS	mg/kg	0.1	N	< 0.2	< 0.2
gamma-BHC (Lindane)	OCPS	mg/kg	0.1	N	< 0.1	< 0.1
Heptachlor	OCPS	mg/kg	0.1	N	< 0.2	< 0.2
Heptachlor Epoxide	OCPS	mg/kg	0.1	N	< 0.2	< 0.2
Methoxychlor	OCPS	mg/kg	0.1	N	< 0.4	< 0.4
trans-Chlordane	OCPS	mg/kg	0.1	N	< 0.2	< 0.2
Permethrin	OCPS	mg/kg	0.1	N	< 0.1	< 0.1
Azinphos Methyl (Guthion)	OPPS	mg/kg	0.1	N	< 0.2	< 0.2
Chlorpyrifos (Dursban)	OPPS	mg/kg	0.1	N	< 0.1	< 0.1
Coumaphos	OPPS	mg/kg	0.1	N	< 0.15	< 0.15
Demeton O & S	OPPS	mg/kg	0.1	N	< 0.4	< 0.4
Diazinon	OPPS	mg/kg	0.1	N	< 0.1	< 0.1
Dichlorvos (DDVP) (Dichlorophos)	OPPS	mg/kg	0.1	N	< 0.1	< 0.1
Dimethoate	OPPS	mg/kg	0.1	N	< 0.1	< 0.1
Disulfoton	OPPS	mg/kg	0.1	N	< 0.4	< 0.4
Endrin Aldehyde	OPPS	mg/kg	0.1	N	< 0.1	< 0.1
Endrin Ketone	OPPS	mg/kg	0.1	N	< 0.10	< 0.10
EPN	OPPS	mg/kg	0.1	N	< 0.2	< 0.2
Ethoprophos	OPPS	mg/kg	0.1	N	< 0.2	< 0.2

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Analytical Test Results - GC Pesticides - Solids

Lab Reference					723300	723303
Client Sample ID					-	-
Client Sample Location					WS3	WS6
Client Sample Type					ES	ES
Client Sample Number					-	-
Depth - Top (m)					0.1	0.1
Depth - Bottom (m)					0.1	0.1
Date of Sampling					27/02/2026	27/02/2026
Time of Sampling					-	-
Sample Matrix					Clay	Clay
Determinant	Code	Units	LOD	Accreditation		
Fenchlorphos (Ronnel)	OPPS	mg/kg	0.1	N	< 0.1	< 0.1
Fensulfothion	OPPS	mg/kg	0.1	N	< 0.2	< 0.2
Fenthion	OPPS	mg/kg	0.1	N	< 0.1	< 0.1
Malathion (Carbophos)	OPPS	mg/kg	0.1	N	< 0.1	< 0.1
Methyl parathion	OPPS	mg/kg	0.1	N	< 0.2	< 0.2
Mevinphos	OPPS	mg/kg	0.1	N	< 0.2	< 0.2
Monocrotophos	OPPS	mg/kg	0.1	N	< 0.2	< 0.2
Naled	OPPS	mg/kg	0.1	N	< 0.4	< 0.4
Parathion (Ethyl Parathion)	OPPS	mg/kg	0.1	N	< 0.2	< 0.2
Phorate	OPPS	mg/kg	0.1	N	< 0.2	< 0.2
Prothiofos (Tokuthion)	OPPS	mg/kg	0.1	N	< 0.2	< 0.2
Sulfotep (Dithion)	OPPS	mg/kg	0.1	N	< 0.1	< 0.1
Sulprofos (Bolstar)	OPPS	mg/kg	0.1	N	< 0.2	< 0.2
TEPP (Tetraethylpyrophosphate)	OPPS	mg/kg	0.1	N	< 0.8	< 0.8
Tetrachlorovinphos (Stirifos)	OPPS	mg/kg	0.1	N	< 0.15	< 0.15
Trichloronate	OPPS	mg/kg	0.1	N	< 0.1	< 0.1

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Analytical Test Results - LC Herbicides - Solids

Lab Reference					723300	723303
Client Sample ID					-	-
Client Sample Location					WS3	WS6
Client Sample Type					ES	ES
Client Sample Number					-	-
Depth - Top (m)					0.1	0.1
Depth - Bottom (m)					0.1	0.1
Date of Sampling					27/02/2026	27/02/2026
Time of Sampling					-	-
Sample Matrix					Clay	Clay
Determinant	Code	Units	LOD	Accreditation		
Ametryn	LCP-T-S	mg/kg	0.001	N	< 0.001	< 0.001
Atrazine	LCP-T-S	mg/kg	0.001	N	< 0.001	< 0.001
Prometryn	LCP-T-S	mg/kg	0.001	N	< 0.001	< 0.001
Propazine	LCP-T-S	mg/kg	0.001	N	< 0.001	< 0.001
Simazine	LCP-T-S	mg/kg	0.001	N	< 0.001	< 0.001
Terbuthylazine	LCP-T-S	mg/kg	0.001	N	< 0.001	< 0.001
Terbutryn	LCP-T-S	mg/kg	0.001	N	< 0.001	< 0.001
Atraton	LCP-T-S	mg/kg	0.001	N	< 0.001	< 0.001
Simetryn	LCP-T-S	mg/kg	0.001	N	< 0.001	< 0.001
Prometon	LCP-T-S	mg/kg	0.001	N	< 0.001	< 0.001
2,4,5-T	LCP-AH-S	mg/kg	0.01	N	< 0.01	< 0.01
2,4-D	LCP-AH-S	mg/kg	0.01	N	< 0.01	< 0.01
Dichlorprop	LCP-AH-S	mg/kg	0.01	N	< 0.01	< 0.01
Fenoprop	LCP-AH-S	mg/kg	0.01	N	< 0.01	< 0.01
Mecoprop	LCP-AH-S	mg/kg	0.01	N	< 0.01	< 0.01
4-CPA	LCP-AH-S	mg/kg	0.01	N	< 0.01	< 0.01
2,4-DB	LCP-AH-S	mg/kg	0.01	N	< 0.01	< 0.01
MCPA	LCP-AH-S	mg/kg	0.01	N	< 0.01	< 0.01
MCPB	LCP-AH-S	mg/kg	0.01	N	< 0.01	< 0.01
Triclopyr	LCP-AH-S	mg/kg	0.01	N	< 0.01	< 0.01
Carbetamide	LCP-C-S	mg/kg	0.001	N	< 0.001	< 0.001
Chlorbufam	LCP-C-S	mg/kg	0.001	N	< 0.015	< 0.015
Ethiofencarb	LCP-C-S	mg/kg	0.001	N	< 0.001	< 0.001
Phenmediphan	LCP-C-S	mg/kg	0.001	N	< 0.001	< 0.001
Pirimicarb	LCP-C-S	mg/kg	0.001	N	< 0.001	< 0.001
Carbendazim	LCP-C-S	mg/kg	0.001	N	< 0.001	< 0.001
Bromacil	LCP-C-S	mg/kg	0.001	N	< 0.001	< 0.001
Carbaryl	LCP-C-S	mg/kg	0.001	N	< 0.001	< 0.001
Methiocarb	LCP-C-S	mg/kg	0.001	N	< 0.001	< 0.001
Chloroxuron	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001
Chlortoluron	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001

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Analytical Test Results - LC Herbicides - Solids

Lab Reference					723300	723303
Client Sample ID					-	-
Client Sample Location					WS3	WS6
Client Sample Type					ES	ES
Client Sample Number					-	-
Depth - Top (m)					0.1	0.1
Depth - Bottom (m)					0.1	0.1
Date of Sampling					27/02/2026	27/02/2026
Time of Sampling					-	-
Sample Matrix					Clay	Clay
Determinant	Code	Units	LOD	Accreditation		
Diiflubenzuron	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001
Dimefuron	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001
Diuron	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001
Isoproturon	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001
Methabenzthiazuron	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001
Metoxuron	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001
Monolinuron	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001
Monuron	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001
Pencycuron	LCP-PU-S	mg/kg	0.001	N	< 0.001	< 0.001

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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 (%)
723298	-	WS1	SOIL	-	Brown silty clay	31	< 0.1	-
723299	-	WS2	SOIL	-	Brown silty clay	22	< 0.1	-
723300	-	WS3	SOIL	-	Brown silty clay	35	< 0.1	-
723301	-	WS4	SOIL	-	Dark brown slightly gravelly slightly sandy silty clay	34	31	-
723302	-	WS5	SOIL	-	Brown slightly gravelly slightly sandy silty clay	20	18	-
723303	-	WS6	SOIL	-	Brown slightly sandy silty clay	53	< 0.1	-
723304	-	WS7	SOIL	-	Brown silty clay	22	< 0.1	-
723305	-	WS8	SOIL	-	Brown slightly gravelly silty clay	22	< 0.1	-

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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
ASB	MS - AS - Asbestos	-	-	Fibre identification is in accordance with in house documented methods which are based on the procedure documented in the HSE Document HSG 248 "Asbestos: The analysts guide for sampling, analysis and clearance procedures"
CWGS	Calculation from VPH-S and EPH-S	As received	Passing 10mm test sieve	Determination of TPH CWG (Volatile Petroleum Hydrocarbons and Extractable Petroleum Hydrocarbons) in soils via Headspace-GC-MS and GC-GC-FID respectively
GCGCS	MS - CL - TPH & EPH by GCXGC	As received	Passing 10mm test sieve	Determination of TPH and EPH in soils via GCxGC-FID
ICPMETS	MS - CL - ICP Metals	Air dried	Passing 10mm test sieve	Determination of metals in soils via ICP
LCP-AH-S	MS - CL - LC Pesticides Acid Herbicides	As received	Passing 10mm test sieve	Determination of Acid Herbicides via LC-QQQ
LCP-C-S	MS - CL - LC Pesticides Carbamates	As received	Passing 10mm test sieve	Determination of Carbamates via LC-QQQ
LCP-PU-S	MS - CL - LC Pesticides Phenyl Ureas	As received	Passing 10mm test sieve	Determination of Phenyl Ureas via LC-QQQ
LCP-T-S	MS - CL - LC Pesticides Triazines	As received	Passing 10mm test sieve	Determination of Triazines via LC-QQQ
OCP5	MS - CL - Pesticide Soils	As received	Passing 10mm test sieve	Determination of OCPs in soils via GC-MS
OPP5	MS - CL - Pesticide Soils	As received	Passing 10mm test sieve	Determination of OPPs in soils via GC-MS
PAHASRDS	MS - CL - PAH (As Received)	As received	Passing 10mm test sieve	Determination of Polyaromatic hydrocarbons in soil via GC-MS
PCB75	MS - CL - PCB Soils	As received	Passing 10mm test sieve	Determination of PCB's (7 congeners) in soils via GC-MS
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
SKALARCNS	MS - CL - Cyanide by Skalar	As received	Passing 10mm test sieve	Determination of cyanide (total / free / complex) in soil using a Skalar segmented flow analyser
SKALARHCS	MS - CL - Hexavalent Chromium by Skalar	As received	Passing 10mm test sieve	Determination of hexavalent chromium in soil using Skalar segmented flow analyser
SKALARPHS	MS - CL - Phenols by Skalar	As received	Passing 10mm test sieve	Determination of total phenols in soil using Skalar segmented flow analyser
TOCS	MS - CL - TOC Eltra	Air Dried	Passing 10mm test sieve	Determination of Total Organic Carbon in soils
TPHS	MS - CL - TPH (GC-FID)	As received	Passing 10mm test sieve	Determination of Total Petroleum Hydrocarbons in soil using GC-FID

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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
VPHS	MS - CL - VPH	As received	Passing 10mm test sieve	Determination of VPH in soils via Headspace-GC-MS
WSBORONS	MS - CL - WS Boron	Air dried	Passing 10mm test sieve	Determination of Water soluble Boron in soils via ICP

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HWOL TPH Acronym Index

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
Total	Aliphatics and Aromatics
AL	Aliphatics Only
AR	Aromatics Only
2D	GC-GC - Double Coil Gas Chromatography
#1	EH_Total but with humics mathematically subtracted
#2	EH_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (except for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry

Key of Codes	
[1]	EH_1D_TOTAL
[2]	EH_CU_1D_TOTAL
[3]	EH_CU+HS_1D_TOTAL
[4]	EH_1D+HS_MS_TOTAL
[5]	HS_MS_1D_AL
[6]	HS_MS_1D_AR
[7]	HS_MS_1D_TOTAL
[8]	EH_CU_1D_AL
[9]	EH_CU_1D_AR
[10]	EH_2D+HS_1D_TOTAL
[11]	EH_CU_2D+HS_1D_TOTAL
[12]	EH_2D_TOTAL
[13]	EH_2D_AL
[14]	EH_2D_AR
[15]	EH_CU_2D_TOTAL
[16]	EH_CU_2D_AL
[17]	EH_CU_2D_AR

Appendix C.3 General Assessment Criteria

HUMAN HEALTH RISK ASSESSMENT

Introduction

The statutory definition of contaminated land was initially defined in the Environmental Protection Act 1990, ref. 1.1, which was introduced by the Environment Act 1995, ref. 1.2, and retained in the Environment Act 2021, ref 1.3, as;

‘Land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that –

- (a) significant harm is being caused or there is a significant possibility of such harm being caused; or
- (b) pollution of controlled waters is being, or is likely to be, caused.’

The UK guidance on the assessment of contaminated land has developed as a direct result of the introduction of these Acts. The technical guidance supporting the original legislation was summarised in a number of key documents collectively known as the Contaminated Land Reports (CLRs). These have since been replaced or superseded by Land Contamination Risk Management (LCRM) 2021, ref 1.4 produced and administrated by the Environment Agency online through the .GOV.uk website <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm> .

However, the basic definitions, methodology and guidance remain essentially the same utilizing the UK Contaminated Land Exposure Assessment Models (CLEA) as within the original CLR and planning guidance it replaces or supersedes.

In establishing whether a site fulfils the statutory definition of ‘contaminated land’ it remains necessary to identify, whether a pollutant linkage exists in respect of the land in question and whether the pollutant linkage:

- is resulting in significant harm being caused to the identified receptor in the pollutant linkage,
- presents a significant possibility of significant harm being caused to that receptor,
- is resulting in the pollution of the controlled waters which constitute the receptor, or
- is likely to result in such pollution.

A ‘pollutant linkage’ may therefore be defined as the confirmation of a link between a contaminant ‘source’ and a vulnerable at risk ‘receptor’ by means of a ‘pathway’ and that the risk is potentially significant. If there is no complete linkage, risk defaults to low to negligible and can never be potentially significant.

Assessment Methodology

A four-stage assessment process is followed for identifying potential pollutant linkages on a site. These stages are summarised in the table below:

No.	Process	Description
1	Hazard Identification	Establishing contaminant sources, pathways and receptors (the conceptual model).
2	Hazard Assessment	Analysing the potential for unacceptable risks (what linkages could be present, what could be the effects).
3	Risk Estimation	Trying to establish the magnitude and probability of the possible consequences (what degree of harm might result and to what receptors, and how likely is it).
4	Risk Evaluation	Deciding whether the risk is unacceptable in the context of existing and future proposals.

Stages 1 and 2 develop an initial '*conceptual model*' based upon information collated from desk-based available and existing site information and a walkover of the site as recommended in BS10175 and LCRM. The formation of any conceptual model is an iterative process and as such it should be updated and refined throughout each phase of the project to reflect any additional information obtained and unknowns being resolved and identify the potential contaminants of concern at the site, i.e. those with the potential to cause significant harm to identified receptors.

The extent of the desk studies and enquiries to be conducted should be in general accordance with BS10175 and other UK guidance to produce an initial conceptual model highlighting the known potential risks, remaining unknowns and contaminants of concern. The information from these enquiries is presented in a desk study or preliminary report with recommendations, if necessary, for further work based upon the conceptual model findings and any identified or unresolved unknowns.

If potential pollutant linkages or potentially significant unknowns are identified within the initial conceptual model, further site investigation and report will be recommended and usually required under planning. Such investigation should be based on and driven by the findings of the initial conceptual model and planned in general accordance with BS10175, LCRM and other current UK guidance where relevant. The number of exploratory holes and samples collected for analysis should be consistent with the size, extent and nature of the site, the identified contaminants of concern and the level of initial risk identified in the initial conceptual model. This will enable a contamination risk assessment to be conducted in accordance with current UK requirements, at which point the conceptual model can be updated and any relevant pollutant linkages can be further quantified and any remaining unknowns resolved. As previously this is an iterative process that may highlight or require additional investigation to resolve to the satisfaction of the regulator.

A two-stage investigation process may therefore be more appropriate where time constraints are less of an issue with the first intrusive investigation being conducted as an initial or screening assessment to confirm or validate the presence of potential sources on site identified in the initial conceptual model and to investigate if additional unknown sources not previously identified are present. This helps to define the scope, extent and requirements of a second more refined and targeted investigation to delineate wherever possible the extent of the identified contamination, contaminants of concern and/or remaining unknowns.

All site works should be undertaken in general accordance with the British Standards BS 10175, ref. 5, for environmental only investigations and BS 5930:2015, ref. 1.6, in the case of combined Geoenvironmental and/or Geotechnical investigations.

The results of analysis are compared initially against generic guidance values which are dependent on the proposed end-use of the development and which must ultimately be based on traceable, scientifically valid and justified exposure and chemical data using the UKCLEA methodology.

The end-use and therefore potential exposure pathways may be defined as one of the following under current UK guidance;

- Residential with homegrown produce i.e. typical low rise and low-density housing with gardens where vegetables and fruits may be grown for home consumption.
- Residential without homegrown produce i.e. low-density housing where no gardens are present where vegetables and fruits could be grown for home consumption.
- Allotments – i.e. areas where vegetables and fruits are grown for home consumption but are not specifically associated with a residential property.
- Public open space residential – i.e. grassed areas adjacent and/or directly related to high density housing and other common or communal open areas on which underlying soils could be exposed but on which vegetables and fruits are not grown for consumption.
- Public open space – i.e. areas such as parks, playing fields and other recreational areas to which public access is possible but otherwise to which there is no direct residential linkage.
- Commercial – i.e. industrial premises where there is limited exposure to soil and residents are not present on site.

Standard Land-use Scenarios

The standard land-use scenarios used to develop exposure models are further detailed in the following sections:

Residential with homegrown produce

Generic scenario assumes a house built on a ground bearing slab with a private garden having a lawn, flowerbeds and a small fruit and vegetable patch.

-
- Critical receptor is assumed to be a young female child (zero to six years old)
 - Exposure pathways include direct soil and indoor dust ingestion, consumption of home-grown produce and any adhering soil, skin contact with soils and indoor dust and inhalation of indoor and outdoor dust and vapours.
-

A sub-set of the Residential land-use is **Residential without Homegrown produce**. The generic scenario assumes low density housing with communal landscaped gardens where the consumption of homegrown vegetables will not occur and the pathways of direct ingestion and produce inputs are suitably moderated.

Allotments

Areas of open space commonly made available to local users but remote from residential properties, but on which tenants may grow fruit and vegetables for their own consumption. Typically, there are a number of plots to a site which may have a total area of up to 1 hectare. The tenants are assumed to be adults and that young children make only occasional accompanied visits.

Although some allotment holders may choose to keep animals on allotments, potential exposure to animal products is not currently considered within the CLEA model.

-
- Critical receptor is a young female child (zero to six years old)
 - Exposure pathways include direct soil ingestion, consumption of homegrown produce and any adhering soil, skin contact with soils and inhalation of outdoor dust and vapours but at reduced exposure levels reflecting non-residential status.
-

Commercial

This generic scenario assumes a typical commercial or light industrial property at which employees spend most time indoors and are involved in office-based or relatively light physical work.

-
- Critical receptor is a working female adult (aged 16 to 65 years old).
 - Exposure duration is over working lifetime
 - Exposure pathways include direct soil and indoor dust ingestion, skin contact with soils and dusts and inhalation of dust and vapours but exposure reduced to reflect non-residential nature and general lack of open spaces.
-

Public Open Space within Residential Area

This generic scenario refers to any grassed area up to 0.05 ha that is associated with residential properties but is not for their exclusive use and on which no fruit or vegetables are grown for home consumption.

-
- Grassed area of up to 0.05 ha and a considerable proportion of this (up to 50%) may be bare soil which can be interacted with directly
 - Predominantly used by children for play and/or access
 - Sufficiently close proximity to home for tracking back of soil to occur, thus indoor exposure pathways apply
-

-
- older children chosen as the critical receptor on basis that they will use site most frequently (age class 4-9 years)
-
- ingestion rate assumed to be 75 mg.day⁻¹
-

Public Open Space Park

This generic scenario refers to any public park or grassed space that is more than 0.5ha in area:

-
- Public park (>0.5 ha), predominantly grassed and may also contain children's play equipment and border areas of soil containing flowers or shrubs (75% assumed cover)
-
- Female child age classes 1-6
-
- Soil ingestion rate of 50 mg.day⁻¹
-
- Occupancy period outdoors = 2 hours.day⁻¹
-
- Exposure frequency of 170 days.year⁻¹ for age classes 2-18 and 85 days.year⁻¹ for age class 1
-
- Outdoor exposure pathways only (no tracking back of soils).
-

Human Health Generic Quantitative Risk Assessment (GQRA) involves the comparison of contaminant concentrations measured in soil at the site with Generic Assessment Criteria (GAC) generated using the CLEA model based on the exposure and land use scenario assumptions noted above.

GAC's are deliberately conservative values adopted to ensure that they are applicable to the majority of possible contaminated sites and below which there is considered a low to negligible risk to identified human health receptors, i.e. there can be no harm. These values may be published Contaminated Land Exposure Assessment Model (CLEA) derived GAC's derived by a competent third party or the Environment Agency / DEFRA. It is imperative to the risk assessor to understand the uncertainties and limitations associated with these GAC's to ensure that they are used appropriately.

Where the adoption of a GAC is not appropriate, for instance when the intended land-use is at variance the CLEA standard land-uses or the contaminant is susceptible to wide variation depending on factors such as form and bioavailability, then a Detailed Quantitative Risk Assessment (DQRA) may be undertaken to develop site specific or remediation values for relevant soil contaminants based on site and contaminant specific conditions.

In 2014, the publication of Category 4 Screening Levels (C4SL), refs 1.8 and 1.9, as part of the Defra-funded research project SP1010, included modifications to certain exposure assumptions documented within EA Science Report SC050221/SR3 (herein after referred to as SR3) ref 1.7 used in the generation of SGVs. C4SL were published for six substances (cadmium, arsenic, benzene, benzo(a)pyrene, chromium VI and lead) for a sandy loam soil type with 6% soil organic matter, based on a low level of toxicological concern. Where a C4SL has been published, Soils Limited has adopted them as GAC for these six substances.

For all other substances the soils will be compared to Suitable For Use Levels (S4ULs) published by LQM, ref. 1.10, which were developed for around 85 substances and are

intended to enable a screening assessment of the risks posed by soil quality on development sites. The updated LQM/CIEH GAC publication was developed to accommodate recent developments in the understanding of chemical, toxicological and routine exposure to soil-based contaminants.

Where no S4UL or C4SL is available, assessment criteria may be generated using the Contaminated Land Exposure Assessment (CLEA) Software Version 1.07, ref. 1.11, Toxicological and physico-chemical/fate and transport data used to generate the criteria has been derived from a hierarchy of data sources as follows:

1. Environment Agency or Department of Environment Food and Rural Affairs (DEFRA) documents;
2. Other documents produced by UK Government or state organisations;
3. European institution documents;
4. International organisation documents;
5. Foreign government institutions.

In the case of the majority of contaminants considered, the toxicological data has been drawn originally from the relevant CLR 9 TOX report, or updated toxicological data published by the Environment Agency (2009), where available. Where no TOX report is available reference has been made to appropriately determined health criteria values, derived from the above-noted hierarchy, as this is considered to represent appropriate peer reviewed data sources. Similarly, fate and transport data should also be determined by reference to appropriate sources and the CLEA model assumptions.

Chemical laboratory test results are processed as follows. A statistical analysis of the results is conducted, as detailed in CIEH and CL:AIRE 'Guidance on Comparing Soil Contamination Data with a Critical Concentration', ref. 1.12. Individual concentrations are then compared to the selected guideline values to identify and isolate concentrations of contaminants that are in excess of the selected screening low or no risk criteria.

Where the risk estimation identifies significant concentrations of one or more contaminants, further risk evaluation needs to be undertaken often as a site specific DQRA in line with current guidance to determine and confirm if the identified exceedances are significant in the context of the proposed development or activity.

References

- 1.1 The Environmental Protection Act, Part IIA, Section 78, DoE 1990.
- 1.2 Environment Act 1995, Section 57, DoE 1995.
- 1.3 Environment Act 2021 OEP 2021.
- 1.4 Land Contamination Risk Management Gov.UK (EA) 2021
- 1.5 BS 10175: 2011+A2:2017 '*Investigation of potentially contaminated sites. Code of practice*', British Standards Institute, 2017
- 1.6 BS 5930: 2015+A1:2020 '*Code of practice for ground investigations*', British Standards Institute, 2015
- 1.7 Science Report SC050021/SR3 '*Updated technical background to the CLEA model*', Environment Agency, 2008
- 1.8 DEFRA SP1010: Development of Category 4 Screening Levels for the Assessment of Land Affected by Contamination, published March 2014.
- 1.9 Contaminated Land: Applications in Real Environment (CL:AIRE) (2014). '*Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination*', Revision 2, DEFRA research project SP1010.
- 1.10 The LQM/S4ULs for Human Health Risk Assessment, Nathanail P, McCaffery C, Gillett A, Ogden R, and Nathanail J, Land Quality Press, Nottingham, published 2015.
- 1.11 CLEA '*Software Version 1.071*' (downloaded from the CL:AIRE website , <https://www.claire.co.uk/home/news/44-risk-assessment/178-soil-guideline-values>)
- 1.12 CIEH '*Guidance on Comparing Soil Contamination Data with a Critical Concentration*', Chartered Institute of Environmental Health (CIEH) and Contaminated Land: Applications in Real Environments (CL:AIRE), May 2008.

Land Use			Residential With or Without Plant Uptake									Public Open Space (POS)											Name	Authority	Date
			With			Without			Allotments			Commercial			Residential						Park				
			SOM	1.0	2.5	6	1	2.5							6	1	2.5	6	1	2.5	6	1			
Type	Contaminants	Species	Year																						
Metals	Antimony		2010					550						7500								EIC/AGS/ CL:AIRE	EIC/AGS/ CL:AIRE	2010	
	Arsenic		2014		37		40			49			640		79		168				C4SL	DEFRA	2014		
			2015		37		40			40			640		79		170				S4UL	LQM/CIEH	2015		
	Barium		2010					1300						22000							EIC/AGS/ CL:AIRE	EIC/AGS/ CL:AIRE	2010		
	Beryllium		2015		1.7		1.7			35			12		2.2		63				S4UL	LQM/CIEH	2015		
	Boron		2015		290		11000			45			240000		21000		46000				S4UL	LQM/CIEH	2015		
	Cadmium		2015		11		85			1.9			190		120		532				S4UL	LQM/CIEH	2015		
	Chromium	III	2014		26		149		4.9		410		220		880		C4SL	DEFRA	2014						
			2015		910		910		18000		8600		1500		33000		S4UL	LQM/CIEH	2015						
			2014		21		21		170		49		23		250		C4SL	DEFRA	2014						
		VI	2015		6		6		1.8		33		7.7		220		S4UL	LQM/CIEH	2015						
	Copper		2015		2400		7100		520		68000		12000		44000		S4UL	LQM/CIEH	2015						
	Lead		2014*		82-210		130-310		30-84		1100-6000		270-760		580-1400		C4SL	DEFRA	2014						
	Mercury	Elemental	2012		1.0		1.0		26		26				210		DEFRA	2012							
			2015		1.2		1.2		21		58		16		30		S4UL	LQM/CIEH	2015						
		Inorganic	2012		170		170		80		36000				SGV	DEFRA	2012								
			2015		40		56		19		1100		120		240		S4UL	LQM/CIEH	2015						
		Methyl	2012		11		11		8		410				SGV	DEFRA	2012								
			2015		11		15		6		320		40		68		S4UL	LQM/CIEH	2015						
	Molybdenum		2010					670						17000				EIC/AGS/ CL:AIRE	EIC/AGS/ CL:AIRE	2010					
	Nickel		2012		130		130		230		1800				SGV	DEFRA	2012								
			2015		130		180		53		980		230		800		S4UL	LQM/CIEH	2015						
	Selenium		2012		350		595		120		13000				SGV	DEFRA	2012								
			2015		250		430		88		12000		1100		1800		S4UL	LQM/CIEH	2015						
	Vanadium		2015		410		1200		91		9000		2000		5000		S4UL	LQM/CIEH	2015						
	Zinc		2015		3700		40000		620		730000		81000		170000		S4UL	LQM/CIEH	2015						
BTEX & MTBE	Benzene		2012		0.33		0.33		0.07		95			SGV	DEFRA	2012									
			2014		0.87		3.3		0.18		98		140		230		C4SL	DEFRA	2014						
			2015	0.087	0.17	0.37	0.38	0.7	1.4	0.017	0.034	0.075	27	47	90	72	72	73	90	100	110	S4UL	LQM/CIEH	2015	
	Toluene		2012		610		610		120		4400				SGV	DEFRA	2012								
			2015	130	290	660	880	1900	3900	22	51	120	56000	110000	180000	56000	56000	56000	87000	95000	100000	S4UL	LQM/CIEH	2015	
	Ethylbenzene		2012		350		350		90		2800				SGV	DEFRA	2012								
			2015	47	110	260	83	190	440	16	39	91	5700	13000	27000	24000	24000	25000	17000	22000	27000	S4UL	LQM/CIEH	2015	
	Xylenes	o-xylene	2012		250		250		160		2600				SGV	DEFRA	2012								
			2015	60	140	330	88	210	480	28	67	160	6600	15000	33000	41000	42000	43000	17000	24000	33000	S4UL	LQM/CIEH	2015	
		m-xylene	2012		240		240		180		3500				SGV	DEFRA	2012								
			2015	59	140	320	82	190	450	31	74	170	6200	14000	31000	41000	42000	43000	17000	24000	32000	S4UL	LQM/CIEH	2015	
		p-xylene	2012		230		230		160		3200				SGV	DEFRA	2012								
			2015	56	130	310	79	180	430	29	69	160	5900	14000	30000	41000	42000	43000	17000	23000	31000	S4UL	LQM/CIEH	2015	
Petroleum Hydrocarbons Fractions	Aliphatic >C5 - C6		2015	42	78	160	42	78	160	730	1700	3900	3200	5900	12000	570000	590000	600000	95000	5900	12000	S4UL	LQM/CIEH	2015	
	Aliphatic >C6 - C8		2015	100	230	530	100	230	530	2300	5600	13000	7800	17000	40000	600000	610000	620000	150000	17000	40000	S4UL	LQM/CIEH	2015	
	Aliphatic >C8 - C10		2015	27	65	150	27	65	150	320	770	1700	2000	4800	11000	13000	13000	13000	14000	4800	11000	S4UL	LQM/CIEH	2015	
	Aliphatic >C10 - C12		2015	130	330	760	130	330	770	2200	4400	7300	9700	23000	47000	13000	13000	13000	21000	23000	47000	S4UL	LQM/CIEH	2015	
	Aliphatic >C12 - C16		2015	1100	2400	4300	1100	2400	4400	11000	13000	13000	59000	82000	90000	13000	13000	13000	25000	82000	90000	S4UL	LQM/CIEH	2015	
	Aliphatic >C16 - C35		2015	65000	92000	110000	65000	92000	110000	260000	270000	270000	1600000	1700000	1800000	250000	250000	250000	450000	170000	180000	S4UL	LQM/CIEH	2015	
	Aliphatic >C35 - C44		2015	65000	92000	140000	65000	92000	110000	260000	270000	270000	1600000	1700000	1800000	250000	250000	250000	450000	170000	180000	S4UL	LQM/CIEH	2015	
	Aromatic >C5 - C7		2015	70	140	300	370	690	1400	13	27	57	26000	46000	86000	56000	56000	56000	76000	84000	92000	S4UL	LQM/CIEH	2015	
	Aromatic >C7 - C8		2015	130	290	660	860	1800	3900	22	51	120	56000	110000	180000	56000	56000	56000	87000	95000	100000	S4UL	LQM/CIEH	2015	

Land Use			Residential With or Without Plant Uptake									Public Open Space (POS)									Name	Authority	Date	
			With			Without			Allotments			Commercial			Residential			Park						
			SOM	1.0	2.5	6	1	2.5							6	1	2.5	6	1	2.5				6
Type	Contaminants	Species	Year																					
	Aromatic >C8 - C10		2015	34	83	190	47	110	270	8.6	21	51	3500	8100	17000	5000	5000	5000	7200	8500	9200	S4UL	LQM/CIEH	2015
	Aromatic >C10 - C12		2015	74	180	380	250	590	1200	13	31	74	16000	28000	34000	5000	5000	5000	9200	9700	10000	S4UL	LQM/CIEH	2015
	Aromatic >C12 - C16		2015	140	330	660	1800	2300	2500	23	57	130	36000	37000	38000	5100	5100	5000	10000	10000	10000	S4UL	LQM/CIEH	2015
	Aromatic >C16 - C21		2015	260	540	930	1900	1900	1900	46	110	260	28000	28000	28000	3800	3800	3800	7600	7700	7800	S4UL	LQM/CIEH	2015
	Aromatic >C21 - C35		2015	1100	1500	1700	1900	1900	1900	370	820	1600	28000	28000	28000	3800	3800	3800	7800	7800	7900	S4UL	LQM/CIEH	2015
	Aromatic >C34 - C44		2015	1100	1500	1700	1900	1900	1900	370	820	1600	28000	28000	28000	3800	3800	3800	7800	7800	7900	S4UL	LQM/CIEH	2015
	Aliphatic + Aromatic >C44 - C70			1600	1800	1900	1900	1900	1900	1200	2100	3000	28000	28000	28000	3800	28000	28000	7800	7800	7900	S4UL	LQM/CIEH	2015
Polycyclic Aromatic Hydrocarbons (PAH' s) (mg/kg)	Acenaphthene		2015	210	510	1100	3000	4700	6000	34	85	200	84000	97000	100000	15000	15000	15000	29000	29000	29000	S4UL	LQM/CIEH	2015
	Acenaphthylene		2015	170	420	920	2900	4600	6000	28	69	160	83000	97000	100000	15000	15000	15000	29000	29000	29000	S4UL	LQM/CIEH	2015
	Anthracene		2015	2400	5400	11000	31000	35000	37000	380	950	2200	520000	54000	540000	74000	74000	74000	150000	150000	150000	S4UL	LQM/CIEH	2015
	Benzo(a)anthracene		2015	7.2	11	13	11	14	15	2.9	6.5	13	170	170	180	29	29	29	49	56	62	S4UL	LQM/CIEH	2015
	Benzo(a)pyrene		2014			5			5.3			5.7			76			10		21	C4SL	DEFRA	2014	
			2015	2.2	2.7	3	3.2	3.2	3.2	0.79	2	3.5	35	35	36	5.7	5.7	5.7	11	12	13	S4UL	LQM/CIEH	2015
	Benzo(b)fluoranthene		2015	2.6	3.3	3.7	3.9	4.0	4.0	0.99	2.1	3.9	44	44	45	7.1	7.2	7.2	13	15	16	S4UL	LQM/CIEH	2015
	Benzo(ghi)perylene		2015	320	340	350	360	360	360	290	470	640	3900	4000	4000	640	640	640	1400	1500	1600	S4UL	LQM/CIEH	2015
	Benzo(k)fluoranthene		2015	77	93	100	110	110	110	37	75	130	1200	1200	1200	190	190	190	370	410	440	S4UL	LQM/CIEH	2015
	Chrysene		2015	15	22	27	30	31	32	4.1	9.4	19	350	350	350	57	57	57	93	110	120	S4UL	LQM/CIEH	2015
	Dibenz(a,h)anthracene		2015	0.24	0.28	0.3	0.31	0.32	0.32	0.14	0.27	0.43	3.5	3.6	3.6	0.57	0.57	0.58	1.1	1.3	1.4	S4UL	LQM/CIEH	2015
	Fluoranthene		2015	280	560	890	1500	1600	1600	52	130	290	23000	23000	23000	3100	3100	3100	6300	6300	6400	S4UL	LQM/CIEH	2015
	Fluorene		2015	170	400	860	2800	3800	4500	27	67	160	63000	68000	71000	9900	9900	9900	20000	20000	20000	S4UL	LQM/CIEH	2015
	Indeno(1,2,3-cd)pyrene		2015	27	36	41	45	46	46	9.5	21	39	500	510	510	82	82	82	150	170	180	S4UL	LQM/CIEH	2015
	Naphthalene		2015	2.3	5.6	13	2.3	5.6	13	4.1	10	24	190	460	1100	4900	4900	4900	1200	1900	3000	S4UL	LQM/CIEH	2015
	Phenanthrene		2015	95	220	440	1300	1500	1500	15	38	90	22000	22000	23000	3100	3100	3100	6200	6200	6300	S4UL	LQM/CIEH	2015
	Pyrene		2015	620	1200	2000	3700	3800	3800	110	270	620	54000	54000	54000	7400	7400	7400	15000	15000	15000	S4UL	LQM/CIEH	2015
	Coal Tar (Bap as surrogate matter)		2015	0.79	0.98	1.1	1.2	1.2	1.2	0.32	0.67	1.2	15	15	15	2.2	2.2	2.2	4.4	4.7	4.8	S4UL	LQM/CIEH	2015
Chloroalkanes & alkenes	1,2 Dichloroethane		2015	0.0071	0.011	0.019	0.0092	0.013	0.023	0.0046	0.0083	0.016	0.67	0.97	1.7	29	29	29	21	24	28	S4UL	LQM/CIEH	2015
	1,1,1 Trichloroethane		2015	8.8	18	39	9	18	40	48	110	240	660	1300	3000	140000	140000	140000	57000	76000	100000	S4UL	LQM/CIEH	2015
	1,1,2,2 Tetrachloroethane		2015	1.6	3.4	7.5	3.9	8	17	0.41	0.89	2	270	550	1100	1400	1400	1400	1800	2100	2300	S4UL	LQM/CIEH	2015
	1,1,1,2 Tetrachloroethane		2015	1.2	2.8	6.4	1.5	3.5	8.2	0.79	1.9	4.4	110	250	560	1400	1400	1400	1500	1800	2100	S4UL	LQM/CIEH	2015
	Tetrachloroethene (PCE)		2015	0.18	0.39	0.9	0.18	0.4	0.92	0.65	1.5	3.6	19	42	95	1400	1400	1400	810	1100	1500	S4UL	LQM/CIEH	2015
			2021	0.31	0.7	1.6	0.32	0.71	1.6	2	4.8	11	24	55	130	3200	3300	3400	1400	1900	2500	C4SL	CLAIRE	2021
	Tetrachloromethane (Carbon Tetrachloride)		2015	0.026	0.056	0.13	0.026	0.056	0.13	0.45	1	2.4	2.9	6.3	14	890	920	950	190	270	400	S4UL	LQM/CIEH	2015
	Trichloroethene (TCE)		2015	0.016	0.034	0.075	0.017	0.036	0.08	0.041	0.091	0.21	1.2	2.6	5.7	120	120	120	70	91	120	S4UL	LQM/CIEH	2015
			2021	0.0093	0.02	0.043	0.0097	0.02	0.045	0.032	0.072	0.16	0.73	1.5	3.4	76	78	79	41	54	69	C4SL	CLAIRE	2021
	Trichloromethane (Chloroform)		2015	0.91	1.7	3.4	1.2	2.1	4.2	0.42	0.83	1.7	99	170	350	2500	2500	2500	2600	2800	3100	S4UL	LQM/CIEH	2015
	Vinyl Chloride (Cloroethene)		2015	0.00064	0.00087	0.0014	0.00077	0.001	0.0015	0.00055	0.001	0.0018	0.059	0.077	0.12	3.5	3.5	3.5	4.8	5	5.4	S4UL	LQM/CIEH	2015
			2021	0.0064	0.01	0.017	0.015	0.019	0.029	0.0017	0.0031	0.0058	1.1	1.4	2.2	7.8	7.8	7.8	18	19	19	C4SL	CLAIRE	2021
Explosives	2,4,6 Trinitrotoluene		2015	1.6	3.7	8.1	65	66	66	0.24	0.58	1.4	1000	1000	1000	130	130	130	260	270	270	S4UL	LQM/CIEH	2015
	RDX (Hexogen/Cyclonite/1,3,5-trinitro-1,3,5-triazacyclohexane)		2015	120	250	540	13000	13000	13000	17	38	85	210000	210000	210000	26000	26000	27000	49000	51000	53000	S4UL	LQM/CIEH	2015
	HMX (Octogen/1,3,5,7-tetrenitro-1,3,5,7-tetrazacyclo-octane)		2015	5.7	13	26	6700	6700	6700	0.86	1.9	3.9	110000	110000	110000	13000	13000	13000	23000	23000	24000	S4UL	LQM/CIEH	2015
Pesticides	Aldrin		2015	5.7	6.6	7.1	7.3	7.4	7.5	3.2	6.1	9.6	170	170	170	18	18	18	30	31	31	S4UL	LQM/CIEH	2015
	Dieldrin		2015	0.97	2	3.5	7	7.3	7.4	0.17	0.41	0.96	170											

Land Use			Residential With or Without Plant Uptake									Allotments			Commercial			Public Open Space (POS)									Name	Authority	Date	
			With home-grown produce			Without home-grown produce			Residential									Park												
			SOM	1.0	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6									
Type	Contaminants	Species	Year																											
Chlorobenzenes	Chlorobenzene		2015	0.46	1	2.4	0.46	1	2.4	5.9	14	32	56	130	290	11000	13000	14000	1300	2000	2900	S4UL	LQM/CIEH	2015						
	1,2-Dichlorobenzene		2015	23	55	130	24	57	130	94	230	540	2000	4800	11000	90000	95000	98000	24000	36000	51000	S4UL	LQM/CIEH	2015						
	1,3-Dichlorobenzene		2015	0.4	1	2.3	0.44	1.1	2.5	0.25	0.6	1.5	30	73	170	300	300	300	390	440	470	S4UL	LQM/CIEH	2015						
	1,4-Dichlorobenzene		2015	61	150	350	61	150	350	15	37	88	4400	10000	25000	17000	17000	1700	36000	36000	36000	S4UL	LQM/CIEH	2015						
	1,2,3,-Trichlorobenzene		2015	1.5	3.6	8.6	1.5	3.7	8.8	4.7	12	28	102	250	590	1800	1800	1800	770	1100	1600	S4UL	LQM/CIEH	2015						
	1,2,4,-Trichlorobenzene		2015	2.6	6.4	15	2.6	6.4	15	55	140	320	220	530	1300	15000	17000	19000	1700	2600	4000	S4UL	LQM/CIEH	2015						
	1,3,5,-Trichlorobenzene		2015	0.33	0.81	1.9	0.33	0.81	1.9	4.7	12	28	23	55	130	1700	1700	1800	380	580	860	S4UL	LQM/CIEH	2015						
	1,2,3,4,-Tetrachlorobenzene		2015	15	36	78	24	56	120	4.4	11	26	1700	3080	4400	830	830	830	1500	1600	1600	S4UL	LQM/CIEH	2015						
	1,2,3,5,- Tetrachlobenzene		2015	0.66	1.6	3.7	0.75	1.9	4.3	0.38	0.9	2.2	49	120	240	78	79	79	110	120	130	S4UL	LQM/CIEH	2015						
	1,2,4, 5,- Tetrachlobenzene		2015	0.33	0.77	1.6	0.73	1.7	3.5	0.06	0.16	0.37	42	72	96	13	13	13	25	26	26	S4UL	LQM/CIEH	2015						
	Pentachlrobenzene		2015	5.8	12	22	19	30	38	1.2	3.1	7	640	770	830	100	100	100	190	190	190	S4UL	LQM/CIEH	2015						
	Hexachlorobenzene		2015	1.8	3.3	4.9	4.1	5.7	6.7	0.47	1.1	2.5	110	120	120	16	16	16	30	30	30	S4UL	LQM/CIEH	2015						
Phenols & Chlorophenols																														
	Phenols		2012	420			420			280			3200												SGV	DEFRA	2012			
			2015	120	200	380	440	690	1200	23	42	83	440	690	1300	440	690	1300	440	690	1300	S4UL	LQM/CIEH	2015						
	Chlorophenols (4 Congeners)		2015	0.87	2	4.5	94	150	210	0.13	0.3	0.7	3500	4000	4300	620	620	620	1100	1100	1100	S4UL	LQM/CIEH	2015						
Others	Pentachlorophenols		2015	0.22	0.52	1.2	27	29	31	0.03	0.08	0.19	400	400	400	60	60	60	110	120	120	S4UL	LQM/CIEH	2015						
	Carbon Disulphide		2015	0.14	0.29	0.62	0.14	0.29	0.62	4.8	10	23	11	22	47	11000	11000	12000	1300	1900	2700	S4UL	LQM/CIEH	2015						
	Hexachloro-1,3-Butadiene		2015	0.29	0.7	1.6	0.32	0.78	1.8	0.25	0.61	1.4	31	66	120	25	25	25	48	50	51	S4UL	LQM/CIEH	2015						
	Sum of PCDDs, PCDFs and dioxin-like PCB's.		2012	8			8			8			240												SGV	DEFRA	2012			
NOTE																														
	Priority	Guideline (mg kg ⁻¹)																												
	1	Site Specific Assessment Criteria (SSAC) (Soils Limited)																												
	2	2014: Category 4 Screening Level (C4SL) (Contaminated Land: Application in Real Environment (CL:ARE), 2014 and 2021) * Use upper range value for Lead unless otherwise indicated																												
	3	2012: Soil Guideline Value (SGV) (Environment Agency, 2009)																												
	4	2015: Suitable 4 Use Level (S4UL) (Nathanail et al, 2015)																												
For Generic Risk Assessment, the values in Bold should have priority unless site specific, Client or regulatory requirements dictate otherwise – which must be justified																														
Table reviewed January 2024																														

Appendix D Information Provided by the Client

This drawing is to be read in conjunction with all other relevant drawings and specifications.
Do not scale from this drawing (Unless for planning purposes). Use figured dimensions only.
All levels and dimensions to be checked on site prior to commencement of works on site.
All dimensional discrepancies are to be brought to the immediate attention of the originator.
Responsibility cannot be accepted for alteration and/or deviation from this design without prior knowledge.
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It is the responsibility of the Client to check Legal Boundaries are correctly indicated and that relevant Party Wall Notices (usually served via a Surveyor) where required have been served to adjoining neighbours prior to any commencement of works. No responsibility will be held by Simon Harvey Designs Ltd for any failure in the above.



A- Final amendments to scheme. Issued for
Planning Approval - 12.03.2026

Revision



SIMON HARVEY DESIGNS LTD
2 Greenfield Way,
Storrington,
West Sussex.
RH20 4PY
t: 07833 178040
e: office@simonharveydesigns.com

Client: G. Merrison

Project: New build dwelling to replace Class Q.

Address: Gorelands Farm,
Stane Street,
North Heath,
West Sussex.
RH20 1DN

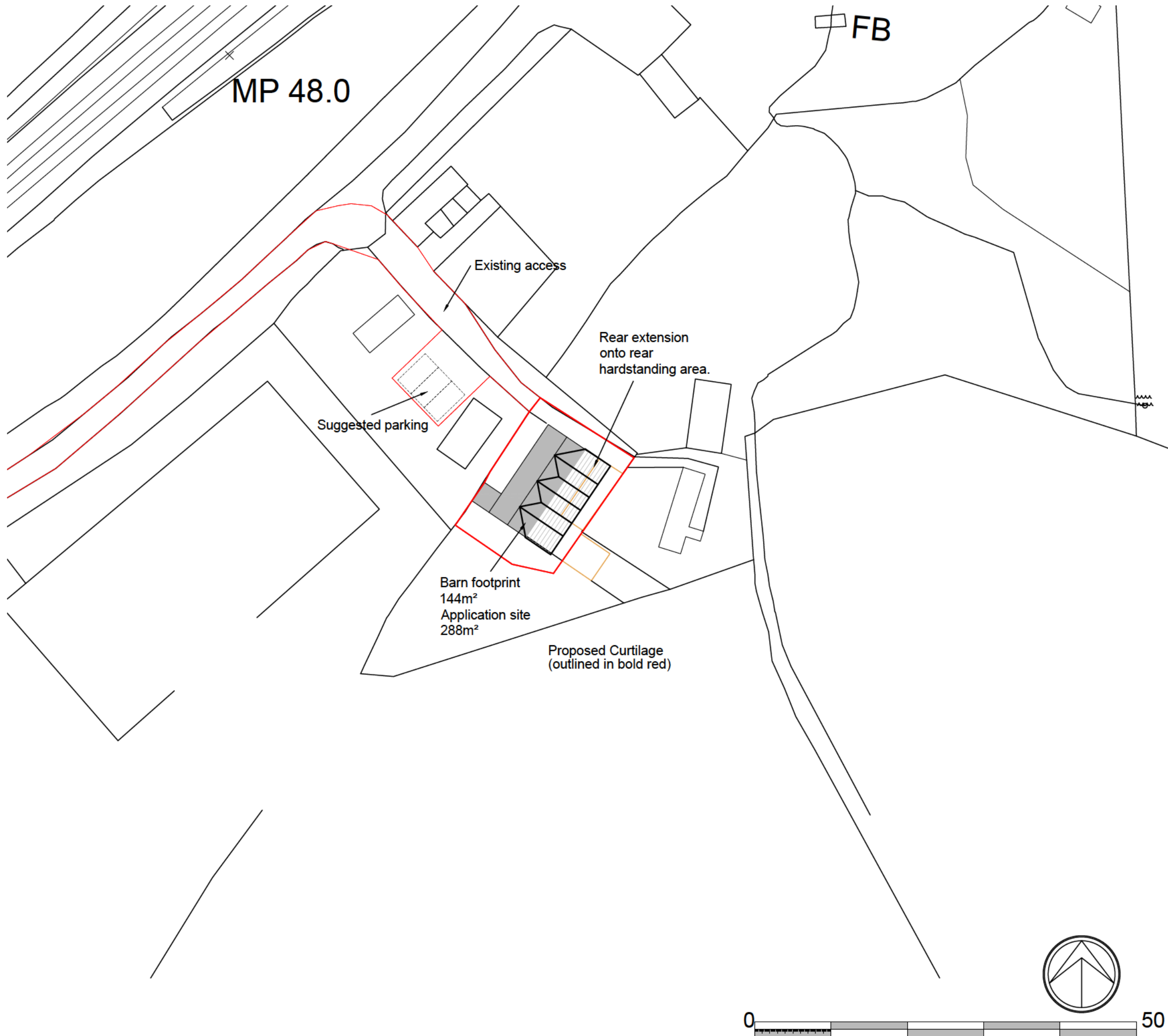
Drawing Title: SITE BLOCK PLAN

Drawing Number: 154_2502

Date: December 2025 Scale: 1:500@A3

PLANNING

This drawing is to be read in conjunction with all other relevant drawings and specifications.
Do not scale from this drawing (Unless for planning purposes). Use figured dimensions only.
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PLANNING

Revision	
	SIMON HARVEY DESIGNS LTD 2 Greenfield Way, Storrington, West Sussex. RH20 4PY t: 07833 178040 e: office@simonharveydesigns.com
Client:	G. Merrison & D. Obbard
Project:	Conversion of agricultural barn to residential use under Class Q.
Address:	Gorelands Farm, Stane Street, North Heath, West Sussex. RH20 1DN
Drawing Title:	SITE BLOCK PLAN
Drawing Number:	154_02
Date:	April 2025
Scale:	1:500@A3

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