



Land Science



BACKWOODS LANE, LINDFIELD
RH16 2ED
PHASE I AND II GEOTECHNICAL
ASSESSMENT
LINDFIELD PARISH COUNCIL
16TH FEBRUARY 2024
LS7360

Site:	BACKWOODS LANE, LINDFIELD RH16 2ED
Title:	PHASE I AND II GEOTECHNICAL ASSESSMENT
Project:	REDEVELOPMENT OF THE LAND INTO PUBLIC TOILETS
Client:	LINDFIELD PARISH COUNCIL
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1.0 EXECUTIVE SUMMARY

This summary is a brief precis of the main findings and conclusions of the investigation. For detailed information, the reader is referred to the main report.

The existing site comprised an area of grass covered open space with a concrete pathway, with a concrete pathway. The proposed development was understood to comprise the development of the land into public toilets. The intrusive investigation included 2no boreholes.

Strata	Base Depth range (m)	Summary
Topsoil	0.35	Dark brown slightly gravelly, clayey, SAND.
Cohesive Upper Tunbridge Wells Sand Formation	1.20-1.70	Yellow mottled grey/brown silty, CLAY within the first metre of both holes.
Bedrock Upper Tunbridge Wells Sand Formation	3.00+	Very friable siltstone.

No groundwater encountered within 3.00mbgl depth.

Traditional foundations are likely to be suitable to the ground and groundwater conditions, and suggested design parameters are given for both. The formation should be treated as being low volume change potential. A ground bearing or suspended floor slab might be considered.

Excavations are generally likely to remain stable.

Pavements may be formed on the Upper Tunbridge Wells Sands Formation. CBR value of 5.5% recommended for the Upper Tunbridge Wells Sands Formation, which is classified as being frost susceptible.

Buried structural concrete may be designed to DS-1 and AC-1 in accordance with BS8500.

Soakage testing identified that it is unlikely that shallow soakaways will perform satisfactorily in these materials. Consideration should be given to alternative drainage solutions such as French drains, drainage fields, discharge to sewer, or the like.

No issues with respect to ground gases have been identified. No Radon Protection Measures (RPM) are required at this location. Soil testing has not identified elevated levels of contamination.

Chemical results on Topsoil corresponded to inert Waste classification. Natural soils are anticipated to generally be Inert Waste.

No immediate requirements for further ground investigation have been identified. This report should be submitted to relevant authorities etc. in good time for consideration and approval.

2.0 INTRODUCTION

2.1 General

Land Science was instructed to undertake a Phase I and II Geotechnical Assessment in relation to the proposed redevelopment at Backwoods Lane, Lindfield RH16 2ED. The location is shown on Figure 1, which is centred at grid reference TQ 34591 25050.

2.2 Client

The Client for this appointment was Lindfield Parish Council. This report may only be used by this named client and their project team for the purposes set out and subject to the report conditions. It was understood that the Client already owned the property, and that this investigation was not a pre-purchase appraisal.

2.3 Area Under Investigation

The investigation was focused on the footprint of the proposed development, which was located in an area of grass covered open space with a concrete pathway. The layout is indicated on Figure 2, and a walkover survey is presented in section 3.0. The area was approximately 0.02 hectares.

2.4 Proposed Development

The proposed development was understood to comprise the development of the land into public toilets. Figure 3 illustrates the layout of the proposed redevelopment. The findings of this report may be not valid if the proposed development is altered.

2.5 Previous Investigations

Land Science was not aware of any previous desk studies or ground investigation(s) for this project.

2.6 Scope of Work

The work carried out is described in detail in following sections but in summary included:

- A phase I assessment desk study.
- An intrusive investigation comprising dynamic sampler boreholes and soakage testing.
- Preliminary geotechnical testing of selected soil samples in the field and laboratory.
- Preliminary chemical testing of selected soil samples in the field and laboratory.

The fieldwork was conducted on 22nd January 2024, under the supervision of Land Science.

2.7 Geotechnical Objectives

An interpretive Ground Investigation Report (GIR) was required in order to provide an assessment of ground conditions with respect to proposed foundations, pavements, soakaways, concrete specification, excavations, and waste classification.

2.8 Standards

Where practicable, the investigation was undertaken in accordance with the following primary standards and guidance:

- NHBC Standards Chapter 4.1: Land Quality - Managing Ground Conditions, 2019.
- BS 5930:2015 Code of Practice for Site Investigations
- BS 1377:2018 Soils for Civil Engineering Purposes
- BS 8004:2015 Code of Practice for Foundations
- BS EN 1997-2:2007. Eurocode 7: Geotechnical Design – Part 2: Ground Investigation and testing.

Other technical sources have been cited in respect of specific aspects of the investigation, as referenced throughout the text.

3.0 WALKOVER SURVEY

3.1 General

A walkover survey was carried out to order to provide an assessment of the existing site conditions and to identify potential areas of concern. A record of the inspection is shown in Appendix A, with photographs in Appendix B.

3.2 Site Description

In summary, the area under investigation comprised a rectangular shaped parcel of land consisting of lawn over topsoil with a concrete pathway running through the centre of the site. There is wooden fencing to the east and south of the site separating the site from a car park to the south and Backwoods Lane to the east. There is 1no large tree 1m to the south of the site measuring approx. 20m in height.

3.3 Neighbouring Land

Towards the south there is a public car park, beyond the car park to the west is the Lindfield Bowls Club. Lindfield Common is approx. 5m to the east of Backwoods Lane. Lindfield pond was noted approx. 200m north from the site.

3.4 Geo-Environmental Conditions

The walkover survey did not identify any areas of particular concern regarding the geo-environmental condition of the site. No significant evidence of tanks, chemical storage, staining or sheens, built up ground, contaminative land uses etc were noted.

3.5 Geotechnical Conditions

The walkover survey did not identify any areas of particular concern regarding the geotechnical condition of the site. No trees or significant evidence of underground structures, ground instability, subsidence, wet areas, significant earthworks, etc were noted.

4.0 DESK STUDY

4.1 General

A desk study was carried out to inform the preliminary conceptual understanding of the site and its setting, and to identify potential aspects of concern, in the context of the stated report objectives.

4.2 Historical Mapping

Various historical records were reviewed to assess potential historical land uses and activities that may impact on ground conditions at the site.

Free historic maps were reviewed online and the following key features were noted on Site:

- The earliest map dated 1840-1880 showed the site comprised as part of a larger. The 1888-1913 mapping is consistent with this.
- The 1892-1914 mapping shows the site consistent with the previous two mappings however, four trees are shown with only one present currently.
- The 1937-1961 and 1945-1965 mapping shows no change to the site.

And off site:

- The 1840-1880 mapping shows three wells located to the south, southeast, and east of the site. There is also "Burnthouse Farm" located to the south of the site.
- The 1888-1913 mapping shows the "Burnthouse Farm" no longer present. To the southeast of the site there is "Lindfield Farm". There is an additional well located to the east of the site.
- The 1892-1914 mapping shows the present-day car park is a tennis court. The bowling green is shown consistent with today.
- The 1937-1961 and 1945-1965 mapping shows a few buildings from "Lindfield Farm" still standing with the majority demolished.

4.3 Aerial Imagery

Recent aerial photography covering the site was examined using Google Earth Pro. The imagery identified that in 2018 the path is shown with the split in the path identified in the 2020 aerial imagery.

A brief internet search was carried out, which did not immediately reveal any relevant land use information.

4.4 Ground Conditions

A preliminary ground model was derived for the site by based on a combination of various sources including published maps, borehole records, previous investigations, and the site history. In summary, the following potential ground model was identified:

Strata	Approximate Depth (mbgl)	Summary Description
Upper Tunbridge Wells Sands	To depth.	Thinly bedded silty mudstones, siltstones, silty sandstones and fine-grained sandstones. Sandstones, which form prominent scarp and dip slope features, are typically fine-grained and quartzose, weathering to a pale yellowish grey or brown colour.

4.5 Geological Hazards

The desk study included searches of geological hazards. None of the hazards were rated as moderate or above, considered the screening threshold for further investigation.

A search of various databases for coal mining, mining, brine compensation, and natural cavities was carried-out. No relevant features were identified.

4.6 Environmental Setting

The site lies in the following groundwater setting:

- Bedrock aquifer: The Upper Tunbridge Wells Sands strata was classified as a Secondary A - Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.
- Source protection zone: No groundwater Source Protection Zones were identified on site or in the vicinity.
- Flooding from Rivers and Sea: Zone 1 Low Probability - Land having a less than 1 in 1,000 annual probability of river or sea flooding.
- Surface water flooding on site: Very low risk - each year this area has a chance of flooding of less than 0.1%. Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding.
- Groundwater flooding on site: Flooding from groundwater is unlikely in this area.
- Nearest water source: Lindfield Pond noted approx. 200m North.

4.7 Radon Gas

The requirement for Radon Protection Measures (RPM) has been assessed in accordance with BRE 211:2015. Public Health England and the BGS estimate the potential for radon and the requirement for Radon Protection Measures on site as follows:

- Radon probability: Not at risk - less than 1% of homes are estimated by PHE to exceed the threshold for Radon gas in residential dwellings.
- Radon Protection Measures (RPM): No Radon protection is required for new dwellings or extensions constructed at this location.
- Commercial premises: On the basis that exposure limits for residential properties are more stringent than work spaces, it is concluded that no protection measures would be required for a commercial development at this site.

5.0 INTRUSIVE INVESTIGATION

5.1 Investigation Rationale

Based on the geotechnical objectives, the intrusive investigation was based on the following strategy:

- Dynamic sampler boreholes were used to minimise disruption to the site. The positions were located to give general coverage across the footprint of the proposed footprint.

Position	Provisional Depth / strata	Existing Location	Proposed Location	Testing, installations etc
DS01	5.0m or refusal	To the east of the pathway on the lawn	Proposed public toilet	DP
DS02	3.0m or refusal	Beside the pathway on the lawn, adjacent to DS01		DP, FHST

5.2 Geotechnical Strategy

Geotechnical aspects were investigated based on the following strategy:

Area of Concern	Investigation	Position(s)
Shallow soil conditions	Shallow exploratory holes located in and around the proposed development footprint	All
Shrinkable soils	Plasticity index and particle size testing was scheduled to determine the shrinkability and percentage passing 425µm sieve.	All
Sulphate	Representative samples from relevant depths were scheduled for analysis of pH value and water soluble Sulphate.	All
Frost susceptibility	Samples were submitted for plasticity index (cohesive) or particle size distribution (granular) to determine frost susceptibility.	All
Soakage potential	A shallow exploratory hole was positioned in the indicated soakaway location.	DS02
Waste classification	For preliminary waste classification, representative samples were to be screened for contaminants and full hazardous waste leachate testing performed.	DS02

5.3 Dynamic (Windowless) Sampling (DS)

Dynamic Sampling entails 1m long hollow tubes with liners driven into the ground and retracted to obtain samples. The liners are split, logged, tested, and subsampled as required.

5.4 Dynamic Probing (DP)

Dynamic Probing involves driving a cone point using a percussive hammer and recording the number of blows required for each increment of penetration. The particular testing method employed was DPSH-A as prescribed under BS EN 1997-1:2004 and EN ISO 22476-2.

5.5 Falling Head Soakage Testing (FHST)

A test bore is filled with water and the drop in water level over time is recorded, to provide an indication on the likely permeability of different strata.

5.6 Soil Sampling

Soil samples were recovered from the exploratory holes during the ground investigation and stored/transported in containers appropriate for the laboratory testing undertaken. Sample types and depths are recorded on the relevant exploratory hole records.

6.0 GROUND CONDITIONS

6.1 General

The expected ground conditions were anticipated to comprise the Upper Tunbridge Wells Sand Formation. The investigation confirmed the anticipated ground conditions.

A thin capping of Topsoil was encountered at surface. A summary of the encountered conditions is presented below.

Strata	Base Depth (mbgl)	
	DS01	DS02
Topsoil	0.35	0.35
Cohesive Upper Tunbridge Wells Sand Formation	1.70	1.20
Bedrock Upper Tunbridge Wells Sand Formation	3.00+	3.00+

The naming of geological strata is tentative and should be used as a guide. Interpolation between or below investigation points should be treated with caution.

The description of soils and rocks was in accordance with BS5930.

Topsoil can be distinguished from Made Ground, even though these may have been disturbed through human activity and may contain materials such as brick, pottery, or charcoal etc.

6.2 Topsoil

Topsoil was encountered to depths of 0.35mbgl and in summary comprised dark brown slightly gravelly, clayey, SAND.

6.3 Cohesive Upper Tunbridge Wells Sand

Cohesive Upper Tunbridge Wells Sand was encountered to depths of between 1.20-1.70mbgl and in summary comprised yellow mottled grey/brown silty, CLAY.

6.4 Bedrock Upper Tunbridge Wells Sand

Bedrock Upper Tunbridge wells Sand was encountered to a depth of 3.00mbgl and in summary consisted of very friable siltstone.

6.5 Roots and Rootlets

No roots were identified during the investigation. However, rootlets were identified within both positions as detailed in the following table.

Position	Roots	Rootlets Depth (m)
DS01	-	0.35 (Occasional)
DS02	-	

6.6 Field Evidence of Contamination

No evidence of possible soil contamination (such as staining, malodours, or brightly coloured soils) was identified in the field.

6.7 Groundwater

Groundwater was not encountered during excavation of any of the investigative positions.

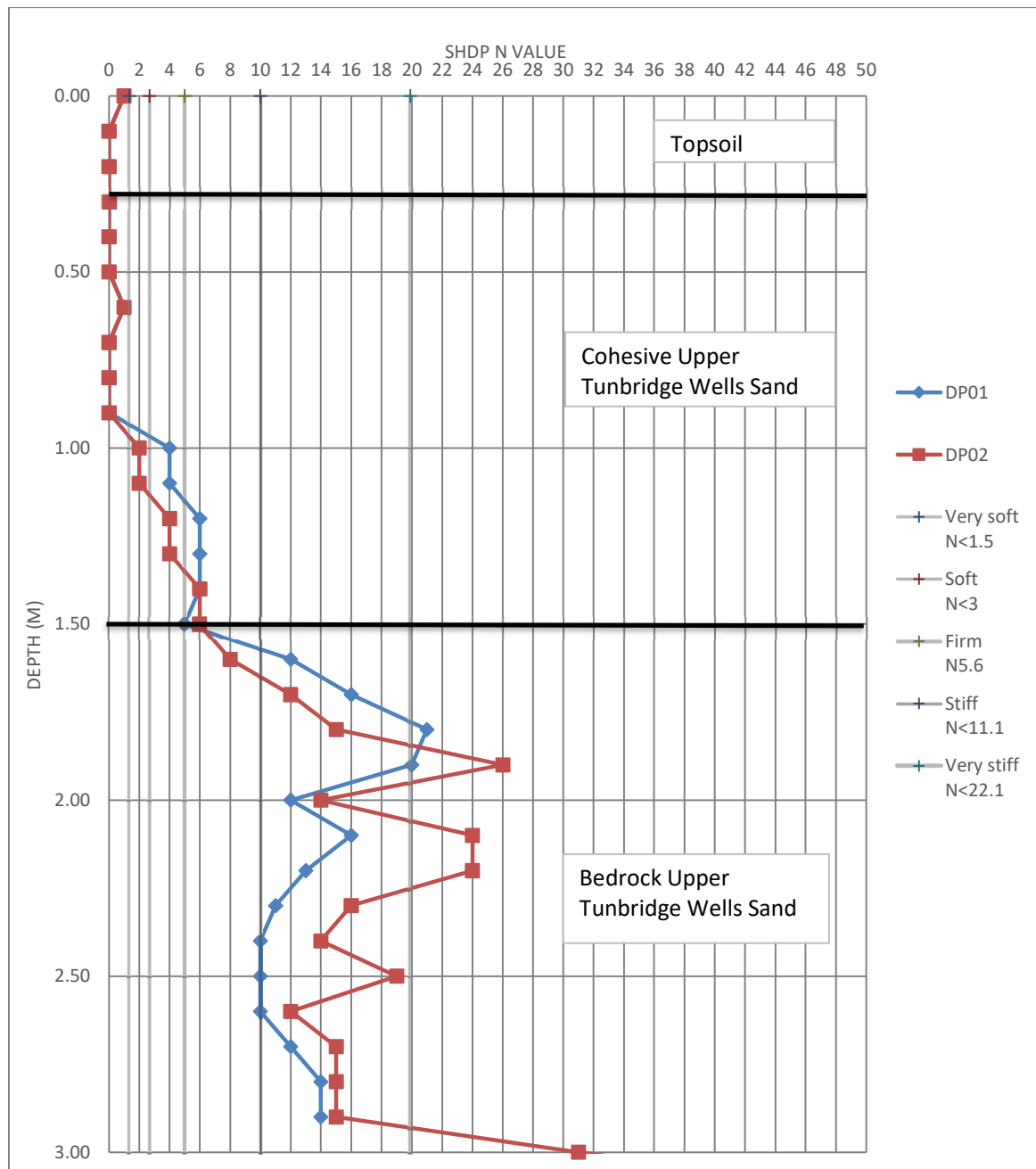
6.8 Stability and Casing

The positions remained stable, and the boreholes were not cased.

7.0 FIELD TESTING

7.1 Super Heavy Dynamic Probing (SHDP)

The SHDP tests results are summarised below:



Note: gridlines shown are approximate and indicative only

7.2 Falling Head Soakage Testing (FHST)

The results of the Falling Head Soakage Tests are summarised below:

Position	Test	Strata tested	Test depth range	Result	Notes
DS02	Test 1	Upper Tunbridge Wells Sand Formation	0.53-0.55m	Failed	The readings were insufficient to calculate a soil infiltration rate. The water fell 20mm in 3 hours.

8.0 GEOTECHNICAL LABORATORY TESTING

8.1 Geotechnical Laboratory Testing

Samples were selected for geotechnical testing, based on the following rationale:

- For general classification purposes, representative cohesive natural samples of soil were analysed for 1pt Atterberg Limit (Plasticity Index) tests (PI).
- Moisture content (MC) determinations were carried out in association with the Atterberg limit tests.
- To determine the required concrete specification to resist chemical attack, samples were tested for pH and soil soluble sulphate. (pH/SO₄)
- Given the fine-grained nature of the soils, the particle size distribution was supplemented by Hydrometer analysis on the silt and clay fractions (HYD).

A summary of the testing scheduled is given below:

Sample	Strata	Test			
		PI	MC	HYD	pH/SO ₄
DS01, 0.30m	Topsoil				X
DS01, 0.60m	Upper Tunbridge Wells Sand	X	X		
DS01, 1.20m			X	X	
DS01, 1.70m		X	X		
DS02, 0.60m			X		X
DS02, 1.20m		X	X		

The results are discussed in the relevant sections.

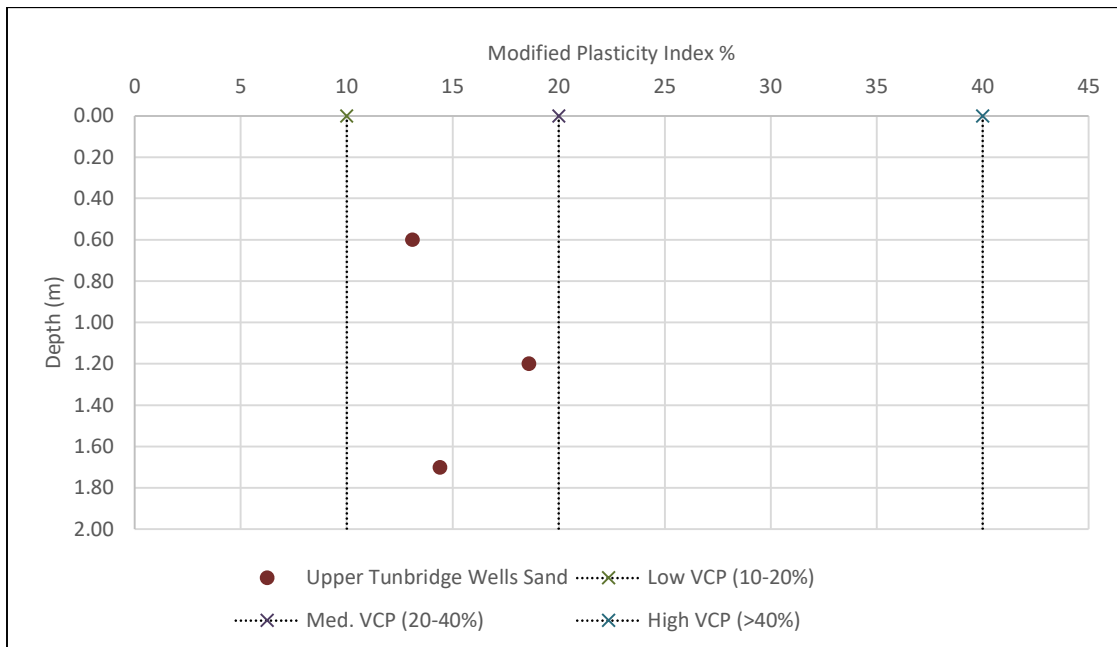
8.2 Plasticity Indexes (Atterberg Limits)

The results of the Atterberg Limit tests are summarised below.

Strata	No. of tests	Plasticity Index %		
		Minimum	Maximum	Average
Upper Tunbridge Wells Sand	3	13.1	18.7	15.6

A modified plasticity index (PI') was calculated following the NHBC methodology, to account for any non-shrinkable percentage not passing the 425µm sieve:

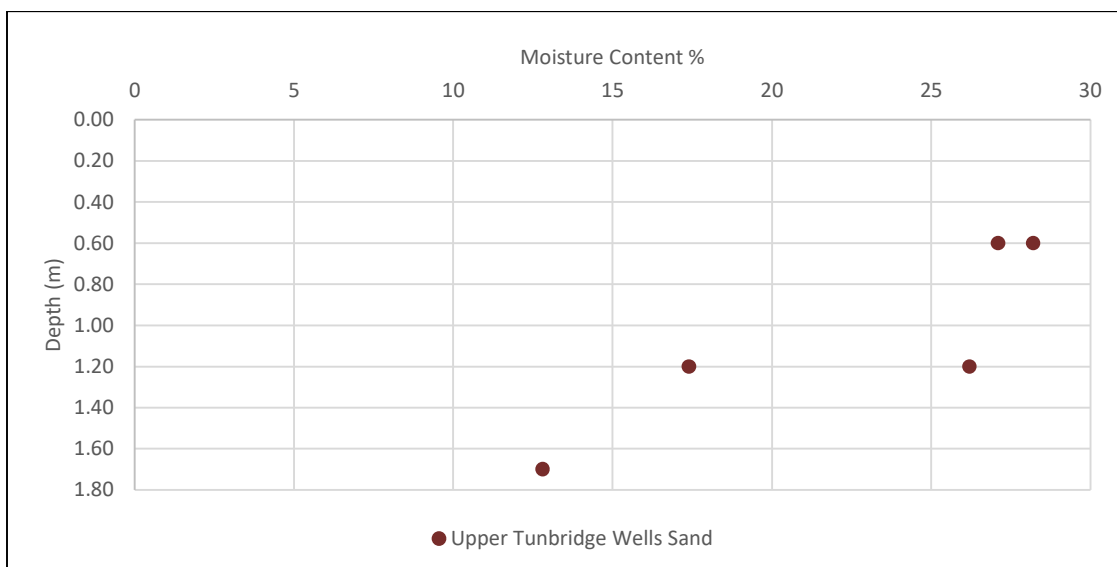
Strata	No. of tests	Modified Plasticity Index %		
		Minimum	Maximum	Average
Upper Tunbridge Wells Sand	3	13.1	18.6	15.4



8.3 Water Content

The results of the water content (or *moisture content*) tests are summarised below.

Strata	No. of tests	Moisture content %		
		Minimum	Maximum	Average
Upper Tunbridge Wells Sand	5	12.8	28.2	22.3



8.4 Hydrometer

The results of the Hydrometer test are summarised on the following table.

Strata	No. of tests	% Clay	% Silt	% Sand	% Gravel	% Cobbles
Upper Tunbridge Wells Sand	1	20.0	76.1	3.5	0.4	0.0

8.5 pH and Sulphate

The results of the pH and water-soluble Sulphate tests are summarised on the following table.

Strata	No. of tests	Water soluble Sulphate (SO ₄ g/l)	pH (value)
Topsoil	2	0.0136-0.0163	6.5
Upper Tunbridge Wells Sand	1	0.0198	7.2

9.0 GEOTECHNICAL ASSESSMENT

9.1 General

The proposed development was understood to comprise the development of the land into public toilets.

Groundwater was not encountered within the boreholes, however, it should be noted that the maximum depth of investigation was 3.0mbgl, and water may occur below this depth. Groundwater levels may vary seasonally. Water may also become perched upon cohesive strata or around features such as foundations, and may also occur from leaking drains and water mains etc.

It was understood that the proposed public toilets were to be constructed using traditional shallow foundations. This may be a strip foundation with suspended floor slab. A cast in-situ reinforced concrete slab, a reinforced concrete raft foundation. Based on the ground and groundwater conditions encountered, it is considered that such a foundation design would be appropriate for the proposed development.

Based on the ground and groundwater conditions encountered, it is considered that traditional strip foundations would be also appropriate for the proposed development.

The final foundation scheme will depend on other constraints and should be evolved in consultation with the design team.

9.2 Volume Change Potential

Although not strictly applicable to this form of development, reference may be given to the NHBC standards or similar guidance for designing and constructing foundations in the zone of influence of trees and hedgerows that currently exist, are to be planted, or have recently been felled.

Strata	Modified PI'	Shrinkability classification
Upper Tunbridge Wells Sand	10-20%	Low volume change potential

Specifications for heave precautions are summarised below. In addition to the depths marked *, localised deepening of foundations will be required in the influence of trees; it will be necessary to evaluate tree species and height in relation to the proposed building footprints.

Volume Change Potential		Low
Minimum depth for traditional foundations outside zone of influence of trees (m) *		0.75m
No tree planting zone required for minimum depth foundations above (m)		0.2 x mature tree height
Minimum depth for traditional foundations but allowing for restricted new planting (m) *		1.00m
Minimum void dimension	Against side of traditional foundations (>1.50m) and ground beams etc.	0mm

	Beneath ground beam and suspended in-situ concrete ground floors etc.	50mm
	Beneath suspended precast concrete or timber floors etc.	200mm
Minimum allowance for potential ground movement for new drains		50mm

All foundations should extend below any major root zones or desiccated soil encountered, and trenches should be carefully inspected accordingly.

9.3 Traditional Shallow Foundations

The following recommendations are made where traditional foundations are to be used.

The primary design parameter for shallow foundations is maximum net allowable bearing pressure, which takes into account a tolerable degree of settlement, and is dependent not only on soil conditions but also the foundation dimensions, ground levels, sloping ground, and the symmetry of loading, amongst others.

All traditional shallow foundations should be taken through any Made Ground, soft or loose zones, disturbed soils, major root zones, or desiccated materials and taken wholly into the siltstone of the Upper Tunbridge Wells Sand below 1.25m.

Maximum net allowable bearing pressures have been calculated for a selection of example foundation dimensions as shown below. The calculations assume a level ground surface and broadly symmetrical loading. The values are rounded down in accordance with convention. Settlement is estimated at approximately 20-25mm of which 0.3-0.4mm is immediate.

Depth (mbgl)	1.00m wide strip	0.5m x 0.5m pad
1.50	120 kN/m ²	210 kN/m ²

In general terms, settlement will be broadly proportional to loading. Under no circumstances should a safe bearing pressure be exceeded (at which point there is a risk of shear failure). Foundations should be subject to sensibly uniform loading, to minimise differential settlement.

Given the variability in engineering characteristics of the Upper Tunbridge Wells Sands at the anticipated formation level, it is recommended that all foundations are lightly reinforced to account for potential differential settlements.

The clays and silts of the Upper Tunbridge Wells Sand Formation will soften rapidly when exposed to free water. The final 50mm of any foundation trench should not be excavated until immediately before concreting, unless blinded or otherwise protected immediately after excavation.

9.4 Ground Floor Slabs

Ground bearing floor slabs may be constructed as part of the proposed development, with a maximum net allowable bearing capacity of 15kN/m². The sub-grade should be carefully proof rolled and any soft or loose zones replaced with granular engineering fill well-compacted in thin layers to a suitable specification.

The floor slab should be designed to accommodate a degree of seasonal movement. Alternatively, a suspended cast insitu or fully suspended block and beam floor might be considered.

9.5 Excavations

The risks arising from excavation works should be properly assessed and appropriate safety precautions should be adopted. Reference may be made to various guidance including BS8000-1:1989, BS6031:2009 and CIRIA C97.

The likelihood of excavation instability through different strata has been assessed as summarised below. It should be noted that all open unsupported excavations have the potential to collapse.

Strata	Stability
Topsoil/Made Ground	Generally unstable. May be battered back to a safe angle. Deeper excavations may require trench support.
Upper Tunbridge Wells Sand	Generally stable in the short to medium term.

Excavations which are to remain open for prolonged periods will require trench support. It is considered that normal-rated plant and machinery will be sufficient for undertaking excavations.

Adjacent excavations should generally be tackled in order of depth with the deepest first. Vehicles and spoil heaps etc. should not surcharge excavations, and edge protection and fencing should be used as appropriate. Frozen materials should generally not be used as backfill.

9.6 Pavements

The design of pavements will depend on the performance requirements and specification, as well as the ground conditions and finished levels etc. The suitability of shallow soils encountered as a formation level for pavements is summarised as follows:

Strata	Base Depth	Suitability
Topsoil	0.35m	Not suitable for trafficable pavements. All topsoil should be removed and replaced.
Upper Tunbridge Wells Sand	3.00m+	These materials are generally a suitable formation level. The formation may be frost susceptible and a minimum pavement of 450mm should be considered. TRRL 1132 suggests a CBR of around 5.5%, assuming average construction conditions and a low water table. Cohesive formations will degrade rapidly if exposed to standing water and should be protected.

The formation level should be carefully inspected, and any soft or loose zones should be removed and replaced with engineering fill, well-compacted in layers to a suitable specification. Consideration might be given to installing geotextiles. All engineering fill should be granular and non-frost susceptible (i.e. <10% fine material passing 425µm sieve).

9.7 Building Materials

All sub surface concrete should be designed and specified in accordance with BS8500-1:2015+A1:2016. The results of the Sulphate and pH analyses fell into Class DS-1 and an ACEC class AC-1 is appropriate.

Buried plastics used for potable water supplies should not require any special specification in order to resist chemical contamination. No pipework should be laid where there is evidence of hydrocarbons.

9.8 Surface Water Drainage

The preliminary falling head soakage tests failed, and an infiltration rate could not be calculated for the Upper Tunbridge Wells Sand. It is unlikely that soakaways will perform satisfactorily in these materials. Consideration should be given to an alternative drainage solution. Given the space available a French drain or drainage fields might be suitable. Alternatively, a sewer connection might also be considered.

In accordance with the building regulations, it is recommended that soakaways are positioned a minimum of 5m away from buildings and sensitive structures.

10.0 CONTAMINATION LABORATORY TESTING

10.1 Scheduled Testing

Samples were selected for geochemical (contamination) analysis, based on the following rationale:

- Waste classification testing on one sample was included in the scope of works, to provide a preliminary assessment for waste handling. In the absence of any areas to specifically target, a representative sample of Topsoil was selected for testing.

The scope and extent of testing was considered appropriate.

Sample	Strata	LS1A	LS2A
DS02, 0.30m	Topsoil	X	X

The relevant screening suites are defined below. Where duplicate analysis exists between suites, each test is performed only once:

Suite	Definition
LS1 (soil)	Screening suite: pH, fraction of organic carbon, Metals and Non Metals, water soluble Sulphate, Sulphide, total Cyanide, total Phenols, speciated PAH's.
LS2	Waste Acceptance Criteria: Total Organic Carbon, Loss on Ignition, BTEX, speciated PCB's, Mineral Oil (EC10 – EC40), pH, Acid Neutralisation Capacity, speciated PAH's, 10:1 leachable Metals and Non Metals.

The results are discussed in the relevant sections.

11.0 PRELIMINARY CONTAMINATION ASSESSMENT

Whilst a full geo-environmental risk assessment was outside the scope of this report, the following preliminary observations have been made.

Contaminated land risks are evaluated on following a source-pathway-receptor ('SPR') approach, in accordance with best practice.

No significant sources of potential contamination, natural or man-made, arising in soils, ground gases or groundwater phases, were suspected.

The desk study and site history in section 4.0 comprised lawn which was consistent with today and was therefore not considered particularly onerous.

The ground and groundwater conditions encountered in section 6.0 did not identify any potentially suspect ground condition.

The results of the chemical analysis on the topsoil did not exceed screening criteria for public open space near residential properties (i.e. where frequent exposure may occur for instance children playing in communal spaces).

In the absence of any sources, no SPR linkages exist, and consequently no risk has been identified.

As always, any Made Ground, shallow soils which have been disturbed, or those showing field evidence of possible contamination such as staining, should be treated as suspect, handled with appropriate care, and relevant advice sought from a qualified professional.

12.0 PRELIMINARY WASTE ASSESSMENT

12.1 General

Waste may be defined as any substance or object in Annex 1 of the Waste Framework Directive which the holder discards, intends to discard, or is required to discard. Subject to compliance with waste regulations, soils may either be handled as either:

- Non-Waste, and re-used (either on-site or on another site), or
- Waste, and disposed of (to a waste management facility).

Given the confines of the site, it was anticipated that all materials would be disposed of from site as waste.

The waste producer has a legal duty of care to ensure that waste materials are handled properly and sent to the appropriate licenced facility. Substantial tax penalties and fines are being levied by the regulators. Inspection, testing, segregation etc will be required on site, and the support of a suitably qualified consultant should be sought; therefore, the advice in this section is preliminary only.

12.2 Waste Disposal

Where materials are not re-used they must be handled as Waste, and must be sent to a licenced waste management facility. Waste is classified as follows:

- Step 1: Does the material contain dangerous substances that qualify as Hazardous Waste as prescribed under the Waste Framework Directive.
- Step 2: Does the leachability criteria allow the materials to be sub-classified as Stable Non Reactive Waste (SNRHW) or as Inert Waste.

A material is therefore either Hazardous or Non-Hazardous Waste; Hazardous may be sub-classified as SNRHW and Non- Hazardous Waste may be sub-classified as Inert.

The results of the soil analysis have been classified as follows:

Soil	Waste designation	Details
Topsoil	Inert	The soil analysis was not identified as hazardous and the WAC test met the requirements for Inert. Interpretation: Inert Waste.

Further WAC testing may be considered for soils identified as Non-Hazardous, as the tests may enable those materials to be re-classified as Inert and therefore represent a potential saving on disposal costs.

With reference to the current List of Wastes (formerly European Waste Catalogue), waste soils and stone derived from construction and demolition sites may be disposed of under either of the following codes as appropriate:

Waste	Code	Description
Hazardous	17 05 03*	soil and stones containing dangerous substances
Non-Hazardous	17 05 04	soil and stones other than those mentioned in 17 05 03

(Note, the asterix is a Mirror Entry, as defined in the List of Wastes, conferring the relationship with the non-hazardous code 17-05-04).

REFERENCES

A number of technical references have been referred to in the preparation of this document, including:

- Smith, I. (2014) Smith's Elements of Soil Mechanics. Chichester. Wiley Blackwell. 9th Edition.
- Highways England 2009. Interim Advice Note 73/06 revision 1: Design Guidance for Road Pavement foundations (draft HD25)
- BRE Design Guide 365. Soakaway design ("DG365")
- Radon: Guidance on protective measures for new buildings, BRE Report BR 211, 2015 2ND edition
- Groundwater protection: Principles and practice (GP3) August 2013 Version 1.1
- Revised EU Waste Framework Directive 2008 2008/98/EC [transposed into English law under The Waste (England and Wales) Regulations 2011]
- European Community (EC) Directive 1999/31/EC [transposed into English law under the Landfill (England and Wales) Regulations 2002]
- Defining Waste Recovery - Permanent Deposit of Waste on Land, EPA13 v1.0, EA 2010
- The definition of waste: Development Industry Code of Practice, v2, CL:AIRE 2011
- Guidance on the classification and assessment of waste Technical Guidance WM3 ("WM3") EA publication (1st edition 2015)

REPORT CONDITIONS

The Client

This report may also be used only by the client named in section 1 and their appointed project team for the purpose of design, obtaining planning, building regulations approval, and in connection with finance. This report must not be used by any other persons or for other purposes without express written agreement of Land Science.

General

Land Science takes all reasonable professional care in preparation of this report, using current standards and industry practice. However, the evaluation of ground conditions depends on an interpretation and extrapolation of the conditions revealed by a limited data set. The level of risk is related to the extent of investigation and no site is ever free of risk. The client should understand their risks and liabilities. We accept no liability whatsoever in respect of:

- The scope, extent or design of an investigation.
- Any conditions not directly revealed by the investigation.
- Published standards or methodologies used or adopted in this report.
- The opinion of any other party including any regulator, authority or stakeholder.
- Any dispute, claim or consequential loss arising from any findings of this report.
- Third party information and data.

This report relates solely to ground-related matters as set out in the objectives and makes no representation on other matters such as ecology, arboriculture, invasive plant species, the condition of buildings and structures, hazardous building materials such as insulation or asbestos, the locations of boundaries, unexploded ordnance, and or planning constraints etc. Further reports should be commissioned in this respect as appropriate.

Regulators and Approvals

This (and any other) report should be submitted to relevant authorities for their own assessments and to provide their approval or comments accordingly. This should be in good time before commencing on site in case additional work is to be carried out.

Standards, technical guidance and regulatory positions change over time and which may therefore affect the findings and recommendations made in this report; this should be verified by the client prior to any critical project milestones. Where this information is used in design, the designer should verify that the information is appropriate and has been used correctly.

Variations with time

The report relates to conditions revealed at the time of the investigation and any monitoring visits. Some parameters may vary over time or seasonally; groundwater levels, ground gas compositions, or concentrations of contaminants are particularly variable in this respect. Further monitoring or verification should be considered as appropriate.

GLOSSARY OF TERMS

ACM	Asbestos Containing Material
BGS	British Geological Survey
BRE	Building Research Establishment
BS	British Standard
C4SL	Category 4 Screening Level
CBR	California Bearing Ratio
CDM	Construction Design and Management regulations
CIRIA	Construction Industry Research and Information Association
CL:AIRE	Contaminated Land: Applications in Real Environments
CLEA	Contaminated Land Exposure Assessment model
CSM	Conceptual Site Model
EA	Environment Agency
EQS	Environmental Quality Standards
FOC	Fraction of Organic Carbon
GAC	Generic Assessment Criterion
GQRA	Generic Quantitative Risk Assessment
mbgl	Meters Below Ground Level
NHBC	National House Building Council
mOD	Metres above Ordnance Datum
PAH's	Polycyclic Aromatic Hydrocarbons
PHE	Public Health England
PID	Photo-Ionisation Detector
PQRA	Preliminary Quantitative Risk Assessment
PSD	Particle Size Distribution Test
RMS	Remediation Method Statement
S4UL	Suitable for Use Level
SOM	Soil Organic Matter
SPZ	Source Protection Zone
SPT	Standard Penetration Test
SSSI	Sites of Special Scientific Interest
ST-WEL	Short Term Workplace Exposure Limit
SVOC's	Semi-Volatile Organic Compounds
TPH	Total Petroleum Hydrocarbons
TRRL / TRL	Transport Road Research Laboratory
TWA-WEL	Time Weighted Average Workplace Exposure Limit
UK HBF	United Kingdom House Building Federation
VOC's	Volatile Organic Compounds
WAC	Waste Acceptance Criteria

FIGURES



Legend

 Site Boundary



Title: Site Location

Reference: LS7360

Project: Backwoods Lane, Lindfield RH16 2ED

Figure: 1

Client: Lindfield Parish Council

Date: 05/01/2024

Prepared by: ON

Checked by: ET

Version: 01

Sheet: 1 of 1



Legend

-  Boreholes
-  Site Boundary



Title: Exploratory Hole Location Plan

Reference: LS7360

Project: Backwoods Lane, Lindfield RH16 2ED

Figure: 2

Client: Lindfield Parish Council

Date: 05/01/2024

Prepared by: ON

Checked by: ET

Version: 01

Sheet: 2 of 2

Locations are indicative. Not to scale



Legend

-  Boreholes
-  Site Boundary



Title: Proposed Development Layout			Reference: LS7360
Project: Backwoods Lane, Lindfield RH16 2ED			Figure: 3
Client: Lindfield Parish Council			Date: 05/01/2024
Prepared by: ON	Checked by: ET	Version: 01	Sheet: 3 of 3

APPENDIX A

SITE WALKOVER RECORD



The walkover is restricted only to aspects related to the Land Science report and the stated objectives therein. The walkover does not replace other surveys such as asbestos, arboriculture, ecology, utilities etc which the client should consider. The client should review the walkover and provide any further relevant information where available.

SITE DETAILS			
Project	Backwoods Lane, Lindfield RH16 2ED		
Reference	LS7360	Date of walkover	22/01/2024
Engineer	Joe Ackerley		
CURRENT USE			
Existing land uses	Grass covered open space with a concrete pathway.		
Status	Vacant.		
Suspected asbestos	No immediate evidence.		
Below ground structures	No immediate evidence.		
Hardstandings	Concrete pathway across the site.		
Soft landscaping	Well kept lawn over topsoil.		
General condition	Well kept.		
Boundaries	The Backwoods Lane is to the east with wooden fencing as a boundary. There is wooden fencing to the south where there is a carpark. Hedgerows are noted to the west which have the bowls area behind.		
Adjacent land uses	Lindfield Common to the east and Lindfield Bowling Club to the west.		
TOPOGRAPHY			

General lie of the land	<i>On a relative flat low lying plain.</i>
General lie of the site	<i>Sensibly flat and level.</i>
Abrupt changes in slope	<i>None recorded.</i>
Excavations and Depressions	<i>N/A.</i>
Raised ground	<i>N/A.</i>
GROUND STABILITY	
Signs of landslip	<i>N/A.</i>
Cracking in buildings and walls etc	<i>N/A.</i>
Subsidence on ground surface	<i>N/A.</i>
GROUND CONDITIONS	
Possible filled-in ground	<i>N/A.</i>
Possible built-up ground	<i>N/A.</i>
Exposed soils	<i>N/A.</i>
Desiccation	<i>N/A.</i>
Disturbance	<i>N/A.</i>
WATER CONDITIONS	
Wet boggy ground	<i>N/A.</i>
Wells and ditches	<i>N/A.</i>

Ponds or ponding	<i>Lindfield Pond is Approx. 200m north from the site.</i>
Streams / Rivers	<i>N/A.</i>
ECOLOGY	
Burrows	<i>N/A.</i>
VEGETATION	
Reeds or water loving plants	<i>N/A.</i>
Sparse growth or die back	<i>N/A.</i>
Invasive species	<i>N/A.</i>
TREES	
Relevant trees height/species	<i>N/A</i>
Off-site	<i>There is a large mature tree approx. 20m just north of the site.</i>
Hedgerows	<i>There is a hedgerow to the west.</i>
Recent felling and older stumps	<i>N/A.</i>
CONTAMINATION	
Tipped materials	<i>N/A.</i>
Areas of possible fill	<i>N/A.</i>
Discolouration/sheens of waterbodies	<i>N/A.</i>
Surface staining	<i>N/A.</i>

Chemicals storage	N/A.
Drums and tanks	N/A.
Petrol interceptor	N/A.
Soakaways	N/A.
LOCAL INFORMATION	
Place/road names	N/A.
3rd party information	<i>Information from owners / occupiers / neighbours</i>
OTHER INFORMATION	

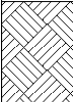
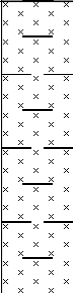
APPENDIX B



	TITLE: Supplementary Investigation Layout		REF: LS7360	PREPARED: ON
	PROJECT: Backwoods Lane, Lindfield RH16 2ED		FIGURE: 3	CHECKED: ET
	CLIENT: Linfield Parish Council		31/01/2024	VERSION v1

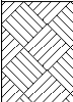
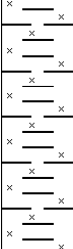
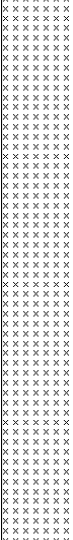
APPENDIX C

Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Lindfield Parish Council	Job Number LS7360
	Location	Dates 22/01/2024	Engineer Land Science	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	D				0.35	Dark brown slightly gravelly, clayey, SAND. Gravels are medium subangular to subrounded flints. Sand is medium. Occasional rootlets. (TOPSOIL)		
0.60	D				0.35	Yellow mottled grey slightly silty, CLAY. (UPPER TUNBRIDGE WELLS SAND)		
1.20	D				0.70	Yellow mottled grey slightly clayey, SILT. (UPPER TUNBRIDGE WELLS SAND)		
1.70	D				1.70	Yellow mottled grey SILTSTONE. Very friable. (UPPER TUNBRIDGE WELLS SAND) Dark brown lense encountered @ 1.70m		
2.20	D				(1.30)			
2.70	D				3.00	Complete at 3.00m		

Remarks NOTES: Borehole terminated at 3.00m BACKFILL: Backfilled with arisings. INSTALLATION: No installation. CASING: No casing used. GROUNDWATER: No groundwater encountered.	Scale (approx) 1:25	Logged By ON
	Figure No. LS7360.DS01	

Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Lindfield Parish Council	Job Number LS7360
	Location	Dates 22/01/2024	Engineer Land Science	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	D				(0.35) 0.35	Dark brown slightly gravelly, clayey, SAND. Recovered damp. Gravels are fine to medium subangular to subrounded flint. Sand is medium. Occasional rootlets and bark noted. (TOPSOIL)		
0.60	D				(0.85) 0.85	Yellow mottled grey slightly silty, CLAY. (UPPER TUNBRIDGE WELLS SAND)		
1.20	D				1.20	Yellow mottled orange brown and grey SILTSTONE. Very friable. (UPPER TUNBRIDGE WELLS SAND)		
1.70	D				(1.80) 1.80			
2.20	D							
2.70	D				3.00	Complete at 3.00m		

Remarks	Scale (approx)	Logged By
	1:25	ON
	Figure No. LS7360.DS02	

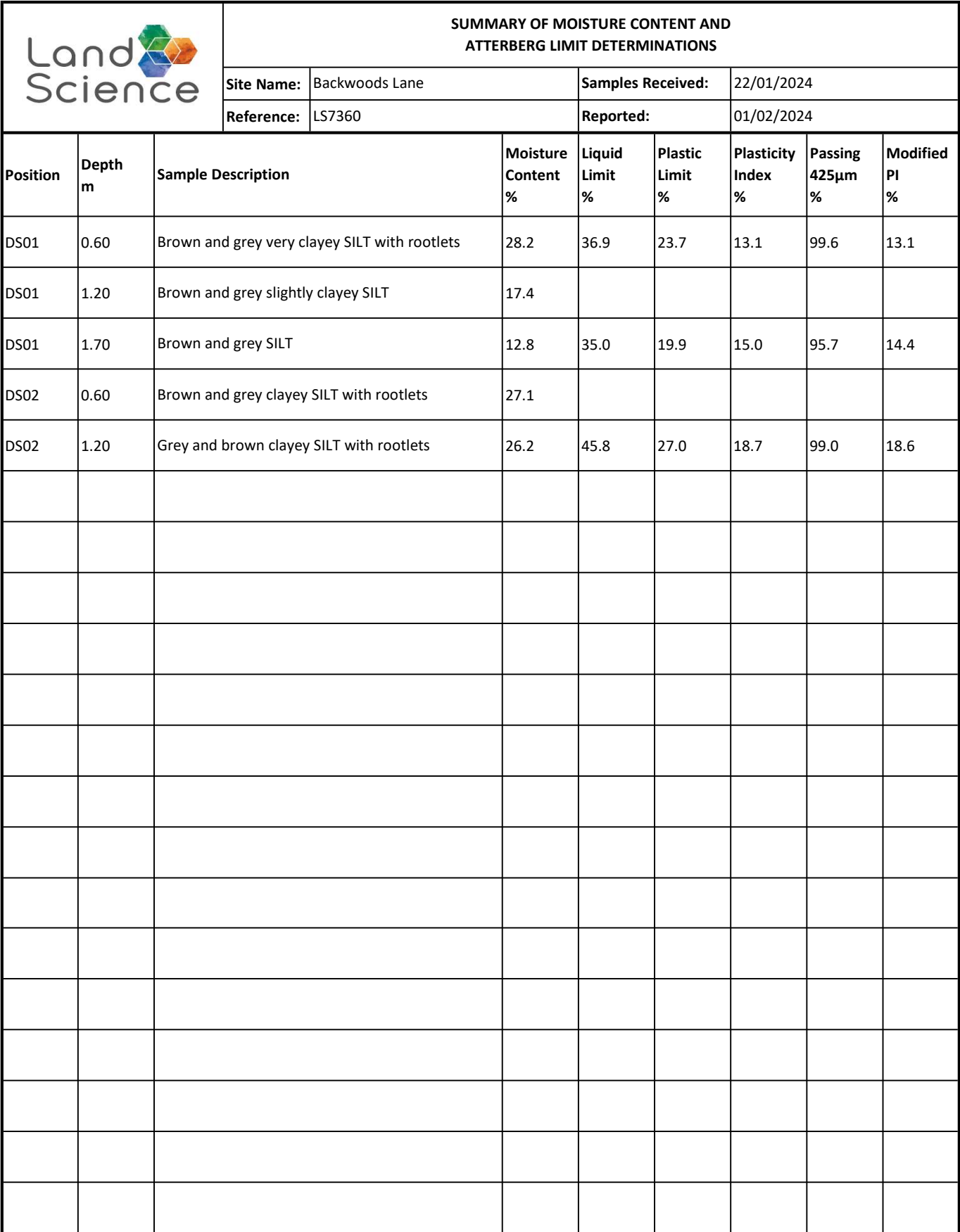
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APPENDIX D



APPENDIX E

Info

Land Science
Unit 10
19 Albert Drive
Burgess Hill
West Sussex
RH15 9TN

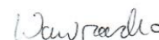
e: info@landscience.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 24-79756

Project / Site name:	Backwoods Lane, Lindfield	Samples received on:	24/01/2024
Your job number:	LS7360	Samples instructed on/ Analysis started on:	24/01/2024
Your order number:		Analysis completed by:	02/02/2024
Report Issue Number:	1	Report issued on:	02/02/2024
Samples Analysed:	1 leachate sample - 3 soil samples		

**Signed:**

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-79756
Project / Site name: Backwoods Lane, Lindfield

Lab Sample Number				2936619	2936620	2936621
Sample Reference				DS01	DS02	DS02
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.30	0.60
Date Sampled				22/01/2024	22/01/2024	22/01/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	25	25	20
Total mass of sample received	kg	0.001	NONE	1.4	1.3	1.5

Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	IZJ	N/A

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-	7.9	-
pH - Automated	pH Units	N/A	MCERTS	6.5	6.5	7.2
Total Cyanide	mg/kg	1	MCERTS	-	< 1.0	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0136	0.0163	0.0198
Sulphide	mg/kg	1	MCERTS	-	< 1.0	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.025	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	2.5	-
Loss on Ignition @ 450oC	%	0.2	MCERTS	-	5.4	-
Acid Neutralisation Capacity	mmol/kg	-999	NONE	-	2.9	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	-
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	-
Phenanthrene	mg/kg	0.05	MCERTS	-	0.49	-
Anthracene	mg/kg	0.05	MCERTS	-	0.09	-
Fluoranthene	mg/kg	0.05	MCERTS	-	1.8	-
Pyrene	mg/kg	0.05	MCERTS	-	1.6	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.89	-
Chrysene	mg/kg	0.05	MCERTS	-	0.92	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	1.4	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	0.61	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	1.1	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.53	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.16	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.64	-
Coronene	mg/kg	0.05	NONE	-	< 0.05	-

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	-	10.2	-
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Analytical Report Number: 24-79756
Project / Site name: Backwoods Lane, Lindfield

Lab Sample Number	2936619	2936620	2936621
Sample Reference	DS01	DS02	DS02
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	0.30	0.30	0.60
Date Sampled	22/01/2024	22/01/2024	22/01/2024
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	5.3	-
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	41	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	0.32	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	0.7	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	-
Chromium (hexavalent)	mg/kg	1.2	NONE	-	< 1.2	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	13	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	11	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	42	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	6.8	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	21	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	55	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	-	< 5.0	-
Toluene	µg/kg	5	MCERTS	-	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0	-
o-xylene	µg/kg	5	MCERTS	-	< 5.0	-

Total BTEX	µg/kg	5	MCERTS	-	< 5.0	-
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Petroleum Hydrocarbons

Mineral Oil (C10 - C40) EH_CU_ID_AL	mg/kg	10	NONE	-	< 10	-
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PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	-	< 0.001	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	< 0.001	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	< 0.001	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	< 0.001	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	< 0.001	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	< 0.001	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	< 0.001	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	-	< 0.007	-
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-79756
Project / Site name: Backwoods Lane, Lindfield

Lab Sample Number				2936622
Sample Reference				DS02
Sample Number				None Supplied
Depth (m)				0.30
Date Sampled				22/01/2024
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	

10:1 WAC Leachate

Arsenic	mg/l	0.001	ISO 17025	< 0.0010
Barium	mg/l	0.00005	ISO 17025	0.0012
Cadmium	mg/l	0.0001	ISO 17025	< 0.0001
Chromium	mg/l	0.0004	ISO 17025	< 0.0004
Copper	mg/l	0.0007	ISO 17025	0.019
Mercury	mg/l	0.0005	ISO 17025	< 0.0005
Molybdenum	mg/l	0.0004	ISO 17025	< 0.0004
Nickel	mg/l	0.0003	ISO 17025	0.0007
Lead	mg/l	0.001	ISO 17025	< 0.0010
Antimony	mg/l	0.0017	ISO 17025	< 0.0017
Selenium	mg/l	0.004	ISO 17025	< 0.0040
Zinc	mg/l	0.0004	ISO 17025	0.009
Chloride	mg/l	0.15	ISO 17025	1.3
Fluoride	mg/l	0.05	ISO 17025	0.14
Sulphate	mg/l	0.1	ISO 17025	1
Total dissolved solids	mg/l	4	ISO 17025	12
Total monohydric phenols	mg/l	0.01	ISO 17025	< 0.010
Dissolved organic carbon	mg/l	0.1	NONE	11.3

10:1 WAC Leachate

Arsenic	mg/kg	0.01	NONE	< 0.0100
Barium	mg/kg	0.0005	NONE	0.0124
Cadmium	mg/kg	0.0008	NONE	< 0.0008
Chromium	mg/kg	0.004	NONE	< 0.0040
Copper	mg/kg	0.007	NONE	0.19
Mercury	mg/kg	0.005	NONE	< 0.0050
Molybdenum	mg/kg	0.004	NONE	< 0.0040
Nickel	mg/kg	0.003	NONE	0.0068
Lead	mg/kg	0.01	NONE	< 0.010
Antimony	mg/kg	0.017	NONE	< 0.017
Selenium	mg/kg	0.04	NONE	< 0.040
Zinc	mg/kg	0.004	NONE	0.09
Chloride	mg/kg	1.5	NONE	13
Fluoride	mg/kg	0.5	NONE	1.4
Sulphate	mg/kg	1	NONE	10
Total dissolved solids	mg/kg	40	NONE	120
Total monohydric phenols	mg/kg	0.1	NONE	< 0.10
Dissolved organic carbon	mg/kg	1	NONE	113

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-79756

Project / Site name: Backwoods Lane, Lindfield

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2936619	DS01	None Supplied	0.3	Brown clay and loam with vegetation.
2936620	DS02	None Supplied	0.3	Brown clay and loam with vegetation.
2936621	DS02	None Supplied	0.6	Brown clay and loam with vegetation.

Analytical Report Number : 24-79756
Project / Site name: Backwoods Lane, Lindfield

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

Analytical Report Number : 24-79756
Project / Site name: Backwoods Lane, Lindfield

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073-PL	W	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method by continuous flow analyser.	L080-PL	W	NONE
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil"	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	ISO 17025
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 24-79756
Project / Site name: Backwoods Lane, Lindfield

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



YIE58-F98HB-TJ8QU

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Job name

Backwoods Ln, Lindfield

Description/Comments

Project

LS7360

Site

Classified by

Name:
Tom Kistruck
Date:
07 Feb 2024 13:24 GMT
Telephone:
01444 882 084

Company:
Land Science
Unit 10
19 Albert Drive
Burgess Hill
RH15 9TN

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

Course
Hazardous Waste Classification

Date

Purpose of classification

4 - Classification of Waste Products

Address of the waste

Post Code

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Description of the specific process, sub-process and/or activity that created the waste

Description of the waste

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	DS02	0.30	Non Hazardous		3

Related documents

#	Name	Description
1	Land Science Template WM3 v1.2GB	waste stream template used to create this Job

Report

Created by: Tom Kistruck

Created date: 07 Feb 2024 13:24 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	5
Appendix B: Rationale for selection of metal species	6
Appendix C: Version	7

Classification of sample: DS02

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
DS02	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.30 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
25%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 25% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	• pH		PH		6.5 pH		6.5 pH	6.5 pH		
2	phenol	604-001-00-2	203-632-7	108-95-2	<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
3	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	• acenaphthylene		205-917-1	208-96-8	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
5	• acenaphthene		201-469-6	83-32-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
6	• fluorene		201-695-5	86-73-7	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
7	• phenanthrene		201-581-5	85-01-8	0.49 mg/kg		0.49 mg/kg	0.000049 %		
8	• anthracene		204-371-1	120-12-7	0.09 mg/kg		0.09 mg/kg	0.000009 %		
9	• fluoranthene		205-912-4	206-44-0	1.8 mg/kg		1.8 mg/kg	0.00018 %		
10	• pyrene		204-927-3	129-00-0	1.6 mg/kg		1.6 mg/kg	0.00016 %		
11	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.89 mg/kg		0.89 mg/kg	0.000089 %		
12	chrysene	601-048-00-0	205-923-4	218-01-9	0.92 mg/kg		0.92 mg/kg	0.000092 %		
13	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	1.4 mg/kg		1.4 mg/kg	0.00014 %		
14	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.61 mg/kg		0.61 mg/kg	0.000061 %		
15	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.1 mg/kg		1.1 mg/kg	0.00011 %		
16	• indeno[123-cd]pyrene		205-893-2	193-39-5	0.53 mg/kg		0.53 mg/kg	0.000053 %		
17	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.16 mg/kg		0.16 mg/kg	0.000016 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
18	benzo[ghi]perylene	205-883-8	191-24-2		0.64 mg/kg		0.64 mg/kg	0.000064 %			
19	coronene	205-881-7	191-07-1		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
20	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	5.3 mg/kg	1.32	6.998 mg/kg	0.0007 %			
21	barium { barium oxide }	215-127-9	1304-28-5		41 mg/kg	1.117	45.777 mg/kg	0.00458 %			
22	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.32 mg/kg	2.775	0.888 mg/kg	0.0000888 %			
23	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2	0.7 mg/kg	3.22	2.254 mg/kg	0.000225 %			
24	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %			<LOD
25	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %			<LOD
26	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	11 mg/kg	1.126	12.385 mg/kg	0.00124 %			
27	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	42 mg/kg	1.56	65.512 mg/kg	0.0042 %			
28	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
29	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	6.8 mg/kg	2.976	20.239 mg/kg	0.00202 %			
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
31	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	21 mg/kg	1.785	37.489 mg/kg	0.00375 %			
32	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9	55 mg/kg	2.774	152.578 mg/kg	0.0153 %			
33	benzene	601-020-00-8	200-753-7	71-43-2	<5 mg/kg		<5 mg/kg	<0.0005 %			<LOD
34	toluene	601-021-00-3	203-625-9	108-88-3	<5 mg/kg		<5 mg/kg	<0.0005 %			<LOD
35	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<5 mg/kg		<5 mg/kg	<0.0005 %			<LOD
36	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<5 mg/kg		<5 mg/kg	<0.0005 %			<LOD
37	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.007 mg/kg		<0.007 mg/kg	<0.0000007 %			<LOD
Total:									0.0356 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

• pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

• acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

• acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

• fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

• anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• indeno[123-cd]pyrene (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

• benzo[ghi]perylene (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.

Data source: <http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en>

Data source date: 16 Jun 2014

Hazard Statements: STOT SE 2; H371

• **barium oxide** (EC Number: 215-127-9, CAS Number: 1304-28-5)

Description/Comments: Data from ECHA's C&L Inventory Database, Sigma Aldrich SDS dated 6/2/20

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/88825>

Data source date: 02 Apr 2020

Hazard Statements: Acute Tox. 3; H301 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 1; H332

• **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4

Description/Comments:

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

• **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

GB MCL index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

barium {barium oxide}

No Chromium 6

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics (edit as required)

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil. (edit as required)

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2024.30.5942.10989 (30 Jan 2024)

HazWasteOnline Database: 2024.26.5938.10982 (26 Jan 2024)

This classification utilises the following guidance and legislation:

WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

GB MCL List v2.0 - version 2.0 of 20th October 2023

APPENDIX F

Envirocheck[®] Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:

333463795_1_1

Customer Reference:

LS7360

National Grid Reference:

534600, 125070

Slice:

A

Site Area (Ha):

0.02

Search Buffer (m):

1000

Site Details:

Lindfield Bowling Club, Backwoods Lane

Lindfield

HAYWARDS HEATH

RH16 2ED

Client Details:

Mr E Toms

Land Science Ltd

Unit 10

19 Albert Drive

Burgess Hill

West Sussex

RH15 9TN

Report Section and Details	Page Number
Summary	-
The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected. For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).	
Mining and Natural Cavities Data	1
The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities. Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.	
Historical Land Use Information (1:2,500)	-
The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative. For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.	
Historical Land Use Information (1:10,000)	2
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.	
Ground Stability Data (1:50,000)	3
The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.	
Historical Map List	4
The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.	
Data Currency	5
Data Suppliers	6
Useful Contacts	7

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The brine subsidence data relating to the Droitwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

The Mining Instability data was obtained on licence from Ove Arup & Partners Limited (for further information, contact mining.review@arup.com). No reproduction or further use of such Data is to be made without the prior written consent of Ove Arup & Partners Limited. The supplied Mining Instability data is derived from publicly available records and other third party sources and neither Ove Arup & Partners nor Landmark warrant the accuracy or completeness of such information or data.

Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Mining and Natural Cavities Data					
BGS Recorded Mineral Sites	pg 1				4
Coal Mining Affected Areas			n/a	n/a	n/a
Man Made Mining Cavities					
Mining Instability			n/a	n/a	n/a
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential Mining Areas					
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980 (100m)				n/a	n/a
Subterranean Features (100m)				n/a	n/a
Historical Land Use Information (1:10,000)					
Air Shafts					
Disturbed Ground					
General Quarrying					
Heap, unknown constituents					
Mineral Railway					
Mining & quarrying general					
Mining of coal & lignite					
Quarrying of sand & clay, operation of sand & gravel pits	pg 2				3
Former Marshes					
Potentially Infilled Land (Non-Water)	pg 2				3
Potentially Infilled Land (Water)	pg 2		1	4	4
Ground Stability Data (1:50,000)					
CBSCB Compensation District			n/a	n/a	n/a
Brine Pumping Related Features					
Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Salt Mining Related Features					



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	BGS Recorded Mineral Sites Site Name: Gravelye Farm Pit Location: Haywards Heath, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 152321 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: Upper Tunbridge Wells Sand Commodity: Iron Ore - Ironstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	679	1	534976 124501
2	BGS Recorded Mineral Sites Site Name: Gravelye Farm Pit Location: Haywards Heath, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 152320 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: Upper Tunbridge Wells Sand Commodity: Iron Ore - Ironstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	694	1	535024 124516
3	BGS Recorded Mineral Sites Site Name: Gravelye Farm Pit Location: Haywards Heath, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 152322 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: Upper Tunbridge Wells Sand Commodity: Iron Ore - Ironstone Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	740	1	535006 124447
4	BGS Recorded Mineral Sites Site Name: Bent'S Wood Sand Pit Location: Haywards Heath, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 152305 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: Upper Tunbridge Wells Sand Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	929	1	534007 124351
	Coal Mining Affected Areas In an area which may not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1899	A7SE (SW)	857	-	534124 124355
6	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1950	A18NW (N)	979	-	534388 126038
7	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1950	A18NW (N)	979	-	534295 126013
8	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A7SE (SW)	857	-	534124 124355
9	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A18NW (N)	979	-	534295 126013
10	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A18NW (N)	979	-	534388 126038
11	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1950	A13SE (S)	105	-	534628 124965
12	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1950	A13NE (N)	268	-	534695 125328
13	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1950	A13NE (NE)	407	-	534836 125410
14	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1950	A12NE (NW)	459	-	534192 125304
15	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1950	A14NW (E)	465	-	535069 125100
16	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1950	A17SE (NW)	708	-	534173 125650
17	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1950	A19SW (NE)	721	-	535074 125623
18	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1950	A19SE (NE)	946	-	535359 125646
19	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1950	A17NE (NW)	988	-	534136 125956

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
20	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	534598 125074
21	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	67	1	534598 125000
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	534598 125074
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	67	1	534598 125000
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	534598 125074
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	67	1	534598 125000
22	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	534598 125074
23	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	67	1	534598 125000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	534598 125074
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	67	1	534598 125000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	534598 125074
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	67	1	534598 125000

The following mapping has been analysed for Historical Land Use Information (1:2,500):

1:2,500	Mapsheet	Published Date
Sussex	026_07	1875
Sussex	026_11	1875
Sussex	026_07	1897
Sussex	026_11	1897
Sussex	026_07	1910
Sussex	026_11	1910
Sussex	026_07	1937
Sussex	026_11	1937
Ordnance Survey Plan	TQ3424	1955
Ordnance Survey Plan	TQ3425	1955

The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Sussex	026_00	1879
Sussex	026_NE	1899
Sussex	026_NW	1899
Sussex	026_SE	1899
Sussex	026_SW	1899
Sussex	026_NE	1912
Sussex	026_NW	1912
Sussex	026_SE	1912
Sussex	026_SW	1912
Sussex	026_NW	1938
Sussex	026_SE	1938
Sussex	026_SW	1938
Sussex	026_NE	1950
Ordnance Survey Plan	TQ32NE	1961
Ordnance Survey Plan	TQ32SE	1961
Ordnance Survey Plan	TQ32SW	1963
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	TQ32SE	1975
Ordnance Survey Plan	TQ32NE	1976
Ordnance Survey Plan	TQ32SW	1992
Ordnance Survey Plan	TQ32NW	1993

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	June 2023	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	February 2023	Annual Rolling Update
Man Made Mining Cavities Stantec UK Ltd	December 2022	Bi-Annually
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Natural Cavities Stantec UK Ltd	December 2022	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	Version	Update Cycle
Subterranean Features Landmark Information Group Limited	July 2023	Bi-Annually
Ground Stability Data (1:50,000)	Version	Update Cycle
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Brine Subsidence Solution Area Johnson Poole & Bloomer	December 2020	

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
The Coal Authority	 The Coal Authority
Ove Arup	
Stantec UK Ltd	
Wardell Armstrong	 wardell armstrong your earth our world
Johnson Poole & Bloomer	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Ove Arup & Partners Central Square, Forth Street, Newcastle upon Tyne, Tyne and Wear, NE1 3PL	Telephone: 0191 261 6080 Fax: 0191 261 7879
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

APPENDIX G

Report of address search for radon risk

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Address searched: Lindfield Bowling Club, Backwoods Lane, Lindfield, Haywards Heath, RH16 2ED

Date of report: 31 January 2024

Guidance for existing properties

Is this property in a radon Affected Area? - No

A radon Affected Area is defined as where the radon level in at least one property in every hundred is estimated to exceed the Action Level.

The estimated probability of the property being above the Action Level for radon is: 0-1%

The probability result is only valid for properties above ground. All basement and cellar areas are considered to be at additional risk from high radon levels.

The result may not be valid for buildings larger than 25 metres.

If this site is for redevelopment, you should undertake a GeoReport provided by the British Geological Survey.

This report informs you of the estimated probability that this particular property is above the Action Level for radon. This does not necessarily mean there is a radon problem in the property; the only way to find out whether it is above or below the Action Level is to carry out a radon measurement in an existing property.

Radon Affected Areas are designated by the UK Health Security Agency. UKHSA advises that radon gas should be measured in all properties within Radon Affected Areas.

If you are buying a currently occupied property in a Radon Affected Area, you should ask the present owner whether radon levels have been measured in the property. If they have, ask whether the results were above the Radon Action Level and if so, whether remedial measures were installed, radon levels were re-tested, and the results of re-testing confirmed the effectiveness of the measures.

Further information is available from UKHSA or <https://www.ukradon.org>

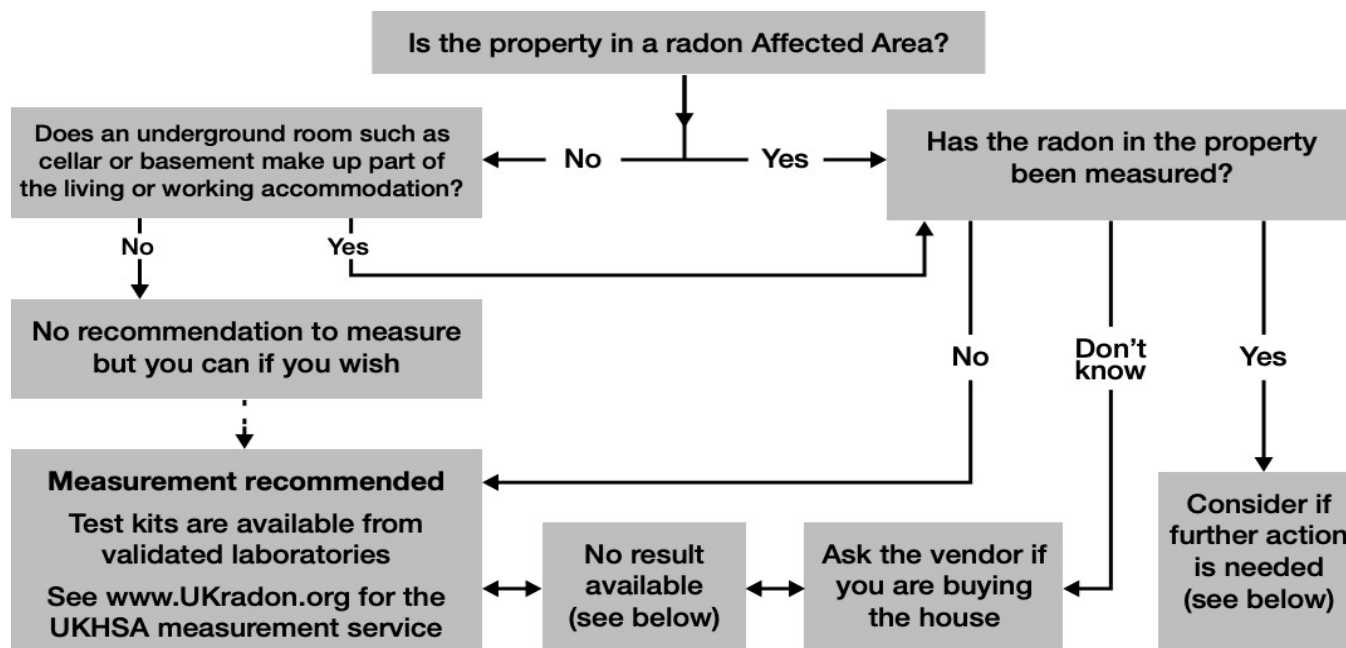
Guidance for new buildings and extensions to existing properties

What is the requirement under Building Regulations for radon protection in new buildings and extensions at the property location? - None

If you are buying a new property in a Radon Affected Area, you should ask the builder whether radon protective measures were incorporated in the construction of the property.

See the Radon and Building Regulations for more details.

UKHSA guidance for occupiers and prospective purchases



Existing radon test results: There is no public record of individual radon measurements. Results of previous tests can only be obtained from the seller. Radon levels can be significantly affected by changes to the building or its use, particularly by alterations to the heating and ventilation which can also be affected by changes in occupier. If in doubt, test again for reassurance.

Radon Bond: This is simply a retained fund, the terms of which are negotiated between the purchaser and the vendor. It allows the conveyance of the property to proceed without undue delay. The purchaser is protected against the possible cost of radon reduction work and the seller does not lose sale proceeds if the result is low. Make sure the agreement allows enough time to complete the test, get the result and arrange the work if needed.

High Results: Exposure to high levels of radon increases the risk of developing lung cancer. If a test in a home gives a result at or above the Action Level of 200 Becquerels per cubic metre of air (Bq/m³), formal advice will be given to lower the level. Radon reduction will also be recommended if the occupants include smokers or ex-smokers when the radon level is at or above the Target Level of 100 Bq/m³; these groups have a higher risk. Information on health risks and radon reduction work is available from UKHSA. Guidance about radon reduction work is also available from some Local Authorities, the Building Research Establishment and specialist contractors.

UKHSA designated radon website:

<https://www.ukradon.org>

Building Research Establishment:

<http://www.bre.co.uk/page.jsp?id=3137>