Ground Condition Consultants

SOUTHLEIGH PARK HOUSE, EASTLEIGH ROAD, HAVANT, PO9 2PE

GROUND CONDITION ASSESSMENT

AUGUST 2026

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VERSION CONTROL

Project Name	Southleigh Park House - GCA
Project No.	J20-064
Report No.	J20-064-R04

Desk Top Study	
Prepared by: David Pethica - Director	Reviewed by: Antony Platt - Director
Site Investigation Factual Report	
Prepared by: David Pethica - Director	Reviewed by: Antony Platt - Director
Generic Quantitative Risk Assessment	
Prepared by: David Pethica - Director	Reviewed by: Antony Platt - Director
Geotechnical Design Report	
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Version	Date	Description
1.0	04.08.26	Final
2.0	17.08.26	Final ground gas monitoring data added

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0. EXECUTIVE SUMMARY

Brief	The brief was to undertake a site investigation and assessment to identify any ground contamination issues and geotechnical conditions that may affect the proposed development. This report provides an assessment of the identified and potential ground conditions of the site, with regard to the proposed works in accordance with the Land Contamination Risk Management (LCRM) guidance, published by the Environment Agency. In addition, the geotechnical sections of this report provide a detailed assessment of the materials present beneath the site and present characteristic parameters that should be used in design of all geotechnical facets of the proposed development.
Current Site Status	The site, Southleigh Park House, is located off Eastleigh Rd, Havant, PO9 2PE. The centre of the wider site was occupied by Southleigh Park House Old Mansion House (centre of site) and associated ancillary buildings (stables and coach house) adjacent to the north and a gate house, located in the north-eastern corner of the site. At the time of this report, these areas were in the process of being converted to residential used by FSL and are treated as a separate site, with regard to this assessment, with its own site investigation and assessment. The study site for the purposes of this assessment comprises a more modern office building (dating to 1983) in the north of the site, along with associated car parking areas (located in the western and northern end of the site). There were also an electrical sub-station/units on-site, adjacent to the southeast boundary. The southern area of the site was predominantly laid to lawn with a pond in the southwest corner. Numerous large mature trees were located across the site, particularly around the perimeter of the site, along with other vegetation (trees & bushes). An in-ground chamber, possibly a well, was identified beneath the lawn area adjacent to the west of the coach house.
Site History	The historical maps from 1859 to 2023 show the wider site, initially known as Woodland, on the early map extracts with a main building in the centre of the site and ancillary buildings and greenhouses across the site (mainly in the northerns end of the site). A pond and a summer house are shown to be present on the early extracts in the southern end of the site. A lodge/gate house is shown in the north-eastern corner of the site. By 1897, the site is known as South Leigh and smaller additions and alterations (removal of small scaled buildings and summer house and reference to a water tower in the west) are indicated on early map extracts until the 1960/80's. In 1983, a new office building and associated car parking areas were developed in the north of the site, requiring the demolition and the majority of the small scaled buildings in the north of the site and the water tower in the west. It is understood that the mansion house and remaining associated outbuildings were converted to office use at this time. No significant changes are shown on later map extracts. The immediate surrounding areas, on the early map extracts, are shown as woodland/parkland and agricultural land with a couple of gravel pits (to the northeast), which were progressively extended during the 20th Century. Although not noted on the map extracts provided and reviewed, the Groundsure report indicates that the 1996 map extract (not provided in the map pack) identifies the gravel pits area to the north as a Refuse Tip. The landfill records presented in the Groundsure report also indicate the Southleigh Forest landfill to have been operated approximately 120m to the north of the site. The 1999 aerial imagery indicates the nearest portion of the landfill to have been reinstated as open space, with reinstatement of the wider landfill (some 350m northwest of the site) completing by 2019. The immediate surrounding areas have largely remained undeveloped with the Spire Hospital, to the north of the site, first shown on a map extract from the 1980's.

Geology	Reference to the British Geological Survey (BGS) Map extracts indicates the majority of the site to overlie Head Deposits (clay, silt, sand and gravel) over London Clay Formation (clay, silt and sand) with the southern end of the site shown to directly overlie the London Clay Formation.
Hydrogeology	The Environment Agency Groundwater Vulnerability Map indicates the majority of the site to be overlying a superficial Secondary A Aquifer, interpreted as the Head Deposits. The underlying London Clay Formation is classified as an unproductive stratum. Secondary A Aquifers are 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. These are generally aquifers formerly classified as minor aquifers. Unproductive Strata are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. The site is not located within a Groundwater Source Protection Zone or within 250m of licenced water abstractions
Hydrology	The nearest identified surface water feature to the site is a pond located in the southern end of the site.
Conclusions and Recommendations (Contamination)	The conceptual model, based on information obtained as part of the preliminary risk assessment and intrusive ground investigation, has not identified any significant contaminant sources. • Localised asbestos confirmed in the Made Ground in the southeast of the site (WS209) and residual potential for asbestos from the construction of the current buildings and demolition of the former buildings to be encountered. It should be noted that additional sources of contamination may become apparent during any future investigation and development of the site. The ground gas and PID monitoring of the wells installed across the site did not identify any significant ground gas concentrations and support the conceptual model based assessment in the preliminary risk assessment that ground gas from the off-site landfill does not present a significant risk to the proposed development. A Characteristic Situation 1 gas regime is therefore considered appropriate, without the need for ground gas protection measures to be installed in the buildings. Where buildings and hard standing are present in the proposed development, these will form a barrier separating the future site users from asbestos contaminated soil. The main exposure pathway will therefore be in any areas of soft landscaping and gardens. The risk via this exposure pathway has been assessed to be **low/moderate**, considering that any asbestos containing material is likely to be partially bound in the soil matrix, and remedial measures will be required to mitigate the risks to future residents. Vigilance should be maintained throughout the development for asbestos containing material. If suspected asbestos containing materials are encountered, they are to be assessed by a specialist for assessment and determination of appropriate mitigation measures. TPH concentrations have locally been identified to exceed the threshold for PE water supply pipes. The encountered Made Ground is relatively thin and it is likely to be possible to lay the piles below the Made Ground, in uncontaminated natural soil. However, if the pipes are to be laid in the Made Ground barrier pipe is likely to be required. It is noted that the TPH appears to derive from coal and coal ash with no evidence of mobile TPH (oil, fuel etc) observed, so it is considered unlikely that the TPH will migrate out of the Made Ground to impact water pipes laid below it.

Conclusions and Recommendations (Geotechnical)	The ground investigation has shown the site to be underlain by Topsoil / Made Ground over Head Deposits with London Clay Formation present at depth (>4.30m) in the southwest of the site. The Head Deposits generally comprised clayey sandy to very sandy GRAVEL to 3.00mbgl becoming clayey gravelly SAND thereafter. Groundwater strikes were recorded at between 0.90 and 5.00mbgl and have been set as coincident with the foundation base for geotechnical design purposes. All foundations should be constructed below any Topsoil / Made Ground / remnants of Brickearth at a minimum depth of 0.75m, locally deepened where thicker sequences of Made Ground encountered. ULS bearing resistance calculations have been carried out in accordance with Eurocode 7 and give a ULS bearing resistance of 334kN/m^2 for a 0.60m wide strip foundation. Following the guidance presented in EC7, settlement analyses are not required for foundations constructed on coarse-grained strata as all settlement will be immediate and largely built out during construction. Ground bearing floor slabs are considered appropriate at this site provided they are constructed beneath the any Topsoil / Made Ground to bear upon the natural strata. Chemical testing of ground aggressivity has shown the ground to be consistent with Design Sulphate Classification DS-1 and an ACEC of AC-1 given the permeability of the coarse-grained Head Deposits.
This sheet is intended to provide a summary only of the initial indicative assessment study of the site in relation to ground contamination. It does not provide a definitive engineering analysis for the purposes of costing or construction and is subject to the limitation of the agreed brief.	

1. INTRODUCTION

1.1 INSTRUCTION

Ground Condition Consultants Ltd. (GCC) was commissioned by Bargate Homes in April 2026 to undertake a Ground Condition Assessment of the proposed new build development area at Southleigh Park House, Eastleigh Road, Havant, PO9 2PE.

The brief was to undertake a site investigation and assessment to identify any ground contamination issues and geotechnical conditions that may affect the proposed development. This report provides an assessment of the identified and potential ground conditions of the site, with regard to the proposed works in accordance with the Land Contamination Risk Management (LCRM) guidance, published by the Environment Agency. In addition, the geotechnical sections of this report provide a detailed assessment of the materials present beneath the site and present characteristic parameters that should be used in design of all geotechnical facets of the proposed development.

This report is prepared in line with the agreed brief and is subject to the report conditions shown in Appendix 1.

1.2 LEGAL CONTEXT

Part IIA of the Environmental Protection Act 1990 (inserted by Section 57 of the Environment Act 1995) provides a regime for the control of specific threats to health or the environment from land contamination. In accordance with the Act and the statutory guidance document 'The Contaminated Land (England) Regulations 2000', the definition of contaminated land is intended to embody the concept of risk assessment. Within the meaning of the Act, land is only "contaminated land" where it appears to the Regulatory Authority, by reason of substances within or under the land, that:

- Significant harm is being caused, or there is a significant possibility of such harm being caused; or
- Pollution of controlled waters is being, or is likely to be, caused."

Inherent in this definition is the requirement for contamination risk assessment to be undertaken on a site specific basis, as the potential for harm is determined by the site's end use and its specific environmental setting.

The guidance defines "risk" as the combination of:

- The probability, or frequency, of occurrence of a defined hazard (for example, exposure of a property to a substance with the potential to cause harm); and
- The magnitude (including the seriousness) of the consequences.

While Part IIA of the Environmental Protection Act provides a risk based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment, the regime does not take into account future uses. New developments are therefore controlled by the planning regime, with reference to the National Planning Policy Framework (NPPF), rather than directly by Part IIA of the Environmental Protection Act.

The NPPF is based on the principal that the site should be suitable for its new use, taking account of ground conditions, including from natural hazards or former activities and states that "Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner". The NPPF also links the planning and Part IIA regimes by stating that "after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990". Key components of the Part IIA regime, such as the definition of Contaminated Land and the associated risk based assessment approach, are therefore considered to also be applicable to the planning regime.

1.3 METHODOLOGY

This report has been prepared in accordance with published Environment Agency guidance ('Land Contamination Risk Management (LCRM)'). LCRM provides the technical framework for structured decision making about land contamination and builds on previous work carried out under the Contaminated Land Research Programme (of the former Department of the Environment) and the Model Procedures for the Management of Land Contamination – Contaminated Land Report (CLR) 11. LCRM has adopted and refined the well recognised methodology and terminology that has been used in contaminated land risk assessment for a number of years.

1.3.1. Pollutant linkage concept

In the context of land contamination, there are three essential elements to any risk:

- A **contaminant source** – a substance that is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters.

- A **receptor** – in general terms, something that could be adversely affected by a contaminant, such as people, an ecological system, property, or a water body.
- A **pathway** – a route or means by which a receptor can be exposed to, or affected by, a contaminant.

Each of these elements can exist independently, but they create a risk only where they are linked together, so that a particular contaminant affects a particular receptor through a particular pathway. This kind of linked combination of contaminant–pathway–receptor is described as a pollutant linkage.

1.3.2. Conceptual model

An important thread throughout the overall process of risk assessment is the need to formulate and develop a **conceptual model** for the site, which supports the identification and assessment of pollutant linkages. A conceptual model represents the characteristics of the site in diagrammatic or written form that shows the possible relationships between contaminants, pathways and receptors (pollutant linkages).

1.3.3. Risk assessment

LCRM advocates a phased approach to risk assessment comprising the following in order, as necessary:

Preliminary Risk Assessment – a desk study consisting of a review of documentary, anecdotal and site walk over evidence.

Generic Quantitative Risk Assessment (GQRA) - comparison of contaminant concentrations obtained from site investigation with generic assessment criteria.

Detailed Quantitative Risk Assessment (DQRA) - comparison of contaminant concentrations obtained from site investigation with site-specific assessment criteria.

This document constitutes a Generic Quantitative Risk Assessment and follows on from the GCC Ground Condition Desk Top Study (J20-064-R02, July 2023). Key sections of the Desk Top Study have been repeated in this document for ease of reference.

This report also comprises a Ground Investigation Report and Geotechnical Design Report in accordance with Eurocodes.

1.4 PROPOSED USE

It is currently understood that the site is proposed for residential development, comprising new dwellings and gardens. The conversion of the Southleigh Park House Old Mansion House and associated ancillary buildings into residential dwellings has been treated as a separate site and is the subject of a separate investigation and assessment.

A change in the site use from that currently proposed may result in the need for re-assessment of risk criteria and the conclusions and recommendations resulting from the risk assessment could therefore significantly change.

1.5 REPORT SCOPE AND LIMITATIONS

This report is based upon the recent site investigation data detailed herein. The report presents an interpretation of the borehole and laboratory data provided by the GCC ground investigation undertaken between the 11th and 13th May 2026. In addition, this report outlines the basic ground conditions encountered in the exploratory holes.

This information has been collated, processed and used to provide an interpretation of the ground conditions, with recommendations on potential ground contamination risks and foundation design for the proposed development.

The recommendations and opinions expressed in this report are based on the strata observed in the exploratory holes, the results of the site and laboratory tests, and information obtained as part of the desk study or provided by others. GCC takes no responsibility for conditions that have not been revealed by the exploratory holes, or which occur between them.

Whilst every effort has been made to interpret the conditions between investigation locations, such information is only indicative and liability cannot be accepted for its accuracy. Information provided from other sources is taken in good faith and GCC cannot guarantee its accuracy.

The information contained in this report is intended for the use of Bargate Homes and GCC can take no responsibility for the use of this information by any other party or for uses other than that described in this report.

2. PRELIMINARY RISK ASSESSMENT

2.1 SITE LOCATION AND DESCRIPTON

The site, Southleigh Park House, is located off Eastleigh Rd, Havant, PO9 2PE. The centre of the wider site was occupied by Southleigh Park House Old Mansion House (centre of site) and associated ancillary buildings (stables and coach house) adjacent to the north and a gate house, located in the north-eastern corner of the site. At the time of this report, these areas were in the process of being converted to residential used by FSL and are treated as a separate site, with regard to this assessment, with its own site investigation and assessment.

The study site for the purposes of this assessment comprises a more modern office building (dating to 1983) in the north of the site, along with associated car parking areas (located in the western and northern end of the site). There were also an electrical sub-station/units on-site, adjacent to the southeast boundary. The southern area of the site was predominantly laid to lawn with a pond in the southwest corner. Numerous large mature trees were located across the site, particularly around the perimeter of the site, along with other vegetation (trees & bushes). An in-ground chamber, possibly a well, was identified beneath the lawn area adjacent to the west of the coach house.

The mansion house was noted to have a basement containing gas fuelled heating systems and a generator was also noted adjacent to the west of the mansion house, similarly understood to be powered by gas. There was no remaining evidence of the historical fuel source for heating the mansion house and associated out buildings prior to the introduction of gas, although it is considered likely that coal was used. No evidence of bulk fuel storage was noted on site.

Eastleigh Rd forms the western site boundary, Bartons Rd forms the northern site Boundary and Horndean Rd forms the eastern site boundary. The area to the south was occupied by undeveloped parkland, beyond which Southleigh Rd runs. The area to the immediate east of Horndean Rd was undeveloped (mainly woodland) with the area to the immediate west of Eastleigh Rd also undeveloped (grassland and woodland). Spire Hospital was located to the north of Barton Rd.

2.2 SITE HISTORY

The historical maps from 1859 to 2023 show the wider site, initially known as Woodland, on the early map extracts with a main building in the centre of the site and ancillary buildings and greenhouses across the site (mainly in the northerns end of the site). A pond and a summer house are shown to be present on the early extracts in the southern end of the site. A lodge/gate house is shown in the north-eastern corner of the site.

By 1897, the site is known as South Leigh and smaller additions and alterations (removal of small scaled buildings and summer house and reference to a water tower in the west) are indicated on early map extracts until the 1960/80's.

In 1983, a new office building and associated car parking areas were developed in the north of the site, requiring the demolition and the majority of the small scaled buildings in the north of the site and the water tower in the west. It is understood that the mansion house and remaining associated outbuildings were converted to office use at this time. No significant changes are shown on later map extracts.

The immediate surrounding areas, on the early map extracts, are shown as woodland/parkland and agricultural land with a couple of gravel pits (to the northeast), which were progressively extended during the 20th Century. Although not noted on the map extracts provided and reviewed, the Groundsure report indicates that the 1996 map extract (not provided in the map pack) identifies the gravel pits area to the north as a Refuse Tip. The landfill records presented in the Groundsure report also indicate the Southleigh Forest landfill to have been operated approximately 120m to the north of the site. The 1999 aerial imagery indicates the nearest portion of the landfill to have been reinstated as open space, with reinstatement of the wider landfill (some 350m northwest of the site) completing by 2019. The immediate surrounding areas have largely remained undeveloped with the Spire Hospital, to the north of the site, first shown on a map extract from the 1980's.

2.3 DOCUMENTATED GROUND CONDITIONS

Ground conditions recorded in readily available sources are summarised below.

2.3.1. Geology

Reference to the British Geological Survey (BGS) Map extracts (see Appendix 2) indicates the majority of the site to overlie Head Deposits (clay, silt, sand and gravel) over London Clay Formation (clay, silt and sand) with the southern end of the site shown to directly overlie the London Clay Formation.

GCC undertook a ground investigation in December 2020 to install monitoring wells for groundwater level monitoring using windowless sample drilling techniques. These boreholes encountered clayey Gravel and gravelly Clay of the Head Deposits across the site with localised subordinate Sand beds. Many of the boreholes refused in the Head Deposits with depths of between 1.0m and 5.0m achieved. The underlying London Clay Formation was not proven.

Localised Made Ground, comprising reworked natural deposits with anthropogenic inclusions, were encountered and were associated with the profiling of the site, presumably during the 1983 redevelopment.

2.3.2. Hydrogeology

The Environment Agency Groundwater Vulnerability Map extracts (see Appendix 2) indicate the majority of the site to be overlying a superficial Secondary A Aquifer, interpreted as the Head Deposits. The underlying London Clay Formation is classified as an unproductive stratum.

Secondary A Aquifers are 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. These are generally aquifers formerly classified as minor aquifers.

Unproductive Strata are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

The site is not located within a Groundwater Source Protection Zone or within 250m of licenced water abstractions.

GCC undertook groundwater monitoring between December 2020 and April 2021. Due to the sloping character of the site, the shallowest groundwater was recorded in the south of the site at 0.53m bgl at its shallowest, while groundwater levels in the centre east were recorded at 1.86m and in the centre west at 2.06m bgl, at their shallowest. Groundwater was deeper than the base of the well (1.76m bgl) in the north of the site. With reference to ground levels shown on the topographical survey, the highest winter groundwater levels ranged from 31.67m AOD to 34.91m AOD with a general flow from northeast to southwest, following the local topography.

A below ground chamber was noted adjacent to the west of the coach house, where a water tower had been noted on the historical maps, with water measured in the chamber at 2.16m bgl in December 2020. The chamber was not accessible during following monitoring rounds.

This depth is broadly consistent with the water levels recorded in a nearby monitoring well and is considered likely to be indictive of groundwater within the chamber.

The BGS borehole records, apparently dating from 1957, indicate the presence of a water well on site, measuring 5 feet (1.5m) in diameter and 38 feet (11.6m) in depth. No details of the ground conditions are presented. The Groundsure report indicates this well to be in the same area as the encountered chamber, suggesting they are the same structure and that the well and water tower may have been linked.

2.3.3. Hydrology

The nearest identified surface water feature to the site is a pond located in the southern end of the site.

2.3.4. Radon

Radon is a naturally occurring radioactive gas which may be harmful to human health. Radon is generally released into the atmosphere in areas underlain by granite and limestone. Harmful concentrations of radon may build up if it becomes trapped in an enclosed space such as a building.

BGS/Public Health England data presented within the Groundsure Report indicates that the percentage of houses exceeding the Action Levels for Radon in this area is less than 1%. Therefore, the property is not in a Radon Affected Area, as defined by the Health Protection Agency (HPA), and radon protection measures are not necessary in new dwellings or extensions.

2.4 ENVIRONMENTAL DATA SEARCH

A search of an environmental database was undertaken together with information from various other organisations as part of the desk study and is summarised in the following sections. The following summary is generally limited to locations within 250m of the site boundaries unless it is considered that installations or activities beyond that range could potentially have an impact on the site or be affected by the redevelopment of the site.

Table 2.1. Data search results

Discharge consents	There is 1no. recorded water discharge consent within 250m of the site. • Located 92m to the northeast at 2 Gravel Pit Cottages, Emsworth Common Rd, Havant, PO9 2PB
Pollution incidents	There are no recorded pollution incidents to land or water recorded within 250m of the site.
Water abstractions	There are no recorded groundwater or surface water abstractions within 250m of the site.
Fuel Stations	There are no recorded fuel stations within 250m of the site.
Landfill Sites	There is 1no. recorded landfill site within 250m of the site, believed to be associated with the following 3 entries. • Located 30m to the north-east at Southleigh Landfill Site, Emsworth Common Road, Emsworth, Hampshire, PO9 2PB • Located 108m to the north at Southleigh Forest, Havant, Hampshire • Refuse tip located 122m to the north Although one of these entries references a 30m distance to the landfill, the historical maps do not indicate the landfill to extend that close to the site and Gravel pit Cottages remained in this area of the site throughout the indicated landfill period. The historical aerial imagery also indicates mature trees in this area shortly after the landfill was reinstated. The distance of 122m appears to be more accurate.

2.5 MINING AND NATURAL GROUND HAZARDS

2.5.1. Mining

The site and surrounding areas have been affected by surface ground working (gravel extractions).

2.5.2. Natural Ground Hazards

The following ground hazards were identified within the Groundsure Report (Appendix 2):

Compressible ground stability hazards – Negligible hazard

BGS Notes: Compressible strata are not thought to occur.

Collapsible ground stability hazards – Very Low hazard

BGS Notes: Deposits with potential to collapse when loaded and saturated are unlikely to be present.

Ground dissolution stability hazards – Negligible hazard

BGS Notes: Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

Landslide ground stability hazard – Very Low hazard

BGS Notes: Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Shrinking or swelling clay ground stability hazard – Low hazard

BGS Notes: Ground conditions predominantly medium plasticity. This is likely to relate to the underlying Tidal Flat deposits.

Running sand ground stability hazards – Negligible hazard (Head Deposits)

BGS Notes: Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

Running sand ground stability hazards – Very Low hazard (London Clay Formation)

BGS Notes: Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

2.6 DEPARTMENT OF ENVIRONMENT – INDUSTRY PROFILES

The Department of the Environment Industry Profiles do not specifically cover the use of the site.

2.7 PREVIOUS REPORT

GCC undertook a site investigation in December 2020 to install groundwater monitoring wells on the site for the proposed development. The results of the well installation and monitoring are presented in a Groundwater Level Monitoring letter report (Ref: J20-064-R01, dated 6th April 2021). No visual or olfactory evidence of contamination was noted during the investigation, although the scope of works did not include contamination or geotechnical testing or assessment.

2.8 CONCLUSIONS OF PRELIMINARY RISK ASSESSMENT

The following potential sources of contamination were identified in relation to the proposed residential end use:

With regard to the proposed new residential properties:

- Potential for reduced quality Made Ground to be present beneath the site, including asbestos, from the construction of the current buildings and demolition of the former buildings. Due to the age of the structures, there is a significant potential for asbestos to be present in the superstructure and therefore for off-cut fragments to be present in the soil.
- Potential for presence of localised fuel hydrocarbons beneath the site related to minor leaks and spills from vehicles in the existing parking areas.
- Potential for ground gas generation, related to the off-site former landfill approximately 120m to the north of the site boundary.

It should be noted that additional sources of contamination may become apparent during any future investigation and development of the site.

While asbestos containing material may be present in the existing buildings, the management of risks associated with these materials in the building super structures are outside the scope of this assessment.

The risks to the health of future site users from contamination, in the context of the proposed commercial end use of the site, have generally been assessed to be **low/moderate**, driven primarily for the potential for localised asbestos containing materials to be present in Made Ground. Further investigation of these risks is therefore recommended.

3. FIELDWORK SUMMARY OF SCOPE AND RATIONALE

3.1 RATIONALE AND SUMMARY OF SCOPE

The site investigation works were undertaken by GCC between the 11th and 13th May 2026. The scope and rationale of the site investigation are presented below.

- 16no. windowless sampler boreholes to assess the quality of underlying soils and presence of groundwater, allow recovery of representative soil samples from the boreholes for laboratory testing (contamination and geotechnical) and installation of ground gas and groundwater monitoring wells at selected locations.
- In-situ California Bearing Ratio (CBR) testing by Clegg Hammer method at 15no. locations at the site.
- 1no. hand excavated trial pit (due to risks from live services, near a substation) to recover soil samples for chemical testing.

The layout of the exploratory hole positions is presented in Figure 1.

3.2 SAMPLING

Soil sampling was undertaken to assess the contamination risks to human health and controlled waters. Soil samples were also taken from various depths in the boreholes for geotechnical testing purposes.

3.3 SITE INVESTIGATION STANDARDS

Methods employed during the site investigation were generally undertaken in accordance with BS10175, BS EN 1997-2 and BS5930.

4. GROUND CONDITIONS ENCOUNTERED

4.1 SOIL CONDITIONS

Ground conditions encountered during the site investigation were broadly in agreement with those presented in the published literature and comprised Made Ground/Topsoil overlying Head Deposits over London Clay Formation. Strata depths and thicknesses are summarised in Table 4.1 and engineering logs are presented in Appendix 3.

Table 4.1. Summary of encountered ground conditions

Location	Made Ground/Topsoil		Head Deposits		London Clay Formation	
	From (mbgl)	Thickness (m)	From (mbgl)	Thickness (m)	From (mbgl)	Thickness (m)
WS201	GL	0.80	0.80	4.60	5.40	>0.05
WS202	GL	0.60	0.60	4.15	4.75	>0.65
WS203	GL	0.35	0.35	3.95	4.30	>1.15
WS204	GL	0.40	0.40	>5.05	N/E	
WS205	GL	0.30	0.30	5.10	5.40	>0.05
WS206	GL	0.32	0.32	5.10	4.73	>0.40
WS207	GL	0.40	0.40	>3.05	N/E	
WS208	GL	0.20	0.20	>5.25	N/E	
WS209	GL	0.65	0.65	>4.80	N/E	
WS210	GL	0.40	0.40	>5.05	N/E	
WS211	GL	0.40	0.40	>5.05	N/E	
WS212	GL	1.00	1.00	>4.45	N/E	
WS213	GL	1.00	1.00	>4.45	N/E	
WS214	GL	1.00	1.00	>3.30	N/E	
WS215	GL	1.00	1.00	>4.45	N/E	
WS216	GL	0.90	0.90	>1.60	N/E	
HP101	GL	0.60	0.60	>0.40	N/E	

4.1.1. Made Ground/Topsoil

Made Ground to depths of 1.0m bgl was encountered in WS212-WS215, drilled in the vicinity of the existing office building. The Made Ground in WS212-WS214 generally comprised gravelly Silt and silty Gravel with red brick and concrete fragments. In WS215 a thin layer (0.20-0.40m bgl) of concrete was encountered beneath a layer of gravelly Silt with red brick and concrete fragments. A layer of soft gravelly Clay with red brick and concrete fragments was present beneath the concrete.

The Made Ground, to a depth of 0.90m bgl, in WS201 comprised a mixture of crushed brick and concrete with some wood chippings over a layer of sandy Gravel with fragments of red brick and roots.

The Made Ground, to a depth of 0.60m bgl, in WS202 comprised a mixture of mulch and gravelly Sand with brick and concrete fragments over a layer of sandy Gravel with fragments of red brick and roots.

The Made Ground, to a depth of 0.6-0.65m bgl, in WS209 and HP201 comprised silty sandy Gravel with no obvious anthropogenic inclusions. However, the presence of asbestos in the sample from WS209 indicates this material to be Made Ground/reworked natural material and the lead concentration in HP201 more consistent with the Made Ground samples than the Head Deposits, suggesting it is most likely reworked natural soil.

The thickness of the Made Ground in the rest of the boreholes was less than 0.40m and generally comprised gravelly Silt or gravelly Sand with fragments of red brick and concrete and occasional plastic.

Topsoil was encountered in WS204, WS212 and WS216. The Topsoil in these locations generally comprising gravelly Silt with roots/rootlets and was overlying Made Ground over Head Deposits. Topsoil, directly overlying Head Deposit, was also encountered in WS206, WS207, WS209 and WS210. The Topsoil in these locations also generally comprised gravelly Silt with rootlets. Topsoil, overlying Made Ground, was also encountered in HP101, also comprising gravelly Silt with rootlets.

4.1.2. Head Deposits

Head Deposits were encountered in all intrusive locations across the site and generally comprised clayey Gravel and gravelly Clay with proven thicknesses of between 3.95m and >5.25m. The head Deposits formed the basal stratum in 12no of the boreholes with several boreholes refusing within this stratum.

4.1.3. London Clay Formation

Deposits of the London Clay Formation formed the basal stratum of the investigation and were only encountered at the base of boreholes WS201-WS203 and also in WS205-WS206. The encountered London Clay Formation generally comprised silty sandy Clay.

4.2 OBSTRUCTIONS

No obstructions were encountered in any of the intrusive locations, although several boreholes refused within the dense Head Deposits

4.3 GROUNDWATER CONDITIONS

Groundwater was encountered at depths between 0.90mbgl and 5.00mbgl within the Head Deposits.

4.4 VISUAL/OLFACTORY EVIDENCE OF CONTAMINATION

No visual or olfactory evidence of contamination was encountered during the investigation.

5. GENERIC RISK ASSESSMENT

5.1 CONTAMINATION ASSESSMENT METHODOLOGY

In order to assess the human health and environmental risks posed by potential contaminants within the underlying soils GCC undertook sampling and subsequent screening of the laboratory results from samples obtained during the investigation using generic assessment criteria. Generic assessment criteria (GAC) are conservative contaminant concentration values used for comparison purposes to assess the risk associated with contaminant concentrations found on site and are derived using non-site-specific information.

5.1.1. Soils

In order to assess the soil analyses results with regard to potential human health risks, GCC has adopted the LQM /CIEH Suitable 4 Use Levels (S4ULs), generic assessment criteria (GACs) derived in accordance with the UK framework set out in the most recent CLR (Contaminated Land Report) documents using the Contaminated Land Exposure Assessment (CLEA) Model.

S4ULs have been published for an extensive suite of contaminants, with assessment criteria derived for each contaminant for several different land use scenarios namely:

- Residential with homegrown produce;
- Residential without homegrown produce
- Public open space (parks and residential)
- Allotments; and
- Commercial and industrial.

A full list of the GACs together with an indication of the method used for their derivation is provided in Appendix 4. GACs applicable to residential end use have been used for the assessment of the site. Contaminant concentrations below the GACs are considered not to warrant further risk assessment. However, concentrations of contaminants above the GACs may require further consideration through statistical analysis, if appropriate, or further detailed assessment using site specific data.

In regard to human health risks by direct contact exposure, contamination is generally assumed to be at or within 1m of the surface. It is considered that at depths greater than 1m, the probability of human exposure via the direct contact pathways are significantly reduced, leaving inhalation of volatile compounds as the dominant pathway with regard to human health risks. Typically, volatile compounds only significantly affect the indoor inhalation pathway. Therefore, data from the top 1.0 to 1.5m is used for assessment of risks to human health via direct contact pathways, dependant on proposed future site levels.

This document does not constitute a Site Assessment Report (SAR) as outlined in the UKWIR Guidance for the Selection of Water Supply Pipes to be Used in Brownfield Sites (Ref: 10/WM/03/21, 2010). As such, the full generic suite of testing recommended in the UKWIR guidance may not have been undertaken for this site and may be required by some water companies. However, consideration has been given to the 'threshold' concentrations presented in Table 3.1 of the UKWIR guidance, where they are applicable to the analysis undertaken, to provide an indication of the potential risks to buried water supply pipes.

5.1.2. Ground Gas

The criteria used to assess the ground gas monitoring results, where monitored, have been taken from the following guidance documents:

- Assessing risks posed by ground gases to buildings, CIRIA Report C665, 2007
- Code of practice for the characterisation and remediation from ground gas in affected developments, British Standard BS 8576, 2013
- A Pragmatic Approach to Ground Gas Risk Assessment, CL:AIRE Research Bulletin RB17, 2012

The frequency and period of monitoring is assessed based on the gas generation potential of the source material and the sensitivity of the development, in accordance with Figure 6 of BS8576 and Table 5.5 of CIRIA C665. As BS8576 promotes a risk based approach to ground gas assessment, it recognises that ground gas monitoring might not be necessary if a viable pollutant linkages is not present, e.g. if a 'credible' source with significant ground gas generation potential and/or a 'credible' migration pathway are not present.

The Characteristic Situation for a monitoring location is determined using the worst case gas screening value for methane or carbon dioxide from all of the monitoring rounds at that location. Following the precautionary principle the most stringent of the Characteristic Situations for the monitoring locations within the site is generally used to classify the site as a whole.

5.2 SOIL ASSESSMENT

5.2.1. General

A total of 34no. soil samples collected during the site investigation of soil that could potentially be reused on site at or near surface during the proposed development works were submitted to a UKAS accredited laboratory for analysis for a suite of heavy metals, phenols, speciated polycyclic aromatic hydrocarbons (PAHs), fractionated total petroleum hydrocarbons (TPH), BTEX compounds and several inorganic parameters. 2no of these samples were also submitted for analysis for PCBs. The results of the laboratory analyses are summarised in Appendix 5, in which they are compared to the relevant generic assessment criteria. A full set of all the laboratory test certificates is presented as Appendix 6.

The range of potentially hazardous contaminants present on the site can be wide and varied and the suite has been chosen to reflect both commonly found contaminants and others indicated by research to have a significant risk of being present. It is, however, possible that others may exist for which analyses have not been carried out or which were outside the scope of completed exploratory holes.

The decision to recommend acceptability or a requirement for remediation is based on the evaluation of a number of factors which when combined present a statutory or non-statutory risk that may require remedial action.

5.2.2. Heavy metals

The heavy metals included in the analysis of the samples from across the site were generally identified at concentrations below the relevant GACs in all samples.

The exceptions were generally slightly elevated lead concentrations in the Made Ground and Topsoil samples with 5no of these 18no samples exceeding the GAC of 200mg/kg, with a maximum recorded concentration of 368mg/kg. The lead concentrations in the Head Deposits were not noted to be elevated, indicating that the lead appear to be localised to the near surface soils.

Slightly elevated concentration of arsenic were also recorded in several of the Made Ground and Topsoil samples, although only one sample, with a concentration of 38mg/kg, exceeded the GAC of 37mg/kg. This marginal exceedance of arsenic is not considered to represent a significant source of contamination.

Lead in the near surface soils is therefore considered to represent a potentially significant source of contamination with regard to the health of future residents and further consideration by statistical analysis is considered appropriate.

5.2.3. Petroleum hydrocarbons

Total petroleum hydrocarbon (TPH) concentrations were recorded to be well below GACs in the soil samples across the site and predominantly below the laboratory detection limits. TPH is therefore not considered to represent a significant source of contamination with regard to human health.

However, concentrations of TPH within the Made Ground and Topsoil Locally exceeded the laboratory detection limits. The samples with the highest TPH concentrations have been further assessed with a PAH double ratio plot. This plot indicates these TPH concentrations to be associated with coal or coal ash. Given the long history of the site and the likelihood that coal was used as a fuel source in the site buildings prior to the installation of a gas boiler, the presence of coal fragments and coal ash in the soil is not unexpected. While the double ratio plot did not specifically identify the samples to be indicative of coal tar, it is also possible that some of the elevated concentrations in the road and parking areas of the site are associated with fragments of coal tar in the tarmacadam, entrained into the soil samples during the investigation.

Concentrations of TPH fractions locally exceed the UKWIR ‘threshold’ values for mineral oil in samples from across the site. These samples are all of Made Ground and Topsoil and are representative of soil as shallow depth and which contain coal or coal ash. Deeper samples from the same locations did not contain notably elevated TPH concentrations. TPH is therefore considered to potentially represent a significant source of contamination to proposed water supply pipes of the pipes are laid in Made Ground, although it may not present a risk at the depth at which pipes are likely to be laid. The designers of the water supply pipes for this site should review the data in this report to inform their decision-making process.

5.2.4. Polycyclic aromatic hydrocarbons (PAHs)

Polycyclic aromatic hydrocarbon (PAH) compound concentrations were recorded to generally be below the relevant GACs in all of the samples and locally below the laboratory detection limits, particularly in the Head Deposits soil samples across the site.

The only sample to contain PAH concentrations in excess of the GACs was WS214 at 0.3-0.4m, which contained elevated concentrations of benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(ah)anthracene. The recorded concentrations only slightly exceeded the associated GACs, as per the following table:

Table 5.1. Summary of the results of PAH testing exceedances of GAC

PAH Compound	GAC (mg/kg)	Recorded Concentration (mg/kg)
Benzo(b)fluoranthene	2.6	3.14
Benzo(a)pyrene	2.2	2.78
Dibenzo(ah)anthracene	0.24	0.32

As noted in the TPH section, the double ratio plot indicates the source of the PAH in WS214 and to a lesser extent in other Made Ground and Topsoil samples across the site to be coal or coal ash.

WS214 was located in the area of soft landscaping adjacent to the 1980s office block and the Made Ground represented by the impacted sample was indicative of reworked Topsoil. While brick and concrete were noted in the material represented by the impacted sample in WS214, no specific evidence of coal was recorded in the soil to visually distinguish it from soil with lower PAH concentrations.

Therefore, PAH compounds in the near surface soils are therefore considered to represent as potentially significant source of contamination with regard to the health of future residents and further consideration by statistical analysis is considered appropriate.

5.2.5. BTEX compounds and MTBE

BTEX compounds and MTBE were not identified at concentrations in excess of the laboratory detection limits and were well below the relevant GACs in all of the samples from across the site. Therefore, BTEX compounds and MTBE are not considered to represent a significant source of contamination with regard to human health.

Concentrations of BTEX and MTBE were not recorded to exceed the UKWIR 'threshold' values. BTEX and MTBE are therefore not considered to represent a significant source of contamination to proposed water supply pipes.

5.2.6. Inorganics

The concentrations of free cyanide fell below laboratory detection limits in all of the soil samples analysed.

The pH of the soil samples analysed was generally within the 5-9 range, indicating neutral soils, although the samples were generally towards the acidic end of this range. The only exceptions were Made Ground samples from WS202 (4.69) and WS206 (4.17). These acidic Made Ground samples are not considered to be indicative of significant contamination but may have an impact on construction materials and landscaping.

5.2.7. PCBs

A trial pit was excavated by hand adjacent to the electrical substation in the east of the site. 2no samples of near surface soils from this trial pit were submitted for PCB testing, due to the potential for PCBs to have been present in the substation transformer oil. No other likely sources of PBCs were identified on the site and therefore no other sample from the site were tested for PCBs.

No PCB concentrations were identified to exceed the laboratory detection limits or GACs in either of the samples.

PCBs are therefore not considered to represent a significant source of contamination with regard to human health or controlled waters.

5.2.8. Asbestos

Asbestos was identified in 1no sample (WS209 at 0.3-0.5m) in the form of loose chrysotile fibres with a concentration of <0.001% by weight. While only a very small amount of asbestos was identified, there is no allowable quantity of asbestos in soil, with regard to human health risk assessment, as even small quantities of asbestos fibres can become airborne and present a risk via inhalation.

The material in WS209 that was found to contain asbestos fibres was not noted to contain any other identifiable anthropogenic inclusions during the investigation and has been considered as Made Ground on the basis of the asbestos encountered.

With regard to the lateral extents of the asbestos impacted Made Ground in WS209, the closest borehole to this location was WS208, in which the Made Ground only comprised a layer of gravel surfacing over a geotextile layer, which is considered to be representative of the gravel covered parking area to the southeast of WS209. The area to the northwest of WS209 is defined by the access drive and turning circle for the mansion house with the mansion house itself beyond. To the southwest, the ground level drops down to the lawn at the front of the mansion house. The lateral extent of the asbestos impacted Made Ground has been assumed to be defined by these feature, although further investigation may help refine the actual extents.

The asbestos in the Made Ground in the vicinity of WS209 is therefore considered to represent a significant source of contamination with regard to the health of the future residents.

5.3 STATISTICAL ANALYSIS

5.3.1. Assessment Approach

The CL:AIRE and CIEH Guidance on Comparing Soil Contamination Data with a Critical Concentration guidelines state that for each contaminant, the upper 95th percentile confidence limit on the mean measured concentration (95%UCL) should be calculated and this value should be compared to the GAC. Statistical testing should also be undertaken to decide whether the maximum concentration observed should be treated as an outlier or whether it can reasonably be considered to come from the same underlying population as the other samples.

In order to calculate what are considered to be representative 95%UCL values, the contaminant concentrations have first been assessed to determine if each contaminant distribution is closer to a normal or another distribution. If a dataset was found to be normally distributed, the arithmetic mean was used to calculate the 95%UCL using the 'One sample t-test'. If the distribution was determined to be significantly removed from normal, the one-sided Chebychev Theorem was used to calculate the 95%UCL. Constituent non-detects were assigned a value equal to the reported analytical laboratory limit of detection, considered reasonably conservative in accordance with CLR principles.

Any identified outliers were considered in the context of the conceptual site model and possible sources of error and were only removed from the dataset if they were obviously and demonstrably the result of an error that can be identified and explained or they clearly indicate that more than one soil population exists within the dataset.

5.3.2. Data Selection

While the sample locations across the site were not strictly systematic or unbiased, they are considered to be sufficiently unbiased in relation to lead and PAH, as the subject of this analysis, as they were positioned with broadly even spacing across the site. It is therefore considered that the available dataset is suitable for statistical analysis.

The following considerations were taken into account in the determination of the dataset for statistical analysis:

- The only exceedance of the PAH GACs was within the Made Ground in the northwest of the site and was associated with coal or coal ash, although various other lower concentrations of PAH compounds were identified in the Made Ground in other areas of the site, also attributable to coal or coal ash. It is therefore considered reasonable to consider the Made Ground and Topsoil from across the site as a single dataset for the assessment of the PAH contamination.
- The exceedance of the lead GAC were within the Made Ground predominantly in the north of the site, but also in the southeast of the site. However, the lead concentrations were generally elevated across the site above the background concentrations recorded within the underlying natural Head Deposits. While the source of the lead contamination is harder to confirm, it is possible that it is also attributable to the coal and coal ash noted to be present in the Made Ground across the site. It is therefore considered reasonable to consider the Made Ground and Topsoil from across the site as a single dataset for the assessment of the lead contamination.

The dataset for statistical analysis, with regard to lead and PAH, has therefore been taken to comprise the analysis results for the 18no. samples taken from the Made Ground and topsoil from across the site.

5.3.3. Assessment Results

The outlier test on this dataset identified the concentrations of PAH compounds (benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(ah)anthracene) in the Made Ground sample from WS214 as statistical outliers. However, it is noted that lower concentrations of these PAH compounds were also identified in the Made Ground across the site. It is therefore not considered appropriate to treat WS214 as an isolated hotspot and the WS214 results have therefore been retained in the dataset for assessment of the 95% UCL calculation.

The outlier test showed not statistical outliers within the lead dataset.

The 95% upper confidence limit (UCL) on the mean lead, benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(ah)anthracene concentrations was therefore calculated on the 18no. sample dataset.

Table 5.2. Summary of the results of statistical analysis

PAH Compound	GAC (mg/kg)	Applicable 95% UCL (mg/kg)
Lead	200	172.27
Benzo(b)fluoranthene	2.6	0.25
Benzo(a)pyrene	2.2	0.20
Dibenzo(ah)anthracene	0.24	0.06

These results indicate that the lead and PAH concentrations in the Made Ground across the site area are not likely to constitute a significant source of contamination with regard to the proposed development.

5.4 WASTE CLASSIFICATION

Waste classification testing and assessment were undertaken on samples of the Made Ground and Head Deposits and the results are presented in Appendix 5.

The laboratory waste classification on the two samples tested identified both the Made Ground and Head Deposits samples to be classified as non-hazardous.

Neither sample contained concentrations that exceeded the inert waste acceptance criteria (WAC). These samples could therefore be sub-classified as inert.

However, while the sample of Made Ground that underwent waste classification testing did not contain asbestos, the Made Ground from WS208 contained <0.001 asbestos. Soil that contains asbestos cannot be classified as inert. As the Made Ground contained <0.1% w/w asbestos and no visually identifiable ACM fragments, it would not be classified as hazardous.

In summary, if the Made Ground from the area around WS209 was disposed of to landfill, it would be classified as Non-hazardous Waste, due to the asbestos recorded in the sample from WS101. If the Head Deposits were disposed of to landfill, they would be classified as Inert.

It is recommended that this report is provided to the receiving facility for soil to be disposed of so they can advise on their requirements.

5.5 CONTROLLED WATERS

5.5.1. General

The desk top study assessed the pollutant linkages associated with controlled waters from the site to be very low risks with the linkages being associated with mobile contaminants, such as fuel hydrocarbons, impacting the secondary aquifer within the Head Deposits. While leachate and groundwater testing did not form part of this scope of works of this investigation, the forms of contamination identified are considered to be low mobility sources with no evidence of mobile contamination identified on the site. Therefore, no significant sources of contamination with regard to controlled waters have been identified on the site.

5.6 GROUND GAS ASSESSMENT

5.6.1. Conceptual Model

The Desk Top Study identified a closed landfill to be present some 125m to the north of the wider site. While the Desk Top Study assessed the risk of significant ground gas migration onto the site from this source as being very low, the Council requested spot ground gas monitoring of the monitoring wells that were installed in December 2020. Further ground gas monitoring wells were also installed as part of the works undertaken for this assessment.

No other likely sources of ground gas generation have been identified on or in the vicinity of the study site or wider site.

5.6.2. Ground Gas Monitoring

An initial ground gas monitoring round was undertaken on the 14th June 2025 in the monitoring wells installed in December 2020, to inform the assessment for the conversion of the existing buildings. These locations, WS101, WS102, WS103, WS105 and WS106 were positioned across the wider site. The borehole drilled in closest proximity to the landfill (WS104) refused at shallow depth on dense natural soils and was not installed with a monitoring well.

The initial monitoring round recorded methane concentrations across the site to be <0.1% v/v and a maximum carbon dioxide concentration on the site of 2.6% v/v, in WS103. There were no measurable flow rates in any of the monitoring wells. PID reading in all the of the monitoring wells were <1ppm.

The December 2020 monitoring wells were subsequently lost and WS204, WS206, WS210, WS211 and WS212 were installed and monitored as part of the current investigation and assessment. At the time of writing, all 6no of the programmed monitoring rounds had been conducted, on the 8th and 22nd June 2026m 6th and 17th July and 3rd and 17th August. These rounds recorded no measurable flow rates or methane concentrations and maximum carbon dioxide concentrations of 1.4% v/v.

Groundwater levels in WS102, WS204 and WS206 were recorded to be close to or above the top of the response zones of the wells during the initial monitoring rounds, indicating that readings from these wells are likely to be representative of the head space in the top of the well, rather than of the surrounding soil during these rounds. The monitoring data from these wells is therefore not considered in the assessment. However, unsaturated response zones were available in the other wells for monitoring and the water levels dropped into the response zone in WS204 and WS206 during the later monitoring rounds.

It is noted that the monitoring rounds were undertaken during high but falling and steady atmospheric pressure conditions. While these are not the worst case conditions for ground gas migration from the ground, the falling atmospheric pressure is likely to have some influence to drawing out ground gas that may be present.

With no measurable flow rates recorded, the gas screening values for the site would indicate a CS1 ground gas regime. The carbon dioxide and methane concentrations also do not exceed the recommended limiting factor concentrations of 5% and 1%, respectively. In addition, there is no evidence of hydrocarbon vapours or volatile compounds shown by the PID results.

The data from the monitoring programme therefore indicate that significant ground gas migration onto the site from the off-site landfill does not appear to be taking place and has not identified any likely impacts of volatile hydrocarbons in the vicinity of the monitoring wells. A CS1 ground gas regime is therefore considered to be appropriate for the site with no requirement for ground gas protection measures for the proposed buildings.

6. CONCEPTUAL SITE MODEL

6.1 SOURCES

The conceptual model, based on information obtained as part of the preliminary risk assessment and intrusive ground investigation, has not identified any significant contaminant sources.

- Localised asbestos confirmed in the Made Ground in the southeast of the site (WS209) and residual potential for asbestos from the construction of the current buildings and demolition of the former buildings to be encountered.
- TPH in Made Ground with regard to water supply pipes

It should be noted that additional sources of contamination may become apparent during any future investigation and development of the site.

The initial rounds of ground gas and PID monitoring of the wells installed across the site did not identify any significant ground gas concentrations and support the conceptual model based assessment in the preliminary risk assessment that ground gas from the off-site landfill does not present a significant risk to the proposed development. A Characteristic Situation 1 gas regime is therefore considered appropriate, without the need for retrospective ground gas protection measures to be installed in the buildings, although this will be confirmed following the completing of the ongoing monitoring programme.

6.2 PATHWAYS

The key environmental pathways and exposure routes by which potentially toxic substances can reach the identified receptors are considered to be:

- Inhalation of dust
- Direct contact

6.3 RECEPTORS

Receptors that may be affected by the potential contamination are:

- Future users
- Water supply pipes

Construction workers have been excluded from this assessment on the basis that the assessment procedure in this report is for long term rather than short term exposure. They are also subject to health and safety at work regulations and are expected to use appropriate personal protective equipment (PPE).

7. RISK ASSESSMENT

7.1 RISK ASSESSMENT PROCEDURE

By considering the sources, pathways and receptors (pollutant linkages), an assessment of the human health/ environmental risks is made with reference to the significance and degree of the risk. This assessment is based on consideration of whether the source contamination can reach a receptor and hence whether it is of major or minor significance.

The risk assessment has been undertaken with reference to BS10175 and CIRIA Document C552: Contaminated Land Risk assessment 'A Guide to Good Practice'. The risk assessment has been carried out by assessing the severity of the potential consequence, taking into account both the potential magnitude of the hazard and the sensitivity of the target, based on the categories given below.

Table 7.1. Sensitivity of receptor

Category	Examples
High	Residential with gardens/Groundwater Source Protection Zone
Medium	Residential without gardens/Principal (Major) Aquifer/sensitive watercourse
Low	Commercial and industrial use/Secondary (Minor) Aquifer
Very Low	Construction and maintenance workers/non-sensitive watercourse

Table 7.2. Magnitude of impact

Category	Examples
Gross Impact	Heavily contaminated gasworks or industrial site, hazardous waste landfill
Moderate Impact	Major leaks and spills from fuel infrastructure (e.g. petrol stations), domestic waste landfill
Slight Impact	Minor leaks and spills from fuel infrastructure, 'inert' waste landfills
No Impact	No identified or suspected contamination

Table 7.3. Level of severity for potential hazard

	Sensitivity of receptor			
Magnitude of Impact	**High**	**Medium**	**Low**	**Very Low**
Gross Impact	Severe	Medium	Mild	Minor
Moderate Impact	Medium	Mild	Minor	Minor
Slight Impact	Mild	Minor	Minor	Minor
No Impact	Minor	Minor	Minor	Minor

The likelihood of an event (probability) takes into account both the presence of the hazard and target and the integrity of the pathway and has been assessed based on the categories given below.

Table 7.4. Probability of risk definition

Category	Definition
High likelihood	Pollutant linkage may be present, and risk is almost certain to occur in long term, or there is evidence of harm to the receptor
Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term
Low likelihood	Pollutant linkage may be present, and there is a possibility of the risk occurring, although there is no certainty that it will do so
Unlikely	Pollutant linkage may be present, but the circumstances under which harm would occur are improbable

The potential severity of the risk and the probability of the risk occurring have been combined in accordance with the following matrix in order to give a level of risk for each potential hazard.

Table 7.5. Level of risk for potential hazard definition

Probability of risk	Potential severity			
	Severe	**Medium**	**Mild**	**Minor**
High Likelihood	Very high	High	Moderate	Low/ Moderate
Likely	High	Moderate	Low/ Moderate	Low
Low likelihood	Moderate	Low/ Moderate	Low	Very low
Unlikely	Low/ Moderate	Low	Very low	Very low

The assessment is discussed below in terms of plausible pollutant linkages. A complete assessment of the pollutant linkages is presented in Table 7.6 overleaf.

A description of these risk classifications and likely action required are given in CIRIA 552 as:

Very high risk – High probability that severe harm could arise to a designated receptor from an identified hazard OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in substantial liability. Urgent investigation and remediation are likely to be required.

High risk – Harm is likely to arise to a designated receptor from an identified hazard. This risk, if realised, is likely to result in substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the long term.

Moderate risk – It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation is normally required to clarify risks and to determine potential liability. Some remedial works may be required in the long term.

Low risk – It is possible that harm could arise to a designated receptor from an identified hazard but it is likely that this harm, if realised, would at worst normally be mild.

Very low risk – It is a low possibility that harm could arise to a designated receptor. In the event of such harm being realised it is not likely to be severe.

7.2 POLLUTANT LINKAGE ASSESSMENT

The following assessment is based on the proposed residential end use scenario.

Table 7.6. Pollutant Linkage Assessment

Source	Pathway	Receptor	Severity	Likelihood	Risk Level
Asbestos containing materials and fibres in localised on-site Made Ground	Inhalation	Future Users	Medium	Low Likelihood	Low/ Moderate
TPH in Made Ground	Direct contact	Water Supply Pipes	Mild	Low Likelihood	Low

7.2.1. Asbestos in soil

As the current buildings were constructed during the period when asbestos was a common component of building materials, there is a potential that asbestos containing materials are present within the Made Ground as a result of off cuts dropped during the construction process and potentially left on site during the demolition of the former outbuildings.

To date, such asbestos contamination has only been confirmed in the Made Ground in the vicinity of WS209 in the southeast of the site. An indicative extent of the impacted Made Ground is shown on Figure 2, although further investigation may help to more accurately delineate the extent of the impacted Made Ground in this area.

Where buildings and hard standing are present in the proposed development, these will form a barrier separating the future site users from asbestos contaminated soil. The main exposure pathway will therefore be in any areas of soft landscaping and gardens.

The risk via this exposure pathway has been assessed to be low/moderate, considering that any asbestos containing material is likely to be partially bound in the soil matrix, and remedial measures will be required to mitigate the risks to future residents.

Vigilance should be maintained throughout the development for asbestos containing material. If suspected asbestos containing materials are encountered, they are to be assessed by a specialist for assessment and determination of appropriate mitigation measures.

7.2.2. Water supply pipes

TPH concentrations have locally been identified to exceed the threshold for PE water supply pipes. The encountered Made Ground is relatively thin and it is likely to be possible to lay the piles below the Made Ground, in uncontaminated natural soil. However, if the pipes are to be laid in the Made Ground barrier pipe is likely to be required. It is noted that the TPH appears to derive from coal and coal ash with no evidence of mobile TPH (oil, fuel etc) observed, so it is considered unlikely that the TPH will migrate out of the Made Ground to impact water pipes laid below it.

8. MATERIAL PROPERTIES

8.1 INTRODUCTION

The geotechnical assessment and the subsequent foundation design recommendations will use the findings of the ground investigation and the results of the in-situ and geotechnical laboratory testing carried out in the boreholes and on representative samples of the material encountered.

8.2 GEOTECHNICAL TESTS

A programme of geotechnical laboratory testing was carried out on representative samples collected from the strata encountered during the ground investigation.

Details of the specific procedure used in each case are shown below in Table 8.1 and the geotechnical test certificates are presented in Appendix 6.

Table 8.1. Summary of geotechnical testing

Test	Standard (BS1377:1990) unless otherwise indicated	No.
Classification Tests		
Atterberg Limits Tests	Part 2, Clauses 4.4, 5.3 & 5.4	4
Particle Size Distribution – Wet Sieve	Part 2, Clause 9.2	12
Particle Size Distribution – Sedimentation	Part 2, Clause 9.4	4
Shear Strength – Total Stress		
Unconsolidated Undrained Triaxial Compression Test	ISO 17892-8	1
Chemical Tests		
Sulphate Content 2:1 soil water extract	Part 3, Clause 5.3	5
BRE SD1	Various	3
pH value	Part 3, Clause 9.0	8

8.3 GEOTECHNICAL PROPERTIES

This section discusses the key geotechnical material characteristics of each encountered stratum as determined from field observations, in-situ and laboratory geotechnical testing.

8.3.1. Made Ground / Topsoil

Made Ground / Topsoil was encountered at all exploratory hole positions where it achieved a maximum thickness of 1.00m. A full description of the distribution and composition of the Made Ground / Topsoil is given in Section 4.1.1. and will not be repeated here.

No geotechnical laboratory testing has been undertaken on the Topsoil / Made Ground as all foundations will be constructed beneath this superficial material.

8.3.2. Head Deposits

Head Deposits were encountered at all exploratory hole locations immediately below the Topsoil / Made Ground at depths of between 0.20 and 1.00mbgl. The Head Deposits comprised orange brown and light grey brown sandy to very sandy clayey GRAVEL becoming clayey SAND with depth. The Head Deposits formed the basal stratum in 12no of the boreholes with 3no. of the WS boreholes terminating before their full depth achieved due to locally dense strata. The Head Deposits achieved a maximum proven depth of 5.45mbgl.

In-Situ Testing

Standard Penetration Testing

Standard penetration tests (SPT) were undertaken throughout the Head Deposits in the 16no. WS boreholes. The resultant SPT N-values are presented on the engineering logs and summarised in Table 8.2.

Table 8.2. Results of the standard penetration testing – Head Deposits

BH No.	Depth (mbgl)	SPT N Value	Main Constituents	BH No.	Depth (mbgl)	SPT N Value	Main Constituents
WS201	1.00	29	GRAVEL / gravelly CLAY	WS202	4.00	3	clayey SAND
	2.00	21		WS203	1.00	10	gravelly CLAY
	3.00	29			2.00	29	sandy GRAVEL
	4.00	10			3.00	14	
	5.00	7	clayey SAND	WS204	1.00	10	sandy GRAVEL
WS202	1.00	23	sandy GRAVEL		2.00	20	
	2.00	34			3.00	6	silty SAND
	3.00	9	clayey SAND		4.00	5	

BH No.	Depth (mbgl)	SPT N Value	Main Constituents	BH No.	Depth (mbgl)	SPT N Value	Main Constituents
WS204	5.00	11	silty SAND	WS210	2.00	>50	sandy GRAVEL
WS205	1.00	15	sandy GRAVEL		3.00	35	
	2.00	20			4.00	11	clayey SAND
	3.00	16	silty SAND		5.00	4	
	4.00	4		WS211	1.00	11	sandy GRAVEL
	5.00	10			2.00	28	
WS206	1.00	30	sandy GRAVEL		3.00	39	
	2.00	33			4.00	9	clayey SAND
	3.00	18			5.00	4	
	4.00	4	clayey SAND	WS212	1.00	5	sandy GRAVEL
WS207	1.00	17	sandy GRAVEL		2.00	38	
	2.00	29			3.00	31	
	3.00	>50			4.00	22	
WS208	1.00	8	sandy GRAVEL		5.00	2	clayey SAND
	2.00	39		WS213	1.00	23	sandy GRAVEL
	3.00	31			2.00	34	
	4.00	2	clayey SAND		3.00	29	
	5.00	8			4.00	23	
WS209	1.00	19	sandy GRAVEL		5.00	3	clayey SAND
	2.00	>50		WS214	1.00	13	sandy GRAVEL
	3.00	34			2.00	30	
	4.00	18			3.00	39	
	5.00	12	clayey SAND		4.00	>50	
WS210	1.00	44	sandy GRAVEL				

BH No.	Depth (mbgl)	SPT N Value	Main Constituents	BH No.	Depth (mbgl)	SPT N Value	Main Constituents
WS215	1.00	6	clayey GRAVEL	WS215	5.00	4	silty SAND
	2.00	46		WS216	1.00	41	silty GRAVEL
	3.00	38			2.00	54	
	4.00	28			2.50	>50	

The results of the SPTs returned N-values of between 2 and >50 for the Head Deposits. Considering the sandy GRAVEL above 3.00m and the clayey silty SAND below 3.00m separately, two more constrained ranges of N-values become apparent. All the SPT N results have been included on a plot against depth and are presented as Figure 3 of this Report. Careful inspection of Figure 3 shows the two groups of SPTN values; therefore, two characteristic N-values of N = 20 to 3.00mbgl and N = 8 below 3.00mbgl will be used to represent the Head Deposits

Classification Testing

Particle Size Distribution

12no. samples of the Head Deposits underwent particle size distribution testing using the wet-sieve method with 4no. undergoing follow-on sedimentation analysis. The results of these analyses are presented in Table 8.3 and the laboratory test certificates and grading envelopes are located in Appendix 6.

Table 8.3. Results of the particle size distribution analyses – Head Deposits

Location	Depth (mbgl)	Granulometric Composition (%)					Uniformity Coefficient	Curvature Coefficient
		Clay	Silt	Sand	Gravel	V Coarse		
WS201	4.30-5.00	50		43	7	0	Not Calculated	
WS202	3.20-4.00	24	37	38	1	0		
	0.60-0.70	13		5	82	0		
WS203	2.00-3.00	12		13	75	0		
WS204	1.20-2.00	26		12	62	0		
WS205	0.50-1.00	19		5	76	0		

Location	Depth (mbgl)	Granulometric Composition (%)					Uniformity Coefficient	Curvature Coefficient
		Clay	Silt	Sand	Gravel	V Coarse		
WS207	1.20-2.00	18	7	10	65	0	Not Calculated	
WS208	0.50-0.80	3	7	5	85	0	230	51
WS209	1.00-2.00	23		12	65	0	Not Calculated	
WS211	0.80-1.20	40		5	55	0		
WS213	1.20-1.70	4	9	14	73	0	1100	21
WS215	2.00-2.40	16		14	70	0	Not Calculated	
WS216	1.20-1.50	15		14	71	0		

The results of the particle size distribution analyses indicate the Head Deposits encountered above 3.00m depth generally comprise sandy Gravel; whilst below 3.00m there is an increase in sand content as noted in tests carried out in WS201 and WS202.

One shallow sample (WS211 0.80-1.20mbgl) was fine-grained in composition; this is believed to be a remnant of a previously more extensive cover of Brickearth and is not considered to be part of the Head Deposits.

Con*sistency Limits*

2no. samples of the Head Deposits underwent Atterberg limits testing to determine their consistency limits. The results of these analyses are presented in Table 8.4. and the laboratory test certificates are in Appendix 6.

Table 8.4. Results of the Atterberg limits tests – Head Deposits

Location	Depth (mbgl)	Liquid Limit w_L (%)	Plastic Limit w_P (%)	Plasticity Index I_P (%)	% passing 425µm sieve	Corrected Plasticity Index (%)
WS201	1.00-2.00	40	20	20	44	9
WS102	3.00-4.00	62	30	32	38	11

The results of the Atterberg limits testing give plasticity indices of 20 to 32% and liquid limits of 40 to 62%, which are consistent with a medium to high plasticity material. After correction to account for the >425mm content, the corrected range of plasticity indices is 9 to 11%, which is indicative of a material of negligible to low volume change potential.

For the determination of minimum foundation depth only it is recommended that the Head Deposits are treated as being of low volume change potential.

Shear Strength *GL – 3.00mbgl*

The shear strength of the upper 3.00m of the Head Deposits has been determined following the procedure recommended in BS8004 (2015); where the characteristic constant volume or critical angle of friction is given by:

$$\phi_{cv,k} = 30 + \phi'_{ang} + \phi'_{psd}$$

Where ϕ'_{ang} = contribution to $\phi_{cv,k}$ from the angularity of the particles

ϕ'_{psd} = contribution to $\phi'_{cv,k}$ from soil's particle size distribution

and the characteristic peak angle of friction is given by:

$$\phi_{pk,k} = \phi_{cv,k} + \phi_{dil}$$

Where ϕ_{dil} is the contribution to $\phi_{pk,k}$ from soil dilatancy

After normalisation of the characteristic SPT N-value to account for overburden pressure and hammer energy, a characteristic $(N_1)_{60}$ of 21 is considered appropriate for the Head Deposits. This correlates to a density indices (I_D) of 58% (Table F1, BS EN 1997-2). With reference to Table 1, BS 8004: 2015 a peak angle of shearing resistance ($\phi_{pk,k}$) of 34° is obtained for the Head Deposits

Other Geotechnical Parameters *GL – 3.00mbgl*

Modulus of deformation (E'_K)

The determination of the deformation modulus for square and long strip foundations can be obtained by multiplying the static cone resistance by a factor of 2.5 or 3.5, respectively. Where only SPT data is available the static cone resistance can be determined by multiplying the N-value by an empirical factor. For sandy Gravels, a value of 5 is recommended. The determination of the deformation modulus is presented in Table 8.5.

Table 8.5. Deformation Modulus for the coarse-grained Head Deposits (<3.00mbgl)

Foundation Configuration	Characteristic SPT N Value	Equivalent Static Cone Resistance (kg/cm^2)	Static Cone Resistance (MN/m^2)	Deformation Modulus E_d (MN/m^2)
Strip	20	100	9.8	35
Pad				25

Shear Strength > *3.00mbgl*

Following the same procedure as adopted for the shallow Head Deposits and using a $(N_1)_{60}$ of 8, a characteristic peak angle of shearing resistance of 30° is considered appropriate for the Head Deposits below 3.00m.

Other Geotechnical Parameters > *3.00mbgl*

Modulus of deformation (E'_K)

Once again, using the SPT / CPT relationship and multiplying the characteristic SPT N by 4 for the sand dominated stratum below 3.00m, the Deformation moduli for pad and strip foundations have been calculated (Table 8.6).

Table 8.6. Deformation Modulus for the coarse-grained Head Deposits (>3.00mbgl)

Foundation Configuration	Characteristic SPT N Value	Equivalent Static Cone Resistance (kg/cm^2)	Static Cone Resistance (MN/m^2)	Deformation Modulus E_d (MN/m^2)
Strip	4	32	3.1	11
Pad				8

8.4 AGGRESSIVE GROUND SOIL CHEMISTRY

Chemical testing was carried out on 5no representative samples of the materials encountered beneath the site in accordance with Box C10, BRE Special Digest 1. The results are summarised in Tables 8.7. and 8.8.

Table 8.7. Summary of the results of chemical testing for concrete classification

Test	WS201	WS202	WS208	WS205	WS215
	1.00-2.00mbgl	0.60-0.70mbgl	0.50-0.80mbgl	0.50-1.00mbgl	2.00-2.40mbgl
	HD	HD	HD	HD	HD
pH	6.7	7.3	7.8	8.1	7.2
Sulphate Aqueous Extract (mg/l)	43.3	13	9.6	16.2	12.5

Table 8.8. Results of the BRE SD1 testing

BH	Depth (mbgl)	Stratum	pH	Total Sulphate AS (% SO4)	Total Sulphur TS (%)	Total Potential Sulphate TPS (%)	Oxidisable (Sulphate) (%)
WS203	4.50-5.00	LCF	7.4	0.007	0.009	0.027	0.02
WS211	0.80-1.20	HD	8.3	0.012	0.006	0.018	0.006
WS213	0.50-1.00	Made Ground	8.1	0.034	0.021	0.063	0.029

Based on the maximum determined water soluble sulphate and total potential sulphate contents Tables C1 and C2 of BRE SD1 give a Design Sulphate Classification of DS-1 and an Aggressive Chemical Environment for Concrete (ACEC) Class of AC-1, assuming mobile groundwater conditions in the coarse-grained Head Deposits .

8.5 CHARACTERISTIC GEOTECHNICAL PARAMETERS

Based on the laboratory test results, in-situ testing and subsequent analysis, a range of characteristic geotechnical parameters, which should be used in all geotechnical and foundation design calculations, are presented in Table 8.9.

Table 8.9. Characteristic geotechnical parameters

Stratum	Geotechnical Parameter		Notes	Characteristic Value	
Topsoil / Made Ground	Not provided as material will be removed prior to construction				
Head Deposits <3.00mbgl	Unit Weight γ		BS8004 2015	18kN/m^3	
	Shear strength	c'_k	BS8004 2015	0kN/m^2	
		ϕ'_k		34°	
	Deformation Modulus	E_k	SPT CPT Correlation	Strip	35MN/m^2
				Pad	25MN/m^2
Head Deposits >3.00mbgl	Unit Weight γ		BS8004 2015	18kN/m^3	
	Shear Strength	c'_k	BS8004 2015	0kN/m^2	
		ϕ'_k		30°	
	Deformation Modulus	E_k	SPT CPT Correlation	Strip	11MN/m^2
				Pad	8NM/m^2

9. FOUNDATION AND GROUND ENGINEERING

9.1 INTRODUCTION

The geotechnical assessment below relates to the details of the proposed development, which is currently understood to comprise a residential development consisting of low-rise dwellings and associated open spaces.

In total of 22no. windowless sample boreholes (6no. Phase 1 and 16no. Phase 2) were undertaken across the site; although geotechnical testing was only undertaken as part of the Phase 2 ground investigation.

The ground conditions encountered are presented in Table 4.1. and on the engineering logs (Appendix 2) and in brief comprised Topsoil / Made Ground over Head Deposits with London Clay Formation being encountered in 5no. locations at depths of >4.30m.

The Head Deposits were encountered immediately beneath the Topsoil / Made Ground at depths of 0.20 to 1.00m and comprised sandy to very sandy clayey GRAVEL becoming gravelly clayey SAND below 3.00m.

Groundwater strikes were recorded between 0.90 and 5.00mbgl during the ground investigation. The standing groundwater will be placed coincident with the foundation base for geotechnical design purposes

9.2 SHALLOW FOUNDATIONS

Given the proposed development, a shallow foundation is considered appropriate for the site under consideration.

9.2.1. Depth of Foundations

It is recommended that foundations are constructed beneath any Topsoil / Made Ground or Brickearth (clay) remnants within the Head Deposits. It was noted that some of the Head Deposits contained sufficient fine-grained content that it could be considered borderline low volume change potential. Therefore, it is recommended that a minimum foundation depth of 0.75m, locally deepened where thicker sequences of Topsoil / Made Ground encountered, is adopted for the site.

9.2.2. Allowable Bearing Resistance

The ultimate limit state (ULS) bearing resistance of a 0.60m wide strip foundation has been determined in accordance with the recommendations presented in EC7.

In the bearing resistance analysis, a minimum foundation depth of 0.75m has been used with groundwater at 0.75mbgl.

Table 9.1. Ground Model used in the ULS bearing resistance calculations

Ground Model	Stratum	Thickness (m)	Foundation Depth (min)	Shear Strength Parameters			
				Total		Effective	
				c_{uk}	ϕ_{uk}	c'_k	ϕ'_k
GM1	Topsoil / Made Ground	0.75	0.75mbgl	Not used in foundation design			
	Head Deposits <3.00mbgl	2.25		Coarse-Grained		0	34°
	Head Deposits >3.00mbgl	>2.00		Coarse-Grained		0	30°
Groundwater – Coincident with base of Foundation							

The UK has implemented Design Approach 1 (DA1) of BS EN1997-1:2004 (Eurocode 7: Geotechnical Design), which requires two design combinations to be satisfied:

Combination 1 (C1): A1 “+” M1 “+” R1

Combination 2 (C2): A2 “+” M2 “+” R1

Where A, M and R refer to groups of partial factors relating to actions, materials and resistance, respectively.

Table 9.2. Partial Factors (GEO/STR) applied to the bearing resistance analysis

	Combination 1			Combination 2		
	A1	M1	R1	A2	M2	R1
Tangent of the Angle of Shearing Resistance (tan ϕ)		1.00			1.25	
Cohesion Intercept (c')		1.00			1.25	
Undrained Cohesion c_u		1.00			1.40	
Permanent Action	1.35			1.00		
Variable Action	1.50			1.30		
Resistance			1.00			1.00

The summary of the bearing checks is presented in Table 9.3 and the geotechnical calculation sheets are located in Appendix 7.

Table 9.3. Summary of ULS bearing capacity checks

EC7 Calculation Method	Foundation type and dimensions	Foundation Material	Design Approach 1	Bearing Resistance (kN/m²)
Foundation 0.75mbgl – Groundwater correction applied				
ULS Bearing Resistance	0.60m Wide Strip	Head Deposits	C1	698
			C2	334

The ultimate limit state bearing resistances presented in Table 9.3 represent the maximum load that can be supported by the foundation without failure occurring within the soil mass. Table 9.3 indicates that the application of combination 2 factoring produces the limiting value of 334kN/m² for a strip foundation of 0.60m width. It can be demonstrated, that if foundation bases are deepened, ULS bearing resistances will increase. Therefore, for foundation design purposes a ULS bearing resistance of 334kN/m² is considered appropriate for all shallow foundations up to 1.00m wide founded at depths up to 2.00mbgl.

9.2.3. Serviceability Limit State

Eurocode 7 states that calculations of settlement must always be carried out on footings on soft clays - and should be carried out on footings on firm to stiff clays when the risk is anything other than negligible. Therefore, in strict accordance with EC7 no settlement analyses are required as all settlements will be immediate and largely built out during construction.

9.3 GROUND FLOOR SLABS

The low volume change potential of the Head Deposits indicates a ground bearing floor slab would be appropriate at this site, provided it is constructed beneath any Topsoil / Made Ground. In areas where thicker sequences of Topsoil / Made Ground are present it is permissible to excavate down to the Head Deposits and backfill to base of slab level with compacted granular engineered fill or adopt a suspended floor slab solution.

9.4 EXCAVATION STABILITY

No open excavations were undertaken during the ground investigation; therefore, the following excavation assessment is based wholly on the composition of the materials encountered in the boreholes.

Based on the description of the Made Ground and Head Deposits as clayey, there is likely to be sufficient apparent cohesion to ensure the short term stability of foundation excavations down to 1.00mbgl provided all excavations remain above standing groundwater. It is recommended, in line with good engineering practice, that foundations are left open for the minimum amount of time before placement of foundation concrete. If it becomes evident that foundation bases will remain exposed for an extended period of time, it is recommended that the excavation is left short and only progressed to finished level immediately prior to concrete placement.

9.5 CHEMICAL ATTACK ON BURIED CONCRETE

Laboratory chemical testing of pH and sulphate concentrations gives a Design Sulphate Classification of DS-1 in accordance with BRE Special Digest 1. Given the soil conditions encountered and the presence of at or close to the base of the proposed foundations an ACEC classification of AC-1 has been assigned to all subsurface materials.

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONTAMINATION

The conceptual model, based on information obtained as part of the preliminary risk assessment and intrusive ground investigation, has not identified any significant contaminant sources.

- Localised asbestos confirmed in the Made Ground in the southeast of the site (WS209) and residual potential for asbestos from the construction of the current buildings and demolition of the former buildings to be encountered.

It should be noted that additional sources of contamination may become apparent during any future investigation and development of the site.

The ground gas and PID monitoring of the wells installed across the site did not identify any significant ground gas concentrations and support the conceptual model based assessment in the preliminary risk assessment that ground gas from the off-site landfill does not present a significant risk to the proposed development. A Characteristic Situation 1 gas regime is therefore considered appropriate, without the need for ground gas protection measures to be installed in the buildings.

Where buildings and hard standing are present in the proposed development, these will form a barrier separating the future site users from asbestos contaminated soil. The main exposure pathway will therefore be in any areas of soft landscaping and gardens.

The risk via this exposure pathway has been assessed to be **low/moderate**, considering that any asbestos containing material is likely to be partially bound in the soil matrix, and remedial measures will be required to mitigate the risks to future residents.

Vigilance should be maintained throughout the development for asbestos containing material. If suspected asbestos containing materials are encountered, they are to be assessed by a specialist for assessment and determination of appropriate mitigation measures.

TPH concentrations have locally been identified to exceed the threshold for PE water supply pipes. The encountered Made Ground is relatively thin and it is likely to be possible to lay the piles below the Made Ground, in uncontaminated natural soil. However, if the pipes are to be laid in the Made Ground barrier pipe is likely to be required. It is noted that the TPH appears to derive from coal and coal ash with no evidence of mobile TPH (oil, fuel etc) observed, so it is considered unlikely that the TPH will migrate out of the Made Ground to impact water pipes laid below it.

While construction workers have been excluded from this assessment on the basis that they are subject to health and safety at work regulations and are expected to use appropriate personal protective equipment (PPE), any ground works contactors working on the site, including installing new underground services, should be made aware of the potential for contamination to be present within the ground underlying the site surfacing.

A discovery strategy, with particular regard to asbestos, is recommended during any redevelopment of the site to address any as yet unidentified contamination that may be identified during the works.

10.2 GEOTECHNICAL

The ground investigation has shown the site to be underlain by Topsoil / Made Ground over Head Deposits with London Clay Formation present at depth (>4.30mbgl) in the southwest of the site. Topsoil / Made Ground achieved thicknesses of between 0.20 to 1.00m and the underlying Head Deposits generally comprised sandy to very sandy clayey GRAVEL becoming gravelly clayey SAND below 3.00m. Groundwater strikes, recorded during the ground investigation, were between 0.90 and 5.00mbgl and have been placed coincident with the base of the foundation for geotechnical design purposes.

All foundations should be constructed beneath any Topsoil / Made Ground or remnants of fine-grained Brickearth (clay) within the Head Deposits at a minimum depth of 0.75m.

ULS bearing resistance calculations have been carried out for Head Deposits in accordance with Eurocode 7 and give a ULS bearing resistance of 334kN/m^2 for the range of foundation configurations analysed (Table 9.3).

Given the composition of the founding stratum settlements will be immediate, less than 25mm and largely built out during construction. Following the guidance presented in EC7 a formal settlement analysis is not required for coarse-grained soils.

A ground bearing ground floor slab is considered appropriate due to the coarse-grained nature of the Head Deposits provided it is constructed beneath any Made Ground. Where thicker sequences of Made Ground are encountered, it is appropriate to excavate the Made Ground and replace it with compacted coarse-grained engineered fill to base of slab level. Alternatively, a suspended floor slab option can be adopted in these areas.

Based on the maximum determined water soluble sulphate and total potential sulphate contents Tables C1 and C2 of BRE SD1 gives a Design Sulphate Classification of DS-1 and an Aggressive Chemical Environment for Concrete (ACEC) Class of AC-1, assuming mobile groundwater conditions in the coarse-grained Head Deposits

FIGURE 1: SITE LOCATION PLAN

Ground Condition Consultants Ltd
10 Waldegrave Close Southampton SO19 9RY
Telephone 07971 450113
ask@groundcc.co.uk www.groundcc.co.uk

client BARGATE HOMES

site SOUTHLEIGH PARK, HAVANT

title LOCATION PLAN

scale	drawn by	checked by
NTS	AP	RP

date	job no
18 JUL 2023	J20-064

drawing number FIGURE 1

rev. -

FIGURE 2: SITE INVESTIGATION PLAN

Ground Condition Consultants Ltd
10 Waldegrave Close Southampton SO19 9RY
Telephone 07971 450113
ask@groundcc.co.uk www.groundcc.co.uk

client BARGATE HOMES

site SOUTHLEIGH PARK, HAVANT

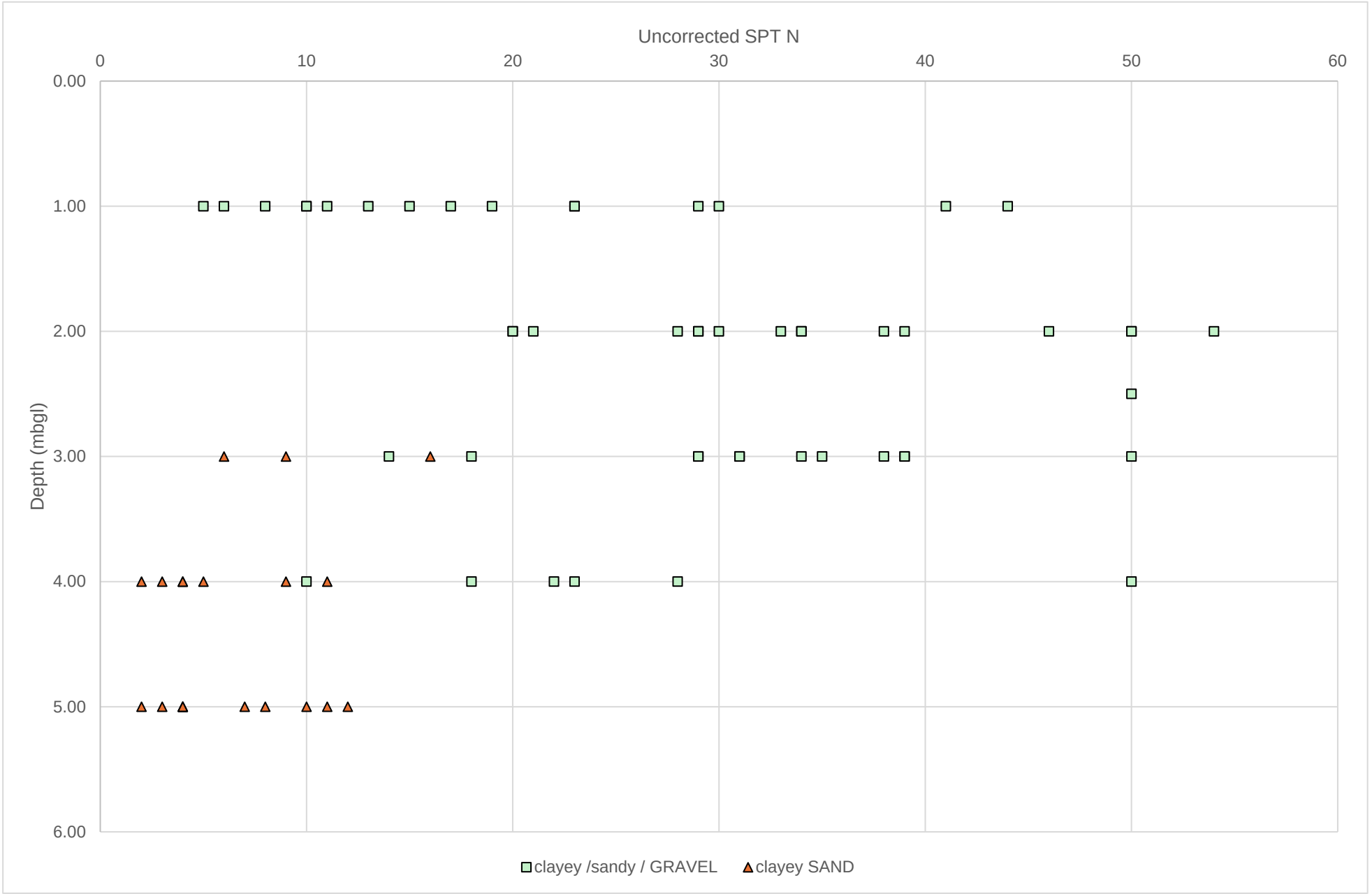
title INVESTIGATION LOCATION PLAN

scale NTS drawn by AP checked by RP

date 24 JUN 2026 job no J20-064

drawing number FIGURE 2 rev. 2

FIGURE 3: SPT N VS DEPTH


Uncorrected SPT N
0
10
20
30
40
50
60
0.00
1.00
2.00
3.00
4.00
5.00
6.00
Depth (mbgl)
clayey /sandy / GRAVEL
clayey SAND

APPENDIX 1: REPORT CONDITIONS

This report is produced solely for the benefit of **Bargate Homes** and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report refers, within the limitations stated, to the condition of the Site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the Site.

This report is based on a visual Site inspection, study of readily accessible referenced historical records, information supplied by those parties noted in the text and preliminary discussions with local and Statutory Authorities. Some of the opinions are based on unconfirmed data and information and are presented in good faith without exhaustive clarification. Where ground contamination is suspected but no physical Site test results are available to confirm this, the report must be regarded as initial advice only, and further assessment should be undertaken prior to detailed activities related to the Site. Where test results undertaken by others have been made available these can only be regarded as a limited sample. The possibility of the presence of contaminants, not revealed by this research cannot be discounted.

Whilst confident in the findings detailed within this report because there are no exact UK definitions of these matters, being subject to risk analysis, we are unable to give categoric assurances that they will be accepted by Authorities or Funds etc. without question, as such bodies may have unpublished, often more stringent objectives. This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Ground Condition Consultants Ltd. In time improved practices or amended legislation may necessitate a re-assessment.

The report is necessarily limited to those aspects of land contamination specifically reported on and no liability is accepted for any other aspect especially concerning gradual or sudden pollution incidents that may occur. The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous use and abuse of the Site and adjacent Sites. The report concentrates on the Site as defined in the report and provides an opinion on surrounding Sites. If migrating pollution or contamination (past or present) exists this can only practically be better assessed following extensive on and off Site intrusive investigations and monitoring.

APPENDIX 2: ENGINEERING LOGS

BOREHOLE LOG WS101

PROJECT NUMBER J20-064
PROJECT NAME Southleigh Park
CLIENT Bargate Homes
ADDRESS Havant
DATE 17/12/20

DRILLING COMPANY Oakland SI
DRILLING METHOD Windowless Sampling
DRILLING RIG Premier Compact 110
LOGGED BY AP

CASING

COMMENTS Collapse to 4.5m

Samples	SPT N	Water	Depth (m)	Graphic Log	Material Description	Well Installation
			0.2		Dark brown silty gravelly CLAY. Gravel is fine to coarse angular to rounded flint. (Topsoil)	
		1 2	0.4			
			0.6		Light brown slightly clayey slightly sandy fine to coarse angular to rounded flint GRAVEL	
	N = 26		0.8			
			1		Light brown mottled orange brown very clayey sandy fine to coarse angular to rounded flint GRAVEL	
			1.2			
			1.4			
			1.6			
			1.8			
	N = 34		2			
			2.2			
			2.4			
			2.6			
			2.8			
	N = 12	2	3		Orange brown slightly clayey silty fine to medium SAND	
			3.2			
			3.4			
			3.6			
			3.8			
	N = 5		4			
			4.2			
			4.4			
			4.6			
			4.8			
			5		Termination Depth at: 5.0m	
			5.2			
			5.4			

produced by ESlog.ESdat.net on 24 Dec 2020

BOREHOLE LOG WS102

PROJECT NUMBER J20-064
PROJECT NAME Southleigh Park
CLIENT Bargate Homes
ADDRESS Havant
DATE 17/12/20

DRILLING COMPANY Oakland SI
DRILLING METHOD Windowless Sampling
DRILLING RIG Premier Compact 110
LOGGED BY AP

CASING

COMMENTS Collapse to 3.0m

Samples	SPT N	Water	Depth (m)	Graphic Log	Material Description	Well Installation
			0.2		Dark brown very clayey silty fine to coarse angular to rounded flint GRAVEL (Made Ground)	
			0.4			
		1.2	0.6		Grey brown clayey sandy fine to coarse angular to rounded flint GRAVEL	
			0.8			
	N = 46		1			
			1.2			
			1.4			
			1.6		Light brown mottled orange brown very clayey sandy fine to coarse angular to rounded flint GRAVEL	
			1.8			
	N = 54		2			
			2.2			
			2.4			
			2.6			
			2.8			
	N = 28	2	3			
			3.2			
			3.4			
			3.6			
			3.8			
			4		Termination Depth at: 4.0m	
			4.2			
			4.4			
			4.6			
			4.8			
			5			
			5.2			
			5.4			

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BOREHOLE LOG WS103

PROJECT NUMBER J20-064
PROJECT NAME Southleigh Park
CLIENT Bargate Homes
ADDRESS Havant
DATE 17/12/20

DRILLING COMPANY Oakland SI
DRILLING METHOD Windowless Sampling
DRILLING RIG Premier Compact 110
LOGGED BY AP

CASING

COMMENTS Refusal at 2.8m

Samples	SPT N	Water	Depth (m)	Graphic Log	Material Description	Well Installation
			0.2		Dark brown slightly clayey silty slightly gravelly fine to medium SAND. Gravel is fine to coarse angular to rounded flint. (Made Ground)	
			0.4		Light brown very sandy gravelly flint cobbles with occasional terracotta fragments (Made Ground)	
			0.6			
			0.8		Brown very gravelly fine to coarse SAND with occasional flint cobbles	
	N = 39		1		Light brown clayey sandy fine to coarse angular to rounded flint GRAVEL	
			1.2			
			1.4			
			1.6			
			1.8		Orange brown very clayey sandy fine to coarse angular to rounded flint GRAVEL	
	N = 57		2			
			2.2			
	N = 48		2.4			
			2.6			
			2.8		Termination Depth at: 2.8m	
			3			
			3.2			
			3.4			
			3.6			
			3.8			
			4			
			4.2			
			4.4			
			4.6			
			4.8			
			5			
			5.2			
			5.4			

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BOREHOLE LOG WS104

PROJECT NUMBER J20-064
PROJECT NAME Southleigh Park
CLIENT Bargate Homes
ADDRESS Havant
DATE 17/12/20

DRILLING COMPANY Oakland SI
DRILLING METHOD Windowless Sampling
DRILLING RIG Premier Compact 110
LOGGED BY AP

CASING

COMMENTS Refusal at 1.0m

Samples	SPT N	Water	Depth (m)	Graphic Log	Material Description	Well Installation
			0.2		Dark brown very gravelly sandy CLAY. Gravel is fine to coarse angular to rounded flint. (Topsoil)	
			0.4			
			0.6		Firm brown very gravelly sandy CLAY	
	N = 69		0.8			
			1		Termination Depth at: 1.0m	
			1.2			
			1.4			
			1.6			
			1.8			
			2			
			2.2			
			2.4			
			2.6			
			2.8			
			3			
			3.2			
			3.4			
			3.6			
			3.8			
			4			
			4.2			
			4.4			
			4.6			
			4.8			
			5			
			5.2			
			5.4			

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BOREHOLE LOG WS105

PROJECT NUMBER J20-064
PROJECT NAME Southleigh Park
CLIENT Bargate Homes
ADDRESSHavant
DATE 17/12/20

DRILLING COMPANY Oakland SI
DRILLING METHOD Windowless Sampling
DRILLING RIG Premier Compact 110
LOGGED BY AP

CASING

COMMENTS Refusal at 2.0m, collapse to 1.8m

Samples	SPT N	Water	Depth (m)	Graphic Log	Material Description	Well Installation
			0.2		Tarmacadam Reddish brown sandy fine to coarse angular GRAVEL (Engineered Fill)	
			0.4		Brown clayey sandy fine to coarse angular to rounded flint GRAVEL	
			0.6			
			0.8			
	N = 21		1			
			1.2			
			1.4		Orange brown very clayey sandy fine to coarse angular to rounded flint GRAVEL	
			1.6			
			1.8			
	N = 77		2		Termination Depth at: 2.0m	
			2.2			
			2.4			
			2.6			
			2.8			
			3			
			3.2			
			3.4			
			3.6			
			3.8			
			4			
			4.2			
			4.4			
			4.6			
			4.8			
			5			
			5.2			
			5.4			

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BOREHOLE LOG WS106

PROJECT NUMBER J20-064
PROJECT NAME Southleigh Park
CLIENT Bargate Homes
ADDRESS Havant
DATE 17/12/20

DRILLING COMPANY Oakland SI
DRILLING METHOD Windowless Sampling
DRILLING RIG Premier Compact 110
LOGGED BY AP

CASING

COMMENTS Refusal at 2.8m, collapse to 2.0m

Samples	SPT N	Water	Depth (m)	Graphic Log	Material Description	Well Installation
			0.2		Grass over dark brown sandy very gravelly CLAY with occasional glass and brick fragments. Gravel is fine to coarse angular to rounded flint. (Made Ground - reworked Topsoil)	
			0.4			
			0.6			
			0.8			
	N = 12		1		Brown clayey sandy fine to coarse angular to rounded flint GRAVEL	
			1.2			
			1.4			
			1.6			
			1.8			
	N = 37		2			
			2.2			
			2.4			
			2.6			
			2.8		Termination Depth at: 2.8m	
			3			
			3.2			
			3.4			
			3.6			
			3.8			
			4			
			4.2			
			4.4			
			4.6			
			4.8			
			5			
			5.2			
			5.4			

produced by ESlog.ESdat.net on 24 Dec 2020

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 11/05/2026 - 11/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JO	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS201	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			Crushed red brick, concrete and mixed stone fragments MADE GROUND
					0.32			Wood chippings with occasional flint, concrete and brick fragments. MADE GROUND
		0.40 - 0.50	ES CBR	10%				Brown to orange brown clayey sandy fine to coarse GRAVEL of flint and occasional red brick. Frequent roots. MADE GROUND
		0.80 - 1.00	B		0.80			Dense orange brown to light orange brown clayey to very clayey sandy fine to coarse angular to well rounded flint GRAVEL. Becoming locally a firm sandy gravelly CLAY HEAD DEPOSITS
		0.90 - 1.00	ES					
		1.00 - 2.00	B					
		1.00	SPT	N=29 (1,6/6,6,7,10)				
		2.00	SPT	N=21 (6,6/6,6,4,5)				
		2.50 - 2.60	D					
		3.00 - 4.00	B					
		3.00	SPT	N=29 (2,4/6,7,8,8)				
	▼	4.00	SPT	N=10 (1,3/2,3,2,3)				
		4.30 - 5.00	B		4.20			Orange brown clayey fine SAND HEAD DEPOSITS
		5.00	SPT	N=7 (0,1/1,2,2,2)				
					5.40			Firm to stiff grey silty slightly sandy CLAY LONDON CLAY FORMATION
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 4.00m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 11/05/2026 - 11/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JO	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS202	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20			Mulch and dark brown silty slightly gravelly fine to medium SAND with rootlets and roots. Gravel is fine to medium subangular flint MADE GROUND
		0.30 - 0.50	ES					
			CBR	10%				Brown silty sandy fine to coarse angular to subrounded flint GRAVEL with rare red brick fragments MADE GROUND
		0.60 - 0.70	ES		0.60			
		0.70 - 1.00	B					Medium dense to dense yellowish to orangish brown clayey sandy fine to coarse angular to well rounded flint GRAVEL. HEAD DEPOSITS
		1.00	SPT	N=23 (3,5/8,6,5,4)				
		1.50 - 1.60	D					
		2.00 - 3.00	B					
		2.00	SPT	N=34 (4,4/8,12,10,4)				
	▼	3.00	SPT	N=9 (3,3/2,2,3,2)				
		3.20 - 4.00	B		3.15			Loose orange brown to grey brown slightly clayey to clayey fine SAND. HEAD DEPOSITS
		4.00	SPT	N=3 (1,1/1,1,0,1)				
		4.80 - 5.00	D		4.75			Light brown to grey brown becoming blue grey soft to firm silty slightly sandy CLAY LONDON CLAY FORMATION
		5.00	SPT	N=14 (3,4/3,3,4,4)				
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 3.0m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 11/05/2026 - 11/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JO	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS203	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10 - 0.30	ES					Dark brown sandy gravelly SILT with roots and rootlets. Gravel is fine to coarse angular to rounded flint and occasional red brick and plastic. MADE GROUND
		0.40 - 0.50	CBR ES	10%	0.35			Soft orange brown mottled grey brown silty sandy gravelly CLAY. Gravel is fine to coarse angular to rounded flint. Occasional roots. HEAD DEPOSITS
		0.80 - 1.00	D		0.80			Soft orange brown mottled grey brown silty sandy slightly gravelly CLAY. Sand is fine. Gravel is fine to coarse angular to well rounded flint HEAD DEPOSITS
	▼	1.00	SPT	N=10 (1,3/3,2,3,2)	1.15			Greyish brown mottled orange brown clayey sandy fine to coarse angular to well rounded flint GRAVEL HEAD DEPOSITS
		1.50 - 1.60	D					
		2.00 - 3.00	B					
		2.00	SPT	N=29 (6,6/4,6,9,10)				
		3.00	SPT	N=14 (2,4/4,4,3,3)				
		3.70 - 3.90	D		3.60			Orange brown to grey brown clayey silty fine SAND. Partings of sandy clay. HEAD DEPOSITS
		4.00	SPT	N=4 (1,0/1,1,1,1)				
		4.50 - 5.00	L		4.30			Grey brown sandy SILT / CLAY. Sand is fine LONDON CLAY FORMATION
		5.00	SPT	N=8 (1,2/2,2,2,2)				
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 1.10m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 11/05/2026 - 11/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JO	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS204	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.40	ES		0.20			Soft dark brown sandy SILT with abundant organic material. TOPSOIL
			CBR	15%	0.40			Dark brown sandy gravelly SILT with roots. Gravel is fine to coarse angular to rounded with occasional red brick fragments and dark grey clinker. MADE GROUND
		0.50 - 0.60	ES					
		0.60 - 1.00	B					Light yellowish grey to orange brown clayey sandy fine to coarse angular to well rounded flint GRAVEL HEAD DEPOSITS
	▼	1.00	SPT	N=10 (1,2/2,2,3,3)				1
		1.20 - 2.00	B					
		2.00	SPT	N=20 (4,4/7,5,4,4)				2
		2.65 - 3.00	B		2.65			Orange brown to grey clayey or silty fine SAND. Occasional sandy clay partings HEAD DEPOSITS
		3.00	SPT	N=6 (1,1/1,2,1,2)				3
		3.50 - 3.80	D					
		4.00	SPT	N=5 (1,1/1,1,1,2)				4
		4.50 - 5.00	L					
		5.00	SPT	N=11 (1,2/3,2,3,3)				5
					5.45			End of Borehole at 5.45m
								6

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 0.90m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 11/05/2026 - 11/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JO	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS205	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10 - 0.20	ES					Light grey silty gravelly fine to medium SAND. Gravel is fine to coarse angular to rounded GRAVEL of flint, chalk and occasional red tile.
			CBR	13%	0.30			MADE GROUND
		0.40 - 0.50	ES					Brown to light grey brown silty sandy fine to coarse angular to well rounded flint GRAVEL
		0.50 - 1.00	B					HEAD DEPOSITS
		1.00	SPT	N=15 (5,5/5,4,3,3)	1.05			Light orange brown to grey brown clayey sandy fine to coarse angular to rounded flint GRAVEL
		2.00 - 3.00	B					HEAD DEPOSITS
		2.00	SPT	N=20 (1,4/6,5,5,4)				
		3.00	SPT	N=16 (5,6/5,5,4,2)				
	▼	3.20 - 4.00	B		3.10			Light orange brown to grey brown clayey to silty fine SAND
								HEAD DEPOSITS
		4.00	SPT	N=4 (0,0/0,1,1,2)				
		5.00	SPT	N=10 (2,1/2,3,2,3)				
					5.40			Firm blue grey silty slightly sandy CLAY
					5.45			LONDON CLAY FORMATION
								End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 3.20m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 11/05/2026 - 11/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JO	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS206	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10 - 0.20	ES					Dark brown sandy gravelly SILT with roots and rootlets. Gravel is fine to coarse angular to rounded flint. TOPSOIL
			CBR	17%	0.32			
		0.50 - 0.60	ES					Light grey to pale yellow brown slightly silty to silty sandy fine to coarse angular to well rounded flint GRAVEL. HEAD DEPOSITS
		0.60 - 1.00	B					
		1.00	SPT	N=30 (7,6/5,8,10,7)	1.05			
		1.20 - 2.00	B					Orange brown to pale orange brown clayey sandy fine to coarse angular to rounded flint GRAVEL HEAD DEPOSITS
		2.00	SPT	N=33 (5,6/10,8,7,8)				
		3.00 - 3.90	B					
		3.00	SPT	N=18 (5,4/3,4,5,6)				
	▼							
		4.00	SPT	N=4 (1,2/1,1,1,1)	3.95			Orange brown clayey fine SAND or very sandy CLAY HEAD DEPOSITS
		4.50 - 4.80	D					
		5.00	SPT	N=6 (1,1/1,1,2,2)				
		5.05 - 5.45	D		5.05			Soft to firm blue grey silty CLAY LONDON CLAY FORMATION
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 3.80m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 12/05/2026 - 12/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS207	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10 - 0.30	ES					Dark brown sandy gravelly SILT with roots and rootlets. Gravel is fine to coarse angular to rounded flint TOPSOIL
			CBR	9%	0.37			
		0.50 - 0.60	ES					Orange brown silty sandy fine to coarse angular to well rounded flint GRAVEL HEAD DEPOSITS
		1.00	SPT	N=17 (5,6/5,4,4,4)				
		1.20 - 2.00	B		1.20			Orange brown clayey sandy fine to coarse angular to rounded flint GRAVEL. Locally very clayey HEAD DEPOSITS
		2.00 - 3.00	B					
	▼	2.00	SPT	N=29 (3,6/4,5,9,11)				
		3.00	SPT	N=61 (3,6/10,14,16,21)				
					3.45			End of Borehole at 3.45m

1 2 3 4 5 6

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Location refused on dense strata. Groundwater encountered at 2.50m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 12/05/2026 - 12/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS208	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.30	ES		0.20			Grey compacted sandy fine to coarse angular to subangualr aggregate GRAVEL surfacing with geotextile at base. MADE GROUND
		0.40 - 0.50	ES		0.37			Brown sandy fine to coarse angular to well rounded flint GRAVEL HEAD DEPOSITS
		0.50 - 0.80	CBR B	12%				Light orange brown to greyish brown silty sandy fine to coarse angular to well rounded flint GRAVEL HEAD DEPOSITS
		1.00 - 2.00 1.00	B SPT	N=8 (2,1/2,2,2,2)	0.85			Light grey to orange brown clayey sandy fine to coarse angular to well rounded flint GRAVEL HEAD DEPOSITS
		2.00	SPT	N=39 (6,7/11,12,8,8)				
		3.00 - 4.00 3.00	B SPT	N=31 (5,4/6,9,8,8)	2.60			Orange brown clayey sandy to very sandy fine to coarse angular to subangular flint GRAVEL HEAD DEPOSITS
	▼	4.00	SPT	N=2 (1,1/1,1,0,0)				
		4.20 - 5.00	B		4.20			Orange brown slightly clayey fine to coarse SAND HEAD DEPOSITS
		5.00	SPT	N=8 (1,2/2,2,2,2)				
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 3.50m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 12/05/2026 - 12/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS209	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.10	ES		0.15			Light grey brown slightly silty slightly gravelly fine SAND with rootlets. Gravel is fine to coarse angular to subrounded flint TOPSOIL
		0.30 - 0.50	ES CBR	19%				Brown slightly silty sandy fine to coarse angular to well rounded flint GRAVEL MADE GROUND
		0.80 - 1.00	D		0.65			Orange brown silty sandy fine to coarse angular to well rounded flint GRAVEL HEAD DEPOSITS
		1.00 - 1.70 1.00	B SPT	N=19 (2,3/4,4,5,6)				
		1.90 - 2.90 2.00	B SPT	N=53 (6,8/14,13,13,13)	1.70			Orange brown clayey sandy fine to coarse angular to rounded flint GRAVEL HEAD DEPOSITS
		3.00	SPT	N=34 (11,8/6,8,9,11)				
		3.50 - 3.80	D					
	▼	4.00	SPT	N=18 (2,3/5,5,4,4)	4.00			Orange brown clayey sandy fine to medium angular to rounded flint GRAVEL. HEAD DEPOSITS
		4.70 - 5.00	D		4.55			Orange brown to grey brown clayey silty fine SAND HEAD DEPOSITS
		5.00	SPT	N=12 (2,1/3,3,3,3)				
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 4.00m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 12/05/2026 - 12/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS210	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.30	ES					Light grey brown sandy gravelly SILT with abundant roots and rootlets. Gravel is fine to coarse subangular to well rounded flint. TOPSOIL
		0.40 - 0.50	ES CBR	6%	0.40			Brown to orange brown silty to very silty sandy fine to coarse angular to well rounded flint GRAVEL HEAD DEPOSITS
		1.00 - 2.00 1.00	B SPT	N=44 (6,8/7,12,14,11)				
		2.00	SPT	N=58 (4,10/13,14,17,14)				
		3.00 - 4.00 3.00	B SPT	N=35 (6,10/8,8,9,10)				
	▼	4.00	SPT	N=11 (3,4/2,3,3,3)				
		4.30 - 5.00	B		4.25			Orange brown slightly clayey to clayey fine SAND HEAD DEPOSITS
		5.00	SPT	N=4 (1,1/1,1,1,1)				
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 3.80m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 12/05/2026 - 12/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS211	WLS		DP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10 - 0.30	ES					Brown sandy gravelly SILT with rootlets. Gravel is fine to coarse angular to rounded flint and occasional red brick, chalk and concrete. MADE GROUND
		0.40 - 0.50	ES CBR	17%	0.38			Brown to orange brown silty to very silty sandy fine to coarse angular to rounded flint GRAVEL HEAD DEPOSITS
		0.80 - 1.20	B					
		1.00	SPT	N=11 (1,1/2,3,3,3)				
		1.30 - 2.00	B		1.30			Orange brown clayey sandy fine to coarse angular to rounded flint GRAVEL HEAD DEPOSITS
		2.00	SPT	N=28 (4,8/7,7,7,7)				
		3.00 - 4.00	B					
		3.00	SPT	N=39 (5,5/7,12,9,11)				
	▼	4.00	SPT	N=9 (3,2/2,2,3,2)				
		4.50 - 4.80	D		4.40			Orange to grey brown slightly clayey to clayey fine SAND. partings of sandy clay HEAD DEPOSITS
		5.00	SPT	N=4 (1,1/1,1,1,1)				
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 4.00m rising to 3.80m after 5minutes

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 13/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS212	WLS		RP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.30	ES					Turf over brown clayey SILT with occasional fine to medium flint gravel and roots TOPSOIL
			CBR	10%	0.40			
		0.50 - 1.00	B					Brown clayey slightly silty slightly sandy fine to medium flint GRAVEL with occasional red brick and concrete fragments. MADE GROUND
		0.60 - 0.70	ES					
		1.00	SPT	N=5 (1,1/1,1,1,2)	1.00			Brown orange mottled very clayey slightly silty fine to course angular to rounded flint GRAVEL HEAD DEPOSITS
		1.30 - 1.80	B					
		1.40 - 1.50	ES					
		2.00	SPT	N=38 (6,9/8,10,10,10)				
		2.50 - 3.00	B					
		3.00	SPT	N=31 (9,7/7,8,9,7)				
		3.50 - 4.00	B					
		4.00	SPT	N=22 (5,6/5,5,6,6)				
	▼	5.00	SPT	N=3 (0,1/0,1,1,1)	4.90			Brown slightly clayey fine SAND HEAD DEPOSITS
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 5.0m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 13/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS213	WLS		RP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
			CBR	9%				Turf over brown silty gravelly CLAY with frequent fragments of red brick and concrete. Gravel is fine to medium flint. MADE GROUND
		0.50 - 0.60	ES					
		0.50 - 1.00	B					
		1.00	SPT	N=23 (3,4/6,5,6,6)	1.00			Brown orange mottled very clayey slightly silty fine to course angular to rounded flint GRAVEL HEAD DEPOSITS
		1.20 - 1.70	B					
		2.00	SPT	N=34 (6,6/8,8,9,9)				
		2.10 - 2.50	B					
		3.00	SPT	N=29 (11,8/8,5,6,10)				
		3.10 - 3.50	B					
		4.00	SPT	N=23 (6,7/7,6,5,5)				
					4.40			Soft brown gravelly CLAY. Gravel is fine to medium flint HEAD DEPOSITS
	▼	5.00	SPT	N=3 (0,0/1,1,0,1)	4.90			Soft brown silty sandy CLAY HEAD DEPOSITS
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 5.0m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 13/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS214	WLS		RP	1:30	Sheet 1 of 1

Well	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.30 - 0.40	ES CBR	9%	0.40			Turf over brown gravelly SILT with occasional red brick and concrete fragments. Gravel is fine to medium flint MADE GROUND
	0.50 - 1.00	B					Brown silty slightly sandy fine to medium flint GRAVEL with occasional red brick and concrete fragments. MADE GROUND
	1.00	SPT	N=13 (2,3/3,3,3,4)	1.00			Brown orange mottled very clayey slightly silty fine to course angular to rounded flint GRAVEL HEAD DEPOSITS
	1.30 - 1.60	B					
	1.60 - 1.70	ES					
	2.00	SPT	N=30 (3,6/5,7,9,9)				
	2.10 - 2.50	B					
	3.00	SPT	N=39 (7,8/7,12,10,10)				
	3.10 - 3.50	B					
	4.00	SPT	N=52 (14,15/12,12,13,15)				
				4.30			End of Borehole at 4.30m

1
2
3
4
5
6

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater not encountered. Refusal at 4.3m.

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 13/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS215	WLS		RP	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20			Turf over brown gravelly SILT with occasional red brick and concrete fragments. Gravel is fine to medium flint MADE GROUND
					0.40			Concrete
		0.50 - 0.60	CBR ES	8%				Soft dark brown very silty gravelly CLAY with occasional red brick and concrete frgaments. Gravel is fine to medium flint. MADE GROUND
		1.00	SPT	N=6 (2,2/1,2,1,2)	1.00			Brown orange mottled very clayey slightly silty fine to course angular to rounded flint GRAVEL HEAD DEPOSITS
		1.10 - 1.50	B					
		1.30 - 1.40	ES					
		2.00 - 2.40	B					
		2.00	SPT	N=46 (11,8/10,11,13,12)				
		3.00 - 3.50	B					
		3.00	SPT	N=38 (13,12/9,11,10,8)				
		4.00	SPT	N=28 (8,7/6,8,7,7)				
					4.20			Firm brown gravelly CLAY. Gravel is fine to medium flint HEAD DEPOSITS
					4.80			Brown very silty fine SAND HEAD DEPOSITS
		5.00	SPT	N=4 (0,1/1,1,1,1)				
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater encountered at 5.0m and rose to 3.0m

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 13/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS216	WLS		RP	1:30	Sheet 1 of 1

Well	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
							Dark brown slightly clayey SILT with roots and frequent fine to medium flint gravel TOPSOIL
	0.70 - 0.80	CBR ES	7%	0.60			Soft brown silty CLAY with occasional red brick fragments MADE GROUND
	1.00	SPT	N=41 (6,6/8,10,12,11)	0.90			Brown very clayey slightly silty fine to course angular to rounded flint GRAVEL. HEAD DEPOSITS
	1.10 - 1.20 1.20 - 1.50	ES B					
	2.00	SPT	N=54 (5,10/13,14,13,14)				
	2.20 - 2.50	B					
	2.50	SPT	75 (16,17/21,20,34,)	2.50			End of Borehole at 2.50m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater not encountered. Refusal at 2.5m.

Percussion Drilling Log

Project Name: Southleigh Park	Client: Bargate Homes	Date: 12/05/2026
Location: Havant	Contractor: South Downs SI	
Project No. : J20-064	Crew Name: JB	Drilling Equipment: Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
HP201	IP		DP	1:25	Sheet 1 of 1

Well	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
				0.10			Dark brown sandy slightly gravelly SILT with abundant roots and rootlets. Gravel is fine to medium angular to well rounded TOPSOIL
	0.30 - 0.50	ES					Brown slightly silty sandy to very sandy fine to coarse angular to well rounded flint GRAVEL. Frequent roots and rootlets MADE GROUND
	0.70 - 1.00	ES		0.60			Orange slightly silty sandy to very sandy fine to coarse angular to well rounded flint GRAVEL HEAD DEPOSITS
				1.00			End of Borehole at 1.00m

1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Groundwater not encountered

APPENDIX 3: GENERIC ASSESSMENT CRITERIA

SOIL - HUMAN HEALTH SCREENING VALUES

Status	End Use	Issue No	Issue Date
ISSUE	Residential with Homegrown Produce	1	June 2015

Determinand	Units	SOIL ORGANIC MATTER 1%	2.5%	6%	SOURCE
pH		<5, >9			
Asbestos	%	Presence			
HEAVY METALS/METALLOIDS					
Arsenic	mg/kg	37			S4UL
Cadmium	mg/kg	11			S4UL
Chromium (III)	mg/kg	910			S4UL
Chromium (VI)	mg/kg	6			S4UL
Lead	mg/kg	200			C4SL
Mercury (Elemental)	mg/kg	1.2			S4UL
Mercury (Inorganic)	mg/kg	40			S4UL
Mercury (Methyl)	mg/kg	11			S4UL
Nickel	mg/kg	130			S4UL
Selenium	mg/kg	250			S4UL
Berylium	mg/kg	1.7			S4UL
Boron	mg/kg	290			S4UL
Vanadium	mg/kg	410			S4UL
Copper	mg/kg	2,400			S4UL
Zinc	mg/kg	3,700			S4UL
GENERAL INORGANICS					
Easily Liberatable Cyanide (free)	mg/kg	36			Acute effects infant 1 dose 3g soil
US EPA PRIORITY PAHs					
Acenaphthene	mg/kg	210	510	1100	S4UL
Acenaphthylene	mg/kg	170	420	920	S4UL
Anthracene	mg/kg	2,400	5,400	11000	S4UL
Benzo(a)Anthracene	mg/kg	72	11	13	S4UL
Benzo(b)fluoranthene	mg/kg	2.6	3.3	3.7	S4UL
Benzo(k)fluoranthene	mg/kg	77	93	100.0	S4UL
Benzo(g,h,i)perylene	mg/kg	320	340	350	S4UL
Benzo(a)Pyrene	mg/kg	2.20	2.7	3	S4UL
Chrysene	mg/kg	15	22	27.0	S4UL
Di-benzo(a,h)anthracene	mg/kg	0.24	0.28	0.30	S4UL
Fluoranthene	mg/kg	280	560	890	S4UL
Fluorene	mg/kg	170	400	860	S4UL
Indeno(1,2,3-cd)pyrene	mg/kg	27.0	36	41.0	S4UL
Naphthalene	mg/kg	2.3	5.6	13.0	S4UL
Phenanthrene	mg/kg	95	220	440	S4UL
Pyrene	mg/kg	620	1200	2000	S4UL
Total PAHs	mg/kg	**No Sum**	**No Sum**	**No Sum**	
Chlorinated Solvents/VOCs					
1,2-Dichloroethane (DCE)	mg/kg	0.0071	0.011	0.019	S4UL
1,1,1-Trichloroethane (111 TCA)	mg/kg	8.8	18	39	S4UL
1,1,1,2-Tetrachloroethane (1112 PCA)	mg/kg	1.2	2.8	6.40	S4UL
1,1,2,2-Tetrachloroethane (1122 PCA)	mg/kg	1.60	3.4	7.5	S4UL
Tetrachloroethene (PCE)	mg/kg	0.18	0.39	0.9	S4UL
Tetrachloromethane (Carbon Tetrachloride)	mg/kg	0.026	0.056	0.13	S4UL
Trichloroethene (TCE)	mg/kg	0.016	0.034	0.075	S4UL
Trichloromethane (Chloroform)	mg/kg	0.91	1.7	3.4	S4UL
Vinyl Chloride	mg/kg	0.00064	0.00087	0.0014	S4UL
Chlorobenzene	mg/kg	0.46	1	2.4	S4UL
1,2-Dichlorobenzene	mg/kg	23	55	130	S4UL
1,3-Dichlorobenzene	mg/kg	0.4	1	2.3	S4UL
1,4-Dichlorobenzene	mg/kg	61	150	350	S4UL
1,2,3-Trichlorobenzene	mg/kg	1.5	3.6	8.6	S4UL
1,2,4-Trichlorobenzene	mg/kg	2.6	6.4	15	S4UL
1,3,5-Trichlorobenzene	mg/kg	0.33	0.81	1.9	S4UL
1,2,3,4-Tetrachlorobenzene	mg/kg	15	36	78	S4UL
1,2,3,5-Tetrachlorobenzene	mg/kg	0.66	1.6	3.7	S4UL
1,2,4,5-Tetrachlorobenzene	mg/kg	0.33	0.77	1.6	S4UL
Pentachlorobenzene	mg/kg	5.8	12	22	S4UL
Hexachlorobenzene	mg/kg	1.8	3.3	4.9	S4UL
Carbon Disulphide	mg/kg	0.14	0.29	0.62	S4UL

Hexachlorobutadiene	mg/kg	0.29	0.7	1.6	S4UL
Phenolics					
Phenol	mg/kg	280	550	1100	S4UL
Chlorophenols	mg/kg	0.87	2.00	4.50	S4UL
Pentachlorophenol	mg/kg	0.22	0.52	1.20	S4UL
Explosives					
2,4,6 Trinitrotoluene (TNT)	mg/kg	1.6	3.7	8.1	S4UL
RDX	mg/kg	120.0	250.0	540.0	S4UL
HMX	mg/kg	5.7	13.0	26.0	S4UL
Insecticides/Herbicides					
Aldrin	mg/kg	5.70	6.60	7.10	S4UL
Dieldrin	mg/kg	0.97	2.00	3.50	S4UL
Atrazine	mg/kg	3.30	7.60	17.40	S4UL
Dichlorvos	mg/kg	0.032	0.066	0.140	S4UL
Alpha-Endosulfan	mg/kg	7.4	18.0	41.0	S4UL
Beta-Endosulfan	mg/kg	7.0	17.0	39.0	S4UL
Alpha-Hexachlorocyclohexane	mg/kg	0.23	0.55	1.20	S4UL
Beta-Hexachlorocyclohexane	mg/kg	0.085	0.200	0.460	S4UL
Gamma-Hexachlorocyclohexanes (Lindane)	mg/kg	0.06	0.14	0.33	S4UL
TPH					
TPH Aliphatic >C5-6	mg/kg	42	78	160	S4UL
TPH Aliphatic >C6-8	mg/kg	100	230	530	S4UL
TPH Aliphatic >C8-10	mg/kg	27	65	150	S4UL
TPH Aliphatic >C10-12	mg/kg	130	330	760	S4UL
TPH Aliphatic >C12-16	mg/kg	1100	2,400	4,300	S4UL
TPH Aliphatic >C16-35	mg/kg	65,000	92,000	110,000	S4UL
TPH Aliphatic >C35-44	mg/kg	65,000	92,000	110,000	S4UL
TPH Aromatic >EC5-7 (Benzene)	mg/kg	70	140.00	300	S4UL
TPH Aromatic >EC7-8	mg/kg	130	290	660	S4UL
TPH Aromatic >EC8-10	mg/kg	34	83	190	S4UL
TPH Aromatic >EC10-12	mg/kg	74	180	380	S4UL
TPH Aromatic >EC12-16	mg/kg	140	330	660	S4UL
TPH Aromatic >EC16-21	mg/kg	260	540	930	S4UL
TPH Aromatic >EC21-35	mg/kg	1100	1,500	1,700	S4UL
TPH Aromatic >EC35-44	mg/kg	1100	1,500	1,700	S4UL
TPH Aliphatic & Aromatic >EC44-70	mg/kg	1,600	1,800	1,900	S4UL
Total TPH	mg/kg	**No Sum**	**No Sum**	**No Sum**	
BTEX					
Benzene	mg/kg	0.087	0.17	0.37	S4UL
Toluene	mg/kg	130	290	660	S4UL
Ethylbenzene	mg/kg	47	110	260	S4UL
m-Xylene	mg/kg	60	140	330	S4UL
o-Xylene	mg/kg	59	140	320	S4UL
p-Xylene	mg/kg	56	130	310	S4UL

NOTES

1) Compare individual samples values against Soil Screening Values (SSV). If exceedences are noted consider further in relation to averaging areas and statistical analysis.

2) These values are for initial screening for potential **risk to human health only**. They are **not remediation thresholds**. **Screening for other receptors to be done separately as appropriate for the site, e.g. for water, ecology, building materials.**

3) Screening criteria denoted with an asterix (*) were capped at the lower vapour/aqueous saturation limits for Tier 1 human health risk assessment purposes and considered conservative. Where concentrations are recorded at levels greater that the SSV, free phase (NAPL) contamination may be present and should be considerwed qualitatively. Further information to support the interpretation of assessment criteria that exceed theoretical soil saturation limits is provided in Section 4.12 of the CLEA Software Handbook (SR4).

4) Screening criteria denoted with hash (#) were capped at 1000000mg/kg. It is noted that aesthetic (e.g. odour) and other site specific factors may also be relevant when providing advice relating to these compounds.

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6) SSVs derived for certain constituents may be low in relation to standard laboratory Limits of Detection (LoD). It is the responsibility of the project engineer to check with the laboratory that appropriate detection limits can be achieved. As a target, an LoD would be no larger than 10% of the SSV, but this is not practicable for some constituents. Clearly an LoD greater than the SSV would prevent use of this SSV screening and/or be interpreted as if all samples exceeded the SSV.

7) Human Health Soil Screening Values (SSV) were calculated using a Soil Organic Matter (SOM) value of 1.0%, 2.5% and 6%. This is equivanet to an Fraction Organic Carbon (FOC) values of approx. 0.6%, 1.45% and 3.5% respectively (For reference FOC = 0.58*SOM). Note that some soils have different SOM/FOC, which may give require more stringent SSVs for organic compounds. It is the responsibility of the project engineer to check the SOM with the site specific conditions.

8) In general, SSVs above 100mg/kg are rounded down to 3 significant figures. Similarly, SSVs below 100mg/kg are rounded down to 2 significant figures

APPENDIX 4: SOIL SCREENING SUMMARY

Project Name: SPH
Project Ref: J20-064
GAC Comparison: GCC - Residential with homegrown produce (1% SOM)

Sample No	**Unitis**	**GAC**	MG	HD	MG	HD	MG	HD	MG	HD	MG	HD	MG	HD	TS	HD	HD
Sample ID			WS201	WS201	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS206	WS207	WS207	WS208
Depth to Top			0.40	0.90	0.30	0.60	0.10	0.40	0.20	0.50	0.10	0.40	0.10	0.50	0.10	0.50	0.20
Depth to Bottom			0.50	1.00	0.50	0.70	0.30	0.50	0.40	0.60	0.20	0.50	0.20	0.60	0.30	0.60	0.30
Date Sampled			11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	12-May-26	12-May-26	12-May-26
pH	pH	5-9	6.23	5.1	**4.69**	6.49	7.38	7.54	6.94	7.63	7.77	8.16	**4.17**	5.58	7.66	6.46	7.98
Cyanide (free)	mg/kg	36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols - Total by HPLC	mg/kg	280	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Organic Matter	% w/w		2.28	3.1	5.75	1.2	6.48	1.1	4.61	1.44	11.6	2.31	15.9	1.22	7.84	2.77	2.14
Total Organic Carbon	% w/w		1.32	1.8	3.34	0.7	3.76	0.64	2.67	0.83	6.72	1.33	9.21	0.71	4.55	1.61	1.24
Antimony	mg/kg		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Arsenic	mg/kg	37	10	4	5	4	11	5	6	7	5	3	7	3	15	5	4
Cadmium	mg/kg	11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Copper	mg/kg	2400	10	5	8	5	15	9	9	7	13	6	8	3	8	4	3
Chromium	mg/kg		28	19	18	24	12	63	16	30	17	11	8	21	11	19	16
Chromium (hexavalent)	mg/kg	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead	mg/kg	200	136	35	77	13	199	21	93	35	**266**	51	60	10	61	17	20
Mercury	mg/kg	40	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Nickel	mg/kg	130	20	17	17	25	7	66	15	30	20	10	4	22	9	19	16
Selenium	mg/kg	250	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Zinc	mg/kg	3700	42	18	14	15	86	20	46	27	31	15	23	11	31	16	22
Asbestos in soil		NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD
Asbestos Matrix (microscope)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos in soil %	% w/w																
PAH-16MS (MSD order)																	
Naphthalene	mg/kg	2.3	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Acenaphthylene	mg/kg	170	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	mg/kg	210	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	mg/kg	170	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	mg/kg	95	<0.03	<0.03	<0.03	<0.03	0.12	<0.03	0.05	<0.03	0.03	0.04	<0.03	<0.03	0.04	<0.03	0.08
Anthracene	mg/kg	2400	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluoranthene	mg/kg	280	<0.08	<0.08	<0.08	<0.08	0.23	<0.08	0.14	<0.08	<0.08	<0.08	<0.08	<0.08	0.13	<0.08	0.09
Pyrene	mg/kg	620	<0.07	<0.07	<0.07	<0.07	0.2	<0.07	0.13	<0.07	<0.07	<0.07	<0.07	<0.07	0.12	<0.07	<0.07
Benzo(a)anthracene	mg/kg	72	<0.04	<0.04	<0.04	<0.04	0.1	<0.04	0.07	<0.04	<0.04	<0.04	<0.04	<0.04	0.07	<0.04	<0.04
Chrysene	mg/kg	15	<0.06	<0.06	<0.06	<0.06	0.14	<0.06	0.1	<0.06	<0.06	<0.06	<0.06	<0.06	0.1	<0.06	<0.06
Benzo(b)fluoranthene	mg/kg	2.6	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	0.1	<0.05	0.07	<0.05	<0.05	<0.05	0.11	<0.05	<0.05
Benzo(k)fluoranthene	mg/kg	77	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
Benzo(a)pyrene	mg/kg	2.2	<0.04	<0.04	<0.04	<0.04	0.1	<0.04	0.09	<0.04	0.04	<0.04	<0.04	<0.04	0.07	<0.04	<0.04
Indeno(123-cd)pyrene	mg/kg	27.0	<0.03	<0.03	<0.03	<0.03	0.08	<0.03	0.06	<0.03	0.03	<0.03	<0.03	<0.03	0.06	<0.03	<0.03
Dibenzo(ah)anthracene	mg/kg	0.24	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Benzo(ghi)perylene	mg/kg	320	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05
Total PAH-16MS (MSD order)	mg/kg		<0.08	<0.08	<0.08	<0.08	1.17	<0.08	0.79	<0.08	0.17	<0.08	<0.08	<0.08	0.75	<0.08	0.17
TPH CWG with Clean Up																	
Ali >C5-C6	mg/kg	42	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ali >C6-C8	mg/kg	100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ali >C8-C10	mg/kg	27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ali >C10-C12	mg/kg	130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ali >C12-C16	mg/kg	1100	<1	<1	<1	<1	**3**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ali >C16-C21	mg/kg	65000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ali >C21-C35	mg/kg	65000	<1	3	7	<1	5	1	2	<1	8	<1	11	2	7	5	3
Total Aliphatics	mg/kg		<1	3	7	<1	10	1	2	<1	8	<1	11	2	7	5	3
Aro >C5-C7	mg/kg	70	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aro >C7-C8	mg/kg	130	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aro >C8-C10	mg/kg	34	<1	<1	<1	<1	<1	<1	1	<1	2	<1	1	<1	4	4	3
Aro >C10-C12	mg/kg	74	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Aro >C12-C16	mg/kg	140	<1	<1	<1	<1	**49**	<1	5	<1	<1	<1	<1	<1	<1	<1	<1
Aro >C16-C21	mg/kg	260	<1	<1	<1	<1	**23**	<1	2	<1	1	<1	2	<1	2	<1	<1
Aro >C21-C35	mg/kg	1100	<1	2	2	<1	40	<1	7	<1	4	<1	5	<1	7	2	2
Total Aromatics	mg/kg		<1	2	2	<1	112	<1	15	<1	8	<1	8	<1	13	6	5
TPH (Ali & Aro >C5-C35)	mg/kg		<1	5	10	<1	122	1	17	<1	16	<1	19	2	20	11	8
BTEX - Benzene	mg/kg	0.087	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BTEX - Toluene	mg/kg	130	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Project Name: SPH
Project Ref: J20-064
GAC Comparison: GCC - Residential with homegrown produce (1% SOM)

Sample No	Unitis	GAC	MG	HD	MG	HD	MG	HD	MG	HD	MG	HD	MG	HD	TS	HD	HD
Sample ID			WS201	WS201	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS206	WS207	WS207	WS208
Depth to Top			0.40	0.90	0.30	0.60	0.10	0.40	0.20	0.50	0.10	0.40	0.10	0.50	0.10	0.50	0.20
Depth to Bottom			0.50	1.00	0.50	0.70	0.30	0.50	0.40	0.60	0.20	0.50	0.20	0.60	0.30	0.60	0.30
Date Sampled			11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	12-May-26	12-May-26	12-May-26
BTEX - Ethyl Benzene	mg/kg	47	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BTEX - m & p Xylene	mg/kg	56	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BTEX - o Xylene	mg/kg	59	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MTBE	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Speciated PCB-EC7 & WHO12																	
PCB BZ 28	mg/kg																
PCB BZ 52	mg/kg																
PCB BZ 81	mg/kg																
PCB BZ 101	mg/kg																
PCB BZ 105	mg/kg																
PCB BZ 114	mg/kg																
PCB BZ 118	mg/kg																
PCB BZ 123	mg/kg																
PCB BZ 126	mg/kg																
PCB BZ 138	mg/kg																
PCB BZ 153	mg/kg																
PCB BZ 156	mg/kg																
PCB BZ 157	mg/kg																
PCB BZ 167	mg/kg																
PCB BZ 169	mg/kg																
PCB BZ 180	mg/kg																
PCB BZ 189	mg/kg																
PCB BZ 77	mg/kg																
Total Speciated PCB-EC7 & WHO12	mg/kg																

Project Name: SPH
Project Ref: J20-064
GAC Comparison: GCC - Residential with hc

Sample No	**Unitis**	**GAC**	HD	TS	MG	TS	HD	MG	HD	TS	MG	HD	MG	MG	HD	MG	HD
Sample ID			WS208	WS209	WS209	WS210	WS210	WS211	WS211	WS212	WS212	WS212	WS213	WS214	WS214	WS215	WS215
Depth to Top			0.40	0.00	0.30	0.20	0.40	0.10	0.40	0.20	0.60	1.40	0.50	0.30	1.60	0.50	1.30
Depth to Bottom			0.50	0.10	0.50	0.30	0.50	0.30	0.50	0.30	0.70	1.50	0.60	0.40	1.70	0.60	1.40
Date Sampled			12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26
pH	pH	5-9	7.83	8.3	8.44	5.97	6.65	7.62	8.1	7.06	8.39	8.08	7.72	7.75	8.29	8.33	7.75
Cyanide (free)	mg/kg	36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols - Total by HPLC	mg/kg	280	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Organic Matter	% w/w		0.93	2.31	1	5.7	3.85	7	2.89	2.94	2.66	0.3	3.54	3.79	0.18	4.59	0.87
Total Organic Carbon	% w/w		0.54	1.34	0.58	3.31	2.23	4.06	1.67	1.7	1.54	0.18	2.05	2.2	0.1	2.66	0.5
Antimony	mg/kg		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Arsenic	mg/kg	37	4	12	20	4	8	34	7	7	**38**	8	23	8	3	10	5
Cadmium	mg/kg	11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Copper	mg/kg	2400	3	10	15	13	8	21	8	21	20	5	15	20	3	36	5
Chromium	mg/kg		16	9	26	11	26	19	14	13	12	23	12	16	13	12	19
Chromium (hexavalent)	mg/kg	6	<1	<1	<4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead	mg/kg	200	12	76	30	117	39	**253**	79	74	**254**	10	179	**316**	7	**368**	9
Mercury	mg/kg	40	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	0.18	<0.17	<0.17	<0.17	<0.17	0.24	<0.17
Nickel	mg/kg	130	14	8	11	10	29	18	11	11	11	18	9	18	12	10	17
Selenium	mg/kg	250	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Zinc	mg/kg	3700	20	62	35	36	25	72	21	50	108	19	45	55	12	132	19
Asbestos in soil		NAD	NAD	NAD	**Chrysotile**	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD
Asbestos Matrix (microscope)			-	-	Loose Fibres	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos in soil %	% w/w				<0.001												
PAH-16MS (MSD order)																	
Naphthalene	mg/kg	2.3	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Acenaphthylene	mg/kg	170	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01
Acenaphthene	mg/kg	210	<0.01	0.06	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	<0.01
Fluorene	mg/kg	170	<0.01	0.06	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01
Phenanthrene	mg/kg	95	<0.03	0.93	0.21	<0.03	<0.03	0.1	<0.03	0.03	0.06	<0.03	0.17	0.81	<0.03	0.08	<0.03
Anthracene	mg/kg	2400	<0.02	0.19	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.22	<0.02	<0.02	<0.02
Fluoranthene	mg/kg	280	<0.08	1.95	0.4	<0.08	<0.08	0.15	<0.08	0.1	0.21	<0.08	0.56	4.11	<0.08	0.17	<0.08
Pyrene	mg/kg	620	<0.07	1.72	0.34	<0.07	<0.07	0.11	<0.07	0.09	0.19	<0.07	0.51	3.75	<0.07	0.15	<0.07
Benzo(a)anthracene	mg/kg	72	<0.04	0.85	0.18	<0.04	<0.04	0.07	<0.04	0.07	0.13	<0.04	0.31	2.67	<0.04	0.09	<0.04
Chrysene	mg/kg	15	<0.06	0.97	0.22	<0.06	<0.06	0.11	<0.06	0.09	0.17	<0.06	0.4	2.63	<0.06	0.13	<0.06
Benzo(b)fluoranthene	mg/kg	2.6	<0.05	0.91	0.2	<0.05	<0.05	0.11	<0.05	0.11	0.18	<0.05	0.43	**3.14**	<0.05	0.13	<0.05
Benzo(k)fluoranthene	mg/kg	77	<0.07	0.32	0.08	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.13	1.2	<0.07	<0.07	<0.07
Benzo(a)pyrene	mg/kg	2.2	<0.04	0.89	0.17	<0.04	<0.04	0.09	<0.04	0.08	0.13	<0.04	0.35	**2.78**	<0.04	0.09	<0.04
Indeno(123-cd)pyrene	mg/kg	27.0	<0.03	0.62	0.13	<0.03	<0.03	0.04	<0.03	0.09	0.11	<0.03	0.25	1.59	<0.03	0.08	<0.03
Dibenzo(ah)anthracene	mg/kg	0.24	<0.04	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	**0.32**	<0.04	<0.04	<0.04
Benzo(ghi)perylene	mg/kg	320	<0.05	0.51	0.12	<0.05	<0.05	<0.05	<0.05	0.08	0.1	<0.05	0.22	1.35	<0.05	0.07	<0.05
Total PAH-16MS (MSD order)	mg/kg		<0.08	10.1	2.11	<0.08	<0.08	0.78	<0.08	0.74	1.28	<0.08	3.36	24.7	<0.08	0.99	<0.08
TPH CWG with Clean Up																	
Ali >C5-C6	mg/kg	42	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ali >C6-C8	mg/kg	100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ali >C8-C10	mg/kg	27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ali >C10-C12	mg/kg	130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ali >C12-C16	mg/kg	1100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ali >C16-C21	mg/kg	65000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2**	<1	<1	<1
Ali >C21-C35	mg/kg	65000	<1	11	2	7	5	6	2	3	5	<1	5	13	<1	3	<1
Total Aliphatics	mg/kg		<1	11	2	7	5	6	2	3	5	<1	5	15	<1	3	<1
Aro >C5-C7	mg/kg	70	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aro >C7-C8	mg/kg	130	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aro >C8-C10	mg/kg	34	2	4	1	1	<1	1	1	<1	<1	<1	<1	2	<1	<1	<1
Aro >C10-C12	mg/kg	74	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Aro >C12-C16	mg/kg	140	<1	**2**	<1	2	<1	<1	<1	<1	<1	<1	<1	**4**	<1	<1	<1
Aro >C16-C21	mg/kg	260	<1	**13**	2	2	1	1	<1	<1	4	<1	6	**35**	<1	<1	<1
Aro >C21-C35	mg/kg	1100	<1	59	10	13	4	6	1	2	23	<1	34	210	<1	5	<1
Total Aromatics	mg/kg		2	78	13	18	5	8	2	2	28	<1	40	251	<1	7	<1
TPH (Ali & Aro >C5-C35)	mg/kg		3	89	15	25	9	13	5	5	33	<1	45	266	<1	9	2
BTEX - Benzene	mg/kg	0.087	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BTEX - Toluene	mg/kg	130	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Project Name: SPH
Project Ref: J20-064
GAC Comparison: GCC - Residential with hc

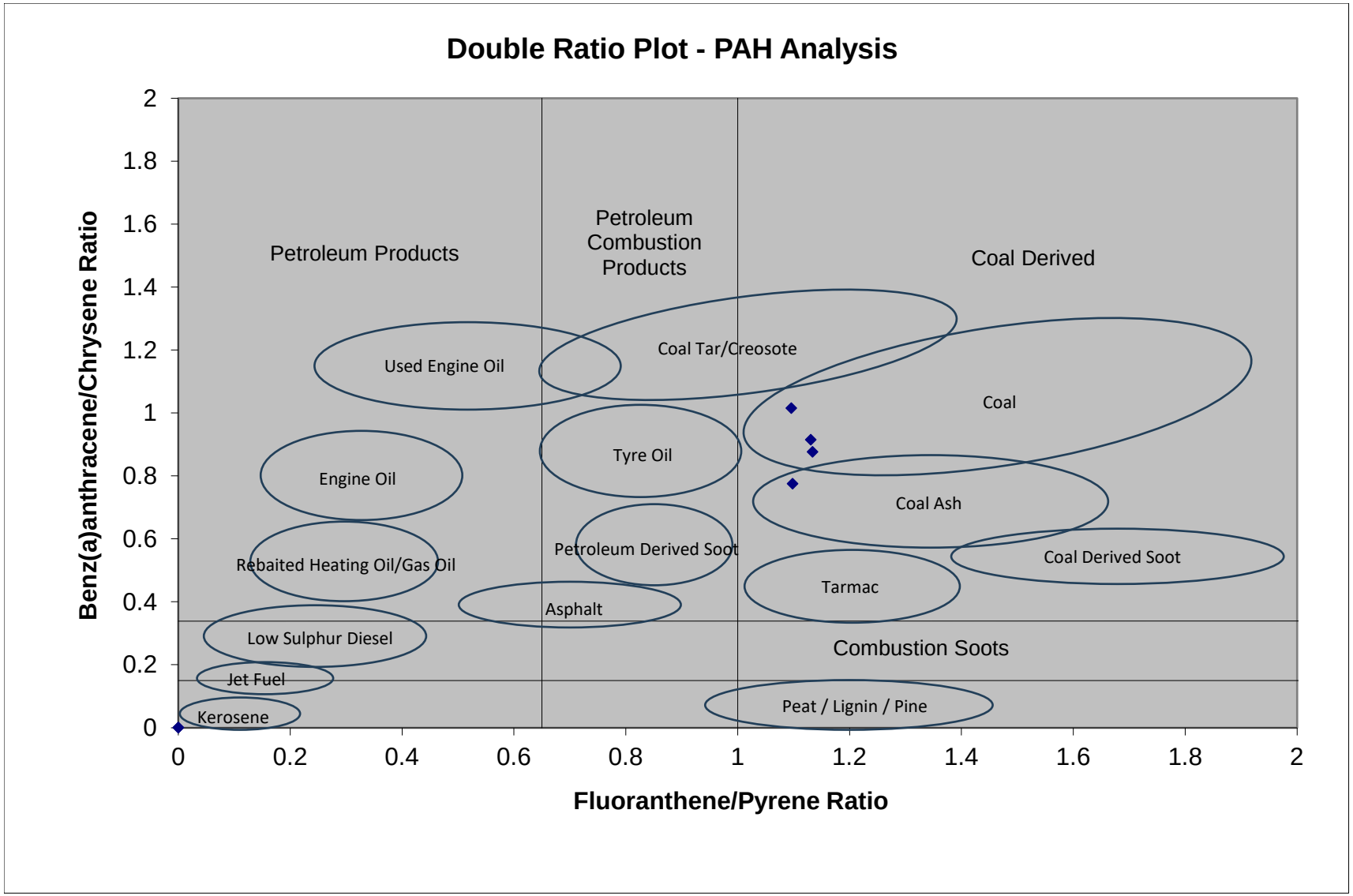
Sample No	**Unitis**	**GAC**	HD	TS	MG	TS	HD	MG	HD	TS	MG	HD	MG	MG	HD	MG	HD
Sample ID			WS208	WS209	WS209	WS210	WS210	WS211	WS211	WS212	WS212	WS212	WS213	WS214	WS214	WS215	WS215
Depth to Top			0.40	0.00	0.30	0.20	0.40	0.10	0.40	0.20	0.60	1.40	0.50	0.30	1.60	0.50	1.30
Depth to Bottom			0.50	0.10	0.50	0.30	0.50	0.30	0.50	0.30	0.70	1.50	0.60	0.40	1.70	0.60	1.40
Date Sampled			12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26
BTEX - Ethyl Benzene	mg/kg	47	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BTEX - m & p Xylene	mg/kg	56	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BTEX - o Xylene	mg/kg	59	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MTBE	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Speciated PCB-EC7 & WHO12																	
PCB BZ 28	mg/kg																
PCB BZ 52	mg/kg																
PCB BZ 81	mg/kg																
PCB BZ 101	mg/kg																
PCB BZ 105	mg/kg																
PCB BZ 114	mg/kg																
PCB BZ 118	mg/kg																
PCB BZ 123	mg/kg																
PCB BZ 126	mg/kg																
PCB BZ 138	mg/kg																
PCB BZ 153	mg/kg																
PCB BZ 156	mg/kg																
PCB BZ 157	mg/kg																
PCB BZ 167	mg/kg																
PCB BZ 169	mg/kg																
PCB BZ 180	mg/kg																
PCB BZ 189	mg/kg																
PCB BZ 77	mg/kg																
Total Speciated PCB-EC7 & WHO12	mg/kg																

Project Name: SPH
Project Ref: J20-064
GAC Comparison: GCC - Residential with ho

Sample No			MG	HD	MG	HD
Sample ID			WS216	WS216	HP201	HP201
Depth to Top			0.70	1.10	0.30	0.70
Depth to Bottom	**Unitis**	**GAC**	0.80	1.20	0.50	1.00
Date Sampled			13-May-26	13-May-26	12-May-26	12-May-26
pH	pH	5-9	7.13	7.06	7.38	5.46
Cyanide (free)	mg/kg	36	<1	<1	<1	<1
Phenols - Total by HPLC	mg/kg	280	<0.2	<0.2	<0.2	<0.2
Organic Matter	% w/w		4.75	0.19	11.1	1.72
Total Organic Carbon	% w/w		2.75	0.11	6.45	1
Antimony	mg/kg		<5	<5	<5	<5
Arsenic	mg/kg	37	7	5	10	5
Cadmium	mg/kg	11	<1.0	<1.0	<1.0	<1.0
Copper	mg/kg	2400	15	5	13	4
Chromium	mg/kg		21	26	10	16
Chromium (hexavalent)	mg/kg	6	<1	<1	<1	<1
Lead	mg/kg	200	113	6	196	13
Mercury	mg/kg	40	<0.17	<0.17	<0.17	<0.17
Nickel	mg/kg	130	20	20	6	16
Selenium	mg/kg	250	<1	<1	<1	<1
Zinc	mg/kg	3700	124	17	45	22
Asbestos in soil		NAD	NAD	NAD	NAD	NAD
Asbestos Matrix (microscope)			-	-	-	-
Asbestos in soil %	% w/w					
PAH-16MS (MSD order)						
Naphthalene	mg/kg	2.3	<0.03	<0.03	<0.03	<0.03
Acenaphthylene	mg/kg	170	<0.01	<0.01	0.03	<0.01
Acenaphthene	mg/kg	210	<0.01	<0.01	0.01	<0.01
Fluorene	mg/kg	170	<0.01	<0.01	0.01	<0.01
Phenanthrene	mg/kg	95	0.05	<0.03	0.21	<0.03
Anthracene	mg/kg	2400	<0.02	<0.02	0.05	<0.02
Fluoranthene	mg/kg	280	0.14	<0.08	0.78	<0.08
Pyrene	mg/kg	620	0.13	<0.07	0.69	<0.07
Benzo(a)anthracene	mg/kg	72	0.09	<0.04	0.43	<0.04
Chrysene	mg/kg	15	0.12	<0.06	0.47	<0.06
Benzo(b)fluoranthene	mg/kg	2.6	0.13	<0.05	0.66	<0.05
Benzo(k)fluoranthene	mg/kg	77	<0.07	<0.07	0.24	<0.07
Benzo(a)pyrene	mg/kg	2.2	0.11	<0.04	0.49	<0.04
Indeno(123-cd)pyrene	mg/kg	27.0	0.08	<0.03	0.4	<0.03
Dibenzo(ah)anthracene	mg/kg	0.24	<0.04	<0.04	0.08	<0.04
Benzo(ghi)perylene	mg/kg	320	0.07	<0.05	0.36	<0.05
Total PAH-16MS (MSD order)	mg/kg		0.92	<0.08	4.91	<0.08
TPH CWG with Clean Up						
Ali >C5-C6	mg/kg	42	<0.01	<0.01	<0.01	<0.01
Ali >C6-C8	mg/kg	100	<0.01	<0.01	<0.01	<0.01
Ali >C8-C10	mg/kg	27	<1	<1	<1	<1
Ali >C10-C12	mg/kg	130	<1	<1	<1	<1
Ali >C12-C16	mg/kg	1100	<1	<1	<1	<1
Ali >C16-C21	mg/kg	65000	<1	<1	1	<1
Ali >C21-C35	mg/kg	65000	22	<1	24	3
Total Aliphatics	mg/kg		22	<1	25	3
Aro >C5-C7	mg/kg	70	<0.01	<0.01	<0.01	<0.01
Aro >C7-C8	mg/kg	130	<0.01	<0.01	<0.01	<0.01
Aro >C8-C10	mg/kg	34	1	<1	<1	<1
Aro >C10-C12	mg/kg	74	<1	<1	<1	<1
Aro >C12-C16	mg/kg	140	4	<1	2	<1
Aro >C16-C21	mg/kg	260	6	<1	6	<1
Aro >C21-C35	mg/kg	1100	47	<1	31	2
Total Aromatics	mg/kg		57	<1	40	2
TPH (Ali & Aro >C5-C35)	mg/kg		80	<1	64	4
BTEX - Benzene	mg/kg	0.087	<0.01	<0.01	<0.01	<0.01
BTEX - Toluene	mg/kg	130	<0.01	<0.01	<0.01	<0.01

Project Name: SPH
Project Ref: J20-064
GAC Comparison: GCC - Residential with hc

Sample No			MG	HD	MG	HD
Sample ID			WS216	WS216	HP201	HP201
Depth to Top			0.70	1.10	0.30	0.70
Depth to Bottom	**Unitis**	**GAC**	0.80	1.20	0.50	1.00
Date Sampled			13-May-26	13-May-26	12-May-26	12-May-26
BTEX - Ethyl Benzene	mg/kg	47	<0.01	<0.01	<0.01	<0.01
BTEX - m & p Xylene	mg/kg	56	<0.01	<0.01	<0.01	<0.01
BTEX - o Xylene	mg/kg	59	<0.01	<0.01	<0.01	<0.01
MTBE	mg/kg		<0.01	<0.01	<0.01	<0.01
Speciated PCB-EC7 & WHO12						
PCB BZ 28	mg/kg				<0.003	<0.003
PCB BZ 52	mg/kg				<0.002	<0.002
PCB BZ 81	mg/kg				<0.005	<0.005
PCB BZ 101	mg/kg				<0.004	<0.004
PCB BZ 105	mg/kg				<0.005	<0.005
PCB BZ 114	mg/kg				<0.005	<0.005
PCB BZ 118	mg/kg				<0.007	<0.007
PCB BZ 123	mg/kg				<0.005	<0.005
PCB BZ 126	mg/kg				<0.005	<0.005
PCB BZ 138	mg/kg				<0.006	<0.006
PCB BZ 153	mg/kg				<0.004	<0.004
PCB BZ 156	mg/kg				<0.005	<0.005
PCB BZ 157	mg/kg				<0.005	<0.005
PCB BZ 167	mg/kg				<0.005	<0.005
PCB BZ 169	mg/kg				<0.005	<0.005
PCB BZ 180	mg/kg				<0.004	<0.004
PCB BZ 189	mg/kg				<0.005	<0.005
PCB BZ 77	mg/kg				<0.005	<0.005
Total Speciated PCB-EC7 & WHO12	mg/kg				<0.007	<0.007



Benzo[a]anthracene / Chrysene

Determinand	Units	GAC	Arithmetic Mean	Geometric Mean	No. of Samples	Standard Deviation	Coeff. Variability	Distribution	Applicable 95% UCL	95% UCL LogNormal	95% UCL Normal	Max	Min	Tcalc	Tcrit (5%)	Outlier?
Lead (Total)	mg/kg	200	NA	129.9	18	99.0	NA	LOGNORMAL	172.3	172.3	NA	368.0	30.0	1.51	2.50	No
Arsenic (Total)	mg/kg	37	12.9	10.4	18	9.8	0.76	NORMAL	16.9	13.5	16.9	38.0	4.0	2.00	2.50	No
Benzo(b)fluoranthene	mg/kg	2.6	0.4	0.2	18	0.7	1.99	LOGNORMAL	0.3	0.3	0.7	3.1	0.1	2.64	2.50	WS214
Benzo(a)pyrene	mg/kg	2.2	0.3	0.1	18	0.7	2.08	LOGNORMAL	0.2	0.2	0.6	2.8	0.0	2.63	2.50	WS214
Dibenzo(ah)anthracene	mg/kg	0.24	0.1	0.0	18	0.1	1.09	LOGNORMAL	0.1	0.1	0.1	0.3	0.0	3.44	2.50	WS214

95%UCL calculated dependent on type of distribution.
Maximum value test undertaken in accordance with CLR7 methodology. If Tcalc>Tcrit, maximum value in distribution is an outlier.

APPENDIX 5: CHEMICAL LABORATORY TEST CERTIFICATES

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 26/06079
Issue Number: 1 **Date:** 19 June, 2026

Client: Ground Condition Consultants Ltd
10 Waldegrave Close
Southampton
SO19 9RY

Project Manager: Antony Platt
Project Name: SPH
Project Ref: J20-064
Order No: J20-064
Date Samples Received: 14/05/26
Date Instructions Received: 18/05/26
Date Analysis Completed: 19/06/26

Approved by:

Richard Wong
Client Manager

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/1	26/06079/2	26/06079/3	26/06079/4	26/06079/5	26/06079/6	26/06079/7	Units	Limit of Detection	Method ref
Client Sample No	MG	HD	MG	HD	MG	HD	MG			
Client Sample ID	WS201	WS201	WS202	WS202	WS203	WS203	WS204			
Depth to Top	0.40	0.90	0.30	0.60	0.10	0.40	0.20			
Depth To Bottom	0.50	1.00	0.50	0.70	0.30	0.50	0.40			
Date Sampled	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOLID	SOIL - ES			
Sample Matrix Code	6AE	4AE	4AE	6A	4AE	7	6AE			
% Stones >10mm$_A$	25.1	24.7	<0.1	21.4	27.5	<0.1	18.2	% w/w	0.1	A-T-044
pH$_D^{M\#}$	6.23	5.10	4.69	6.49	7.38	7.54^U	6.94	pH	0.01	A-T-031s
Cyanide (free)$_A^{M\#}$	<1	<1	<1	<1	<1	<1^U	<1	mg/kg	1	A-T-042sFCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Organic Matter$_D^{M\#}$	2.28	3.10	5.75	1.20	6.48	1.10^U	4.61	% w/w	0.14	A-T-032s
Total Organic Carbon$_D^{M\#}$	1.32	1.80	3.34	0.70	3.76	0.64^U	2.67	% w/w	0.08	A-T-032s
Antimony$_D$	<5	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-024s
Arsenic$_D^{M\#}$	10	4	5	4	11	5^U	6	mg/kg	1	A-T-024s
Cadmium$_D^{M\#}$	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0^U	<1.0	mg/kg	1	A-T-024s
Copper$_D^{M\#}$	10	5	8	5	15	9^U	9	mg/kg	1	A-T-024s
Chromium$_D^{M\#}$	28	19	18	24	12	63^U	16	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Lead$_D^{M\#}$	136	35	77	13	199	21^U	93	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D^{M\#}$	20	17	17	25	7	66^U	15	mg/kg	1	A-T-024s
Selenium$_D^{M\#}$	<1	<1	<1	<1	<1	<1^U	<1	mg/kg	1	A-T-024s
Zinc$_D^{M\#}$	42	18	14	15	86	20^U	46	mg/kg	1	A-T-024s

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/1	26/06079/2	26/06079/3	26/06079/4	26/06079/5	26/06079/6	26/06079/7	Units	Limit of Detection	Method ref
Client Sample No	MG	HD	MG	HD	MG	HD	MG			
Client Sample ID	WS201	WS201	WS202	WS202	WS203	WS203	WS204			
Depth to Top	0.40	0.90	0.30	0.60	0.10	0.40	0.20			
Depth To Bottom	0.50	1.00	0.50	0.70	0.30	0.50	0.40			
Date Sampled	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOLID	SOIL - ES			
Sample Matrix Code	6AE	4AE	4AE	6A	4AE	7	6AE			
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_D^{\#}$	NAD	NAD	NAD	NAD	NAD	NAD^U	NAD			A-T-045
Asbestos Matrix (visual)$_D$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_D$	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/1	26/06079/2	26/06079/3	26/06079/4	26/06079/5	26/06079/6	26/06079/7	Units	Limit of Detection	Method ref
Client Sample No	MG	HD	MG	HD	MG	HD	MG			
Client Sample ID	WS201	WS201	WS202	WS202	WS203	WS203	WS204			
Depth to Top	0.40	0.90	0.30	0.60	0.10	0.40	0.20			
Depth To Bottom	0.50	1.00	0.50	0.70	0.30	0.50	0.40			
Date Sampled	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOLID	SOIL - ES			
Sample Matrix Code	6AE	4AE	4AE	6A	4AE	7	6AE			
PAH-16MS (MSD order)										
Naphthalene$_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03^U	<0.03	mg/kg	0.03	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-019s
Acenaphthene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	0.12	<0.03^U	0.05	mg/kg	0.03	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02^U	<0.02	mg/kg	0.02	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	<0.08	<0.08	<0.08	0.23	<0.08^U	0.14	mg/kg	0.08	A-T-019s
Pyrene$_A^{M\#}$	<0.07	<0.07	<0.07	<0.07	0.20	<0.07^U	0.13	mg/kg	0.07	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	<0.04	<0.04	<0.04	0.10	<0.04^U	0.07	mg/kg	0.04	A-T-019s
Chrysene$_A^{M\#}$	<0.06	<0.06	<0.06	<0.06	0.14	<0.06^U	0.10	mg/kg	0.06	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	<0.05	<0.05	<0.05	0.13	<0.05^U	0.10	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07^U	<0.07	mg/kg	0.07	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04^U	<0.04^U	<0.04^U	<0.04^U	0.10^U	<0.04^U	0.09^U	mg/kg	0.04	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	0.08	<0.03^U	0.06	mg/kg	0.03	A-T-019s
Dibenzo(ah)anthracene$_A$	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	<0.05	<0.05	<0.05	0.07	<0.05^U	0.05	mg/kg	0.05	A-T-019s
Total PAH-16MS (MSD order)$_A$	<0.08	<0.08	<0.08	<0.08	1.17	<0.08^U	0.79	mg/kg	0.03	A-T-019s

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Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/1	26/06079/2	26/06079/3	26/06079/4	26/06079/5	26/06079/6	26/06079/7	Units	Limit of Detection	Method ref
Client Sample No	MG	HD	MG	HD	MG	HD	MG			
Client Sample ID	WS201	WS201	WS202	WS202	WS203	WS203	WS204			
Depth to Top	0.40	0.90	0.30	0.60	0.10	0.40	0.20			
Depth To Bottom	0.50	1.00	0.50	0.70	0.30	0.50	0.40			
Date Sampled	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOLID	SOIL - ES			
Sample Matrix Code	6AE	4AE	4AE	6A	4AE	7	6AE			
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1	<1^U	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	<1	3	<1^U	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	<1	<1	<1	<1^U	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	<1	3	7	<1	5	1^U	2	mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1	3	7	<1	10	1	2	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1	<1	<1	<1	1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	<1	<1	49	<1	5	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	<1	<1	<1	23	<1^U	2	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	<1	2	2	<1	40	<1^U	7	mg/kg	1	A-T-055s
Total Aromatics$_A$	<1	2	2	<1	112	<1	15	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	<1	5	10	<1	122	1	17	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01^U	<0.01	mg/kg	0.01	A-T-022s

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Lab Sample ID	26/06079/8	26/06079/9	26/06079/10	26/06079/11	26/06079/12	26/06079/13	26/06079/14	Units	Limit of Detection	Method ref
Client Sample No	HD	MG	HD	MG	HD	TS	HD			
Client Sample ID	WS204	WS205	WS205	WS206	WS206	WS207	WS207			
Depth to Top	0.50	0.10	0.40	0.10	0.50	0.10	0.50			
Depth To Bottom	0.60	0.20	0.50	0.20	0.60	0.30	0.60			
Date Sampled	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	12-May-26	12-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	6AE	4AE	4AE	4AE	4AE	4AE	4AE			
% Stones >10mm$_A$	<0.1	<0.1	20.1	13.8	30.7	13.9	15.9	% w/w	0.1	A-T-044
pH$_D$[M#]	7.63	7.77	8.16	4.17	5.58	7.66	6.46	pH	0.01	A-T-031s
Cyanide (free)$_A$[M#]	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sFCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Organic Matter$_D$[M#]	1.44	11.6	2.31	15.9	1.22	7.84	2.77	% w/w	0.14	A-T-032s
Total Organic Carbon$_D$[M#]	0.83	6.72	1.33	9.21	0.71	4.55	1.61	% w/w	0.08	A-T-032s
Antimony$_D$	<5	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-024s
Arsenic$_D$[M#]	7	5	3	7	3	15	5	mg/kg	1	A-T-024s
Cadmium$_D$[M#]	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	mg/kg	1	A-T-024s
Copper$_D$[M#]	7	13	6	8	3	8	4	mg/kg	1	A-T-024s
Chromium$_D$[M#]	30	17	11	8	21	11	19	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Lead$_D$[M#]	35	266	51	60	10	61	17	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D$[M#]	30	20	10	4	22	9	19	mg/kg	1	A-T-024s
Selenium$_D$[M#]	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Zinc$_D$[M#]	27	31	15	23	11	31	16	mg/kg	1	A-T-024s

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Lab Sample ID	26/06079/8	26/06079/9	26/06079/10	26/06079/11	26/06079/12	26/06079/13	26/06079/14	Units	Limit of Detection	Method ref
Client Sample No	HD	MG	HD	MG	HD	TS	HD			
Client Sample ID	WS204	WS205	WS205	WS206	WS206	WS207	WS207			
Depth to Top	0.50	0.10	0.40	0.10	0.50	0.10	0.50			
Depth To Bottom	0.60	0.20	0.50	0.20	0.60	0.30	0.60			
Date Sampled	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	12-May-26	12-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	6AE	4AE	4AE	4AE	4AE	4AE	4AE			
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD	NAD	NAD	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045

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Lab Sample ID	26/06079/8	26/06079/9	26/06079/10	26/06079/11	26/06079/12	26/06079/13	26/06079/14	Units	Limit of Detection	Method ref
Client Sample No	HD	MG	HD	MG	HD	TS	HD			
Client Sample ID	WS204	WS205	WS205	WS206	WS206	WS207	WS207			
Depth to Top	0.50	0.10	0.40	0.10	0.50	0.10	0.50			
Depth To Bottom	0.60	0.20	0.50	0.20	0.60	0.30	0.60			
Date Sampled	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	12-May-26	12-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	6AE	4AE	4AE	4AE	4AE	4AE	4AE			
PAH-16MS (MSD order)										
Naphthalene$_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	0.03	0.04	<0.03	<0.03	0.04	<0.03	mg/kg	0.03	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	0.02	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	<0.08	<0.08	<0.08	<0.08	0.13	<0.08	mg/kg	0.08	A-T-019s
Pyrene$_A^{M\#}$	<0.07	<0.07	<0.07	<0.07	<0.07	0.12	<0.07	mg/kg	0.07	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	<0.04	<0.04	<0.04	<0.04	0.07	<0.04	mg/kg	0.04	A-T-019s
Chrysene$_A^{M\#}$	<0.06	<0.06	<0.06	<0.06	<0.06	0.10	<0.06	mg/kg	0.06	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	0.07	<0.05	<0.05	<0.05	0.11	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04^U	0.04^U	<0.04^U	<0.04^U	<0.04^U	0.07^U	<0.04^U	mg/kg	0.04	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	0.03	<0.03	<0.03	<0.03	0.06	<0.03	mg/kg	0.03	A-T-019s
Dibenzo(ah)anthracene$_A$	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	mg/kg	0.05	A-T-019s
Total PAH-16MS (MSD order)$_A$	<0.08	0.17	<0.08	<0.08	<0.08	0.75	<0.08	mg/kg	0.03	A-T-019s

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Lab Sample ID	26/06079/8	26/06079/9	26/06079/10	26/06079/11	26/06079/12	26/06079/13	26/06079/14	Units	Limit of Detection	Method ref
Client Sample No	HD	MG	HD	MG	HD	TS	HD			
Client Sample ID	WS204	WS205	WS205	WS206	WS206	WS207	WS207			
Depth to Top	0.50	0.10	0.40	0.10	0.50	0.10	0.50			
Depth To Bottom	0.60	0.20	0.50	0.20	0.60	0.30	0.60			
Date Sampled	11-May-26	11-May-26	11-May-26	11-May-26	11-May-26	12-May-26	12-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	6AE	4AE	4AE	4AE	4AE	4AE	4AE			
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	<1	8	<1	11	2	7	5	mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1	8	<1	11	2	7	5	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	2	<1	1	<1	4	4	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	1	<1	2	<1	2	<1	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	<1	4	<1	5	<1	7	2	mg/kg	1	A-T-055s
Total Aromatics$_A$	<1	8	<1	8	<1	13	6	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	<1	16	<1	19	2	20	11	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

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Lab Sample ID	26/06079/15	26/06079/16	26/06079/17	26/06079/18	26/06079/19	26/06079/20	26/06079/21	Units	Limit of Detection	Method ref
Client Sample No	MG	HD	TS	HD	TS	HD	MG			
Client Sample ID	WS208	WS208	WS209	WS209	WS210	WS210	WS211			
Depth to Top	0.20	0.40	0.00	0.30	0.20	0.40	0.10			
Depth To Bottom	0.30	0.50	0.10	0.50	0.30	0.50	0.30			
Date Sampled	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
% Stones >10mm$_A$	13.8	25.8	<0.1	<0.1	13.3	<0.1	<0.1	% w/w	0.1	A-T-044
Asbestos in soil % composition (hand picking and weighing)$_D$	-	-	-	<0.001	-	-	-	% w/w	0.001	A-T-054
pH$_D^{M\#}$	7.98	7.83	8.30	8.44	5.97	6.65	7.62	pH	0.01	A-T-031s
Cyanide (free)$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sFCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Organic Matter$_D^{M\#}$	2.14	0.93	2.31	1.00	5.70	3.85	7.00	% w/w	0.14	A-T-032s
Total Organic Carbon$_D^{M\#}$	1.24	0.54	1.34	0.58	3.31	2.23	4.06	% w/w	0.08	A-T-032s
Antimony$_D$	<5	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-024s
Arsenic$_D^{M\#}$	4	4	12	20	4	8	34	mg/kg	1	A-T-024s
Cadmium$_D^{M\#}$	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	mg/kg	1	A-T-024s
Copper$_D^{M\#}$	3	3	10	15	13	8	21	mg/kg	1	A-T-024s
Chromium$_D^{M\#}$	16	16	9	26	11	26	19	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<4	<1	<1	<1	mg/kg	1	A-T-040s
Lead$_D^{M\#}$	20	12	76	30	117	39	253	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D^{M\#}$	16	14	8	11	10	29	18	mg/kg	1	A-T-024s
Selenium$_D^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Zinc$_D^{M\#}$	22	20	62	35	36	25	72	mg/kg	1	A-T-024s

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/15	26/06079/16	26/06079/17	26/06079/18	26/06079/19	26/06079/20	26/06079/21	Units	Limit of Detection	Method ref
Client Sample No	MG	HD	TS	HD	TS	HD	MG			
Client Sample ID	WS208	WS208	WS209	WS209	WS210	WS210	WS211			
Depth to Top	0.20	0.40	0.00	0.30	0.20	0.40	0.10			
Depth To Bottom	0.30	0.50	0.10	0.50	0.30	0.50	0.30			
Date Sampled	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD	Chrysotile	NAD	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	Loose Fibres	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/15	26/06079/16	26/06079/17	26/06079/18	26/06079/19	26/06079/20	26/06079/21	Units	Limit of Detection	Method ref
Client Sample No	MG	HD	TS	HD	TS	HD	MG			
Client Sample ID	WS208	WS208	WS209	WS209	WS210	WS210	WS211			
Depth to Top	0.20	0.40	0.00	0.30	0.20	0.40	0.10			
Depth To Bottom	0.30	0.50	0.10	0.50	0.30	0.50	0.30			
Date Sampled	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
PAH-16MS (MSD order)										
Naphthalene$_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthene$_A^{M\#}$	<0.01	<0.01	0.06	0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	0.06	0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Phenanthrene$_A^{M\#}$	0.08	<0.03	0.93	0.21	<0.03	<0.03	0.10	mg/kg	0.03	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.02	0.19	0.04	<0.02	<0.02	<0.02	mg/kg	0.02	A-T-019s
Fluoranthene$_A^{M\#}$	0.09	<0.08	1.95	0.40	<0.08	<0.08	0.15	mg/kg	0.08	A-T-019s
Pyrene$_A^{M\#}$	<0.07	<0.07	1.72	0.34	<0.07	<0.07	0.11	mg/kg	0.07	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	<0.04	0.85	0.18	<0.04	<0.04	0.07	mg/kg	0.04	A-T-019s
Chrysene$_A^{M\#}$	<0.06	<0.06	0.97	0.22	<0.06	<0.06	0.11	mg/kg	0.06	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	<0.05	0.91	0.20	<0.05	<0.05	0.11	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	0.32	0.08	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04^U	<0.04^U	0.89^U	0.17^U	<0.04^U	<0.04^U	0.09^U	mg/kg	0.04	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	<0.03	0.62	0.13	<0.03	<0.03	0.04	mg/kg	0.03	A-T-019s
Dibenzo(ah)anthracene$_A$	<0.04	<0.04	0.11	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	<0.05	0.51	0.12	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Total PAH-16MS (MSD order)$_A$	0.17	<0.08	10.1	2.11	<0.08	<0.08	0.78	mg/kg	0.03	A-T-019s

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/15	26/06079/16	26/06079/17	26/06079/18	26/06079/19	26/06079/20	26/06079/21	Units	Limit of Detection	Method ref
Client Sample No	MG	HD	TS	HD	TS	HD	MG			
Client Sample ID	WS208	WS208	WS209	WS209	WS210	WS210	WS211			
Depth to Top	0.20	0.40	0.00	0.30	0.20	0.40	0.10			
Depth To Bottom	0.30	0.50	0.10	0.50	0.30	0.50	0.30			
Date Sampled	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26	12-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	3	<1	11	2	7	5	6	mg/kg	1	A-T-055s
Total Aliphatics$_A$	3	<1	11	2	7	5	6	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	3	2	4	1	1	<1	1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	2	<1	2	<1	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	<1	13	2	2	1	1	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	2	<1	59	10	13	4	6	mg/kg	1	A-T-055s
Total Aromatics$_A$	5	2	78	13	18	5	8	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	8	3	89	15	25	9	13	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/22	26/06079/23	26/06079/24	26/06079/25	26/06079/26	26/06079/27	26/06079/28	Units	Limit of Detection	Method ref
Client Sample No	HD	TS	MG	HD	MG	MG	HD			
Client Sample ID	WS211	WS212	WS212	WS212	WS213	WS214	WS214			
Depth to Top	0.40	0.20	0.60	1.40	0.50	0.30	1.60			
Depth To Bottom	0.50	0.30	0.70	1.50	0.60	0.40	1.70			
Date Sampled	12-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	5AE	4AE	4AE	5A			
% Stones >10mm$_A$	<0.1	5.6	13.3	39.5	16.3	17.0	42.0	% w/w	0.1	A-T-044
pH$_D$[M#]	8.10	7.06	8.39	8.08	7.72	7.75	8.29	pH	0.01	A-T-031s
Cyanide (free)$_A$[M#]	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sFCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Organic Matter$_D$[M#]	2.89	2.94	2.66	0.30	3.54	3.79	0.18	% w/w	0.14	A-T-032s
Total Organic Carbon$_D$[M#]	1.67	1.70	1.54	0.18	2.05	2.20	0.10	% w/w	0.08	A-T-032s
Antimony$_D$	<5	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-024s
Arsenic$_D$[M#]	7	7	38	8	23	8	3	mg/kg	1	A-T-024s
Cadmium$_D$[M#]	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	mg/kg	1	A-T-024s
Copper$_D$[M#]	8	21	20	5	15	20	3	mg/kg	1	A-T-024s
Chromium$_D$[M#]	14	13	12	23	12	16	13	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Lead$_D$[M#]	79	74	254	10	179	316	7	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	0.18	<0.17	<0.17	<0.17	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D$[M#]	11	11	11	18	9	18	12	mg/kg	1	A-T-024s
Selenium$_D$[M#]	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Zinc$_D$[M#]	21	50	108	19	45	55	12	mg/kg	1	A-T-024s

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/22	26/06079/23	26/06079/24	26/06079/25	26/06079/26	26/06079/27	26/06079/28	Units	Limit of Detection	Method ref
Client Sample No	HD	TS	MG	HD	MG	MG	HD			
Client Sample ID	WS211	WS212	WS212	WS212	WS213	WS214	WS214			
Depth to Top	0.40	0.20	0.60	1.40	0.50	0.30	1.60			
Depth To Bottom	0.50	0.30	0.70	1.50	0.60	0.40	1.70			
Date Sampled	12-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	5AE	4AE	4AE	5A			
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD	NAD	NAD	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/22	26/06079/23	26/06079/24	26/06079/25	26/06079/26	26/06079/27	26/06079/28	Units	Limit of Detection	Method ref
Client Sample No	HD	TS	MG	HD	MG	MG	HD			
Client Sample ID	WS211	WS212	WS212	WS212	WS213	WS214	WS214			
Depth to Top	0.40	0.20	0.60	1.40	0.50	0.30	1.60			
Depth To Bottom	0.50	0.30	0.70	1.50	0.60	0.40	1.70			
Date Sampled	12-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	5AE	4AE	4AE	5A			
PAH-16MS (MSD order)										
Naphthalene$_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	mg/kg	0.01	A-T-019s
Acenaphthene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	mg/kg	0.01	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	mg/kg	0.01	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	0.03	0.06	<0.03	0.17	0.81	<0.03	mg/kg	0.03	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.02	<0.02	<0.02	0.03	0.22	<0.02	mg/kg	0.02	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	0.10	0.21	<0.08	0.56	4.11	<0.08	mg/kg	0.08	A-T-019s
Pyrene$_A^{M\#}$	<0.07	0.09	0.19	<0.07	0.51	3.75	<0.07	mg/kg	0.07	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	0.07	0.13	<0.04	0.31	2.67	<0.04	mg/kg	0.04	A-T-019s
Chrysene$_A^{M\#}$	<0.06	0.09	0.17	<0.06	0.40	2.63	<0.06	mg/kg	0.06	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	0.11	0.18	<0.05	0.43	3.14	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	<0.07	<0.07	0.13	1.20	<0.07	mg/kg	0.07	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04^U	0.08^U	0.13^U	<0.04^U	0.35^U	2.78^U	<0.04^U	mg/kg	0.04	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	0.09	0.11	<0.03	0.25	1.59	<0.03	mg/kg	0.03	A-T-019s
Dibenzo(ah)anthracene$_A$	<0.04	<0.04	<0.04	<0.04	<0.04	0.32	<0.04	mg/kg	0.04	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	0.08	0.10	<0.05	0.22	1.35	<0.05	mg/kg	0.05	A-T-019s
Total PAH-16MS (MSD order)$_A$	<0.08	0.74	1.28	<0.08	3.36	24.7	<0.08	mg/kg	0.03	A-T-019s

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/22	26/06079/23	26/06079/24	26/06079/25	26/06079/26	26/06079/27	26/06079/28	Units	Limit of Detection	Method ref
Client Sample No	HD	TS	MG	HD	MG	MG	HD			
Client Sample ID	WS211	WS212	WS212	WS212	WS213	WS214	WS214			
Depth to Top	0.40	0.20	0.60	1.40	0.50	0.30	1.60			
Depth To Bottom	0.50	0.30	0.70	1.50	0.60	0.40	1.70			
Date Sampled	12-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26	13-May-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	5AE	4AE	4AE	5A			
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	<1	<1	<1	2	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	2	3	5	<1	5	13	<1	mg/kg	1	A-T-055s
Total Aliphatics$_A$	2	3	5	<1	5	15	<1	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	1	<1	<1	<1	<1	2	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	<1	<1	<1	4	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	<1	4	<1	6	35	<1	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	1	2	23	<1	34	210	<1	mg/kg	1	A-T-055s
Total Aromatics$_A$	2	2	28	<1	40	251	<1	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	5	5	33	<1	45	266	<1	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/29	26/06079/30	26/06079/31	26/06079/32	26/06079/33	26/06079/34		Units	Limit of Detection	Method ref
Client Sample No	MG	HD	MG	HD	HD	HD				
Client Sample ID	WS215	WS215	WS216	WS216	HP201	HP201				
Depth to Top	0.50	1.30	0.70	1.10	0.30	0.70				
Depth To Bottom	0.60	1.40	0.80	1.20	0.50	1.00				
Date Sampled	13-May-26	13-May-26	13-May-26	13-May-26	12-May-26	12-May-26				
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES				
Sample Matrix Code	4AE	6A	4AE	6A	4AE	4AE				
Hazardous Waste Assessment	Appended	Appended	-	-	-	-				Assessment
% Moisture at <40C$_A$	14.5	11.3	-	-	-	-		% w/w	0.1	A-T-044
% Stones >10mm$_A$	19.4	17.6	<0.1	35.4	7.7	22.4		% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.33	7.75	7.13	7.06	7.38	5.46		pH	0.01	A-T-031s
Ammonium NH4 (exchangeable/water soluble)$_D$	6.96	9.53	-	-	-	-		mg/kg	0.26	A-T-033s
Sulphate (water sol 2:1)$_D$$^{M\#}$	0.06	<0.01	-	-	-	-		g/l	0.01	A-T-026s
Cyanide (free)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-042sFCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/kg	0.2	A-T-050s
Organic Matter$_D$$^{M\#}$	4.59	0.87	4.75	0.19	11.1	1.72		% w/w	0.14	A-T-032s
Total Organic Carbon$_D$$^{M\#}$	2.66	0.50	2.75	0.11	6.45	1.00		% w/w	0.08	A-T-032s
Antimony$_D$	<5	<5	<5	<5	<5	<5		mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	10	5	7	5	10	5		mg/kg	1	A-T-024s
Beryllium$_D$	<0.5	<0.5	-	-	-	-		mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	<1.0	-	-	-	-		mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		mg/kg	1	A-T-024s
Copper$_D$$^{M\#}$	36	5	15	5	13	4		mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	12	19	21	26	10	16		mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	368	9	113	6	196	13		mg/kg	1	A-T-024s
Mercury$_D$	0.24	<0.17	<0.17	<0.17	<0.17	<0.17		mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	10	17	20	20	6	16		mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	132	19	124	17	45	22		mg/kg	1	A-T-024s

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/29	26/06079/30	26/06079/31	26/06079/32	26/06079/33	26/06079/34		Units	Limit of Detection	Method ref
Client Sample No	MG	HD	MG	HD	HD	HD				
Client Sample ID	WS215	WS215	WS216	WS216	HP201	HP201				
Depth to Top	0.50	1.30	0.70	1.10	0.30	0.70				
Depth To Bottom	0.60	1.40	0.80	1.20	0.50	1.00				
Date Sampled	13-May-26	13-May-26	13-May-26	13-May-26	12-May-26	12-May-26				
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES				
Sample Matrix Code	4AE	6A	4AE	6A	4AE	4AE				
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD	NAD	NAD	NAD				A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-				A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-	-				A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A	N/A	N/A				A-T-045

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/29	26/06079/30	26/06079/31	26/06079/32	26/06079/33	26/06079/34		Units	Limit of Detection	Method ref
Client Sample No	MG	HD	MG	HD	HD	HD				
Client Sample ID	WS215	WS215	WS216	WS216	HP201	HP201				
Depth to Top	0.50	1.30	0.70	1.10	0.30	0.70				
Depth To Bottom	0.60	1.40	0.80	1.20	0.50	1.00				
Date Sampled	13-May-26	13-May-26	13-May-26	13-May-26	12-May-26	12-May-26				
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES				
Sample Matrix Code	4AE	6A	4AE	6A	4AE	4AE				
PAH-16MS (MSD order)										
Naphthalene$_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		mg/kg	0.03	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	0.03	<0.01		mg/kg	0.01	A-T-019s
Acenaphthene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	0.01	<0.01		mg/kg	0.01	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	0.01	<0.01		mg/kg	0.01	A-T-019s
Phenanthrene$_A^{M\#}$	0.08	<0.03	0.05	<0.03	0.21	<0.03		mg/kg	0.03	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.02	<0.02	<0.02	0.05	<0.02		mg/kg	0.02	A-T-019s
Fluoranthene$_A^{M\#}$	0.17	<0.08	0.14	<0.08	0.78	<0.08		mg/kg	0.08	A-T-019s
Pyrene$_A^{M\#}$	0.15	<0.07	0.13	<0.07	0.69	<0.07		mg/kg	0.07	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.09	<0.04	0.09	<0.04	0.43	<0.04		mg/kg	0.04	A-T-019s
Chrysene$_A^{M\#}$	0.13	<0.06	0.12	<0.06	0.47	<0.06		mg/kg	0.06	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.13	<0.05	0.13	<0.05	0.66	<0.05		mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	<0.07	<0.07	0.24	<0.07		mg/kg	0.07	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.09^U	<0.04^U	0.11^U	<0.04^U	0.49^U	<0.04^U		mg/kg	0.04	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.08	<0.03	0.08	<0.03	0.40	<0.03		mg/kg	0.03	A-T-019s
Dibenzo(ah)anthracene$_A$	<0.04	<0.04	<0.04	<0.04	0.08	<0.04		mg/kg	0.04	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.07	<0.05	0.07	<0.05	0.36	<0.05		mg/kg	0.05	A-T-019s
Total PAH-16MS (MSD order)$_A$	0.99	<0.08	0.92	<0.08	4.91	<0.08		mg/kg	0.03	A-T-019s

Envirolab Job Number: 26/06079

Client Project Name: SPH

Client Project Ref: J20-064

Lab Sample ID	26/06079/29	26/06079/30	26/06079/31	26/06079/32	26/06079/33	26/06079/34		Units	Limit of Detection	Method ref
Client Sample No	MG	HD	MG	HD	HD	HD				
Client Sample ID	WS215	WS215	WS216	WS216	HP201	HP201				
Depth to Top	0.50	1.30	0.70	1.10	0.30	0.70				
Depth To Bottom	0.60	1.40	0.80	1.20	0.50	1.00				
Date Sampled	13-May-26	13-May-26	13-May-26	13-May-26	12-May-26	12-May-26				
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES				
Sample Matrix Code	4AE	6A	4AE	6A	4AE	4AE				
Speciated PCB-EC7 & WHO12										
PCB BZ $28_A^{M\#}$	-	-	-	-	<0.003	<0.003		mg/kg	0.003	A-T-004s
PCB BZ $52_A^{M\#}$	-	-	-	-	<0.002	<0.002		mg/kg	0.002	A-T-004s
PCB BZ 81_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
PCB BZ $101_A^{M\#}$	-	-	-	-	<0.004	<0.004		mg/kg	0.004	A-T-004s
PCB BZ 105_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
PCB BZ 114_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
PCB BZ $118_A^{M\#}$	-	-	-	-	<0.007	<0.007		mg/kg	0.007	A-T-004s
PCB BZ 123_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
PCB BZ 126_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
PCB BZ $138_A^{M\#}$	-	-	-	-	<0.006	<0.006		mg/kg	0.006	A-T-004s
PCB BZ $153_A^{M\#}$	-	-	-	-	<0.004	<0.004		mg/kg	0.004	A-T-004s
PCB BZ 156_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
PCB BZ 157_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
PCB BZ 167_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
PCB BZ 169_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
PCB BZ $180_A^{M\#}$	-	-	-	-	<0.004	<0.004		mg/kg	0.004	A-T-004s
PCB BZ 189_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
PCB BZ 77_A	-	-	-	-	<0.005	<0.005		mg/kg	0.005	A-T-004s
Total Speciated PCB-EC7 & $WHO12_A$	-	-	-	-	<0.007	<0.007		mg/kg	0.003	A-T-004s
TPH Total with ID + GC Trace										
TPH total $(>C6\text{-}C40)_A^{M\#}$	17	<10	-	-	-	-		mg/kg	10	A-T-007s
TPH FID $Chromatogram_A$	Appended	Appended	-	-	-	-				A-T-007s
TPH ID $Interpretation_{A@}$	C16-C44 with unknown hydrocarbons	Concentration too low to identify	-	-	-	-				A-T-007s

Envirolab Job Number: 26/06079 **Client Project Name: SPH**

Client Project Ref: J20-064

Lab Sample ID	26/06079/29	26/06079/30	26/06079/31	26/06079/32	26/06079/33	26/06079/34		Units	Limit of Detection	Method ref
Client Sample No	MG	HD	MG	HD	HD	HD				
Client Sample ID	WS215	WS215	WS216	WS216	HP201	HP201				
Depth to Top	0.50	1.30	0.70	1.10	0.30	0.70				
Depth To Bottom	0.60	1.40	0.80	1.20	0.50	1.00				
Date Sampled	13-May-26	13-May-26	13-May-26	13-May-26	12-May-26	12-May-26				
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES				
Sample Matrix Code	4AE	6A	4AE	6A	4AE	4AE				
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	<1	<1	1	<1		mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	3	<1	22	<1	24	3		mg/kg	1	A-T-055s
Total Aliphatics$_A$	3	<1	22	<1	25	3		mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	1	<1	<1	<1		mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	4	<1	2	<1		mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	<1	6	<1	6	<1		mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	5	<1	47	<1	31	2		mg/kg	1	A-T-055s
Total Aromatics$_A$	7	<1	57	<1	40	2		mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	9	2	80	<1	64	4		mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
Subscript "@"	Result is an opinion
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:

All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:

For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:

EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:

Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Ground Condition Consultants Ltd, 10 Waldegrave Close, Southampton, SO19 9RY

Project: SPH

Clients Project No: J20-064

Project No: 26/06079

Date Received: 18/05/2026 (am)

Cool Box Temperatures (°C): 8.9, 8.5, 8.1

Lab Sample ID	26/06079/1	26/06079/2	26/06079/3	26/06079/4	26/06079/5	26/06079/6	26/06079/7	26/06079/8	26/06079/9	26/06079/10	26/06079/11	26/06079/12
Client Sample No	MG	HD	MG	HD	MG	HD	MG	HD	MG	HD	MG	HD
Client Sample ID/Depth	WS201 0.40-0.50m	WS201 0.90-1.00m	WS202 0.30-0.50m	WS202 0.60-0.70m	WS203 0.10-0.30m	WS203 0.40-0.50m	WS204 0.20-0.40m	WS204 0.50-0.60m	WS205 0.10-0.20m	WS205 0.40-0.50m	WS206 0.10-0.20m	WS206 0.50-0.60m
Date Sampled	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26
Deviation Code												
F	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Lab Sample ID	26/06079/13	26/06079/14	26/06079/15	26/06079/16	26/06079/17	26/06079/18	26/06079/19	26/06079/20	26/06079/21	26/06079/22	26/06079/23	26/06079/24
Client Sample No	TS	HD	MG	HD	TS	HD	TS	HD	MG	HD	TS	MG
Client Sample ID/Depth	WS207 0.10-0.30m	WS207 0.50-0.60m	WS208 0.20-0.30m	WS208 0.40-0.50m	WS209 0.00-0.10m	WS209 0.30-0.50m	WS210 0.20-0.30m	WS210 0.40-0.50m	WS211 0.10-0.30m	WS211 0.40-0.50m	WS212 0.20-0.30m	WS212 0.60-0.70m
Date Sampled	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	13/05/26	13/05/26
Deviation Code												
F	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Lab Sample ID	26/06079/25	26/06079/26	26/06079/27	26/06079/28	26/06079/29	26/06079/30	26/06079/31	26/06079/32	26/06079/33	26/06079/34
Client Sample No	HD	MG	MG	HD	MG	HD	MG	HD	HD	HD
Client Sample ID/Depth	WS212 1.40-1.50m	WS213 0.50-0.60m	WS214 0.30-0.40m	WS214 1.60-1.70m	WS215 0.50-0.60m	WS215 1.30-1.40m	WS216 0.70-0.80m	WS216 1.10-1.20m	HP201 0.30-0.50m	HP201 0.70-1.00m
Date Sampled	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	12/05/26	12/05/26
Deviation Code										
F	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Key

F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	26/06079/1	26/06079/2	26/06079/3	26/06079/4	26/06079/5	26/06079/6	26/06079/7	26/06079/8	26/06079/9	26/06079/10	26/06079/11	26/06079/12

Client Sample No	MG	HD	MG	HD	MG	HD	MG	HD	MG	HD	MG	HD
Client Sample ID/Depth	WS201 0.40-0.50m	WS201 0.90-1.00m	WS202 0.30-0.50m	WS202 0.60-0.70m	WS203 0.10-0.30m	WS203 0.40-0.50m	WS204 0.20-0.40m	WS204 0.50-0.60m	WS205 0.10-0.20m	WS205 0.40-0.50m	WS206 0.10-0.20m	WS206 0.50-0.60m
Date Sampled	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26
Cyanide (free)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VPHCWG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PAH-16MS (MSD order)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Lab Sample ID	26/06079/13	26/06079/14	26/06079/15	26/06079/16	26/06079/17	26/06079/18	26/06079/19	26/06079/20	26/06079/21	26/06079/22	26/06079/23	26/06079/24
Client Sample No	TS	HD	MG	HD	TS	HD	TS	HD	MG	HD	TS	MG
Client Sample ID/Depth	WS207 0.10-0.30m	WS207 0.50-0.60m	WS208 0.20-0.30m	WS208 0.40-0.50m	WS209 0.00-0.10m	WS209 0.30-0.50m	WS210 0.20-0.30m	WS210 0.40-0.50m	WS211 0.10-0.30m	WS211 0.40-0.50m	WS212 0.20-0.30m	WS212 0.60-0.70m
Date Sampled	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	13/05/26	13/05/26
Cyanide (free)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VPHCWG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PAH-16MS (MSD order)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Lab Sample ID	26/06079/25	26/06079/26	26/06079/27	26/06079/28	26/06079/29	26/06079/30	26/06079/31	26/06079/32	26/06079/33	26/06079/34
Client Sample No	HD	MG	MG	HD	MG	HD	MG	HD	HD	HD
Client Sample ID/Depth	WS212 1.40-1.50m	WS213 0.50-0.60m	WS214 0.30-0.40m	WS214 1.60-1.70m	WS215 0.50-0.60m	WS215 1.30-1.40m	WS216 0.70-0.80m	WS216 1.10-1.20m	HP201 0.30-0.50m	HP201 0.70-1.00m
Date Sampled	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	12/05/26	12/05/26
Cyanide (free)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VPHCWG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PAH-16MS (MSD order)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PAH (total 17)					✓	✓				
BTEX (total)					✓	✓				

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	26/06079/1	26/06079/2	26/06079/3	26/06079/4	26/06079/5	26/06079/6	26/06079/7	26/06079/8	26/06079/9	26/06079/10	26/06079/11	26/06079/12
Client Sample No	MG	HD	MG	HD	MG	HD	MG	HD	MG	HD	MG	HD
Client Sample ID/Depth	WS201 0.40-0.50m	WS201 0.90-1.00m	WS202 0.30-0.50m	WS202 0.60-0.70m	WS203 0.10-0.30m	WS203 0.40-0.50m	WS204 0.20-0.40m	WS204 0.50-0.60m	WS205 0.10-0.20m	WS205 0.40-0.50m	WS206 0.10-0.20m	WS206 0.50-0.60m
Date Sampled	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26	11/05/26
A-T-004s												
A-T-007m												
A-T-007s												
A-T-019s	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	03/06/2026	02/06/2026
A-T-022s	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026
A-T-024s	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026
A-T-025w												
A-T-026s												
A-T-026w												
A-T-026w (F)												
A-T-027s												
A-T-030s												
A-T-031s	01/06/2026	01/06/2026	01/06/2026	01/06/2026	01/06/2026	01/06/2026	01/06/2026	01/06/2026	01/06/2026	01/06/2026	01/06/2026	01/06/2026
A-T-031w												
A-T-032s	10/06/2026	10/06/2026	10/06/2026	10/06/2026	10/06/2026	10/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026
A-T-032w												
A-T-033s												
A-T-037w												
A-T-040s	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026
A-T-042sFCN	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026
A-T-044	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026
A-T-045	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026
A-T-050s	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026
A-T-050w												
A-T-054												
A-T-055s	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026
A-T-ANCs												
Assessment												
Calc-As Recd	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026
Calc-no stones												
Probe (w)												

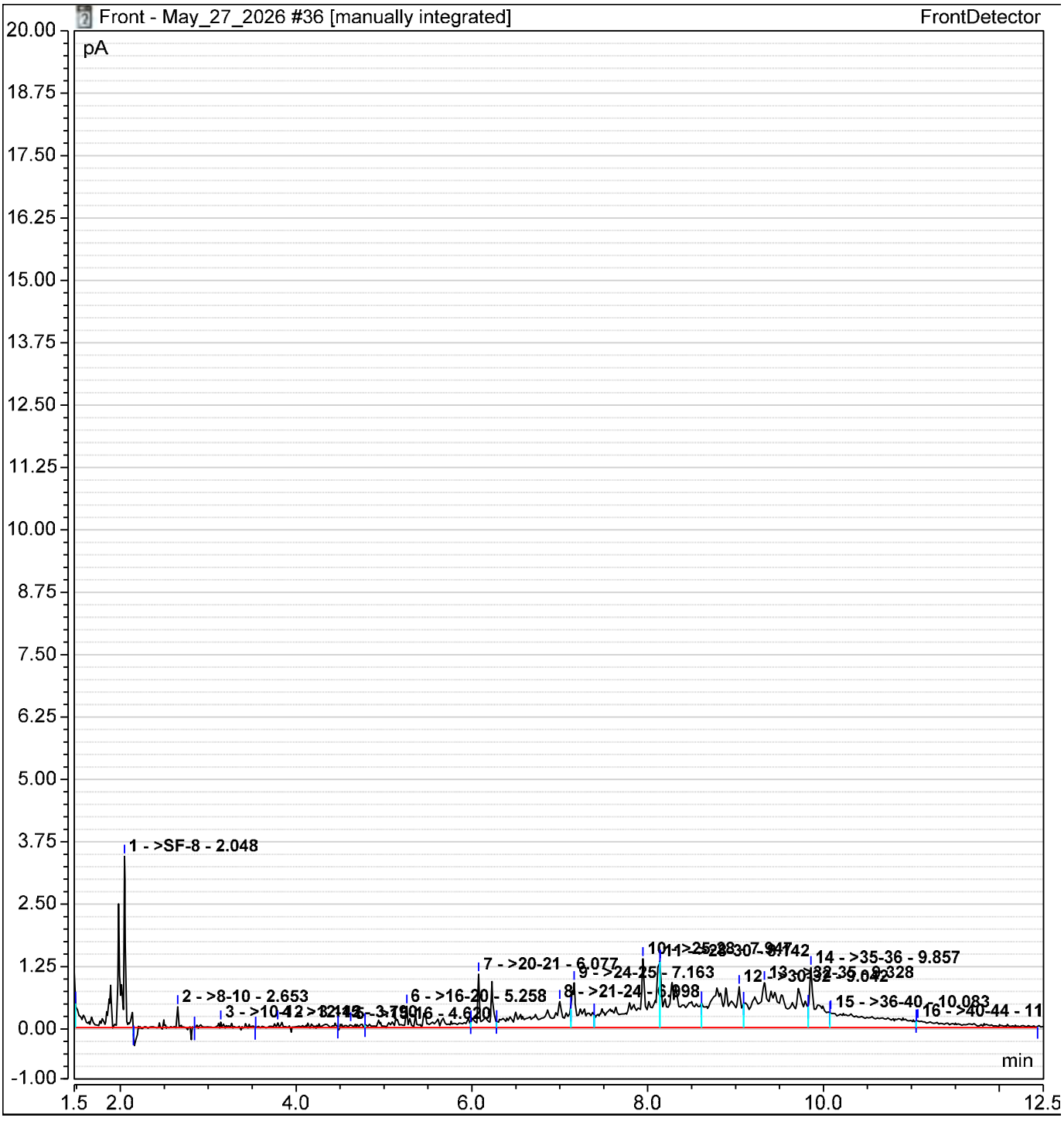
Lab Sample ID	26/06079/13	26/06079/14	26/06079/15	26/06079/16	26/06079/17	26/06079/18	26/06079/19	26/06079/20	26/06079/21	26/06079/22	26/06079/23	26/06079/24
Client Sample No	TS	HD	MG	HD	TS	HD	TS	HD	MG	HD	TS	MG
Client Sample ID/Depth	WS207 0.10-0.30m	WS207 0.50-0.60m	WS208 0.20-0.30m	WS208 0.40-0.50m	WS209 0.00-0.10m	WS209 0.30-0.50m	WS210 0.20-0.30m	WS210 0.40-0.50m	WS211 0.10-0.30m	WS211 0.40-0.50m	WS212 0.20-0.30m	WS212 0.60-0.70m
Date Sampled	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	12/05/26	13/05/26	13/05/26
A-T-004s												
A-T-007m												
A-T-007s												
A-T-019s	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026
A-T-022s	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026
A-T-024s	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026
A-T-025w												
A-T-026s												
A-T-026w												
A-T-026w (F)												
A-T-027s												
A-T-030s												
A-T-031s	01/06/2026	01/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026
A-T-031w												
A-T-032s	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026	04/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026
A-T-032w												
A-T-033s												
A-T-037w												
A-T-040s	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026
A-T-042sFCN	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026
A-T-044	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026
A-T-045	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026
A-T-050s	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026
A-T-050w												
A-T-054						04/06/2026						
A-T-055s	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026
A-T-ANCs												
Assessment												
Calc-As Recd	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026
Calc-no stones												
Probe (w)												

Lab Sample ID	26/06079/25	26/06079/26	26/06079/27	26/06079/28	26/06079/29	26/06079/30	26/06079/31	26/06079/32	26/06079/33	26/06079/34
Client Sample No	HD	MG	MG	HD	MG	HD	MG	HD	HD	HD
Client Sample ID/Depth	WS212 1.40-1.50m	WS213 0.50-0.60m	WS214 0.30-0.40m	WS214 1.60-1.70m	WS215 0.50-0.60m	WS215 1.30-1.40m	WS216 0.70-0.80m	WS216 1.10-1.20m	HP201 0.30-0.50m	HP201 0.70-1.00m
Date Sampled	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	13/05/26	12/05/26	12/05/26
A-T-004s					02/06/2026	02/06/2026			02/06/2026	02/06/2026
A-T-007m					28/05/2026	28/05/2026				
A-T-007s					28/05/2026	28/05/2026				
A-T-019s	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	03/06/2026	03/06/2026
A-T-022s	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026
A-T-024s	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026
A-T-025w					09/06/2026	09/06/2026				
A-T-026s					03/06/2026	03/06/2026				
A-T-026w					09/06/2026	09/06/2026				
A-T-026w (F)					09/06/2026	09/06/2026				
A-T-027s					03/06/2026	03/06/2026				
A-T-030s					02/06/2026	02/06/2026				
A-T-031s	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	02/06/2026	08/06/2026	08/06/2026
A-T-031w					09/06/2026	09/06/2026				
A-T-032s	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026	12/06/2026
A-T-032w					09/06/2026	09/06/2026				
A-T-033s					05/06/2026	05/06/2026				
A-T-037w					09/06/2026	09/06/2026				
A-T-040s	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026
A-T-042sFCN	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026	03/06/2026
A-T-044	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026
A-T-045	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026	22/05/2026
A-T-050s	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	06/06/2026	08/06/2026	08/06/2026
A-T-050w					09/06/2026	09/06/2026				
A-T-054										
A-T-055s	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026
A-T-ANCs					02/06/2026	02/06/2026				
Assessment					19/06/2026	19/06/2026				
Calc-As Recd	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026	05/06/2026
Calc-no stones					09/06/2026	09/06/2026				
Probe (w)					09/06/2026	09/06/2026				

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

Chromatogram



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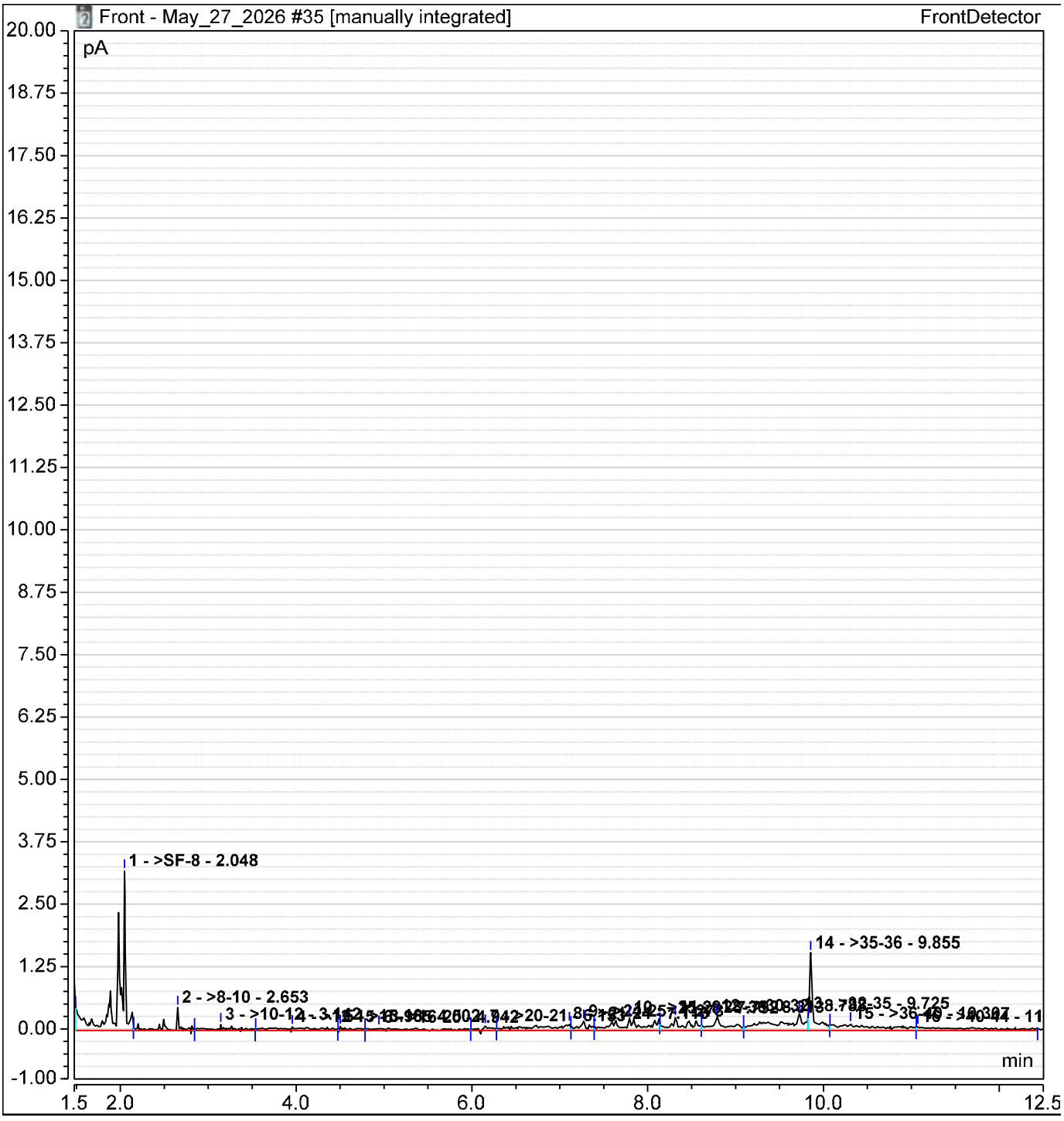
Chromeleon 7.3.0.60919

Chromatogram



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Chromeleon 7.3.0.60919

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

Final Test Report

Envirolab Job Number:	26/06079		
Issue Number:	1	Date:	19-Jun-26

Client: Ground Condition Consultants Ltd
10 Waldegrave Close
Southampton
SO19 9RY
Ceredigion
UK, SA44 5NW

Project Manager:	Antony Platt
Project Name:	SPH
Project Ref:	J20-064
Order No:	J20-064
Date Samples Received:	14-May-26
Date Instructions Received:	18-May-26
Date Analysis Completed:	19-Jun-26

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

HWOL TPH Code: EH_CU_1D_AL: Extractable hydrocarbons - i.e. everything extracted by the solvent(s), Clean-up - e.g. by florisil, silica gel, GC - Single coil gas chromatography, Aliphatics only

Approved by:

Richard Wong
Client Manager

Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	26/06079/29				
Client Sample Number				MG		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				WS215				
Depth to Top				0.5				
Depth to Bottom				0.60				
Date Sampled				13/05/2026				
Sample Type				Soil - ES				
Sample Matrix Code				4AE				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**8.33**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.24**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.08**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**6**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**2.66**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**1**		100	-	-
Mineral Oil (mg/kg)$_{A\ EH_CU_1D_AL}$	A-T-007	N	N	**<10**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1 mg/l**	**10:1 mg/kg**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	0.011	**0.110**	0.5	2	25
Barium	A-T-025	N	N	0.013	**0.130**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	<0.001	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.009	**0.090**	2	50	100
Mercury	A-T-025	N	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.003	**0.030**	0.5	10	30
Nickel	A-T-025	N	N	0.002	**0.020**	0.4	10	40
Lead	A-T-025	N	N	0.018	**0.180**	0.5	10	50
Antimony	A-T-025	N	N	0.003	**0.030**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.014	**0.140**	4	50	200
Chloride	A-T-026	N	N	7	**68**	800	15000	25000
Fluoride	A-T-026	N	N	0.6	**5.8**	10	150	500
Sulphate as SO_4	A-T-026	N	N	15	**158**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	61	**626**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	5.70	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	7.1				
Conductivity (µS/cm)	A-T-037	N	N	122				
Mass Sample (kg)				0.22				
Dry Matter (%)	A-T-044	N	N	79.5				

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

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	26/06079/30				
Client Sample Number				HD		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				WS215				
Depth to Top				1.3				
Depth to Bottom				1.40				
Date Sampled				13/05/2026				
Sample Type				Soil - ES				
Sample Matrix Code				6A				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**7.75**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.03**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.02**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**2.7**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**0.5**		3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**<0.08**		100	-	-
Mineral Oil (mg/kg)$_{A\ EH_CU_1D_AL}$	A-T-007	N	N	**<10**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1 mg/l**	**10:1 mg/kg**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	0.001	**0.010**	0.5	2	25
Barium	A-T-025	N	N	0.020	**0.200**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	<0.001	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.009	**0.090**	2	50	100
Mercury	A-T-025	N	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	<0.001	**<0.01**	0.5	10	30
Nickel	A-T-025	N	N	0.003	**0.030**	0.4	10	40
Lead	A-T-025	N	N	0.005	**0.050**	0.5	10	50
Antimony	A-T-025	N	N	<0.001	**<0.01**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.085	**0.860**	4	50	200
Chloride	A-T-026	N	N	<1.00	**<10**	800	15000	25000
Fluoride	A-T-026	N	N	<0.10	**<1.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	<1.00	**<10**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	<20	**<200**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	3.40	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	7.0				
Conductivity (µS/cm)	A-T-037	N	N	22				
Mass Sample (kg)				0.201				
Dry Matter (%)	A-T-044	N	N	87.1				

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

Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

HAZARDOUS WASTE CLASSIFICATION REPORT

Envirolab Job Number: 26/06079
Issue Number: **Date:19/06/2026**

Client: Ground Condition Consultants Ltd

Project Manager: Antony Platt
Project Name: SPH
Project Ref: J20-064
Order No: J20-064
Date Samples Received: 14/05/2026
Date Instructions Received: 18/05/2026

Appended hazardous waste assessment, RSK ref 11505-R371 16 pages.

Approved by:

Danielle Brierley
Client Services Supervisor

WM3 PRELIMINARY WASTE ASSESSMENT AND CLASSIFICATION REPORT

RSK REPORT REFERENCE: 3020010-R371

INTRODUCTION

On behalf of Envirolab, RSK was requested to undertake waste assessment and classification on two (2) soil samples collected by a third party from an unknown site on 13 May 2026.

Information relating to historical operations at the site was not reviewed as part of RSK's assessment. In addition, RSK was not present during the collection of the samples nor had any input on the chemical testing suite. Therefore, the waste assessment and classification detailed in this report are based solely on the laboratory chemical data that were provided to RSK by Envirolab and were completed without prejudice for our client, Envirolab.

CHEMICAL TESTING

Two (2) samples were analysed for a **chemical testing suite** comprising: TPH (C6-C40 total) with oil source ID, TPH CWG (C5-C35) with BTEX, pH, speciated PAH, heavy metals including hexavalent chromium, ammonium, cyanide (free), total phenols, water-soluble sulphate and moisture content.

A copy of the certificate of chemical analysis is provided in **Appendix B**.

WASTE ASSESSMENT AND CLASSIFICATION

The following assessments assume the material tested is classified subsequently as waste. RSK has developed a waste soils characterisation assessment tool (HASWASTE), which follows the guidance within Technical Guidance WM3. The analytical results have been assessed using this tool to determine if the samples contain hazardous properties.

The results of the assessment are summarised below.

A copy of the HASWASTE assessment spreadsheet is provided in **Appendix C**.

Sample Reference	Waste classification of sample	Hazardous property code(s)	Hazardous chemical component(s) and concentration(s)
MG WS215 0.5 - 0.6 m	**Non-Hazardous**	None identified	Not applicable
HD WS215 1.3 - 1.4 m	**Non-hazardous**	None identified	Not applicable

CONCLUSIONS

Waste assessment and classification were completed by RSK solely on the basis of chemical data provided by Envirolab. Using the data available for assessment the assessed samples may be classified as **non-hazardous waste.**

We are not aware of the source of the material that the samples were taken from therefore we cannot definitively assign the appropriate List of Waste (LoW) code (formerly the European Waste Catalogue (EWC)). However, if the samples were taken from material that is CONSTRUCTION AND DEMOLITION WASTE (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES) it may be possible for the waste producer to assign the **Non-hazardous** waste LoW code **'17 05 04 soil and stones'** to the samples.

In the absence of specific information on the potential waste volume(s) and the waste stream(s) the tested samples are representative of, it is noted that the chemical testing and assessment undertaken on two (2)

samples may not necessarily be representative of the waste stream(s) requiring disposal. Therefore, further testing and assessment may be required to robustly characterise the waste and satisfy the requirements of the waste receiving facility. Furthermore, specific waste receiving sites that are identified as potential disposal routes may have additional analytical requirements (e.g. WAC testing, asbestos screen) before they are either able or willing to accept the waste; therefore, it is advised that potential disposal sites are contacted at the earliest possible convenience so any further specific requirements to support disposal can be established.

Report author: **David Rowe** Technical reviewer: **Abigail Edwards**

APPENDIX A
SERVICE CONSTRAINTS

1. Service Constraints

1.1. This Report (the “Report”) and any study, inspection, investigation, sampling, testing and or interpretation carried out in connection with the Report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) trading as RSK Geosciences, for the Client named in the first paragraph of the Report (the "Client") in accordance with the terms of an RSK Fee Proposal including RSK Environment Standard Terms and Conditions (the “Appointment”) between RSK and the Client, unless otherwise stated in the first paragraph of the Report. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by a geo-environmental consultant at the time the Services were performed. Nothing in this Report shall be construed as imposing any fitness for purpose obligation. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the Client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.

1.2 Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services. RSK shall not be liable in respect of any action or proceedings arising out of or in connection with this Report whether in contract, in tort, for breach of statutory duty or otherwise after the expiry of six (6) years from either (i) the date of the Report or (ii) such earlier date as prescribed by law, unless varied in the terms of the Appointment.

1.3 Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent, or condone any party, other than the Client relying upon the Services. Should this Report or any part of this Report, or details of the Services or any part of the Services, be made known to any such party, and such party relies thereon, that party does so wholly at its own and sole risk, and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent geo-environmental consultant and/or lawyer.

1.4 The Client shall not, without the prior written consent of RSK, assign, transfer, charge, mortgage, subcontract, or deal in any other manner with all or any of the benefits provided in this Report. Unless specified in the Appointment, RSK shall not be obliged to assign the benefit of the Report whether by collateral warranty, third party rights pursuant to the Contracts (Rights of Third Parties) Act 1999, letter of reliance or otherwise. If RSK agrees to any assignment of the benefit of this Report, in whatever form, benefits to third parties through collateral warranties, third party rights or letters of reliance shall not be provided unless a fee for each right, warranty or letter is agreed. The form of wording used in the warranty or letter shall be provided by RSK for agreement by the Client. Any reasonable changes to the form of wording will be implemented by mutual agreement, however the terms in the warranty or letter cannot offer the third party any greater benefit than the Appointment offered to the Client.

1.5 It is the understanding of RSK that this Report is to be used for the purpose described in the introduction to the Report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the Report is used, or the proposed use of the site change, this Report may no longer be valid and any further use of or reliance upon the Report in those circumstances by the Client without the review and advice of RSK shall be at the Client's sole and own risk. RSK shall not be liable for any use of this Report for any purpose other than that for which it was provided.

1.6 The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions contained in this Report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the Report in the future shall be at the Client's own and sole risk.

1.7 The observations and conclusions described in this Report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out, or required by the Appointment between the Client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this Report, RSK did not seek to evaluate the presence on or off site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, fuel storage, persistent bio-accumulative or toxic chemicals (including PFAS and related compounds) or other radioactive or hazardous materials, unless specifically identified in the Services.

1.8 The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of desk based publicly available information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services and the limitations below:

a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.

b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.

c. The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the Client or third parties, including laboratories and information services, during the performance of the Services.

d. The Client has identified in writing to RSK, the information, reports, findings, surveys and preliminary works RSK may not rely upon when providing the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK, and including the doing of any independent investigation of the information provided to RSK, save as otherwise provided in the terms of the Appointment between the Client and RSK.

1.9 Any site drawing(s) provided in this Report is (are) not meant to be an accurate base plan for scale measurement but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for accurate setting out and should be considered indicative only.

1.10 Should RSK be requested to review the Report after the date of issue of this Report, RSK shall be entitled to additional payment at the existing rates, or such other terms as agreed between RSK and the Client.

2. Service Constraints where the Report provides an intrusive assessment of ground conditions:

2.1 The intrusive environmental ground investigation aspects of the Services are a limited sampling of soil from the site, at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this Report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent

of the limited area depends on the properties of the materials adjacent and local conditions, together with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope agreed between the Client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species (not tested) are not present.

2.2 The comments given in this Report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. The extent of the exploratory holes, laboratory testing and monitoring undertaken may have been restricted due to a number of factors including accessibility, the presence of buried or overhead services, current development, site usage, timescales or the Client's specification. The exploratory holes only assess a small proportion of the site area with respect to the site as a whole, and as such may only provide an indicative assessment of ground conditions on site. There may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised. The presence of hotspots of undisclosed contamination or exceptional and unforeseen ground conditions cannot be discounted.

2.3 Where the Services include Investigation of an exploratory nature or relating to physical ground works, any costings and prices provided in the Report are estimated and provided for guidance purposes only. The actual cost and time quantities shall be remeasured and shall be dependent upon the ground or other conditions, constraints present, and number and depth of the investigation locations, which shall influence the number of samples and tests required, and the quantities of soil being classified.

2.4 Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works. However, this Report does not constitute an asbestos survey. On this basis, the presence of asbestos on site cannot be discounted and a full asbestos survey should be undertaken.

2.5 Unless stated otherwise, only preliminary geotechnical recommendations are presented in this Report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed. Eurocode 7 gives guidance on the type of sampling, sample quality, number and spacing of intrusive investigations, and number of laboratory tests required. It is intended that the Geotechnical Information section of this Report will fulfil the general requirements of the Ground Investigation Report as set out in section 6 of Eurocode7, although this is subject to the restrictions imposed on the investigation, as listed above. For geotechnical design, Eurocode 7 requires the Geotechnical Design Report to address both the geotechnical and structural aspects of the geotechnical design for both the limit and serviceability states. The Geotechnical Appraisal section of this Report will not meet the requirements of a Geotechnical Design Report (GDR) and should therefore be used for preliminary guidance only.

3. Service Constraints where the Report relates to Surface Water Management:

3.1 The Surface Water Management Inspection (SWMI) Report, documents provided, observations, actions, and recommendations, with respect to the management of potential pollution issues to surface waters, made during the site Inspection visit, are those present at the time of the visit, and may not represent those recorded by others on the same day.

3.2 The comments given in this Report and the opinions expressed are based on the weather, ground and ground water conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not been disclosed by the inspection and therefore could not be taken into account. In addition, groundwater levels and flows, may vary from those Reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.

3.3 RSK places a degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this Report was prepared.

3.4 This Report is a live document, to be continually reviewed and updated as the development progresses or other changes occur on site. RSK can only maintain the currency of this Report through the Client requesting support with supplementary site visits or attendance at meetings ahead of key stages of the development in relation to surface water management. Our risk rating assesses a number of risk factors in line with the source-pathway- receptor model and is therefore subject to constant change.

3.5 Standard design drawings are indicative. Material types, dimensions and construction details will need to be adjusted by the Client to suit the specific conditions / flows on Site.

3.6 The full responsibly for implementing the site-specific protection and maintenance measures to protect the surface water system as stated in this Report, remains with the Client and their site management team. Additional control measures may be required to achieve the objectives set out in the Surface Water Management Plan to be implemented and financed by the Client.

4. Service Constraints where the Report relates to Waste Management:

4.1 In accordance with the definition provided in the Waste Framework Directive (WFD), materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded, by the holder'. Naturally occurring soils are not considered waste if re-used on the site of origin for the purposes of development. Soils such as made ground that are not of clean and natural origin (irrespective of whether they are contaminated or not) and other materials such as recycled aggregate, do not necessarily become waste until the criteria above are met. Excavation arisings from the development may therefore be classified as waste if surplus to requirements and/or unsuitable for re-use.

4.2 It is the duty of the waste producer, to ensure that all waste is accurately classified prior to waste disposal. Technical Guidance WM3 (EA, 2018) sets out in its Appendix D requirements for waste sampling. It is a legal requirement to correctly assess and classify waste. The level of sampling should be proportionate to the volume of waste and its heterogeneity. Unless otherwise stated, the waste assessment presented in this Report should be considered as preliminary and further testing and assessment of the waste under the provisions of a Waste Sampling Plan may be required to obtain the necessary level of data required for basic characterisation of the waste in support of disposal.

4.3 Unless stated otherwise in the Report, information relating to historical operations at the site was not reviewed as part of the assessment by RSK. In addition, unless otherwise stated in the Services, RSK was not present during the collection of the samples nor had any input on the chemical testing suite. Therefore, the waste assessment and classification detailed in this Report are based solely on any information that were provided to RSK (e.g., laboratory chemical data, exploratory hole records) and were completed without prejudice for our Client.

4.4 RSK's assumes that any ground investigation data, chemical testing results etc., that were provided by the Client to inform the waste assessment and supporting review were carried out in accordance with current best practice and relevant guidance/ standards, where applicable. Thus, the

comments given in this Report and the opinions expressed are based solely on the information provided by the Client. However, it is noted that there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account as part of the RSK assessment.

5. Service Constraints for Construction Environmental Management Plan Reports:

5.1 This Report should be considered in the light of any changes in legislation, statutory requirement or industry practices that may have occurred subsequent to the date of issue.

5.2 The measures and comments outlined in this Report and any opinions expressed are based on the plans provided at the time and discussions with relevant parties. However, there may be conditions pertaining to the site that have not been disclosed by investigations and therefore could not be taken into account.

5.3 This CEMP is a live document and is subject to change throughout the project, as and when necessary, to ensure management of environmental aspects remains relevant, and to ensure continued compliance with legislation and commitments as they may change. RSK understands that this CEMP will be reviewed by the Client every six months and updated as and when necessary.

5.4 It is the full responsibility of the Principal Contractor/ Client to ensure that their works do not contravene legal requirements, and adherence to this CEMP alone cannot be a full defence regarding legal action against the Principal Contractor.

6. Service Constraints where the Report relates to Ground Gas Membrane Verification:

6.1 This Report is limited to the verification of the gas resistant membrane/vapour membrane/ radon barrier after installation and no inspections were undertaken of the substrate (i.e. prepared ground). The Report therefore does not constitute as a full verification of ground gas protection system.

6.2 The comments given in this Report and the opinions expressed, are based on the condition of the ground gas membrane as encountered at the time of inspection by suitably qualified personnel. RSK cannot accept liability for any subsequent change to the status of the gas membrane by follow-on trades or other construction activity.

6.3 Where not designed by RSK, the verification of protection measures is carried out with reference to the gas protection design provided by the Client. RSK assume the scope of gas protection measures as determined by third parties to be correct and to have achieved any required approval from authorities.

6.4 The Ground Gas Design Report/Remediation Strategy and Verification Plan contains details of the procedures to be adopted for inspection and validation of the works. However, it should be noted that responsibility for the correct implementation of the strategy lies with the appointed contractor. RSK cannot be held responsible for any remedial works that are carried out without the agreed procedures involving either direct supervision by RSK, or inspection and validation of the works by a representative from RSK.

7. Service Constraints for Environmental Due Diligence (EDD)Reports:

7.1 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the site, therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information.

7.2 This Report describes the results of the EDD exercise. The scope of this EDD Report, where appropriate, covers legal or regulatory compliance with respect to UK or international regulations associated with environmental matters.

7.3 As with any EDD exercise, there is a certain degree of dependence upon information provided by the target company. The EDD does not include a site walkover / visit or liaison with site representatives unless identified in the Services. Therefore, the assessment is based on the available desk study information. Also, there is a certain degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this EDD exercise was performed.

7.4 This Report, including all supporting data and notes (collectively referred to hereinafter as "information"), was prepared or collected by RSK for the benefit of its Client.

7.5 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment and the site inspection visit. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the Site therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information and observations collected during the site inspection visit.

8. Service Constraints for Ground source heat energy Reports:

8.1 It is understood that this is a desktop survey only and that there are no requirements for a site walkover, service utility survey, or provision of service plans. These services can be provided upon request if required.

8.2 At a later stage, it is possible that a thermal response test (TRT) will need to be completed, for which a test borehole will have to be drilled, and these would be costed at the time. RSK can provide all aspects of subsequent site work for a GSHP system if required.

9. Service Constraints for Water Abstraction Borehole Reports:

9.1 The Report aims principally to only identify and assess the suitability of the site for a water abstraction borehole. This Report should be considered in the light of any changes in legislation, statutory requirements, and industry practices, that have occurred subsequent to the date of the Report.

9.2 Unless stated in the Report, the opinions expressed in this Report including all comments and recommendations provided are on the basis of the information obtained from a desk-based assessment.

APPENDIX B
CERTIFICATES OF CHEMICAL ANALYSIS

Envirolab Job Number: 26/06079
Client:
Client Project Name:
Client Project Ref:

Lab Sample ID				26/06079/29	26/06079/30
Client Sample No				MG	HD
Client Sample ID				WS215	WS215
Depth to Top				0.50	1.30
Depth to Bottom				0.60	1.40
Date Sampled				13-May-26	13-May-26
Sample Type	**Units**	**Limit of Detection**	**Method**	Soil - ES	Soil - ES
Sample Matrix Code				4AE	6A
% Moisture at <40C	% w/w	0.1	A-T-044	14.5	11.3
% Stones >10mm	% w/w	0.1	A-T-044	19.4	17.6
Asbestos in soil % composition (hand picking and weighing)	% w/w	0.001	A-T-054		
pH	pH	0.01	A-T-031s	8.33	7.75
Ammonium NH4 (exchangeable/water soluble)	mg/kg	0.26	A-T-033s	6.96	9.53
Sulphate (water sol 2:1)	g/l	0.01	A-T-026s	0.06	<0.01
Cyanide (free)	mg/kg	1	A-T-042sFCN	<1	<1
Phenols - Total by HPLC	mg/kg	0.2	A-T-050s	<0.2	<0.2
Organic Matter	% w/w	0.14	A-T-032s	4.59	0.87
Total Organic Carbon	% w/w	0.08	A-T-032s	2.66	0.5
Antimony	mg/kg	5	A-T-024s	<5	<5
Arsenic	mg/kg	1	A-T-024s	10	5
Beryllium	mg/kg	0.5	A-T-024s	<0.5	<0.5
Boron (water soluble)	mg/kg	1	A-T-027s	<1.0	<1.0
Cadmium	mg/kg	1	A-T-024s	<1.0	<1.0
Copper	mg/kg	1	A-T-024s	36	5
Chromium	mg/kg	1	A-T-024s	12	19
Chromium (hexavalent)	mg/kg	1	A-T-040s	<1	<1
Lead	mg/kg	1	A-T-024s	368	9
Mercury	mg/kg	0.17	A-T-024s	0.24	<0.17
Nickel	mg/kg	1	A-T-024s	10	17
Selenium	mg/kg	1	A-T-024s	<1	<1
Zinc	mg/kg	1	A-T-024s	132	19
PAH-16MS (MSD order)					
Naphthalene	mg/kg	0.03	A-T-019s	<0.03	<0.03
Acenaphthylene	mg/kg	0.01	A-T-019s	<0.01	<0.01
Acenaphthene	mg/kg	0.01	A-T-019s	<0.01	<0.01
Fluorene	mg/kg	0.01	A-T-019s	<0.01	<0.01
Phenanthrene	mg/kg	0.03	A-T-019s	0.08	<0.03
Anthracene	mg/kg	0.02	A-T-019s	<0.02	<0.02
Fluoranthene	mg/kg	0.08	A-T-019s	0.17	<0.08
Pyrene	mg/kg	0.07	A-T-019s	0.15	<0.07
Benzo(a)anthracene	mg/kg	0.04	A-T-019s	0.09	<0.04
Chrysene	mg/kg	0.06	A-T-019s	0.13	<0.06
Benzo(b)fluoranthene	mg/kg	0.05	A-T-019s	0.13	<0.05
Benzo(k)fluoranthene	mg/kg	0.07	A-T-019s	<0.07	<0.07
Benzo(a)pyrene	mg/kg	0.04	A-T-019s	0.09	<0.04
Indeno(123-cd)pyrene	mg/kg	0.03	A-T-019s	0.08	<0.03
Dibenzo(ah)anthracene	mg/kg	0.04	A-T-019s	<0.04	<0.04
Benzo(ghi)perylene	mg/kg	0.05	A-T-019s	0.07	<0.05
Total PAH-16MS (MSD order)	mg/kg	0.03	A-T-019s	0.99	<0.08
TPH Total with ID + GC Trace					
TPH total (>C6-C40)	mg/kg	10	A-T-007s	17	<10
TPH FID Chromatogram			A-T-007s	Appended	Appended

Envirolab Job Number: 26/06079
Client:
Client Project Name:
Client Project Ref:

Lab Sample ID				26/06079/29	26/06079/30
Client Sample No				MG	HD
Client Sample ID				WS215	WS215
Depth to Top				0.50	1.30
Depth to Bottom				0.60	1.40
Date Sampled				13-May-26	13-May-26
Sample Type				Soil - ES	Soil - ES
Sample Matrix Code	**Units**	**Limit of Detection**	**Method**	4AE	6A
TPH ID Interpretation			A-T-007s	C16-C44 with unknown hydrocarbons	Concentration too low to identify
TPH CWG with Clean Up					
Ali >C5-C6	mg/kg	0.01	A-T-022s	<0.01	<0.01
Ali >C6-C8	mg/kg	0.01	A-T-022s	<0.01	<0.01
Ali >C8-C10	mg/kg	1	A-T-055s	<1	<1
Ali >C10-C12	mg/kg	1	A-T-055s	<1	<1
Ali >C12-C16	mg/kg	1	A-T-055s	<1	<1
Ali >C16-C21	mg/kg	1	A-T-055s	<1	<1
Ali >C21-C35	mg/kg	1	A-T-055s	3	<1
Total Aliphatics	mg/kg	1	Calc-As Recd	3	<1
Aro >C5-C7	mg/kg	0.01	A-T-022s	<0.01	<0.01
Aro >C7-C8	mg/kg	0.01	A-T-022s	<0.01	<0.01
Aro >C8-C10	mg/kg	1	A-T-055s	<1	<1
Aro >C10-C12	mg/kg	1	A-T-055s	<1	<1
Aro >C12-C16	mg/kg	1	A-T-055s	<1	<1
Aro >C16-C21	mg/kg	1	A-T-055s	<1	<1
Aro >C21-C35	mg/kg	1	A-T-055s	5	<1
Total Aromatics	mg/kg	1	Calc-As Recd	7	<1
TPH (Ali & Aro >C5-C35)	mg/kg	1	Calc-As Recd	9	2
BTEX - Benzene	mg/kg	0.01	A-T-022s	<0.01	<0.01
BTEX - Toluene	mg/kg	0.01	A-T-022s	<0.01	<0.01
BTEX - Ethyl Benzene	mg/kg	0.01	A-T-022s	<0.01	<0.01
BTEX - m & p Xylene	mg/kg	0.01	A-T-022s	<0.01	<0.01
BTEX - o Xylene	mg/kg	0.01	A-T-022s	<0.01	<0.01
MTBE	mg/kg	0.01	A-T-022s	<0.01	<0.01

APPENDIX C
‘HASWASTE’ SPREADSHEET

Haswaste, developed by Dr. Iain Haslock.
Maintained by RSK Waste & Resources

Assessment Undertaken by:	David Rowe	**RSK Project Reference**	3020010
Assessment Checked by:	Abigail Edwards	**Site Reference**	Envirolab Waste Classification Reports R371

Chemical Testing Laboratory and Report Ref(s):
Envirolab 26/06079

Please enter available data in the rows associated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
If any calculation cells below state "0.00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Sample Reference		MG WS215	HD WS215						
Depth (m)		0.5 - 0.6	1.3 - 1.4						
Envirolab reference		26/06079/29	26/06079/30						
% Moisture	%	14.5	11.3						
pH (soil)		8.33	7.75						
pH (leachate)									
Arsenic	mg/kg	10.00	5.00						
Cadmium	mg/kg	1.00	1.00						
Copper	mg/kg	36.00	5.00						
CrVI or Chromium	mg/kg	1.00	1.00						
Lead	mg/kg	368.00	9.00						
Mercury	mg/kg	0.24	0.17						
Nickel	mg/kg	10.00	17.00						
Selenium	mg/kg	1.00	1.00						
Zinc	mg/kg	132.00	19.00						
Barium	mg/kg								
Beryllium	mg/kg	0.50	0.50						
Vanadium	mg/kg								
Cobalt	mg/kg								
Manganese	mg/kg								
Molybdenum	mg/kg								
Antimony	mg/kg	5.00	5.00						
Aluminium	mg/kg								
Bismuth	mg/kg								
CrIII	mg/kg	12.00	19.00						
Iron	mg/kg								
Strontium	mg/kg								
Tellurium	mg/kg								
Thallium	mg/kg								
Titanium	mg/kg								
Tungsten	mg/kg								
Ammoniacal N	mg/kg								
ws Boron	mg/kg	1.00	1.00						
PAH (Input Total PAH **OR** individual PAH results)									
Acenaphthene	mg/kg	0.01	0.01						
Acenaphthylene	mg/kg	0.01	0.01						
Anthracene	mg/kg	0.02	0.02						
Benzo(a)anthracene	mg/kg	0.09	0.04						
Benzo(a)pyrene	mg/kg	0.09	0.04						
Benzo(b)fluoranthene	mg/kg	0.13	0.05						
Benzo(ghi)perylene	mg/kg	0.07	0.05						
Benzo(k)fluoranthene	mg/kg	0.07	0.07						
Chrysene	mg/kg	0.13	0.06						
Dibenzo(ah)anthracene	mg/kg	0.04	0.04						
Fluoranthene	mg/kg	0.17	0.08						
Fluorene	mg/kg	0.01	0.01						
Indeno(123cd)pyrene	mg/kg	0.08	0.03						
Naphthalene	mg/kg	0.03	0.03						
Phenanthrene	mg/kg	0.08	0.03						
Pyrene	mg/kg	0.15	0.07						
Coronene	mg/kg								
Total PAHs (16 or 17)	mg/kg								
TPH									
Petrol	mg/kg								
Diesel	mg/kg								
Lube Oil	mg/kg								
Crude Oil									
White Spirit / Kerosene	mg/kg								
Creosote	mg/kg								
Unknown TPH with ID	mg/kg	17.0	10.0						
Unknown TPH with ID - (ID Source indicates a mixture of sources including petrol/diesel)	mg/kg								
Unknown TPH without ID	mg/kg								

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Assessment Checked by:	Abigail Edwards	**Site Reference**	Envirolab Waste Classification Reports R371

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Sample Reference	MG WS215	HD WS215							
Depth (m)	0.5 - 0.6	1.3 - 1.4							
Envirolab reference	26/06079/29	26/06079/30							
Cyanide/Sulfur compounds:									
Total Sulphide mg/kg									
Complex Cyanide mg/kg									
Free (or Total) Cyanide mg/kg	1.0	1.0							
Thiocyanate mg/kg									
Elemental/Free Sulphur mg/kg									
Phenols Input Total Phenols HPLC **OR** individual Phenol results.									
Phenol mg/kg									
Cresols mg/kg									
Xylenols mg/kg									
Resourcinol mg/kg									
Phenols Total by HPLC mg/kg	0.200	0.200							
BTEX Input Total BTEX **OR** individual BTEX results.									
Benzene mg/kg	0.0100	0.0100							
Toluene mg/kg	0.0100	0.0100							
Ethylbenzene mg/kg	0.0100	0.0100							
Xylenes mg/kg	0.0200	0.0200							
Total BTEX mg/kg									
PCBs (POPs)									
PCBs Total (eg EC7/WHO12) mg/kg									
PBBs (POPs)									
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available) mg/kg									
PFOS (POPs)									
PFOS and PFOS derivatives mg/kg									
PBDEs (POPs)									
PBDEs (sum of concentrations):									
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.									
2,3,7,8-TeCDD mg/kg									
1,2,3,7,8-PeCDD mg/kg									
1,2,3,4,7,8-HxCDD mg/kg									
1,2,3,6,7,8-HxCDD mg/kg									
1,2,3,7,8,9-HxCDD mg/kg									
1,2,3,4,6,7,8-HpCDD mg/kg									
OCDD mg/kg									
2,3,7,8-TeCDF mg/kg									
1,2,3,7,8-PeCDF mg/kg									
2,3,4,7,8-PeCDF mg/kg									
1,2,3,4,7,8-HxCDF mg/kg									
1,2,3,6,7,8-HxCDF mg/kg									
2,3,4,6,7,8-HxCDF mg/kg									
1,2,3,7,8,9-HxCDF mg/kg									
1,2,3,4,6,7,8-HpCDF mg/kg									
1,2,3,4,7,8,9-HpCDF mg/kg									
OCDF mg/kg									
Total Dioxins and Furans mg/kg									

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Assessment Checked by:	Abigail Edwards	**Site Reference**	Envirolab Waste Classification Reports R371

Chemical Testing Laboratory and Report Ref(s):
Envirolab 26/06079

Please enter available data in the rows associated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
If any calculation cells below state "0.00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Sample Reference	MG WS215	HD WS215						
Depth (m)	0.5 - 0.6	1.3 - 1.4						
Envirolab reference	26/06079/29	26/06079/30						
Some Pesticides (POPs unless otherwise stated)								
Aldrin	mg/kg							
α Hexachlorocyclohexane (alpha HCH) *(leave empty if total HCH results used)*	mg/kg							
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg							
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg							
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg							
Dieldrin	mg/kg							
Endrin	mg/kg							
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg							
Heptachlor	mg/kg							
Hexachlorobenzene	mg/kg							
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg							
p,p'-DDT ***OR*** *Total DDT*	mg/kg							
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg							
Chlordecone (kepone)	mg/kg							
Pentachlorobenzene	mg/kg							
Mirex	mg/kg							
Toxaphene (camphechlor)	mg/kg							
Tin								
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg							
Organotin								
Dibutyltin; DiBT	mg/kg							
Tributyltin; TriBT	mg/kg							
Triphenyltin; TriPT	mg/kg							
Tetrabutyltin; TeBT	mg/kg							
Tin excluding Organotin								
Tin excl Organotin	mg/kg							
Asbestos in Soil								
Asbestos detected in Soil (enter Y or N)								

If Asbestos in Soil above is "**Y**", the soil is Hazardous Waste HP5 and HP7

Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	%								
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

If Asbestos in Soil above is "**Y**", but Asbestos % above is "<0.1%", the soil is Non Hazardous Waste. You can only use Asbestos % results where loose fibres or micro pieces are only present. You cannot use Asbestos % results when visual identifiable pieces are present.

Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)									

If visual identifiable pieces of asbestos are present, <u>you cannot use Asbestos % results</u> and the whole soil sample is Hazardous Waste HP5 and HP7 Construction material containing Asbestos 17 06 05. Therefore, if Asbestos in Soil above is "**Y**", the Asbestos % above is "<0.1%", but the Asbestos Identifiable Pieces visible with the naked eye is "Y", the soil is Hazardous Waste.

Identifiable Pieces are Cement, Fragments, Board, Rope etc. ie anything ACM that is not Loose Fibres.
All visual asbestos pieces need to be removed leaving only fibres (or micro pieces) with an Asbestos % Composition in Soil result of <0.1% for the soil to become non-hazardous waste.

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Assessment Checked by:	Abigail Edwards	**Site Reference**	Envirolab Waste Classification Reports R371

Chemical Testing Laboratory and Report Ref(s):
Envirolab 26/06079

Please enter available data in the rows associated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
If any calculation cells below state "0.00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Sample Reference	MG WS215	HD WS215						
Depth (m)	0.5 - 0.6	1.3 - 1.4						
Envirolab reference	26/06079/29	26/06079/30						

Hazardous Property Waste Assessment Output

If cells below turn yellow and the text turns red, the samples should be classified as Hazardous Waste.

Hazardous Property	Cut Off Value								
Corrosive HP8	<1%	0.00131	0.00077	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Irritant HP4	<1%	0.00348	0.00050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Irritant HP4	<1%	0.00346	0.00574	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5		0.00019	0.00020	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5		0.00173	0.00305	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5		0.03146	0.00089	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Aspiration Toxicity HP5		0.00146	0.00089	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Oral)	<0.1%	0.00131	0.00077	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Oral)	<0.1%	0.00050	0.00052	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Oral)	<1%	0.03829	0.00692	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Dermal)	<0.1%	0.00018	0.00018	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Dermal)	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Dermal)	<0.1%	0.00018	0.00019	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Dermal)	<1%	0.00009	0.00009	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Inhal)	<0.1%	0.00016	0.00017	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Inhal)	<0.1%	0.00038	0.00039	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Inhal)	<0.1%	0.00014	0.00014	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6 (Inhal)	<1%	0.03676	0.00444	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Carcinogenic HP7		0.03146	0.00305	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Carcinogenic HP7		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7		0.00051	0.00053	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Carcinogenic HP7 Unknown TPH with ID		14.54	8.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg		0.45265	0.35480	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)		8.33	7.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
pH Corrosive HP8 pH (soil or leachate)		8.33	7.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toxic for Reproduction HP10		0.03146	0.00305	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Toxic for Reproduction HP10		0.00145	0.00089	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Mutagenic HP11		0.00016	0.00017	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Mutagenic HP11 Unknown TPH with ID		14.54	8.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg		0.45265	0.35480	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11		0.00173	0.00305	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Produces Toxic Gases HP12 Sulphide		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide		0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Thiocyanate		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising		0.00173	0.00305	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Ecotoxic HP14 amended v6	<0.1%	0.05256	0.00767	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Ecotoxic HP14 amended v6	<0.1% / 1.0%	0.054	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ecotoxic HP14 amended v6	<0.1% / 1.0%	5.271	0.776	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Persistent Organic Pollutant (PCB, PBB, PFOS, & POP Pesticides)		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total sum of PDBEs)		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000
Persistent Organic Pollutant (Individual Dioxins+Furans)		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

If other contaminants need adding to Haswaste, please contact RSK Waste and Resources

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

APPENDIX 6: GEOTECHCNIAL TEST CERTIFICATES

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022,cl 5.2 and 6

4041

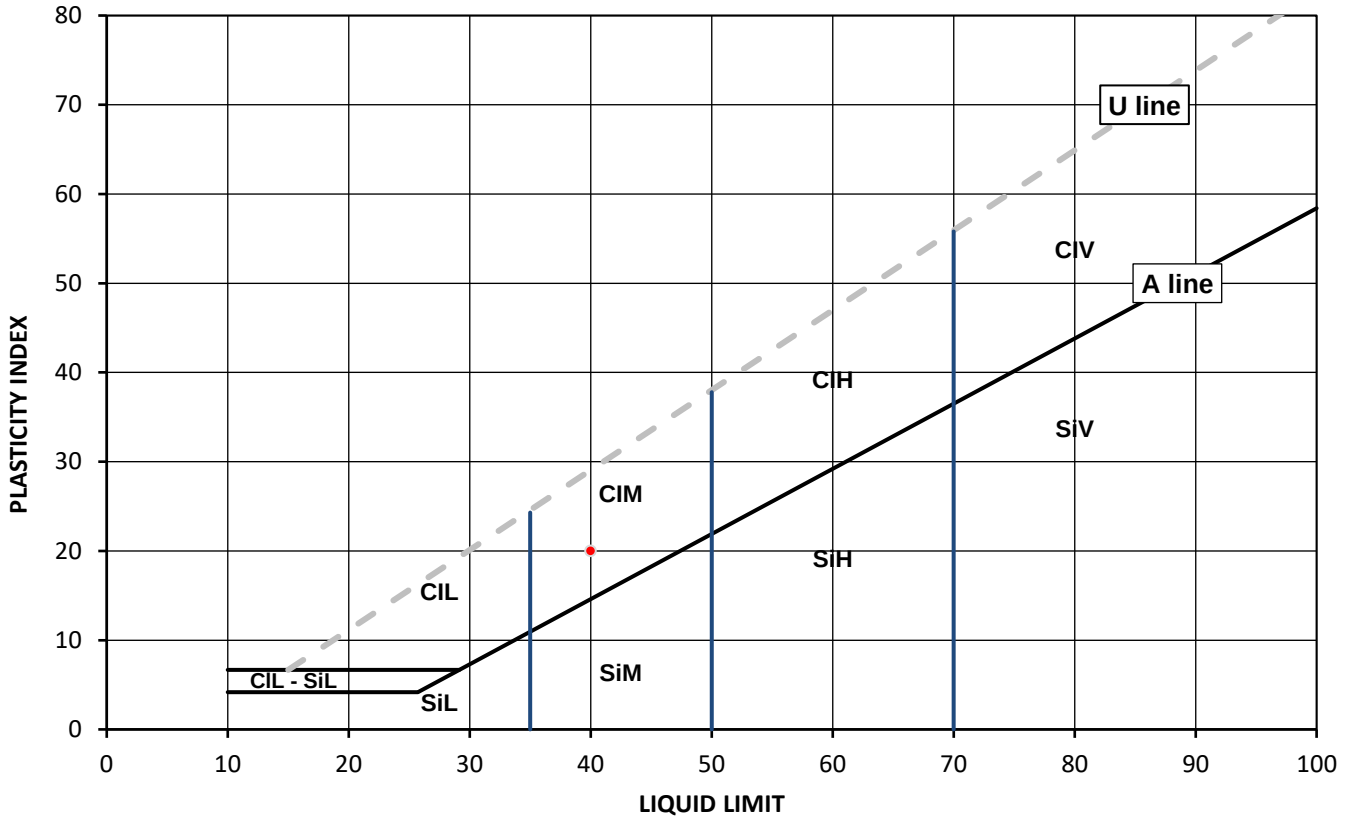
Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	01/06/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925614	Depth Top [m]:	1.00
Hole No.:	WS201	Depth Base [m]:	2.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown very gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >0.425mm; The water content in the sample was increased		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] #	Consistency Index [IC] #	% Passing 425µm BS Test Sieve
12.5	40	20	20	-0.38	1.38	44



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 337.17

i2 Analytical Ltd, Unit 8, Harrowden Road, Brackmills Industrial Estate, Northampton, NN4 7EB

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022,cl 5.2 and 6

4041

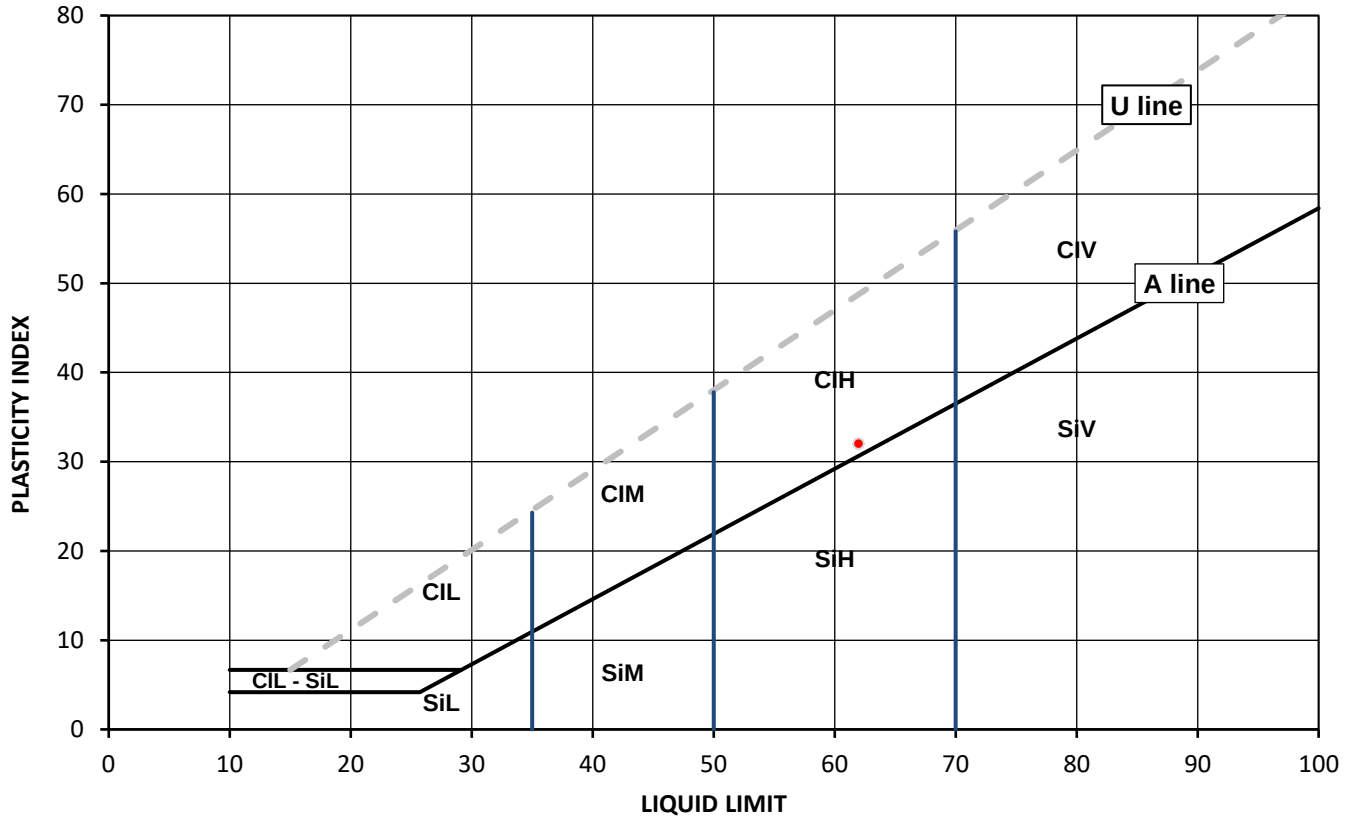
Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	29/05/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925615	Depth Top [m]:	3.00
Hole No.:	WS201	Depth Base [m]:	4.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown very gravelly silty CLAY		
Sample Preparation:	Tested after washing to remove >0.425mm; The water content in the sample was increased		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] #	Consistency Index [IC] #	% Passing 425µm BS Test Sieve
15.2	62	30	32	-0.46	1.46	38



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

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Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 337.17

i2 Analytical Ltd, Unit 8, Harrowden Road, Brackmills Industrial Estate, Northampton, NN4 7EB

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022,cl 5.2 and 6

4041

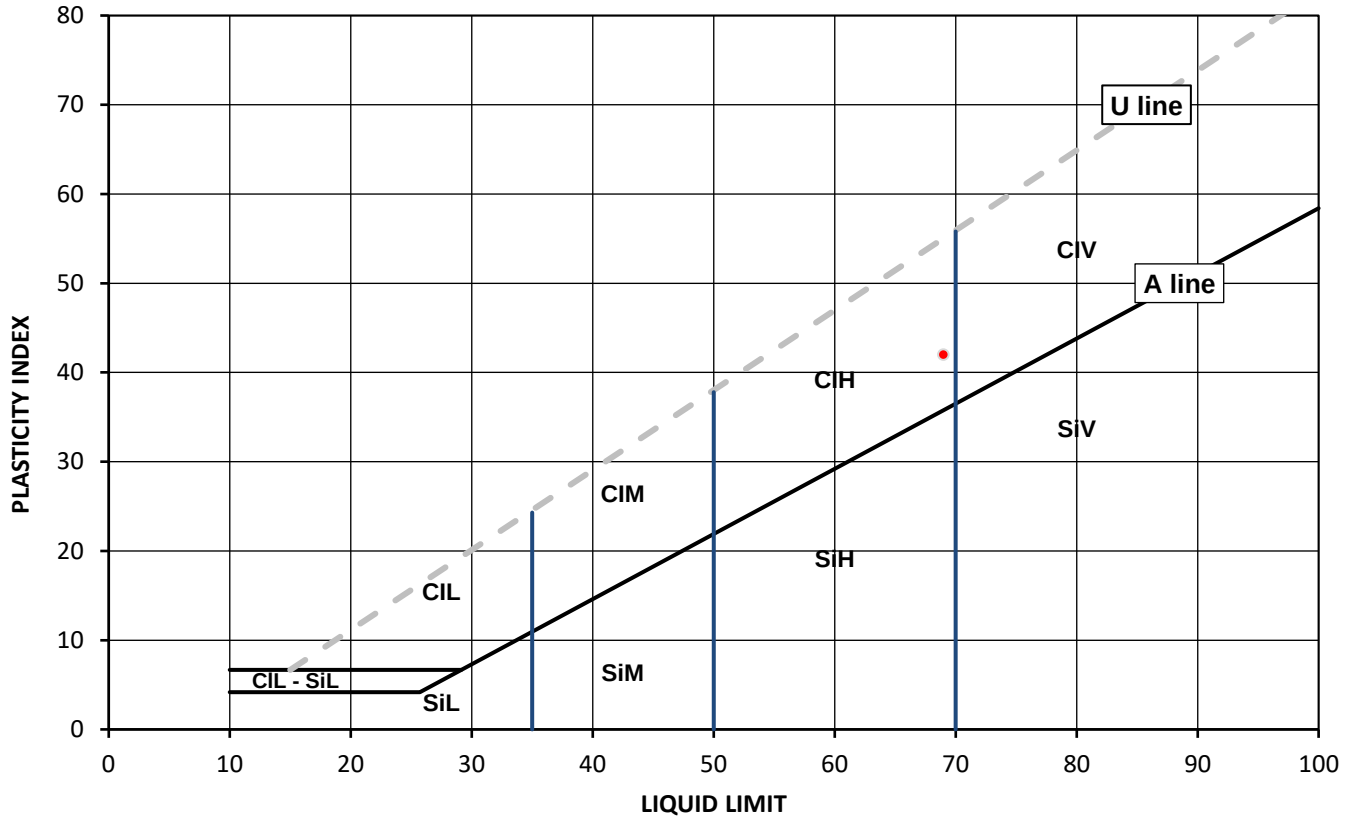
Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	01/06/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925619	Depth Top [m]:	0.80
Hole No.:	WS203	Depth Base [m]:	1.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown slightly gravelly CLAY		
Sample Preparation:	Tested after >0.425mm removed by hand; The water content in the sample was increased		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] #	Consistency Index [IC] #	% Passing 425µm BS Test Sieve
39.9	69	27	42	0.31	0.69	94



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

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Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

 Date Reported: 11/06/2026 **GF 337.17**

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022,cl 5.2 and 6

4041

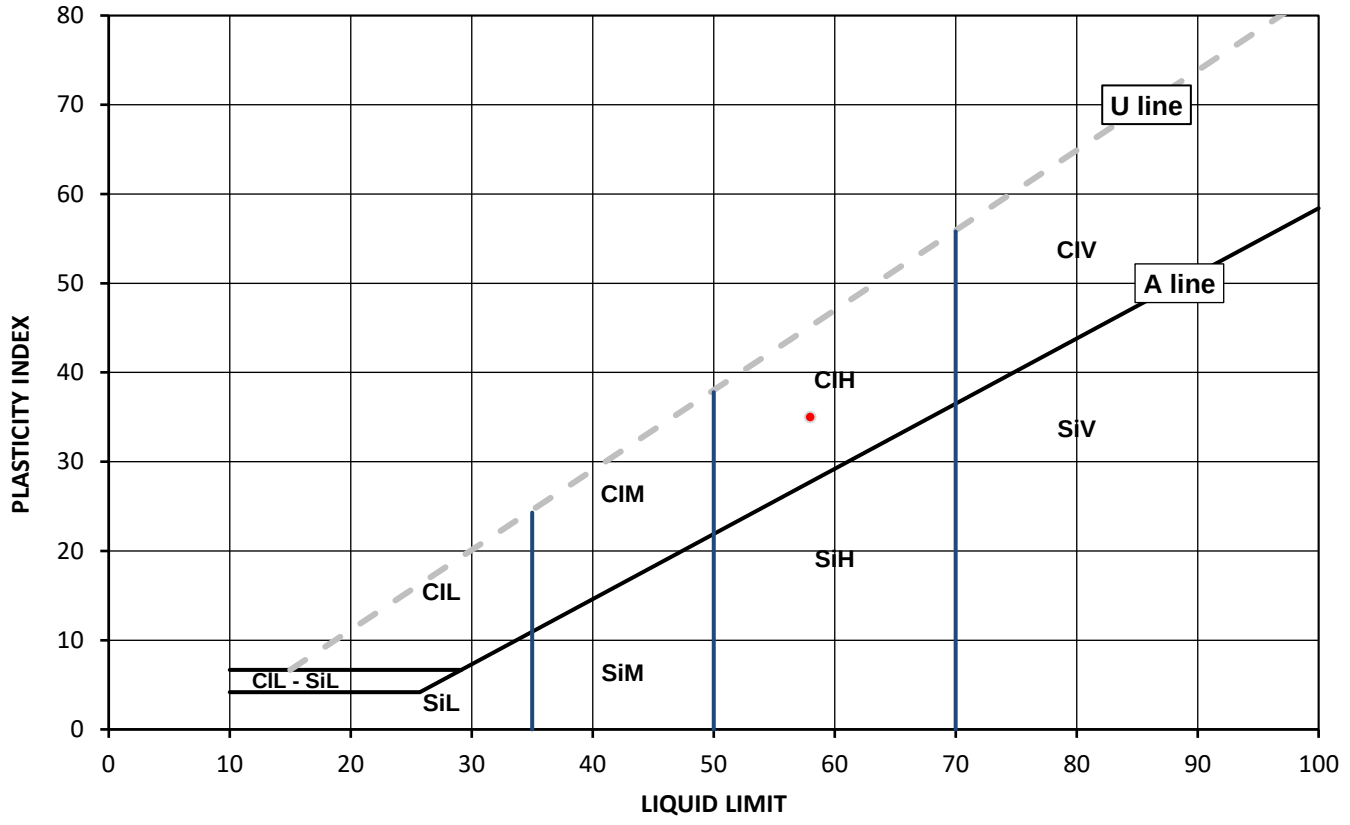
Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	26/05/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925621	Depth Top [m]:	4.50
Hole No.:	WS203	Depth Base [m]:	5.00
Sample Reference:	Not Given	Sample Type:	C
Sample Description:	Yellowish brown slightly gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >0.425mm; The water content in the sample was increased		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] #	Consistency Index [IC] #	% Passing 425µm BS Test Sieve
34.8	58	23	35	0.34	0.66	85



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

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Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 337.17

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

BS EN ISO 17892-12:2018+A2:2022 cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6. W by BS EN ISO 17892-1:2014+A1:2022.

Normec i2 Analytical

4041

Client: Ground Condition Consultants

Client Address: 10 Waldegrave Close, Southampton, S019 9RY

Contact: Antony Platt

Site Address: Southleigh House

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: J20 064
Job Number: 26-026984-1
Date Sampled: Not Given
Date Received: 15/05/2026
Date Tested: 26/05 - 01/06/2026
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top m	Depth Base m	Type			%	% Passing 425um %	WL* %	Correlation Factor	Wp %	Ip %	Cone type	Sample Preparation	bulk Mg/m3	dry Mg/m3	PD Mg/m3
925614	WS201	Not Given	1.00	2.00	B	Brown very gravelly sandy CLAY	Atterberg 4 Point	12.5	44	40	-	20	20	80g/30 deg	WR / I			
925615	WS201	Not Given	3.00	4.00	B	Brown very gravelly silty CLAY	Atterberg 4 Point	15.2	38	62	-	30	32	80g/30 deg	WR / I			
925619	WS203	Not Given	0.80	1.00	B	Brown slightly gravelly CLAY	Atterberg 4 Point	39.9	94	69	-	27	42	80g/30 deg	R / I			
925621	WS203	Not Given	4.50	5.00	C	Yellowish brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	34.8	85	58	-	23	35	80g/30 deg	WR / I			

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0,425mm removed by hand, WR - Tested after washing to remove >425mm; I - The water content in the sample was increased , D - The water content in the sample was decreased; * - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments:

Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

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Date Reported: 11/06/2026 **GF 362.17**

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1

4041

Client: Ground Condition Consultants

Client Address: 10 Waldegrave Close, Southampton, S019 9RY

Contact: Antony Platt

Site Address: Southleigh House

Client Reference: J20 064

Job Number: 26-026984-1

Date Sampled: Not Given

Date Received: 15/05/2026

Date Tested: 26/05 - 01/06/2026

Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top m	Depth Base m	Type			%											
925614	WS201	Not Given	1.00	2.00	B	Brown very gravelly sandy CLAY		12.5											
925615	WS201	Not Given	3.00	4.00	B	Brown very gravelly silty CLAY		15.2											
925619	WS203	Not Given	0.80	1.00	B	Brown slightly gravelly CLAY		39.9											
925621	WS203	Not Given	4.50	5.00	C	Yellowish brown slightly gravelly slightly sandy CLAY		34.8											

Comments:

Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

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Date Reported: 11/06/2026

GF 126.20

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

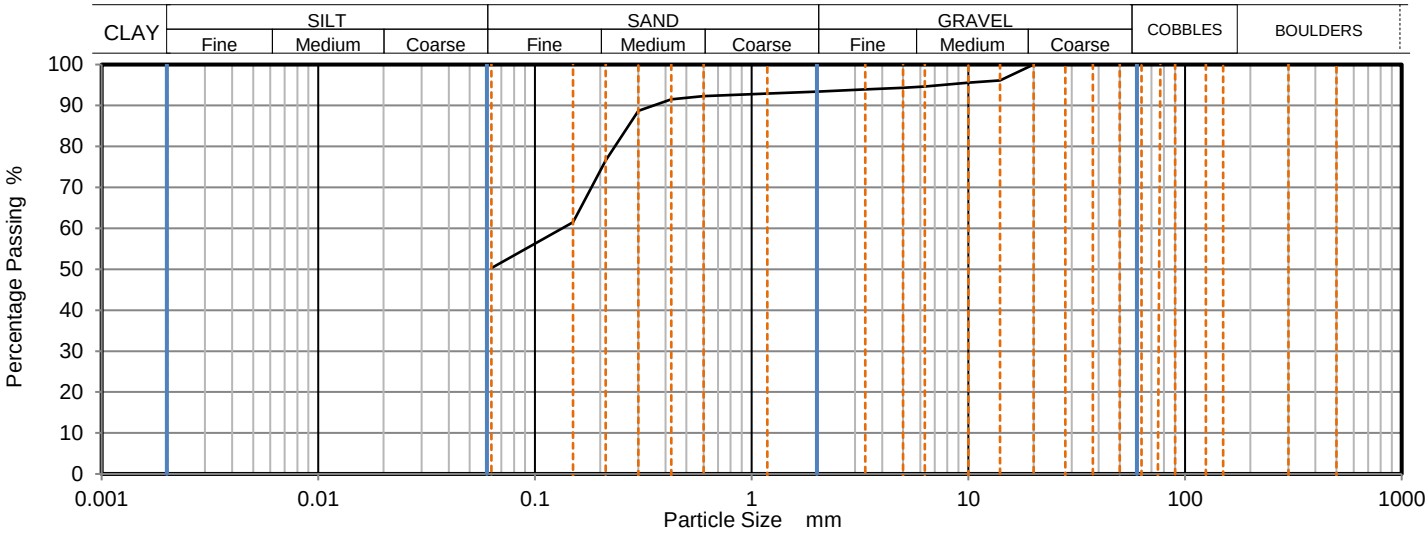
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	28/05/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925616	Depth Top [m]:	4.30
Hole No.:	WS201	Depth Base [m]:	5.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown slightly gravelly sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 107.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	96		
10	96		
6.3	95		
5	94		
3.35	94		
2	93		
1.18	93		
0.6	92		
0.425	92		
0.3	89		
0.212	77		
0.15	62		
0.063	50		

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	43
Fines <0.063 mm	50

Grading Analysis		
D100	mm	20
D60	mm	0.133
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

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Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

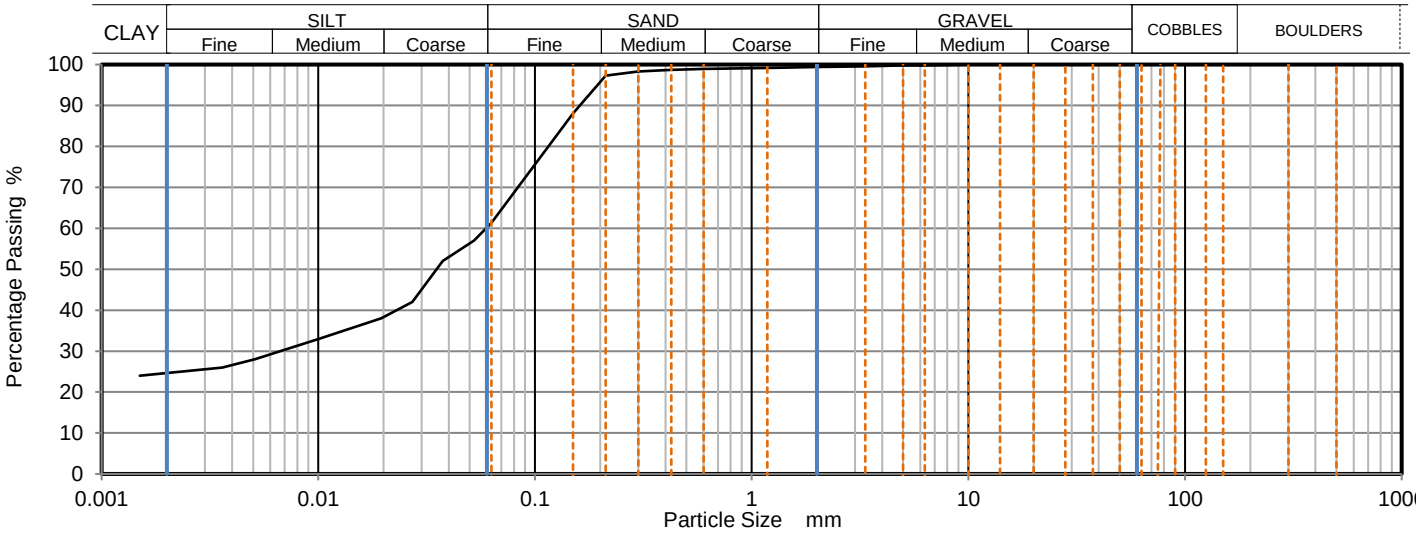
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	01/06/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925617	Depth Top [m]:	3.20
Hole No.:	WS202	Depth Base [m]:	4.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Yellowish brown sandy silty CLAY		
Sample Preparation:	Sample was quartered, oven dried at 107.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0524	57
300	100	0.0375	52
150	100	0.0272	42
125	100	0.0195	38
90	100	0.0101	33
75	100	0.0051	28
63	100	0.0036	26
50	100	0.0015	24
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	99	Particle density	(assumed)
0.425	99	2.65	Mg/m3
0.3	98		
0.212	97		
0.15	88		
0.063	61		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	38
Silt	37
Clay	24

Grading Analysis		
D100	mm	10
D60	mm	0.0599
D30	mm	0.00653
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks:

Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

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Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

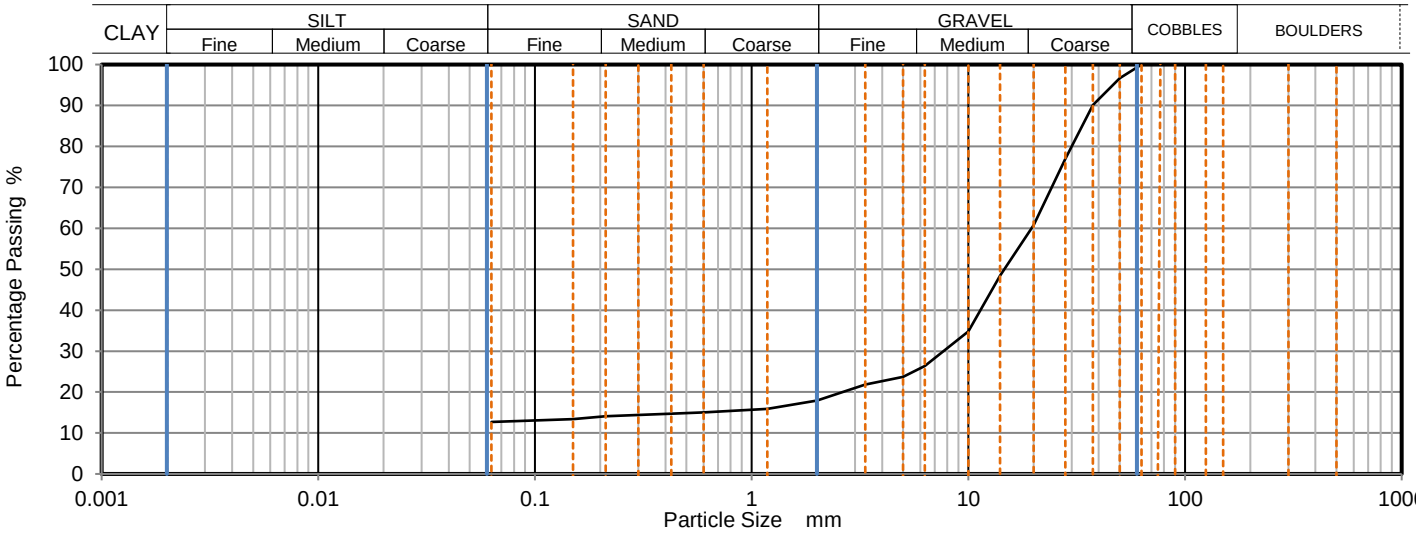
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	29/05/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925618	Depth Top [m]:	0.60
Hole No.:	WS202	Depth Base [m]:	0.70
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown sandy clayey GRAVEL		
Sample Preparation:	Sample was whole tested, oven dried at 107.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	97		
37.5	90		
28	77		
20	61		
14	48		
10	35		
6.3	26		
5	24		
3.35	22		
2	18		
1.18	16		
0.6	15		
0.425	15		
0.3	14		
0.212	14		
0.15	13		
0.063	13		

Sample Proportions	% dry mass
Very coarse	0
Gravel	82
Sand	5
Fines <0.063 mm	13

Grading Analysis		
D100	mm	63
D60	mm	19.5
D30	mm	7.68
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

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Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

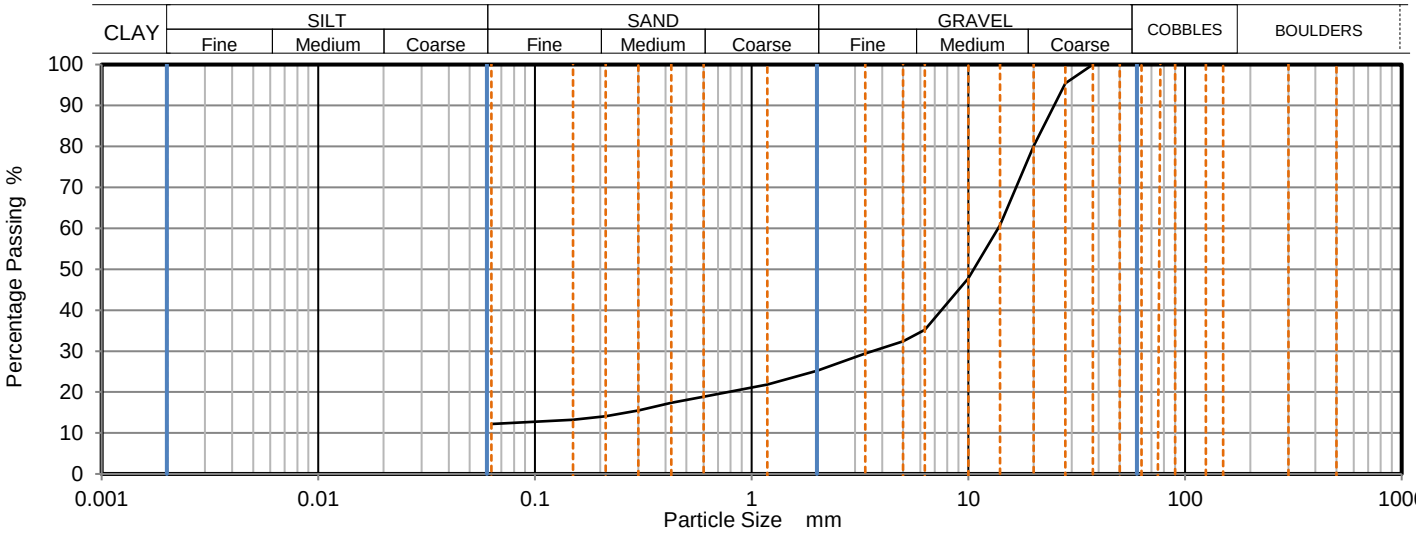
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	29/05/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925620	Depth Top [m]:	2.00
Hole No.:	WS203	Depth Base [m]:	3.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Orangish brown sandy clayey GRAVEL		
Sample Preparation:	Sample was whole tested, oven dried at 107.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	95		
20	80		
14	61		
10	48		
6.3	35		
5	32		
3.35	29		
2	25		
1.18	22		
0.6	19		
0.425	17		
0.3	16		
0.212	14		
0.15	13		
0.063	12		

Sample Proportions	% dry mass
Very coarse	0
Gravel	75
Sand	13
Fines <0.063 mm	12

Grading Analysis		
D100	mm	37.5
D60	mm	13.7
D30	mm	3.63
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

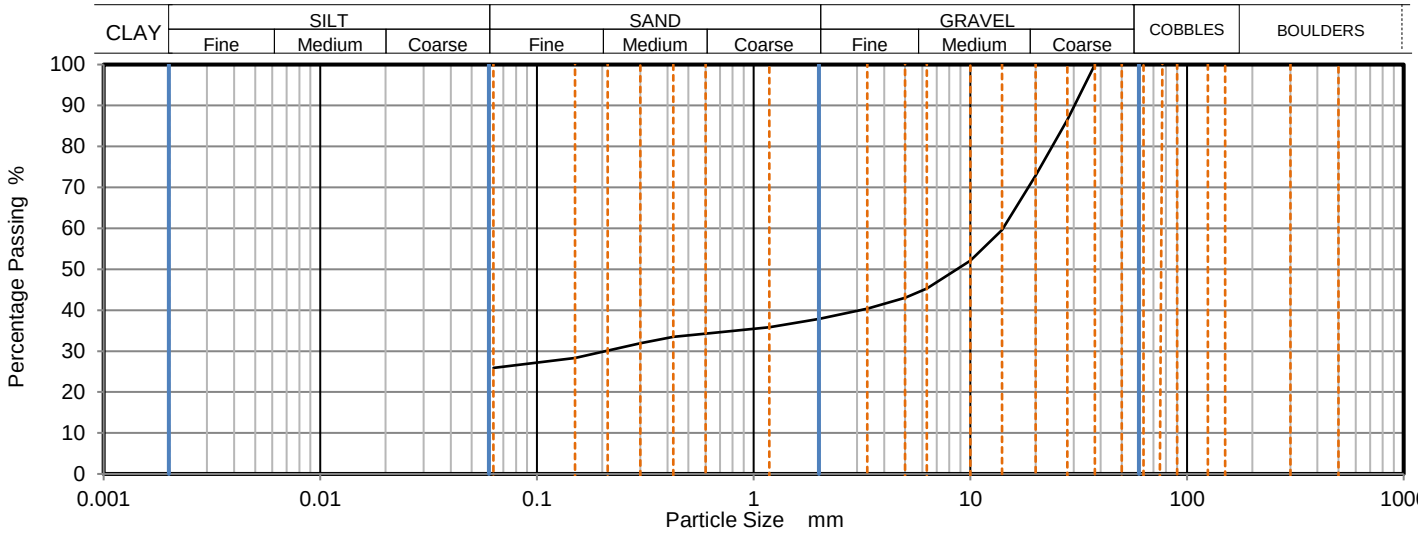
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	29/05/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925622	Depth Top [m]:	1.20
Hole No.:	WS204	Depth Base [m]:	2.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown sandy very clayey GRAVEL		
Sample Preparation:	Sample was whole tested, oven dried at 107.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	87		
20	73		
14	60		
10	52		
6.3	45		
5	43		
3.35	40		
2	38		
1.18	36		
0.6	34		
0.425	34		
0.3	32		
0.212	30		
0.15	28		
0.063	26		

Sample Proportions	% dry mass
Very coarse	0
Gravel	62
Sand	12
Fines <0.063 mm	26

Grading Analysis		
D100	mm	37.5
D60	mm	14.1
D30	mm	0.21
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

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Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

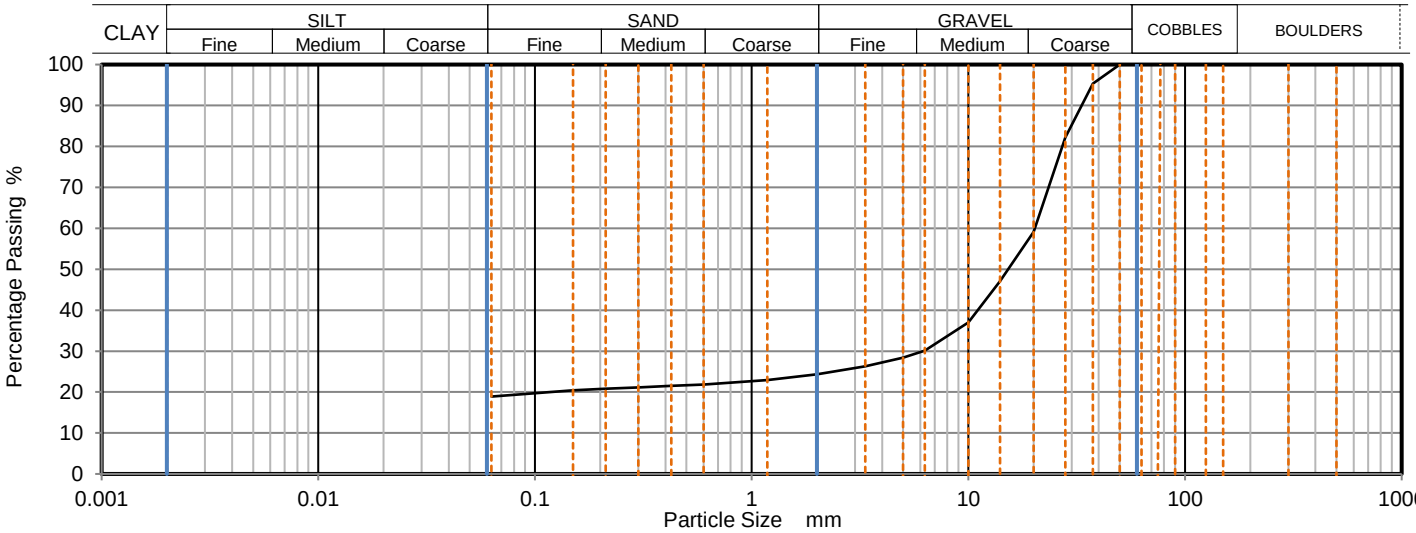
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	01/06/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925623	Depth Top [m]:	0.50
Hole No.:	WS205	Depth Base [m]:	1.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Grey sandy clayey GRAVEL		
Sample Preparation:	Sample was whole tested, oven dried at 107.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	95		
28	82		
20	59		
14	47		
10	37		
6.3	30		
5	28		
3.35	26		
2	24		
1.18	23		
0.6	22		
0.425	22		
0.3	21		
0.212	21		
0.15	20		
0.063	19		

Sample Proportions	% dry mass
Very coarse	0
Gravel	76
Sand	5
Fines <0.063 mm	19

Grading Analysis		
D100	mm	50
D60	mm	20.3
D30	mm	6.25
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

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Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

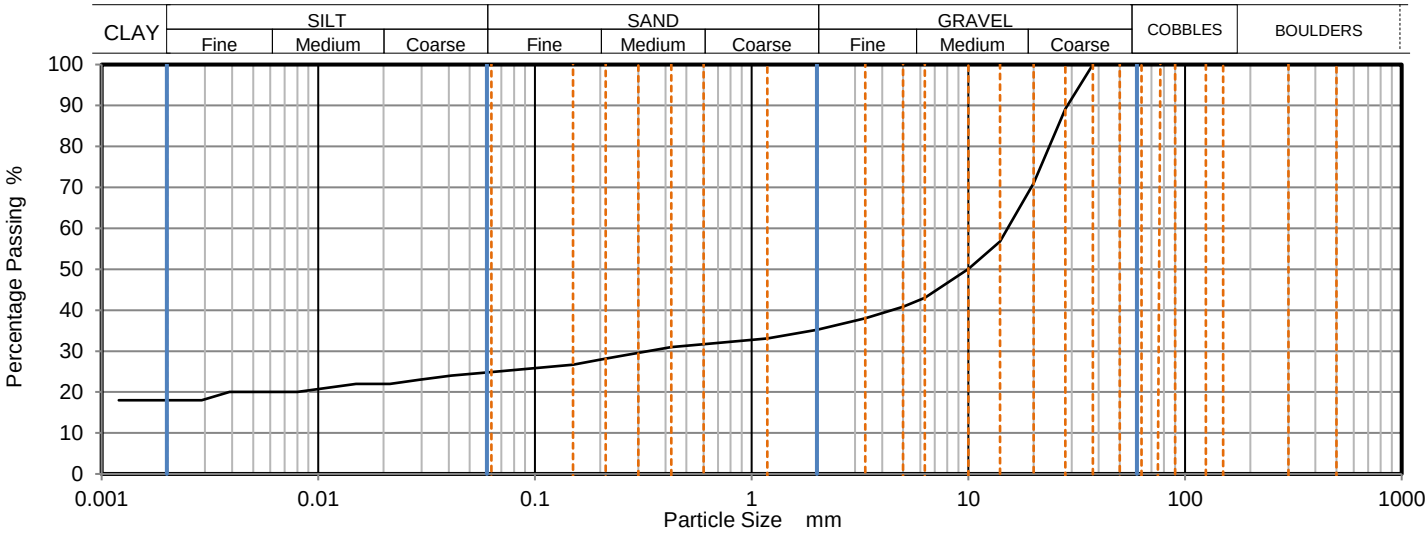
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	01/06/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925624	Depth Top [m]:	1.20
Hole No.:	WS207	Depth Base [m]:	2.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown sandy very clayey GRAVEL		
Sample Preparation:	Sample was quartered, oven dried at 109.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0411	24
300	100	0.0293	23
150	100	0.0214	22
125	100	0.0149	22
90	100	0.0080	20
75	100	0.0039	20
63	100	0.0029	18
50	100	0.0012	18
37.5	100		
28	89		
20	71		
14	57		
10	50		
6.3	43		
5	41		
3.35	38		
2	35		
1.18	33		
0.6	32		
0.425	31		
0.3	30		
0.212	28		
0.15	27		
0.063	25		

Sample Proportions	% dry mass
Very coarse	0
Gravel	65
Sand	10
Silt	7
Clay	18

Grading Analysis		
D100	mm	37.5
D60	mm	15.2
D30	mm	0.33
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

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Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

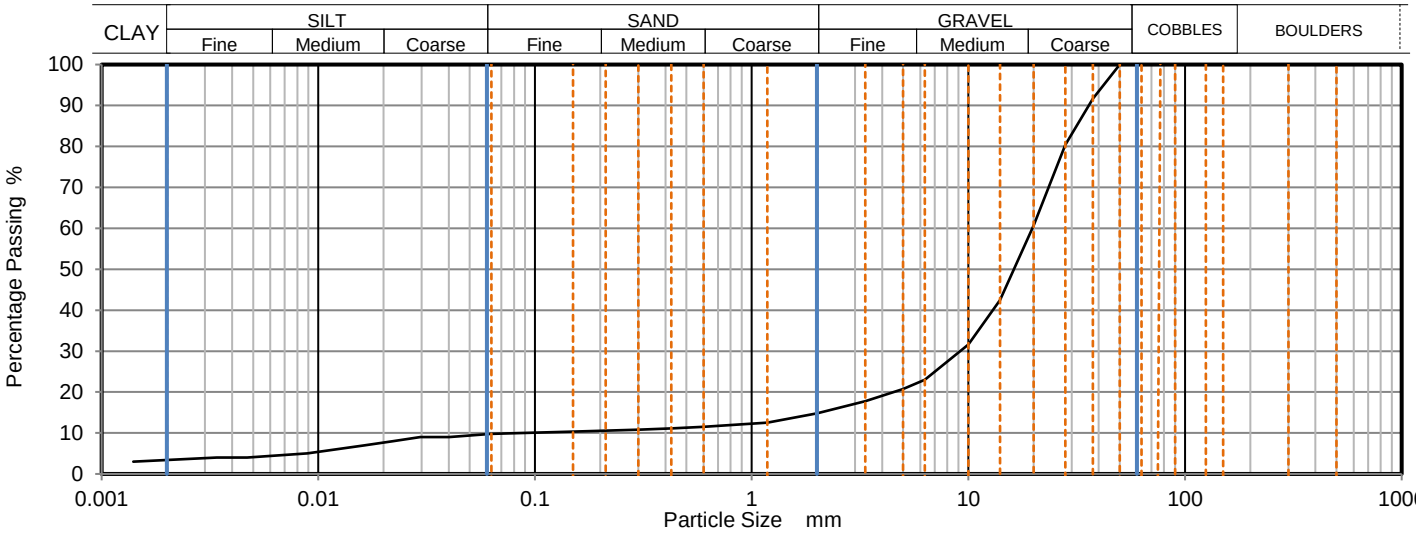
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	01/06/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925625	Depth Top [m]:	0.50
Hole No.:	WS208	Depth Base [m]:	0.80
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown sandy clayey GRAVEL		
Sample Preparation:	Sample was quartered, oven dried at 107.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0402	9
300	100	0.0296	9
150	100	0.0221	8
125	100	0.0163	7
90	100	0.0089	5
75	100	0.0047	4
63	100	0.0034	4
50	100	0.0014	3
37.5	92		
28	80		
20	61		
14	43		
10	32		
6.3	23		
5	21		
3.35	18		
2	15		
1.18	13		
0.6	12	Particle density	(assumed)
0.425	11	2.65	Mg/m3
0.3	11		
0.212	11		
0.15	10		
0.063	10		

Sample Proportions	% dry mass
Very coarse	0
Gravel	85
Sand	5
Silt	7
Clay	3

Grading Analysis		
D100	mm	50
D60	mm	19.7
D30	mm	9.16
D10	mm	0.0841
Uniformity Coefficient		230
Curvature Coefficient		51

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

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Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

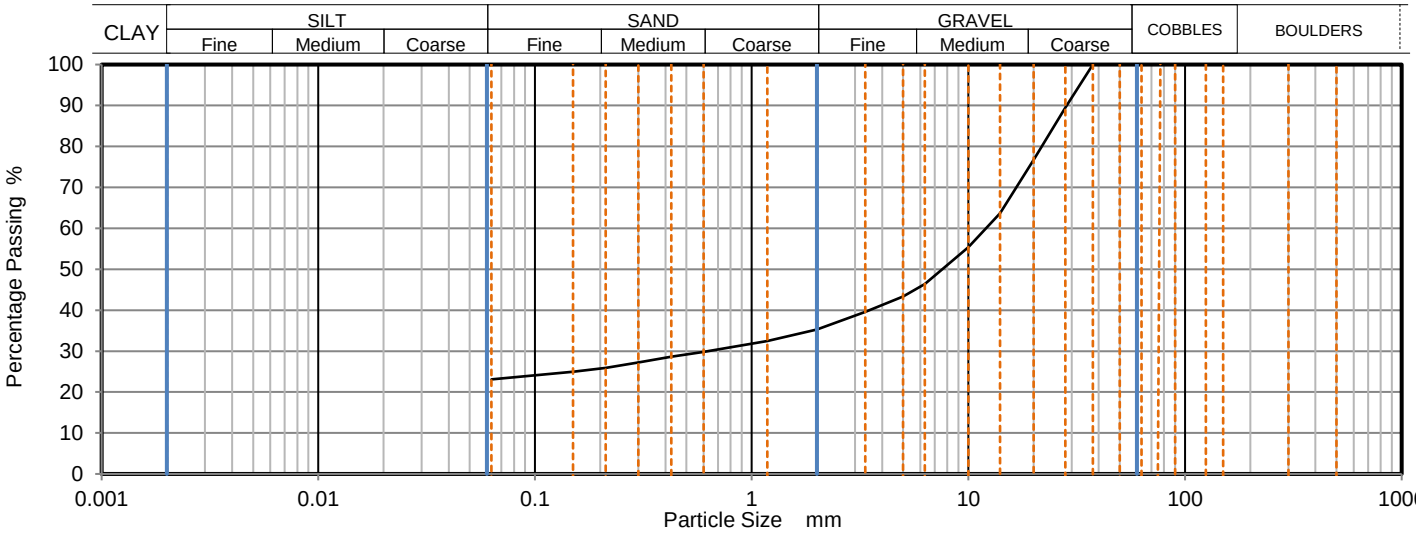
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	29/05/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925626	Depth Top [m]:	1.90
Hole No.:	WS209	Depth Base [m]:	2.90
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown sandy very clayey GRAVEL		
Sample Preparation:	Sample was quartered, oven dried at 107.2 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	90		
20	77		
14	64		
10	55		
6.3	46		
5	43		
3.35	40		
2	35		
1.18	33		
0.6	30		
0.425	29		
0.3	27		
0.212	26		
0.15	25		
0.063	23		

Sample Proportions	% dry mass
Very coarse	0
Gravel	65
Sand	12
Fines <0.063 mm	23

Grading Analysis		
D100	mm	37.5
D60	mm	12.1
D30	mm	0.628
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

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Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

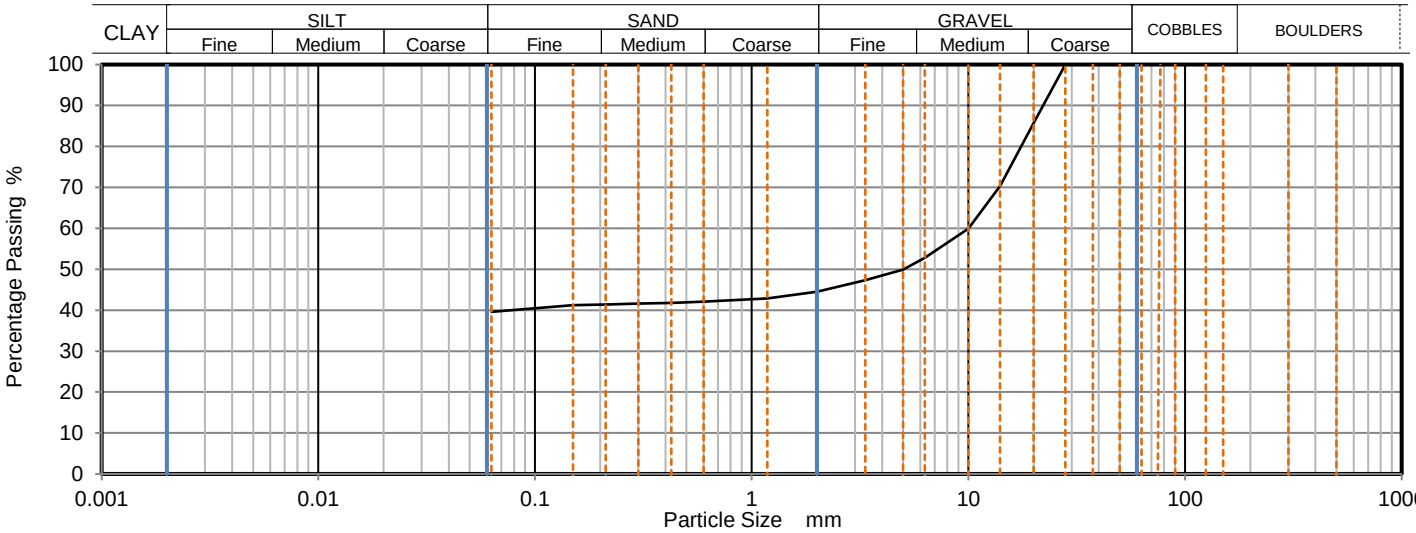
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	01/06/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925627	Depth Top [m]:	0.80
Hole No.:	WS211	Depth Base [m]:	1.20
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown gravelly slightly sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.1 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	86		
14	70		
10	60		
6.3	53		
5	50		
3.35	47		
2	45		
1.18	43		
0.6	42		
0.425	42		
0.3	42		
0.212	41		
0.15	41		
0.063	40		

Sample Proportions	% dry mass
Very coarse	0
Gravel	55
Sand	5
Fines <0.063 mm	40

Grading Analysis		
D100	mm	28
D60	mm	10
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

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Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 366.13

i2 Analytical Ltd, Unit 8, Harrowden Road, Brackmills Industrial Estate, Northampton, NN4 7EB

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

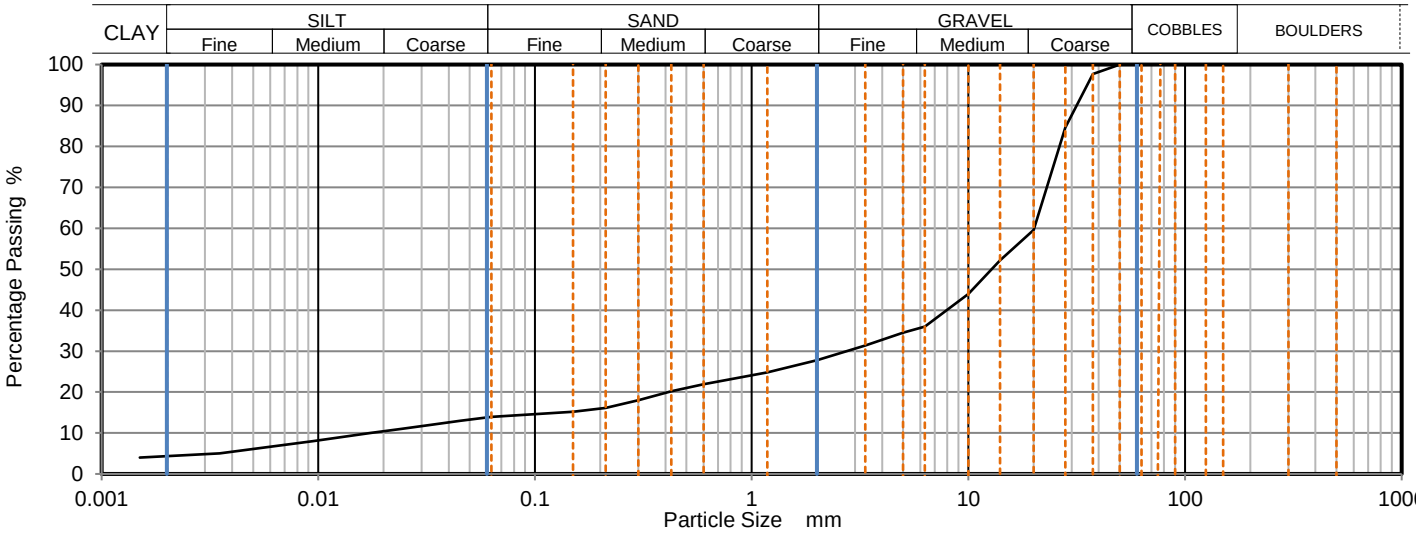
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	01/06/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925629	Depth Top [m]:	1.20
Hole No.:	WS213	Depth Base [m]:	1.70
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown sandy clayey GRAVEL		
Sample Preparation:	Sample was quartered, oven dried at 107.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0454	13
300	100	0.0330	12
150	100	0.0239	11
125	100	0.0175	10
90	100	0.0094	8
75	100	0.0049	6
63	100	0.0035	5
50	100	0.0015	4
37.5	98		
28	85		
20	60		
14	52		
10	44		
6.3	36		
5	35		
3.35	31		
2	28		
1.18	25		
0.6	22	Particle density	(assumed)
0.425	20	2.65	Mg/m3
0.3	18		
0.212	16		
0.15	15		
0.063	14		

Sample Proportions	% dry mass
Very coarse	0
Gravel	73
Sand	14
Silt	9
Clay	4

Grading Analysis		
D100	mm	50
D60	mm	20.1
D30	mm	2.75
D10	mm	0.0179
Uniformity Coefficient		1100
Curvature Coefficient		21

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

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Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

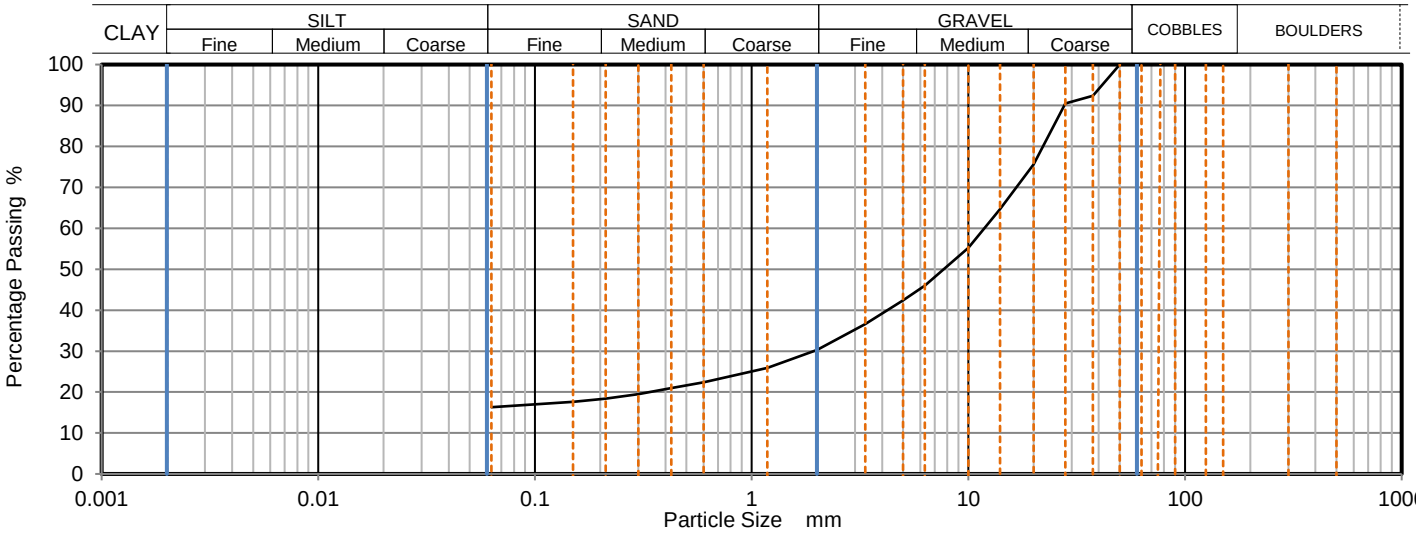
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	01/06/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925630	Depth Top [m]:	2.00
Hole No.:	WS215	Depth Base [m]:	2.40
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown sandy clayey GRAVEL		
Sample Preparation:	Sample was whole tested, oven dried at 107.2 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	92		
28	91		
20	76		
14	65		
10	55		
6.3	46		
5	42		
3.35	37		
2	30		
1.18	26		
0.6	22		
0.425	21		
0.3	20		
0.212	18		
0.15	18		
0.063	16		

Sample Proportions	% dry mass
Very coarse	0
Gravel	70
Sand	14
Fines <0.063 mm	16

Grading Analysis		
D100	mm	50
D60	mm	11.8
D30	mm	1.92
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Signed:

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

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Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

4041

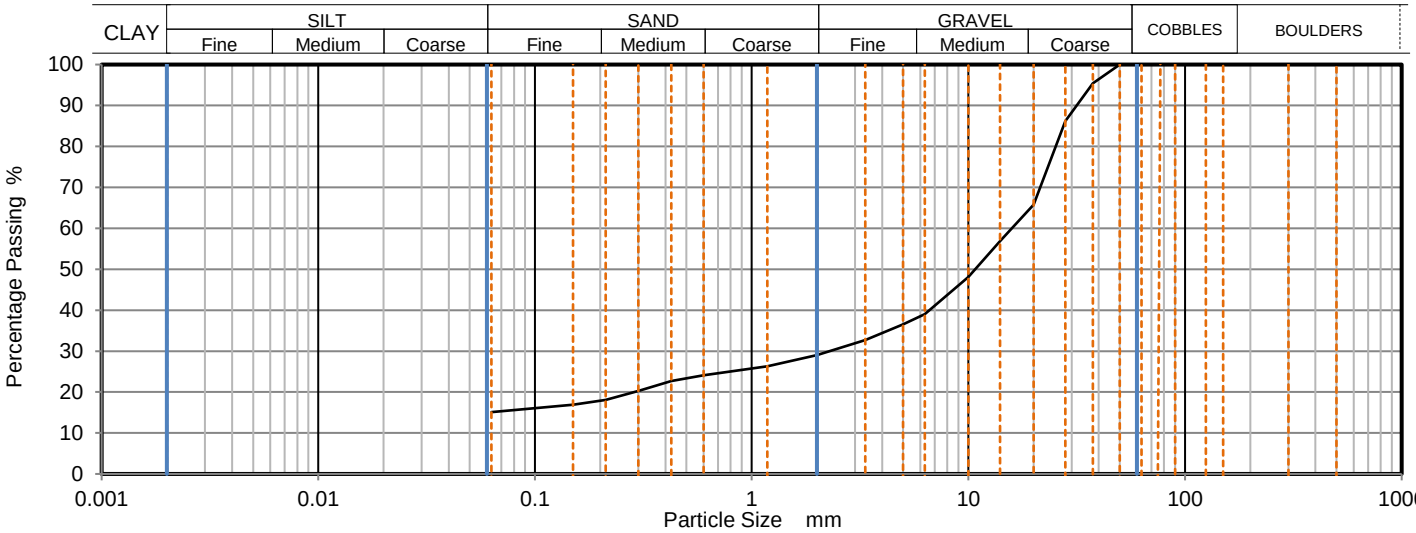
Normec i2 Analytical

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	29/05/2026
Site Address:	Southleigh House	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	925631	Depth Top [m]:	1.20
Hole No.:	WS216	Depth Base [m]:	1.50
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown sandy clayey GRAVEL		
Sample Preparation:	Sample was whole tested, oven dried at 107.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	95		
28	86		
20	66		
14	57		
10	48		
6.3	39		
5	37		
3.35	33		
2	29		
1.18	26		
0.6	24		
0.425	23		
0.3	20		
0.212	18		
0.15	17		
0.063	15		

Sample Proportions	% dry mass
Very coarse	0
Gravel	71
Sand	14
Fines <0.063 mm	15

Grading Analysis		
D100	mm	50
D60	mm	15.8
D30	mm	2.3
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed: [redacted]

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 366.13

TEST CERTIFICATE

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST

Tested in Accordance with: BS EN ISO 17982-8:2018,
BS 1377-2 Cl. 28:2022

4041

Client:	Ground Condition Consultants	Client Reference:	J20 064
Client Address:	10 Waldegrave Close, Southampton, S019 9RY	Job Number:	26-026984-1
		Date Sampled:	Not Given
		Date Received:	15/05/2026
Contact:	Antony Platt	Date Tested:	26/05/2026
Site Address:	Southleigh House	Sampled By:	Not Given

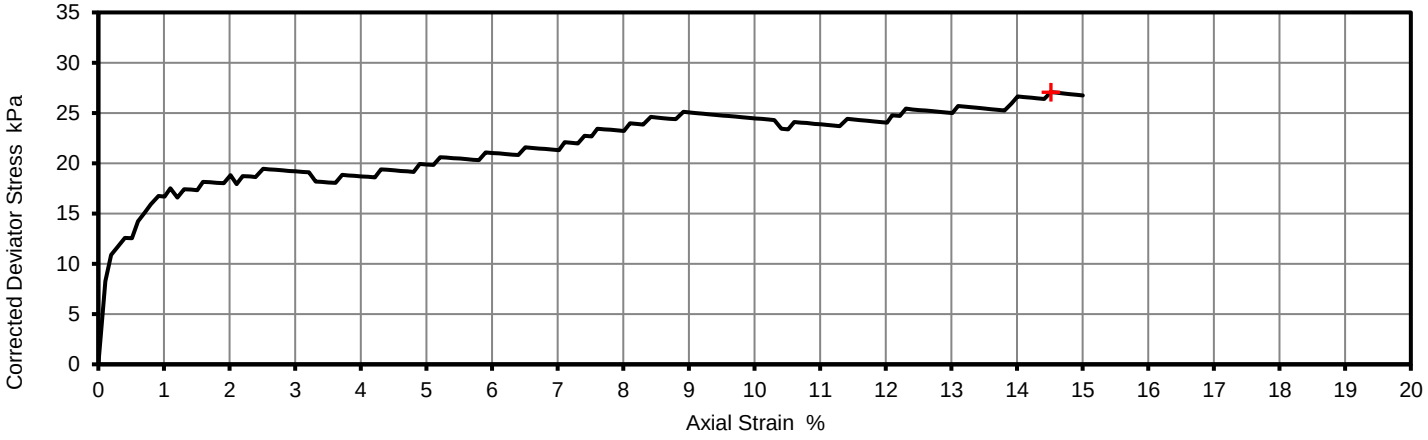
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

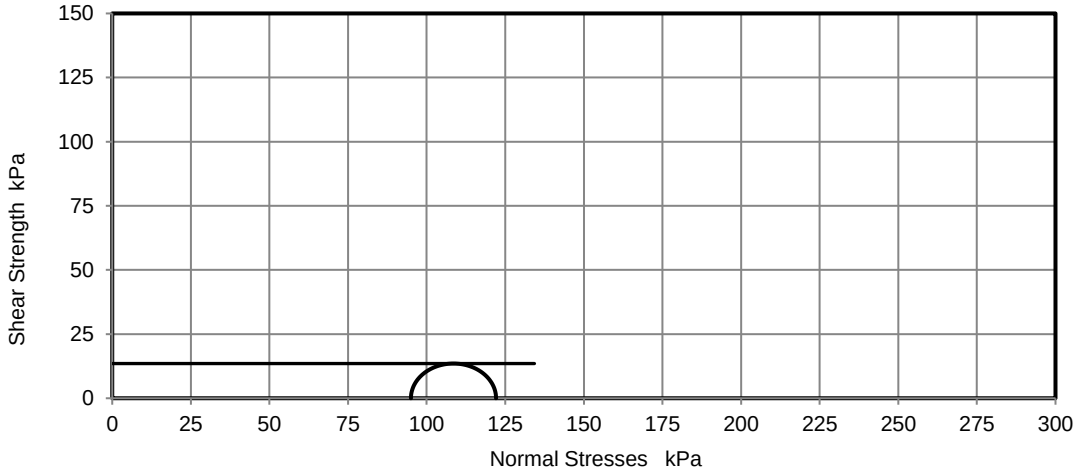
Laboratory Reference:	925621	Depth Top [m]:	4.50
Hole No.:	WS203	Depth Base [m]:	5.00
Sample Reference:	Not Given	Sample Type:	C
Sample Description:	Yellowish brown slightly gravelly slightly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS EN ISO 17892-8: 2018 Clause 6.2.		

Test Number	1		Rate of Strain	1.00	%/min
Depth within Sample	-	m	Cell Pressure	95	kPa
Length	76.39	mm	Axial Strain at Failure	14.5	%
Diameter	37.99	mm	Deviator Stress, (σv-σh)	27	kPa
Length Prior to Shearing	76.39	mm	Undrained Shear Strength, cu	14	kPa ½(σv-σh)
Bulk Density	1.86	Mg/m3	Mode of Failure	Compound	
Initial Water Content	34.8	%	Membrane Thickness	0.19	mm
Final Water Content	35.8	%	Membrane Correction	4.19	kPa
Dry Density	1.38	Mg/m3			

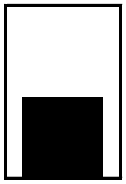
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects.

Remarks:

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Signed:

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Date Reported: 11/06/2026

GF 463.6

i2 Analytical Ltd, Unit 8, Harrowden Road, Brackmills Industrial Estate, Northampton, NN4 7EB

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Analytical Report Number : 26-026985

Project / Site name:	Southleigh House	**Samples received on:**	15/05/2026
Your job number:	J20 064	**Samples instructed on/ Analysis started on:**	21/05/2026
Your order number:		**Analysis completed by:**	09/06/2026
Report Issue Number:	1	**Report issued on:**	09/06/2026
Samples Analysed:	8 soil samples		

Signed:

Rachel Chappell
Key Account Manager
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
air	- once the analysis is complete

Excel copies of reports are only valid when accompanied by this PDF certificate.

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-026985
Project / Site name: Southleigh House

Lab Sample Number				925632	925633	925634	925635	925636
Sample Reference				WS201	WS202	WS203	WS208	WS211
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.00-2.00	0.60-0.70	4.50-5.00	0.50-0.80	0.80-1.20
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1	74.6	50.7
Moisture Content	%	0.01	NONE	15	9	20	5.9	11
Total mass of sample received	kg	0.1	NONE	0.3	0.2	0.6	0.4	0.5
Whole Sample Crushed	N/A	N/A	NONE	-	-	-	Crushed	Crushed
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	6.7	7.3	7.4	7.8	8.3
Total Sulphate as SO_4	%	0.005	MCERTS	-	-	0.007	-	0.012
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	87	26	28	19	14
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	43.3	13	13.8	9.61	6.84
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	8.9	-	1.5
Total Sulphur	mg/kg	50	MCERTS	-	-	86	-	56
Total Sulphur	%	0.005	MCERTS	-	-	0.009	-	0.006
Ammoniacal Nitrogen as NH_4^+	mg/kg	0.5	MCERTS	-	-	< 0.5	-	< 0.5
Ammonium as NH_4^+ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Nitrate as NO_3 (Water Soluble) (2:1)	mg/kg	0.9	NONE	-	-	< 0.90	-	< 0.90
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent)	mg/l	0.9	N/A	-	-	< 0.90	-	< 0.90
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	< 2.5	-	< 2.5
Magnesium (water soluble)	mg/kg	5	NONE	-	-	< 5.0	-	< 5.0

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-026985
Project / Site name: Southleigh House

Lab Sample Number				925637	926233	926234
Sample Reference				WS213	WS205	WS215
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A
Depth (m)				0.50-1.00	0.50-1.00	2.00-2.40
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Mass of stone >10mm	%	0.1	NONE	71.4	68.8	31.6
Moisture Content	%	0.01	NONE	6.6	9.3	9.2
Total mass of sample received	kg	0.1	NONE	0.6	0.6	0.4
Whole Sample Crushed	N/A	N/A	NONE	Crushed	Crushed	-
General Inorganics						
pH (L099)	pH Units	N/A	MCERTS	8.1	8.1	7.2
Total Sulphate as SO_4	%	0.005	MCERTS	0.034	-	-
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	50	32	25
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	25.2	16.2	12.5
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	3.1	-	-
Total Sulphur	mg/kg	50	MCERTS	210	-	-
Total Sulphur	%	0.005	MCERTS	0.021	-	-
Ammoniacal Nitrogen as NH_4^+	mg/kg	0.5	MCERTS	< 0.5	-	-
Ammonium as NH_4^+ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	< 0.05	-	-
Nitrate as NO_3 (Water Soluble) (2:1)	mg/kg	0.9	NONE	11.6	-	-
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent)	mg/l	0.9	N/A	5.81	-	-
Heavy Metals / Metalloids						
Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5	-	-
Magnesium (water soluble)	mg/kg	5	NONE	< 5.0	-	-

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 26-026985
Project / Site name: Southleigh House

* 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 *
925632	WS201	None Supplied	1.00-2.00	Light brown clay and sand with gravel
925633	WS202	None Supplied	0.60-0.70	Brown clay and sand with gravel
925634	WS203	None Supplied	4.50-5.00	Brown clay and sand with gravel
925635	WS208	None Supplied	0.50-0.80	Brown clay and sand with stones
925636	WS211	None Supplied	0.80-1.20	Light brown clay and sand with stones
925637	WS213	None Supplied	0.50-1.00	Brown loam and sand with vegetation and stones
926233	WS205	None Supplied	0.50-1.00	Brown clay and sand with stones
926234	WS215	None Supplied	2.00-2.40	Brown clay and sand with stones

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Analytical Report Number : 26-026985
Project / Site name: Southleigh House

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
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.	L019B	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	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
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Water Soluble Nitrate (2:1) as NO3 in soil	Determination of nitrate as NO3 in soil by discrete method	In-house method by discrete analyzer based on TON as N, Total Oxidized Nitrogen (Vanadium Chloride reduction), Thermo Fisher Scientific, MANUAL 2015-0	L082B	W	NONE
Whole Sample Crushed	Either: Client specific preparation instructions - sample(s) crushed whole prior to analysis OR Sample unsuitable for standard preparation and therefore crushed whole prior to analysis	In house method, applicable to dry samples only	L019B	D	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 30oC.
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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Analytical Report Number : 26-026985
Project / Site name: Southleigh House

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS201	None Supplied	S	925632	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
WS201	None Supplied	S	925632	a	pH in soil (automated)	L099-PL	a
WS202	None Supplied	S	925633	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
WS202	None Supplied	S	925633	a	pH in soil (automated)	L099-PL	a
WS203	None Supplied	S	925634	a	Ammoniacal Nitrogen as N in soil	L082B	a
WS203	None Supplied	S	925634	a	Ammonium as NH4 in soil	L082B	a
WS203	None Supplied	S	925634	a	Chloride, water soluble, in soil	L082B	a
WS203	None Supplied	S	925634	a	Magnesium, water soluble, in soil	L038B	a
WS203	None Supplied	S	925634	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
WS203	None Supplied	S	925634	a	Total Sulphur in soil	L038B	a
WS203	None Supplied	S	925634	a	Total sulphate (as SO4 in soil)	L038B	a
WS203	None Supplied	S	925634	a	Water Soluble Nitrate (2:1) as N in soil	L082B	a
WS203	None Supplied	S	925634	a	Water Soluble Nitrate (2:1) as NO3 in soil	L082B	a
WS203	None Supplied	S	925634	a	pH in soil (automated)	L099-PL	a
WS205	None Supplied	S	926233	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
WS205	None Supplied	S	926233	a	pH in soil (automated)	L099-PL	a
WS208	None Supplied	S	925635	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
WS208	None Supplied	S	925635	a	pH in soil (automated)	L099-PL	a
WS211	None Supplied	S	925636	a	Ammoniacal Nitrogen as N in soil	L082B	a
WS211	None Supplied	S	925636	a	Ammonium as NH4 in soil	L082B	a
WS211	None Supplied	S	925636	a	Chloride, water soluble, in soil	L082B	a
WS211	None Supplied	S	925636	a	Magnesium, water soluble, in soil	L038B	a
WS211	None Supplied	S	925636	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
WS211	None Supplied	S	925636	a	Total Sulphur in soil	L038B	a
WS211	None Supplied	S	925636	a	Total sulphate (as SO4 in soil)	L038B	a
WS211	None Supplied	S	925636	a	Water Soluble Nitrate (2:1) as N in soil	L082B	a
WS211	None Supplied	S	925636	a	Water Soluble Nitrate (2:1) as NO3 in soil	L082B	a
WS211	None Supplied	S	925636	a	pH in soil (automated)	L099-PL	a
WS213	None Supplied	S	925637	a	Ammoniacal Nitrogen as N in soil	L082B	a
WS213	None Supplied	S	925637	a	Ammonium as NH4 in soil	L082B	a
WS213	None Supplied	S	925637	a	Chloride, water soluble, in soil	L082B	a
WS213	None Supplied	S	925637	a	Magnesium, water soluble, in soil	L038B	a
WS213	None Supplied	S	925637	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
WS213	None Supplied	S	925637	a	Total Sulphur in soil	L038B	a
WS213	None Supplied	S	925637	a	Total sulphate (as SO4 in soil)	L038B	a
WS213	None Supplied	S	925637	a	Water Soluble Nitrate (2:1) as N in soil	L082B	a
WS213	None Supplied	S	925637	a	Water Soluble Nitrate (2:1) as NO3 in soil	L082B	a
WS213	None Supplied	S	925637	a	pH in soil (automated)	L099-PL	a
WS215	None Supplied	S	926234	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
WS215	None Supplied	S	926234	a	pH in soil (automated)	L099-PL	a

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APPENDIX 7: GEOTECHICNAL CALCULATIONS

Project Title:	Southleigh		
Shallow Foundation	Shallow Foundation		
Determination of Bearing Resistance	Calcs by	DF	

Head Deposits

Design Approach 1

Combination 1 A1 + M1 + R1

Characteristic Geotechnical Parameters

Unit Weight	18
Shearing Resistance	34
Cohesion	0

Foundation Size

depth	0.75
breadth	0.6
length	20

Material Properties and Resistance

Partial factors set M1: $\gamma_\phi = 1$ and $\gamma_c = 1$

Design shearing resistance is $\phi_d = \tan^{-1}\left(\frac{\tan\phi_K}{\gamma_\phi}\right) =$ 34

Design cohesision is $c'_d = \frac{c_k}{\gamma_c} = 0$

Bearing Capacity Factors

For overburden $N_q = \left[e^{(\pi\times\tan(\phi_d))}\times\left(\tan\left(45+\frac{\phi_d}{2}\right)\right)^2\right] =$ 29.4

For cohesion $N_c = \left[(N_q-1)\times\cot(\phi_d)\right] =$ 42.1

For self-weight $N_\gamma = \left[2(N_q-1)\times\tan(\phi_d)\right] =$ 38.3

Shape Factors

For overburden $s_q = \left[1+\left(\frac{B}{L}\right)\times\sin(\phi_d)\right] =$ 1.56

For cohesion $s_c = \frac{(s_q\times N_q-1)}{(N_q-1)} =$ 1.58

For self weight $s_\gamma = 1-0.3\times\left(\frac{B}{L}\right) =$ 0.7

Bearing Resistance

Total overburden at foundation base is $\sigma_{vk,b} = \gamma_k \times d =$ 14

Partial factors set R1: $\gamma_{Rv} = 1$

From overburden $q_{ult_1} = N_q \times s_q \times \sigma_{vk,b} =$ 619

From cohesion $q_{ult_2} = N_c \times s_c \times c_d =$ 0

Project Title:	Southleigh		
Shallow Foundation	Shallow Foundation		
Determination of Bearing Resistance	Calcs by	DF	

From self-weight $q_{ult_3} = \left(N_\gamma \times s_\gamma \times \gamma_k \times \frac{B}{2} \right) =$ 145 72 *Groundwater correction*

Total resistance is $q_{ult} = \sum_{i=1}^{3} \quad q_{ult} =$ 691

Design resistance is $q_{Rd} = \frac{q_{ult}}{\gamma_{Rv}} =$ 691

Design Approach 1

Combination 2 A2 + M2 + R1

Material Properties and Resistance

Partial factors set M2: γ_ϕ = 1.25 and γ_c = 1.25

Design shearing resistance is $\phi_d = \tan^{-1}\left(\frac{\tan \phi_K}{\gamma_\phi} \right) =$ 28.4

Design cohesion is $c'_d = \frac{c_k}{\gamma_c} =$ 0

Bearing Capacity Factors

For overburden $N_q = \left[e^{(\pi \times \tan(\phi_d))} \times \left(\tan\left(45 + \frac{\phi_d}{2} \right) \right)^2 \right] =$ 15.3

For cohesion $N_c = \left[(N_q - 1) \times \cot(\phi_d) \right] =$ 26.5

For self-weight $N_\gamma = \left[2(N_q - 1) \times \tan(\phi_d) \right] =$ 15.4

Shape Factors

For overburden $s_q = \left[1 + \left(\frac{B}{L} \right) \times \sin(\phi_d) \right] =$ 1.47

For cohesion $s_c = \frac{(s_q \times N_q - 1)}{(N_q - 1)} =$ 1.51

For self weight $s_\gamma = 1 - 0.3 \times \left(\frac{B}{L} \right) =$ 0.7

Project Ttitle:	Southleigh		
Shallow Foundation	Shallow Foundation		
Determination of Bearing Resistance	Calcs by	DF	

Bearing Resistance

Total overburden at foundation base is $\sigma_{vk,b} = \gamma_k \times d =$ 14

Partial factors set R1: γ_{Rv} = 1

From overburden $q_{ult_1} = N_q \times s_q \times \sigma_{vk,b} =$ 304

From cohesion $q_{ult_2} = N_c \times s_c \times c_d =$ 0

From self-weight $q_{ult_3} = \left(N_\gamma \times s_\gamma \times \gamma_k \times \frac{B}{2} \right) =$ 58 29 *Groundwater Correction*

Total resistance is $q_{ult} = \sum_{i=1}^{3}$ $q_{ult} =$ 334

Design resistance is $q_{Rd} = \frac{q_{ult}}{\gamma_{Rv}} =$ 334

Design Approach	Combination	Design Resistance (kN/m^2)
DA1	Combination 1	691
	Combination 2	334

APPENDIX 8: GROUND GAS MONITORING DATA

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	Southleigh Park
DATE:	08/06/2026 ……1... of ……1…
OPERATOR(S):	PP

Ambient Conditions:	Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)
Before Monitoring	1007	<0.1	<0.1		
After Monitoring	1004	<0.1	<0.1		

Atmospheric Pressure Trend:	Falling
Ground Conditions:	Damp
Weather Conditions:	Cloudy and calm

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments
GFM436 gas analyser		
Standard Dipmeter		

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata	Gas screening value CH_4	Gas screening value CO_2
													From (mbgl)	To (mbgl)			
WS204		<1	-	<0.1	1.4	17.4	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.014
WS206		<1	-	<0.1	1.3	17.6	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.013
WS210		<1	-	<0.1	0.1	14.1	<0.1	<1	-	-	-	-	0.80	4.80	HD	0.0001	0.001
WS211		<1	-	<0.1	<0.1	18.4	<0.1	<1	-	-	-	-	1.00	4.00	HD	0.0001	0.001
WS212		<1	-	<0.1	0.1	17.0	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.001

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
WS204	0.635	4.84										
WS206	0.72	4.60										
WS210	2.49	4.57										
WS211	2.94	4.14										
WS212	3.36	4.87										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000 (2l/m in 50mm well)

Gas screening value = gas concentration (%) x gas flow rate (l/hr)

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	Southleigh Park
DATE:	22/06/2026 ……1... of ……1…
OPERATOR(S):	PP

Ambient Conditions:	Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)
Before Monitoring	1017	<0.1	<0.1		
After Monitoring	1017	<0.1	<0.1		

Atmospheric Pressure Trend:	Steady
Ground Conditions:	Dry
Weather Conditions:	Sunny and calm

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments
GFM436 gas analyser		
Standard Dipmeter		

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata	Gas screening value CH_4	Gas screening value CO_2
													From (mbgl)	To (mbgl)			
WS204		<1	-	<0.1	1.1	19.6	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.011
WS206		<1	-	<0.1	0.8	15.3	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.008
WS210		<1	-	<0.1	0.8	13.2	<0.1	<1	-	-	-	-	0.80	4.80	HD	0.0001	0.008
WS211		<1	-	<0.1	0.7	18.8	<0.1	<1	-	-	-	-	1.00	4.00	HD	0.0001	0.007
WS212		<1	-	<0.1	<1	17.3	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.001

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
WS204	0.87	4.84										
WS206	0.86	4.60										
WS210	2.64	4.57										
WS211	3.11	4.14										
WS212	3.54	4.87										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000 (2l/m in 50mm well)

Gas screening value = gas concentration (%) x gas flow rate (l/hr)

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	Southleigh Park
DATE:	06/07/2026 ……1... of ……1…
OPERATOR(S):	PP

Ambient Conditions:	Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)
Before Monitoring	1013	<0.1	<0.1		
After Monitoring	1013	<0.1	<0.1		

Atmospheric Pressure Trend:	Steady
Ground Conditions:	Dry
Weather Conditions:	Sunny and calm

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments
GFM436 gas analyser		
Standard Dipmeter		

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata	Gas screening value CH_4	Gas screening value CO_2
													From (mbgl)	To (mbgl)			
WS204		<1	-	<0.1	0.2	19.1	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.002
WS206		<1	-	<0.1	0.4	21.5	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.004
WS210		<1	-	<0.1	0.3	20.7	<0.1	<1	-	-	-	-	0.80	4.80	HD	0.0001	0.003
WS211		<1	-	<0.1	0.6	20.6	<0.1	<1	-	-	-	-	1.00	4.00	HD	0.0001	0.006
WS212		<1	-	<0.1	<1	20.0	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.001

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
WS204	1..265	4.84										
WS206	1.03	4.60										
WS210	2.83	4.57										
WS211	3.26	4.14										
WS212	3.72	4.87										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000 (2l/m in 50mm well)

Gas screening value = gas concentration (%) x gas flow rate (l/hr)

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	Southleigh Park
DATE:	17/07/2026 ……1... of ……1…
OPERATOR(S):	PP

Ambient Conditions:	Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)
Before Monitoring	1009	<0.1	<0.1		
After Monitoring	1009	<0.1	<0.1		

Atmospheric Pressure Trend:	Steady
Ground Conditions:	Dry
Weather Conditions:	Sunny and calm

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments
GFM436 gas analyser		
Standard Dipmeter		

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata	Gas screening value CH_4	Gas screening value CO_2
													From (mbgl)	To (mbgl)			
WS204		<1	-	<0.1	0.1	20.0	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.001
WS206		<1	-	<0.1	0.2	20.6	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.002
WS210		<1	-	<0.1	0.1	20.8	<0.1	<1	-	-	-	-	0.80	4.80	HD	0.0001	0.001
WS211		<1	-	<0.1	0.2	20.8	<0.1	<1	-	-	-	-	1.00	4.00	HD	0.0001	0.002
WS212		<1	-	<0.1	0.1	20.2	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.001

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
WS204	1.365	4.84										
WS206	1.14	4.60										
WS210	2.94	4.57										
WS211	3.36	4.14										
WS212	3.82	4.87										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000 (2l/m in 50mm well)

Gas screening value = gas concentration (%) x gas flow rate (l/hr)

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	Southleigh Park
DATE:	03/08/2026 ……1... of ……1…
OPERATOR(S):	PP

Ambient Conditions:	Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)
Before Monitoring	1004	<0.1	<0.1		
After Monitoring	1004	<0.1	<0.1		

Atmospheric Pressure Trend:	Steady
Ground Conditions:	Dry
Weather Conditions:	Sunny and calm

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments
GFM436 gas analyser		
Standard Dipmeter		

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata	Gas screening value CH_4	Gas screening value CO_2
													From (mbgl)	To (mbgl)			
WS204		<1	-	<0.1	0.3	20.1	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.003
WS206		<1	-	<0.1	0.1	20.3	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.001
WS210		<1	-	<0.1	0.1	20.6	<0.1	<1	-	-	-	-	0.80	4.80	HD	0.0001	0.001
WS211		<1	-	<0.1	0.1	20.8	<0.1	<1	-	-	-	-	1.00	4.00	HD	0.0001	0.001
WS212		<1	-	<0.1	0.1	20.4	<0.1	<1	-	-	-	-	1.00	5.00	HD	0.0001	0.001

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
WS204	1.49	4.84										
WS206	1.22	4.60										
WS210	3.02	4.57										
WS211	3.47	4.14										
WS212	3.91	4.87										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000 (2l/m in 50mm well)

Gas screening value = gas concentration (%) x gas flow rate (l/hr)

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	Southleaigh Park, Havant					
DATE:	17/12/2020	……1... of ……1…				
OPERATOR(S):	AP					
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)
Before Monitoring						
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments
Dip metre		

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata	Gas screening value CH_4	Gas screening value CO_2
													From (mbgl)	To (mbgl)			

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
WS101	0.62	3.00										
WS102	0.64	2.97										
WS103	Dry	2.79										
WS105	Dry	1.76										
WS106	Dry	2.15										
Chamber	2.16	-										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000 (2l/m in 50mm well)

Gas screening value = gas concentration (%) x gas flow rate (l/hr)

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

APPENDIX 9: DISCOVERY STRATEGY

Attn: Ground Works Contractors

Southleigh Park House, Eastleigh Road, Havant, PO9 2PE – Discovery Strategy

Background

This document presents a brief summary of the actions to be taken if suspected contamination of the soil or groundwater is encountered during the development of the site and follows on from the GCC Ground Condition Assessment dated August 2026.

Evidence of contamination

Evidence of contamination may be in the following forms, although other indicators may be observed.

- Dark staining of the soil
- Ash in soil
- Oily sheen on soil or water
- Tanks and pipework
- Smell of oil/diesel/petrol
- Asbestos containing material fragments
- Large deposits of made ground (e.g. waste deposits)

Actions following identification of evidence of contamination

Contractors encountering evidence of contamination are to report the discovery to the site office/site manager.

- Further development of the potentially contaminated area should cease and Site Manager should contact GCC (ask@groundcc.com) to attend site and assess the implications of the discovered impact.
- GCC will in turn inform the Local Authority and/or the Environment Agency as appropriate.
- Potentially contaminated material is to be left in situ where possible, or stockpiled in bunded areas where it is not possible to leave in situ, until an assessment is complete and appropriate action is agreed with the relevant regulator.
- Potentially contaminated material to be disposed of off site may require further chemical testing.