



Land South of Westwells Road, Neston, Corsham Phase 2 Ground Investigation Report

For Ark Data Centres Limited

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Executive summary

Site information and setting	
Objectives	The works have been commissioned to support the planning application and inform design.
Client	Ark Data Centres Limited.
Site name and location	Land South of Westwells Road, Neston, Corsham, Wiltshire, SN13 9ET.
Proposed development	The site development proposals are understood to comprise an extension of the existing data centre by construction of a new building on a separate site to the south of the current buildings.
Site description	The site is currently disused and comprises approximately 47 separate concrete pad bases across the site from historical buildings, various stockpiles across the site, and historical quarry workings in the west.
Desk study summary	
Topography	The site is 110m above ordnance datum (AOD) at its highest point and slopes towards the east with the lowest point at 105m AOD. There is slope shaft and abandoned quarry workings to the south west of the site which in turn lead to the underground workings below the west of site.
Hydrology	The closest primary natural surface water features are several ponds located approximately 450m north east of the site.
Site History	The site was open land with a pond located on the eastern boundary until between 1886 and 1900. At around 1900, Sands Quarry was opened to the west of the site and was actively mined until approximately 1920 this is understood to extend below the site. The site was requisitioned by the MoD during the Second World War. Sands Quarry was used as emergency exit to the larger underground workings to the north of the site and the land was used for administrative purposes. 47 accommodation buildings were constructed by the military in 1947 and were subsequently demolished by 1969, however, the ground floor slabs and foundations remain. The site has been left undeveloped since.
Geology	Superficial: None recorded Solid: Forest Marble Formation, comprising grey to brown limestone, overlying the Bath Oolite Member & Corsham Limestone Formation (BOMCLF) comprising oolitic limestone. Localised Made Ground is likely to be present as a result of infilling of quarry workings, a former pond and historical use.
Natural geological hazards	The cohesive deposits within the weathered Forest Marble Formation maybe affected by shrink/swell. There is the potential for backfilled historical quarries to be present in the south and the east of the site and a backfilled pond on the eastern boundary.
Anthropogenic geotechnical hazards	Sands Quarry was actively mined between 1890 and 1912 and featured both above and below ground workings. It is located below the western half of the site with the above ground workings and underground entrance located immediately southwest of the site.

	Two other surface quarries are recorded, one along the southern boundary and one 150m to the east of the site and were active during the 19th Century. There is currently no visible evidence of these workings remaining and it is assumed they were backfilled. A study of Hydrock's archive information shows that Westwells mine located to the east of the site was worked between 1894 and 1952. A mining report of the workings shows that a portion of the subsurface structure could extend far enough west to impact the eastern edge of the current site.
Hydrogeology	The Forest Marble is a Secondary A Aquifer and the deeper BOMCLF limestones are classified as a Principal Aquifer by the Environment Agency. The site is within a Zone 2 Source Protection Zone and there are no groundwater abstractions within 1km of the site.
UXO risk	A non-specialist UXO assessment indicates a low bomb risk.
Other	The Environmental report indicates that there are no concentrations of naturally occurring metals above the Generic Assessment Criteria (GAC) for a commercial end use.

Preliminary conceptual site model based on desk study

Potential contaminant sources	Made Ground, associated with historical mining activities and imported fill, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S01). Made Ground, associated with former MoD activity possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S02). Coal tar, potentially present in the bituminous bound pavements and roads (S03). Ground gases (carbon dioxide and methane) from organic materials in the Made Ground or potential build up in the underground mineworkings. (S04)
Potential contaminant linkages (for receptors for which there is or will be a pathway)	Humans (commercial / POS) – Site users / neighbours Controlled waters – groundwater migration Plant life – root uptake Planned Buildings Ground Gases

Ground model proven by investigation

Ground and groundwater conditions encountered by investigation	The ground conditions as proven by the investigation undertaken at the site comprise: • Topsoil – between GL and 0.3m below ground level (bgl), comprising soft dark gravelly sandy clay with rootlets. • Made Ground – between GL and 2.0m below ground level (bgl), comprising brown gravelly clay to clayey gravel. Anthropogenic elements include: brick, glass, asphalt, clinker, concrete and limestone. • Forest Marble Formation – between 0.10m and 5.80m bgl, comprising brown gravelly clay to grey clayey gravel of limestone becoming a competent grey limestone with abundant fossils. • Bath Oolite Member and Corsham Limestone Formation – between 5.30m and >10.0m bgl, comprising oolitic limestone
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	Groundwater was encountered at depths between 0.85m bgl and 2.70m bgl during the investigation in the form of light to moderate seepage. There is considered to be a perched groundwater horizon between 1.63m – 2.01m bgl within the Forest Marble Formation Water and deeper levels have not been established owing to the wells being dry or with only one round noting water in the well.
Summary of geotechnical conclusions	
Groundwork	Obstructions associated with former development, including foundations, floor slabs and services, should be anticipated. Excavation to proposed founding depth generally should be readily achievable with standard excavation plant. Heavy duty excavation plant/breaking equipment may be required to excavate the existing construction and limestone beds within the Forest Marble Formation. Excavations during investigation were generally stable, although slight spalling should be expected from the Made Ground. Water seepages into excavations are likely to be adequately controlled by sump pumping.
Foundations	Due to the depth of Made Ground, and presence of soft weathered clay layers in the Forest Marble Formation reducing the allowable bearing capacity, piled foundations are recommended, extending into the competent Bath Oolite Member and Corsham Limestone Formation. The pile designer will need to consider differential settlement across the building footprint due to the change in rock level and the cut and fill earthworks. A separate risk assessment will need to be undertaken to inform the extent of the underground mine workings and any risk that piles may breach the ceiling of the workings. Heave protection is likely to be required to allow for the effects of trees. Suspended floor slabs are recommended due to depth of Made Ground and presence of high shrinkage potential clay soils. Alternatively, a raft slab may be used with settlement reducing piles/controlled modulus columns.
Roads and pavements	For road / pavement design, a design CBR of >2.5% is recommended for the forest Marble formation. CBR values for the cut / fill would be significantly influenced by the earthworks specification / programme.
Sustainable drainage	Soakaway drainage is potentially suitable for this site based on soakaway test results; however, the permeability of the Forest Marble Formation is highly variable and further depth and location-specific testing may be required should soakaway locations change. Further pertinent considerations are discussed in Section 6.9. All soakaway drains should be located outside of the areas of historical mineworkings.
Buried concrete	Design Sulfate Class - DS-1 and ACEC Class AC-1. Equivalent to Design Chemical Class DC-1 for a 50 year design life. <i>However, if shallow foundations are to be adopted in lieu of piled foundations (following further geotechnical design and analysis), in the absence of further location- and depth-specific testing, buried concrete class requirements of DS-4 and ACEC Class AC-4 should be used.</i>

Summary of geo-environmental assessment

Human Health	Pervasive PAHs in the stockpiled materials and Made Ground. Multiple detections of asbestos in Made Ground.
Phytotoxicity	Pervasive zinc in stockpiled materials.
Controlled waters	Groundwater samples exceed drinking water standards for magnesium, however, due to no on site source these are thought to be naturally occurring or migrating from off site. Not considered a risk to the development.
Natural contamination	None noted.
Radon:	The bespoke Radon Assessment concluded the site is not at risk of Radon and no protection measures are required.
Construction materials:	Plastic or bitumastic products are not at risk from high concentrations of VOC and petroleum hydrocarbons.
Potable water supply pipes	Brownfield site and the presumption in the guidance is that barrier pipe will be used. In the instance that stockpiled materials be re-used as fill then barrier pipe will be required in these areas as exceedances of Contaminants of Concern have been detected. However, the investigation and assessment has indicated no significant Contaminants of Concern within the in-situ soils and as such standard pipework may be suitable for pipework sited in in-situ soils following negotiations with the supply company.
Ground gases or vapours:	Low risk from ground gases and CS1 conditions apply, i.e., no gas protective measures required.

Enabling works

Proposed mitigation measures	The mitigation measures proposed to remove unacceptable risks include: • Further investigation could be undertaken to further delineate the contamination highlighted in the soft landscaping areas and further testing of all stockpiled could be undertaken. This may allow for the remedial options to be further considered and mitigation measures reduced and/or revised. • The installation of a 600mm engineered clean cover in public open space, comprising a high visibility geo textile, subsoil beneath a topsoil thickness of between 150mm and 300mm (PL2, PL3 and PL4). The thickness and extents of this can be confirmed during the remedial options appraisal. • Off-site disposal of impacted stockpiles, SP03 and SP04, including picking of ACM materials by a licensed contractor (PL1, PL5 and PL6). The methodology for the remediation should be presented in a Remediation Strategy, which will need to be submitted to the warranty provider and the regulatory authorities for approval. Verification reports by a competent independent geo-environmental specialist will be required following completion of any remedial works.
Earthworks	In order to undertake the proposed cut to fill earthworks and use of excavated materials in earthworks a site-specific Earthwork Specification will be required to allow reuse of suitable materials along with the production of a Materials Management Plan and its approval by a Qualified Person.

Waste management	Verification reports by competent independent geotechnical specialists will be required following completion of any earthworks. Excavated/stockpiled soils to be disposed of as waste, are likely to be classed as hazardous, subject to WAC testing and asbestos is able to be removed, and be quantified below the hazardous waste threshold of 0.1%, this may be able to be classed as non-hazardous waste. All natural uncontaminated soils are likely to be classed as inert, subject to WAC testing.
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Future considerations

Further work	After the planning determination has been made, the following further works are likely to be required to satisfy planning conditions pertaining to land stability and/or contaminated land, and to facilitate detailed design of the proposed development: Post-planning determination/pre-construction • completion of a mine survey and risk assessment for the mines below site, and subsequent update of geotechnical recommendations where necessary. Depending on the findings of the assessment, additional ground investigation may be required to prove sufficient rockhead below piles; • provision of geotechnical design for the Category 2 structures (earthworks, retaining, floor slabs, foundations), including production of an Earthwork Specification; • discussions with piling contractors regarding conclusions of this report and design of the piles; • further testing and assessment of all stockpiles on site to further inform potential disposal costs and any potential for re-use on site as part of the fill exercise; • discussion and agreement with utility providers regarding the materials suitable for pipework; • discussions with regulatory bodies and the warranty provider regarding the conclusions of this report; • production of a Remediation Strategy and Verification Plan (and agreement with the regulatory bodies and the warranty provider); and • production of a Materials Management Plan relating to reuse of soils at the site and import of soils to the site. Construction • remediation and mitigation works; and • verification of earthworks/development platform. Post-construction • verification of the remediation and mitigation works.
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This Executive Summary forms part of Hydrock Consultants Limited report number 24639-HYD-XX-XX-RP-GE-1002 and should not be used as a separate document.

It should be noted that a survey and condition assessment of the disused mines is required to understand the impact on the development. Due to access arrangements this has not been possible to date. As such the recommendations in this report are preliminary and there is a risk that proposals are adversely affected by findings of the assessment.

1. Introduction

1.1 Terms of reference

In March 2023, Hydrock Consultants Limited (Hydrock) was commissioned by Ark Data Centres Limited (the Client) to undertake site investigation, comprising a Phase 2 ground investigation for an area of land south west of Westwells Road, Corsham, Wiltshire, SN13 9ET.

The site is an historical military barracks that currently comprises an area of disused scrub land with woodland to the western edge. Hydrock understands that the proposed development is to comprise an extension of the existing data centre by construction of a new building on a separate site to the south of the current buildings. The proposed development is shown on the Proposed Masterplan (Ref: PL1100, 2023).

The works have been undertaken in accordance with Hydrock's proposal (Ref: 24639-HYD-XX-XX-GE-FP-0002 dated March 2023) and the Client's instructions to proceed (Ref PO: SPX/GDW/1).

1.2 Objectives

The works have been commissioned to support the planning application and inform design.

The objectives of the Phase 2 Ground Investigation are:

- » to resolve any geotechnical and geo-environmental uncertainties identified in the Phase 1 Desk Study by refining and updating the preliminary Ground Model, based on the conditions met in accordance with the principles of Environment Agency (EA) 'Land Contamination: Risk Management' (LCRM) (2020);
- » to identify any geo-environmental mitigation requirements to enable development to progress; and
- » to provide preliminary geotechnical recommendations for design.

1.3 Scope

The scope of the Phase 2 Ground Investigation comprises:

- » a ground investigation including rotary cored boreholes, trial pitting and windowless sampling to:
 - » obtain data on the ground and groundwater conditions of the site;
 - » allow collection of samples for geotechnical and chemical laboratory analysis;
 - » allow infiltration tests to be undertaken;
 - » install groundwater wells;
- » groundwater level monitoring;
- » geotechnical and chemical laboratory analysis;
- » updating of the preliminary Ground Model;
- » preparation of a geotechnical risk register;
- » presentation of an initial geotechnical design recommendations;
- » formulation of an updated Conceptual Site Model (CSM), including identification of any plausible contaminant linkages;
- » completion of a generic quantitative risk assessment of any identified chemical contaminants to establish 'suitability for use' under the current planning regime;
- » discussion of any potential environmental liabilities associated with land contamination (soil, water and gas); and

- » identification of outline mitigation requirements to ensure the site is 'suitable for use'.

It should be noted that a survey and condition assessment of the disused mines is required to understand the impact on the development. Due to access arrangements this has not been possible to date. As such the recommendations in this report are preliminary and there is a risk that proposals are adversely affected by findings of the assessment.

1.4 Available information

The following documents, reports etc have been provided to Hydrock by Ark Data Centres Limited for use in the preparation of this report:

- » Hale, March 2024. Spring Park Corsham – Proposed Masterplan, Ref: PL1100, 2023.
- » Clifton Surveys Ltd, October 2022. Topographical Survey – Land at Westwells, Corsham, Ref: 122/5429/1, dated October 2022;
- » Hydrock, July 2022. Phase 1 Ground Conditions Desk Study - Spring Park Data Centre Expansion, Ref: 24639-HYD-XX-XX-G-RP-1000; and
- » Hydrock, October 2022. Radon Assessment – Spring Park, Corsham, Ref: 24639-HYD-XX-XX_GE-TN-1001, dated 17 October 2022.
- » Hydrock, November 2023. Risk presented by underground mine workings to proposed surface water drainage strategy, Ref: 24639-HYD-XX-XX-TN-GE-1003, dated 24 November.

It is understood that the Client defined in Section 1.1 has obtained assignment of the above documents and Hydrock has assumed full reliance can be placed upon their contents. Should this not be the case, Hydrock should be informed at the earliest opportunity.

The following document has also been made available; however, it is understood that the Client defined in Section 1.1 has not obtained assignment of this documents and so it has been used for information purposes only:

- » SLR Consulting Ltd., October 2009. Generic Land Quality Risk Assessment – Proposed Redevelopment Former Sands Quarry, Westwells Road, Corsham, Wiltshire, Ref: 402.2102.00001, dated February 2009 – re-issued October 2009.

1.5 Regulatory context and guidance

The investigation work has been carried out in general compliance with recognised best practice, including (but not limited to) BS 5930:2015, BS 10175:2011+A2:2017 and the AGS (2006) 'Good Practice Guidelines for Site Investigations'.

The geo-environmental section of this report is written in broad accordance with BS 10175:2011+A2:2017, EA LCRM), (2021) and the AGS (2006) 'Good Practice Guidelines for Site Investigations'.

The methods used follow a risk-based approach, the first stage of which is a Phase 1 desk study and field reconnaissance, with any potential geo-environmental risks assessed qualitatively. This is done using the 'source-pathway-receptor contaminant linkage' concept to assess risk as introduced in the Environmental Protection Act 1990 (EPA, 1990). Any potential geotechnical risks are also assessed from the Phase 1 desk study and site reconnaissance stage.

Phase 2 comprises intrusive ground investigation work and testing. The factual information from the desk study and the ground investigation are used to develop the Conceptual Site Model (CSM). This CSM is based on a ground model of the site physical conditions and an exposure model of the possible contaminant linkages. The CSM forms the basis for Generic Quantitative Risk Assessment (GQRA) in accordance with current guidelines. This GQRA might lead to more Detailed Quantitative Risk Assessment (DQRA).

Professional judgement is then used to evaluate the findings of the risk assessments and to provide recommendations for the development.

The geotechnical section of this report is prepared in general accordance with BS EN 1997-1+A1:2013, BS EN 1997-2:2007 and BS 8004:2015. This report constitutes a Ground Investigation Report (GIR) as described in Part 2 of Eurocode 7 (BS EN 1997-2) (EC7). However, it is not intended to fulfil the requirements of a Geotechnical Design Report (GDR) as specified in EC7.

Where relevant the relevant requirements of the current edition of NHBC Standards have also been applied.

The geo-environmental and geotechnical aspects are discussed in separate sections. Throughout the report the term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements). The term 'geo-environmental' is used to describe aspects relating to ground-related environmental issues (such as potential contamination). However, it should be appreciated that this is an integrated investigation and these two main aspects are inter-related. Designers should take all aspects of the investigation into account.

Remaining uncertainties and recommendations for further work are listed in Section 9 and Section 10.

2. Desk Study Review

2.1 Introduction

Hydrock has previously undertaken a Phase 1 Ground Conditions Desk Study (Ref: 24639-HYD-XX-XX-RP-GE-1000 issued July 2022) for the site and the following section is a summary of the pertinent information presented in the Desk Study. The Desk Study should be read in conjunction with this report.

2.2 Site description

The site is currently disused and comprises approximately 47 separate concrete pad bases, from the former accommodation blocks, across the site and historical quarry workings in the west. There are various stockpiles located across the site. There is currently a public footpath that runs along a metalled track through the centre of the site. The site boundary also includes land to the south and southwest of the main part of the site. Whilst no built development is proposed in this location, additional landscaping and habitat management and enhancement is proposed here.

The site is irregular in shape and has an area of approximately 6.2ha and occupies ground once belonging to the MOD. At approximately 110m above ordnance datum (AOD) the site slopes towards the east. There is slope shaft and abandoned quarry workings to the south west of the site which in turn lead to the underground workings below the west of site. It is understood that further underground workings are present to the North of site.

2.3 Site history

The site was open land until between 1886 and 1900. At around 1900 Sands Quarry was opened to the west of the site and was actively mined until approximately 1920. A pond is noted to have been present/infilled along at the immediate eastern site boundary this is understood to extend below the site.

The site was requisitioned by the MoD during the Second World War. Sands Quarry was used as emergency exit to the larger underground workings to the north of the site and the land was used for administrative purposes.

47 accommodation buildings were constructed by the military in 1947 and were subsequently demolished by 1969, however, the ground floor slabs and foundations remain. The site has been left undeveloped since.

2.4 Geology

No superficial geology is recorded as being present on site.

The solid geology comprises Forest Marble Formation, comprising grey to brown limestone, overlying the Bath Oolite Member & Corsham Limestone Formation (Hereafter referred to as 'BOMCLF') comprising oolitic limestone. Made Ground is likely to be present due to historical development.

Limited dip and strike data on the BGS Map Sheet 265 1:50,000, show that bedding is sub horizontal 4°-6° to the south, southwest. The Forest Marble Formation is estimated to be up to 34m thick and the BOMCLF is estimated to be up to 9m thick. The transition between the Forest Marble Formation and the BOMCLF is noted to be at the point of which ooidial limestones are present.

The deeper solid geology is noted to be the Chalfield Oolite Formation which is estimated to be up to 31m thick. It is anticipated that this was the strata mined on site.

Localised Made Ground is likely to be present as a result of infilling of quarry workings, a former pond and historical use.

2.5 Hydrogeology

Exposed at the surface, the Forest Marble Formation is classed as a Secondary A Aquifer and the deeper BOMCLF limestones are classified as a Principal Aquifer by the Environment Agency.

The site is within a Zone 2 Source Protection Zone and there are no groundwater abstractions within 1km of the site.

2.6 Hydrology

The nearest primary natural surface water features are several ponds located approximately 450m north east of the site. By Brook flows from north east to south west in a valley approximately 2.5 km north of the site. The site is located within the catchment of the Severn River Basin District, with the specific river water body being the "Bydemill Bk - source to conf River Avon". The current (2019 cycle 2) overall status under the Water Framework Directive is 'moderate'.

There are no active or historical surface water abstractions within 1km of the site.

2.7 Mining or mineral extraction

Records indicate that a portion of the site and the areas surrounding the site have undergone extensive periods of quarrying and mining for bath stone and subsequent use for industry and storage.

Sands Quarry was actively mined between 1890 and 1912 and featured both above and below ground workings. It is located below the western half of the site with the above ground workings and underground entrance located immediately southwest of the site. Two other surface quarries are recorded, one directly to the south and the other 150m east of the site and were active during the 19th Century. There is currently no visible evidence of these workings remaining and it is assumed they were backfilled.

A study of Hydrock's archive information shows that Westwells mine located 150m to the east of the site was worked between 1894 and 1952. A mining report of the workings shows that a portion of the subsurface structure could extend far enough west to impact the eastern edge of the current site.

Further investigation and assessment is recommended for all potential below ground workings (Sandy Quarry and Westwells Mine). The Exploratory Hole Location Plan includes the potential extent of mineworkings (Ref: 24639-HYD-XX-XX-GE-1002) in Appendix B.

2.8 Natural ground instability

Trees and hedges are present to the west and around the site boundaries. The cohesive deposits within the weathered Forest Marble Formation maybe affected by shrink/swell. The Exploratory Hole Location Plan includes the potential extent of mineworkings (Ref: 24639-HYD-XX-XX-GE-1002) in Appendix B.

There is the potential for backfilled historical quarries to be present in the south and the east of the site and a backfilled pond on the eastern boundary. These represent a geotechnical risk due to the presence of deep heterogeneous Made Ground. Foundations may need to be deepened to found below the Made Ground.

Documentation and onsite evidence suggest the presence of significant underground mineworkings. These represent a geotechnical risk due to the potential for ground collapse/instability from the high loads from the proposed data centre.

2.9 Waste management

There are no current or historical waste management sites recorded within 500m of the site. However, historical quarries have potentially been backfilled with unknown material on and surrounding the site.

2.10 Regulatory information

Information provided in the previous desk study indicates there is a petrol station 182m northeast of the site.

2.11 Natural soil chemistry

The previous desk study did not identify any significantly elevated naturally occurring elements that may present a risk to future site users.

2.12 Radon and ground gas

The previous desk study indicates that the site is not in a Radon Affected Area and no radon protection measures are required.

Subsequently a bespoke Radon Assessment (Ref: 24639-HYD-XX-XX_GE-TN-1001, dated 17 October 2022) was undertaken on behalf of the client. It concluded that based on levels of recorded radon that no radon protection measures are required for the site.

2.13 Unexploded ordnance (UXO)

The previous desk study indicates a low risk and no further assessment is required with regard to UXO in relation to ground investigation. Further assessment may be considered prudent for construction activities.

2.14 Review of SLR 2009 Ground Investigation.

The client does not have reliance on this report and as such the below summary is brief and used for information proposed only. The report focused on a wider area and only data pertinent to the current site have been considered.

2.14.1 Ground Conditions

- » Made Ground to a maximum depth of 1.60m bgl, comprising various lithologies and anthropogenic inclusions.
- » Forest Mable Formation to a maximum depth of 3.00m bgl upon which all excavation methods refused, comprising weak to moderately strong Limestone locally with interbeds of clay or soft to firm Clay locally with interbeds of limestone.
- » Groundwater was not encountered.

Evidence of contamination:

- » TP7 – 0.60m bgl hydrocarbon odour.

2.14.2 Geo-environmental Considerations

- » Heavy metals, PAHs and Asbestos has been identified as part of the investigation. The testing results have been compared against a residential with plant uptake land use scenario and as such may not be applicable to the current proposed scenario.
- » Ground Gases have been recorded at levels which represent CS2 conditions. Only one well within the current site has detections of elevated carbon dioxide levels. The risk is to be determined by the Hydrock Ground Investigation.

- » No risk to controlled waters.

2.14.3 Geotechnical Considerations

No geotechnical interpretation has been undertaken in the SLR Ground Investigation report.

3. Initial conceptual site model

3.1 Introduction

The initial Conceptual Site Model (iCSM) incorporates evidence from the site walkover, the Desk Study and previous investigations carried out at the site. The formulation of an initial Conceptual Site Model is a key component of the LCRM methodology. The iCSM incorporates a ground model of the site physical conditions and an exposure model of the possible contaminant linkages; it forms the basis for Generic Quantitative Risk Assessment (GQRA) in accordance with current guidelines.

3.2 Ground model

The preliminary ground model presented in Section 3 provides an understanding of the ground conditions and is the basis for preparing the preliminary geotechnical hazard assessment (Section 3.3) and the preliminary geo-environmental exposure model (Section 3.4).

3.3 Geotechnical hazard identification

3.3.1 Context

The preliminary geotechnical hazard identification has been undertaken in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HD 41/15 and CD 622.

The following section sets out the identified geotechnical hazards and the development elements potentially affected (see Table G.1 in Appendix G for further information).

3.3.2 Plausible geotechnical hazards

Plausible geotechnical hazards identified at the site are:

- » Uncontrolled Made Ground (variable strength and compressibility).
- » Variable lateral and vertical changes in ground conditions.
- » Attack of buried concrete by aggressive ground conditions.
- » Obstructions.
- » Existing below ground structures to remain.
- » Slope stability issues – general slopes.
- » Slope stability issues – retaining walls.
- » Mining.

3.3.3 Potential development elements affected

Development elements potentially affected by geotechnical hazards are:

- » Buildings – foundations.
- » Buildings – floor slabs
- » Roads and pavements.
- » Services.
- » General slopes.
- » Retaining walls.
- » Earthworks control, inability to place and compact fill.
- » Insufficient fill to complete earthworks.

Health and safety risks to site Contractors and maintenance workers have not been assessed during these works and will need to be considered separately during design.

The above plausible geotechnical hazards and development elements affected have been carried forward for investigation and assessment. The investigation is presented in Section 5 and the assessment is presented in Section 6.

3.4 Geo-environmental exposure model

3.4.1 Context

The preliminary exposure model is used to identify geo-environmental hazards and to establish potential contaminant linkages, based on the source-pathway-receptor (SPR) approach.

A viable contaminant linkage requires all the components of an SPR to be present. If only one or two are present, there is no linkage and no further assessment is required.

3.4.2 Potential contaminants

For the purpose of this assessment the potential contaminants have been separated according to whether they are likely to have originated from an on-site or off-site source.

3.4.2.1 Potential on-site sources of contamination

- » Made Ground, associated with historical mining activities and imported fill, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S01).
- » Made Ground, associated with former MoD activity possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S02).
- » Coal tar, potentially present in the bituminous bound pavements and roads (S03).

Ground gases (carbon dioxide and methane) from organic materials in the Made Ground or potential build up in the underground mineworkings (S04). Ground gases have been included as a potential source as it has been identified that significant thicknesses of Made Ground may be present in backfilled quarries and that underground mineworkings may be present below site. Both are potential sources of ground gases and the consideration of the use of piles could potentially create a new pathway.

3.4.2.2 Potential off-site sources of contamination

No potential off-site sources of contamination have been identified.

3.4.3 Potential receptors

The following potential receptors in relation to the proposed land use have been identified.

- » People (neighbours, site end users) (R01).
- » Development end use (buildings, utilities and landscaping) (R02).
- » Groundwater: Secondary A aquifer status of the Forest Marble Formation and the Principal Aquifer status of the BOMCLF (R03).

Upon further consideration, the deeper BOMCLF limestones have been included as part of the conceptual site model. This is due to the fact that the construction of soakaways and piles on site may increase the migration of water through the ground.

3.4.4 Potential pathways

The following potential pathways have been identified.

- » Ingestion, skin contact, inhalation of dust and outdoor air by people (P01).
- » Petroleum hydrocarbon vapour ingress via permeable soils and/or construction gaps (P02).
- » Root uptake by plant (P03).
- » Migration of contaminant via leachate migration through the unsaturated zone in the Forest Marble Formation (P04).

Gas ingress via permeable soils and/or construction gaps (P05). Health and safety risks to site development contractors and maintenance workers have not been assessed as part of this study and will need to be considered separately.

The above sources, pathways and receptors have been considered as part of the Preliminary Risk Assessment in accordance with LCRM (2021), are considered to be plausible in the context of this site and have been carried forward for investigation and assessment. The investigation is presented in Section 5 and the assessment is presented in Section 7. An assessment of the Source – Pathway – Receptor linkages is undertaken following the assessment (Section 7) and is presented in Appendix H (Table K.1).

A summary of the plausible linkages is presented on the Initial Conceptual Model provided in Appendix A. (Hydrock Drawing 24639-HYD-XX-XX-DR-GE-1001).

3.4.5 *Potential implications of climate change*

Climate change has the potential to change the risk profile for conceptual site models and associated contaminant linkages. The impact of climate change on the CSM is site-specific, and a qualitative assessment of the potential impact of climate change on the CSM for this site is summarised below. The assessment has primarily utilised the guidance in Environment Agency (2010)¹ and SoBRA (2022)² which set out the UK context to climate change and land contamination. Both guidance documents advocate a “what if” scenario approach in the context of changes in ambient temperatures, an increase in the frequency of extreme rainfall/storm events and heatwaves/droughts, and long-term changes in groundwater and sea levels.

Those “what if” scenarios that are relevant to this CSM are:

Increased long-term rainfall leading to increased infiltration and seasonally higher groundwater and water levels in surface waters.

- » Increased frequency and/or magnitude of extreme rainfall events leading to short-term surface flooding, surface water run-off, groundwater flooding, and/or land-based erosion.
- » Increased frequency and/or magnitude of storm events leading to short-term drops in barometric pressure and/or high winds.
- » Occurrence of extreme cold and hot weather events leading to changes in ground conditions such as soil temperature, evapo(trans)piration, and soil moisture (for example freeze-thaw effects and desiccation), decreased infiltration and fall in groundwater and surface water levels.
- » Long-term decrease in rainfall leading to lower infiltration and fall in groundwater and surface water levels.

¹ Environment Agency, 2010. *Guiding Principles for Land Contamination. Part 2. FAQs, technical information, detailed advice and references*, March 2010.

² SoBRA, 2022. *Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change*, Society of Brownfield Risk Assessment, August 2022.

4. Ground investigations

4.1 Site works

The ground investigation works, including the rationale which was based on the findings of the preliminary risk assessment, is summarised in Table 4.1.

The fieldwork took place between 20 March and 23 March 2023. The ground investigation locations were surveyed in using a Topographical Quality GPS survey instrument and are shown on the Exploratory Hole Location Plan (Ref: 24639-HYD-XX-XX-GE-1002) in Appendix B

The logs, including details of ground conditions, soil sampling, in situ testing and any installations, are also presented in Appendix B.

The weather conditions during the Hydrock fieldwork and for the previous week were wet with significant rainfall.

Table 4.1: Summary of site works

Activity	Method	No	Name	Depth Range (m bgl)	In situ tests	Rationale
Drilling, Pitting and Probing						
Boreholes	Rotary cored	4	BH01a, BH01 - BH03	1.60m - 10.00m	SPT	To investigate the strength profile of the deeper ground conditions, collection of samples and installation of monitoring wells
	Windowless sampler	5	WS01 - WS05	0.80m - 1.60m	SPT	To investigate the strength profile, collection of samples and installation of monitoring wells
Trial pits	Machine (Tracked)	22	SA01 - SA02, TP01 - TP17, TP07a - TP07c	0.45m - 3.40m	Hand shear vane (HSV)	For general site coverage and collection of samples
Stockpile Samples	Machine (Tracked)	4	SP01 - SP04			To investigate the composition of stockpiles and collect samples.
Other in situ testing or monitoring						Comments
Infiltration	BRE 365	2	SA01 - SA02	1.60m - 2.50m		

Wells for monitoring of groundwater levels and ground gas concentrations, and to facilitate the sampling of groundwater, were installed in a number of the windowless sampler and rotary cored boreholes. A summary of the monitoring well installations is presented in Table 4.2.

Table 4.2: Summary of monitoring installations

Location	Ground level (m OD)	Standpipe / piezometer diameter	Screen top and base depth (m bgl)	Screen top and base elevation (m OD)	Strata targeted
WS01	104.93	50	2.00 - 3.00	102.93 to 101.93	Forest Marble Formation
WS05	108.69	50	0.90 to 1.60	107.49 to 107.09	
BH01a	108.05	50	4.00 to 10.00	98.65 to 98.05	Bath Oolite Member & Corsham Limestone Formation
BH02	106.25	50	6.50 to 10.00	99.75 to 96.25	
BH03	105.50	50	1.50 to 3.30	104.00 to 102.20	Forest Marble Formation

4.2 Geo-environmental testing

4.2.1 Sampling strategy and protocols

Exploratory hole positions were determined by reference to the site conditions and uncertainties identified in the Initial Conceptual Model.

No specific sampling statistics or grid were utilised in this instance.

Samples were taken, stored and transported in general accordance with BS 10175:2011+A2:2017.

4.2.2 Geo-environmental monitoring

Gas monitoring boreholes have been monitored on four occasions. The results are presented in Appendix D. Two monitoring visits are still to undertaken and this report will be updated on completion of the monitoring.

4.2.3 Geo-environmental laboratory analyses

The chemical test certificates are provided in Appendix E and summarised in the table below. Wherever possible, UKAS and MCERTS accredited procedures have been used.

The chemical test certificates for testing undertaken as part of historical investigations are provided in the relevant reports in Appendix E.

The geo-environmental analyses undertaken on soils are summarised in Table 4.3.

Table 4.3: Geo-environmental analyses of soils

Determinand Suite	Made Ground	Stockpile	Topsoil	Forest Marble Formation
Hydrock minimum suite of determinands for solids*	12	4	5	6
Speciated aliphatic and aromatic banding Total petroleum hydrocarbons by HS-GC/MS and GC/FID (Hydrock Tier 2 TPH Suite)	5	3	1	2
Asbestos quantification	3	-	1	-
Asbestos bulk ID	2	1	-	-

The soils chemical test data are interpreted and assessed in Sections 7.3 and 7.4.

The geo-environmental analyses undertaken on waters, are summarised in Table 4.4.

Table 4.4: Geo-environmental analyses of waters

Determinand Suite	Groundwater
Hydrock minimum suite of determinands for waters	1
Speciated aliphatic and aromatic banding Total petroleum hydrocarbons by HS-GC/MS and GC/FID (Hydrock Tier 2 TPH Suite)	1

The groundwater chemical test data are interpreted and assessed in Section 7.5.

4.3 Geotechnical testing

The geotechnical tests undertaken by Hydrock are summarised in Table 4.5 and the test certificates are provided in Appendix C. Wherever possible, UKAS accredited procedures have been used.

The geotechnical tests undertaken as part of historical investigations are provided in the relevant reports in Appendix C.

Table 4.5: Summary of sample numbers for geotechnical tests

Test	Made Ground	Forest Marble Formation	BOMCMF
Natural moisture content	-	12	-
Atterberg limits	-	12	-
Particle size distribution (sedimentation)	-	2	-
Particle size distribution (wet sieve)	-	3	-
Water soluble sulfate and pH	-	-	-
Sulfate and aggressive chemical environment classification for buried concrete classification (full BRE SD1 suite)	1	10	1

Optimum Moisture Content / Maximum Dry Density Relationship (4.5kg rammer),	-	1	-
Uniaxial Compressive Strength (UCS)	-	-	1
Point Load Strength	-	3	4

The geotechnical test data (including both Hydrock and historical data) are summarised in Section 5.7 and interpreted in Section 6.

4.4 Constraints

It would have been disproportionately expensive to have investigated the footprint of every former building present on site. These are to be removed as part of construction.

Four of the largest stockpiles have been investigated for initial characterisation.

Slow worms are present on the site. All exploratory works have been undertaken under the control of an ecologist. Exploratory holes could not be added or moved from the proposed and cleared locations without permission of the ecology team.

Boreholes were limited to a maximum depth of 10.00m bgl in order to ensure that the mine workings were not encountered/penetrated as permission to investigate this had not been granted.

The presence of overhead cables along the eastern site boundary and numerous active utilities/services restricted access to the immediate eastern site boundary.

5. Ground investigation records and data

5.1 Physical ground conditions

5.1.1 Summary of strata encountered

The following presents a summary of the properties of the ground and groundwater conditions encountered, based on field observations, interpretation of the field data and laboratory test results, taking into account drilling, excavation and sampling methods, transport, handling and specimen preparation.

All relevant data from the Hydrock investigation discussed in Section 4 are used from this point forward.

Details of the Hydrock ground investigation works are provided in the logs in Appendix B, a summary of the ground model is presented in Table 5.1 and the individual strata are described in the sections below. Relevant cross-sections are presented in Appendix A.

Table 5.1: Strata encountered

Stratum	Depth to top (m bgl)	Depth to base (m bgl)	Thickness (m) (range)	Thickness (m) (average)
Topsoil	0.00	0.10 - 0.30	0.10 - 0.30	0.17
Made Ground	0.00 - 0.30	0.30 - 2.00	0.15 - 1.75	0.69
Forest Marble Formation	0.10 - 1.40	5.30 - 5.80	2.70 - 4.40	3.55
BOMCLF	5.30 - 5.80	>10.00m	Not Proven	Not Proven

5.1.2 Topsoil

Topsoil was encountered across most of the site where Made Ground was not present.

Topsoil was between 0.10m and 0.30m thick, with an average thickness of 0.17m. The topsoil comprised a soft dark gravelly sandy clay with rootlets.

For the purposes of this report, topsoil is defined as the upper layer of an in-situ soil profile, usually darker in colour and more fertile than the layer below (subsoil), which is a product of natural chemical, physical, biological and environmental processes, but does not imply compliance with BS 3882:2015. Reuse of topsoil as a growing medium at the site should be determined by the landscape architect or the landscape Contractors.

5.1.3 Made Ground

Beneath the topsoil, Made Ground was recorded across most of the site, with the exception of a few locations (generally closer to the western and eastern boundaries of the site TP03, TP11, TP13 and TP14). The Made Ground was between 0.15m and 1.7m thick when the base was proven, with an average thickness of 0.69m. The deepest occurrence of Made Ground correspond with the historical backfilled surface quarry workings, 2.0m bgl in WS01. In TP06 1.80m of Made Ground was encountered which is considered to be part of historical construction activities.

The Made Ground generally comprised a brown gravelly clay to clayey gravel. Anthropogenic elements include: brick, glass, asphalt, clinker, concrete and limestone.

5.1.4 Forest Marble Formation

The Forest Marble Formation was encountered across the entire site, underlying the Made Ground and/or topsoil. It is between 2.70m and 4.40m thick, with an average thickness of 3.55m where the base was proven.

This generally consisted of a weathered brown gravelly clay to grey clayey gravel of limestone becoming a competent grey limestone with abundant fossils.

Boreholes BH02 and BH03 identified completely weathered layers of soft to stiff clay interbedded with layers of medium strong limestone over the full depth of the formation. In places the fractures within the limestone were also infilled with clay. The majority of the trial pits terminated due to the presence of the limestone beds due to difficult excavation.

5.1.5 Bath Oolite Member and Corsham Limestone Formation

The Bath Oolite Member and Corsham Limestone Formation was encountered underlying the Forest Marble Formation to a depth of 10.0m however the base was unproven.

This generally consisted of a cream oolitic limestone with closely- to medium-spaced sub-horizontal planar rough fractures.

Mine workings were not encountered in any of the boreholes. However, it is acknowledged that the boreholes were not designed to target the areas of the site suspected to be underlain by historical underground workings. The reader is referred to the 'potential extent of mines' shown on Hydrock's Exploratory Hole Location Plan.

5.2 Stockpiles

SP01 – Comprised, dark brown slightly gravelly slightly sandy CLAY with anthropogenic material comprising glass, brick, concrete and ceramic.

SP02 – Comprised, reddish brown gravelly slightly clayey SAND with anthropogenic material comprising concrete and brick fragments

SP03 – Comprised, mostly limestone and concrete boulders with dark brown slightly sandy gravelly CLAY. Potential asbestos containing materials present.

SP04 – Comprised, brown slightly sandy gravelly CLAY with anthropogenic material comprising scrap metal, brick and concrete fragments.

A further ten stockpiles are present on site which were not investigated or sampled as part of this phase of investigation.

The locations of the sampled stockpiles are labelled on the Exploratory Hole Location Plan (Ref: 24639-HYD-XX-XX-DR-GE-1002).

5.3 Obstructions

Concrete obstructions were encountered in a number of trial pits and boreholes during the investigation. They were encountered sporadically across the site and are associated with the foundations and demolition rubble of the former buildings.

5.4 Visual and olfactory evidence of contamination (soil)

In addition to the more common man-made constituents (clinker, brick, etc), described above in Section 5.1.3, visual and olfactory evidence of contamination was noted in a number of locations, summarised in Table 5.2, with this information presented on the Site Conditions Plan in Appendix A.

Table 5.2: Visual and olfactory evidence of contamination - soils

Stratum	Location	Depth (m bgl)	Description
Made Ground	SA02	0.00 - 0.20	Fragments of ACM.
Made Ground	TP07	0.20 - 0.60	Fragments of ACM.
Made Ground	TP07a	0.15 - 0.45	Fragments of ACM.
Stockpile	SP03	-	Fragments of ACM.

5.5 Groundwater

5.5.1 Groundwater observations and levels

Groundwater encountered during the investigation is listed in Table 5.3. A groundwater observation represents the depth at which groundwater was first observed and is likely to be deeper than the actual water table level at that location.

Table 5.3: Groundwater occurrence

Stratum	Date	Location	Groundwater observation (m bgl)	Comment
Forest Marble Formation	20/03/23	SA01	1.30	Minor seepage
	20/03/23	SA02	2.40	Minor seepage
	20/03/23	TP03	2.70	Moderate seepage
	21/03/23	TP05	2.30	Minor seepage
	23/03/23	TP09	2.20	Moderate seepage
	22/03/23	TP12	2.00	Minor seepage
	23/03/23	TP16	1.00	Minor seepage
	23/03/23	WS01	2.00	Minor seepage
Made Ground	23/03/23	WS03	0.85	Minor seepage

Groundwater levels recorded during post-fieldwork monitoring to date are summarised in Table 5.4.

Table 5.4: Groundwater level data summary

Stratum	Date range	Location	Post-fieldwork monitoring	
			Depth to groundwater (range) (m bgl)	Groundwater elevation (range) (m OD)
Forest Marble Formation	04/04/23 – 17/05/23	WS01	1.63 - 2.01	103.33 – 102.95
		WS05	1.47 – 1.48	107.22 – 107.21
BOMCLF		BH01a	9.07 (one occasion)	98.98**
		BH02	10.07 (one occasion)	96.18**

Forest Marble Formation		BH03*	0.22 – 0.51	104.99 - 105.28
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*BH03 is noted to be blocked and so levels recorded are considered to be artificial.

**Recorded on one occasion and not considered representative.

5.5.2 Infiltration tests

The results of the infiltration testing undertaken are summarised in Table 5.5. The results sheets are presented in Appendix B.

Testing was carried out in general accordance with BRE Digest 365 (BRE DG365) (2016).

Table 5.5: Infiltration test results

Stratum	Location	Depth to base of pit (m bgl)	Infiltration rate (m/s)			
			Run 1	Run 2	Run 3	Range
Forest Marble Formation	SA01	1.60	7.98×10^{-6}	6.93×10^{-6}	5.20×10^{-6}	$7.98 \times 10^{-6} - 3.97 \times 10^{-4}$
	SA02	2.45	6.59×10^{-4}	3.98×10^{-4}	3.97×10^{-4}	

5.5.3 Groundwater summary

In general, shallow groundwater was encountered within the Forest Marble Formation between 1.63m – 2.01m bgl. The water level recorded in BH03 is considered to be perched due to the well, being blocked (and therefore artificial) and levels in WS05 are at the base of the well and therefore not considered a true reflection of levels. The water level is likely only encountered in WS01 and this is thought to represent perched shallow water within the Forest Marble Formation. This could be seeping from the limestone beds that were noted during the trial pitting.

No groundwater was recorded, bar the final visit, within the deeper BOMCLF, which is potentially under drained by historical mine workings. The levels noted during the final visit are not thought to be representative.

Within the Forest Marble Formation, recorded infiltration rates were between $7.98 \times 10^{-6} - 3.97 \times 10^{-4}$ m/s. Due to the weathered clay bands within the Forest Marble Formation, the permeability can be expected to vary over short distances. It is likely that the infiltration is confined to the limestone beds within the Forest Marble Formation.

5.6 Ground gases (carbon dioxide and methane)

Records from the gas monitoring boreholes are presented in Appendix D and summarised in Table 5.6.

To date all planned monitoring visits have been undertaken. The data are assessed in Section 7.6.

Table 5.6: Range of ground gas data

Stratum	Methane (%)	Carbon dioxide (%)	Oxygen (%)	Steady flow rate (L/hr)
Forest Marble Formation	0.0 – 0.2	0.1 – 1.4	12.0 – 21.1	0.0 – 0.3

BOMCLF

| 0.0 – 0.1 |

0.1 – 1.0

| 18.6 – 21.4 |

0.0 – 0.3

5.7 Geotechnical data

5.7.1 Introduction

Laboratory test results are contained in Appendix C with *in situ* test results shown on the relevant exploratory hole log or datasheet in Appendix B. The following sections summarise the main findings and provide interpretation where appropriate.

5.7.2 Plasticity

The volume change potentials in terms of BRE Digest 298 with respect to building near trees have been determined from the results of plasticity index tests on samples of soil. These are summarised in Table 5.7.

Table 5.7: Volume change potential

Stratum	No. of tests	Plasticity Index			Modified Plasticity Index			Plasticity designation	Volume Change Potential
		Min.	Max	Av.	Min.	Max	Av.		
Forest Marble Formation	12	20	49	31.3	11.13	43	25.2	Low to very high	Low to high

5.7.3 Particle size distribution

Particle Size Distribution test (PSDs) results are summarised in Table 5.8 and summary descriptions and PSD plots of the material analysed are presented in Appendix C.

Table 5.8: PSD results summary

Stratum	No. of tests	Silt/Clay %	Sand %	Gravel %	General description
Forest Marble Formation (cohesive faction)	2	74 – 96	3 – 24	1 – 2	Slightly sandy gravelly CLAY.
Forest Marble Formation (Granular faction)	2	15 – 18	8 – 9	74 – 76	Slightly sandy clayey GRAVEL.

5.7.4 Soil strength

Table 5.9 summarises information pertaining to the shear strength of the soils according to geological stratum. Factual results are summarised for laboratory tests, field tests (e.g. hand shear vane) and uncorrected Standard Penetration Tests (SPT). Where the SPT is used to infer shear strength by published correlation, this is also tabulated. A SPT 'N' versus depth profile is summarised in Figure 5.1, including both granular and cohesive soils.

Table 5.9: Soil strength results and derived values

Stratum	No. of tests	SPT (N-value) (range)	c_u (kPa)	Method
Made Ground	2	7 - 50	29 - 210*	SPT – windowless sampler boreholes.
	1	18	75*	SPT – rotary boreholes.
Forest Marble Formation (cohesive faction)	4	4 - 50	17 - 210*	SPT – windowless sampler boreholes.
	3	14 - 50	59 - 210*	SPT – rotary boreholes.

*Correlation with Stroud (1975)

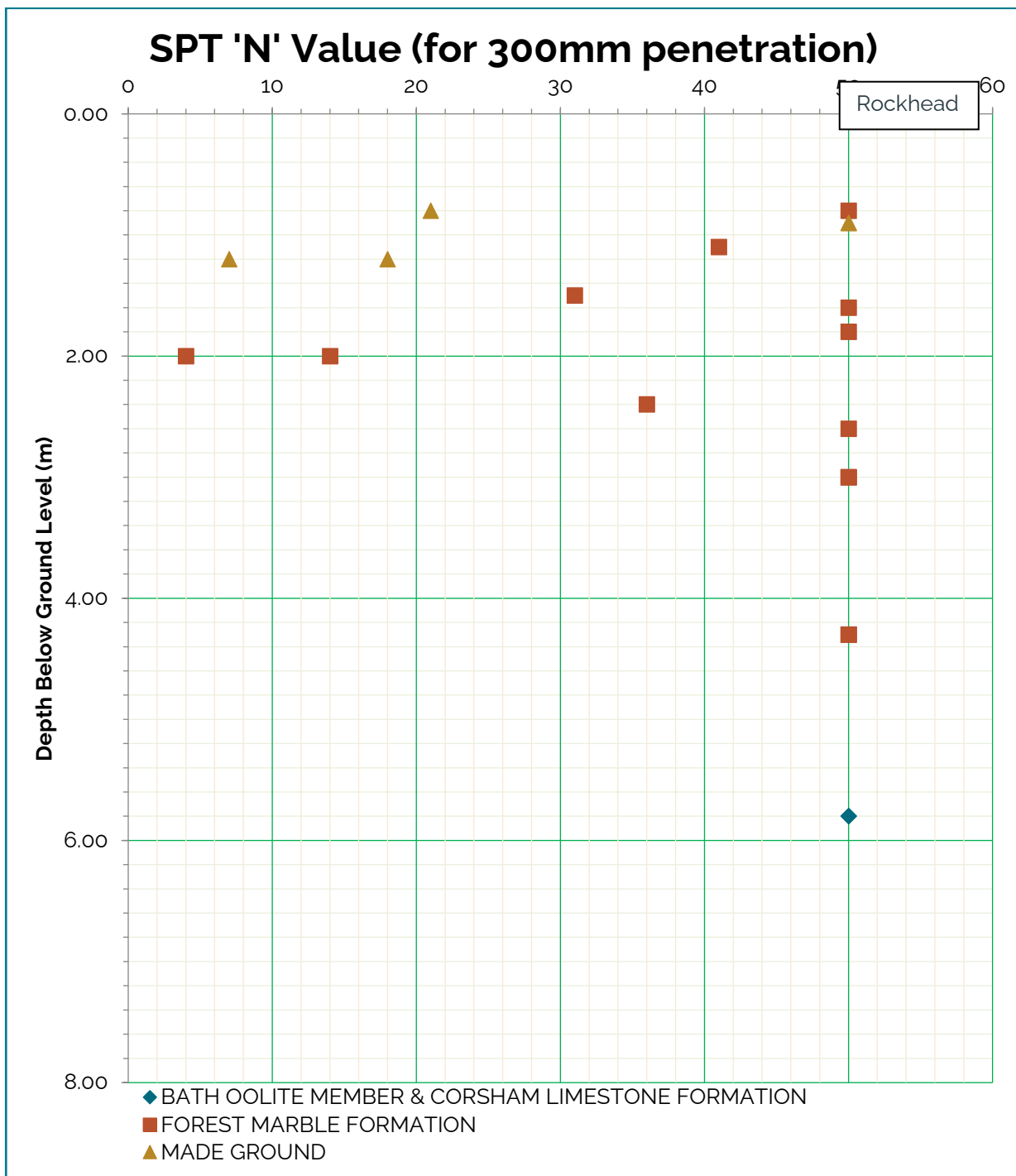


Figure 5.1: SPT versus depth summary

5.7.5 Relative density

Table 5.10 summarises information pertaining to the relative density of the granular soils according to geological stratum. Factual results are summarised for laboratory tests, field tests (e.g. SPT, CPT, dynamic probe correlation).

Table 5.10: Relative density results and derived values

Stratum	No. of tests	Method	SPT (N-value) (Range)	phi' (°)
Made Ground	2	SPT – windowless sampler boreholes (Peck et. al. (1967).	50	41
Forest Marble Formation (granular faction)	5	SPT – Rotary Borehole (Peck et. al. (1967).	31 - 50	36 - 41
BOMCLF	2		50	41

5.7.6 Compaction and moisture content

Table 5.11 presents a summary of the moisture content tests and compaction studies undertaken at the site.

Table 5.11: Compaction study results

Stratum	No. tests	Method	Natural moisture content (%)	Optimum moisture content (%)	Particle density (Mg/m ³)	Maximum dry density (Mg/m ³)
Forest Marble Formation (cohesive faction)	2	4.5kg Rammer	18 - 26	14 - 15	2.70*	1.88 – 1.92
Forest Marble Formation (Granular faction)	1	4.5kg Rammer	38	23	2.70*	1.59

* Assumed by laboratory

5.7.7 Subgrade stiffness

The subgrade stiffness (CBR and Modulus of Subgrade Reaction) results are summarised in Table 5.12.

Table 5.12: CBR results and derived values

Stratum	No. tests	Method	Modulus of Subgrade Reaction k (MN/m ² /m) (Range)	CBR (%) (Range)
Made Ground	12	<i>in situ</i> TRL DCP	100 - 450	2 - 46
Forest Marble Formation	10		150 - 500	7 - 50

Where using the IAN method, 'k' has been back calculated from the Equivalent CBR.

5.7.8 Sulfate content

In accordance with BRE (Special Digest 1), the Design Sulfate (DS) classification and the Aggressive Chemical Environment for Concrete (ACEC) classification are presented in Table 5.13. The assessment summary sheets are presented in Appendix C.

Table 5.13: Aggressive chemical environment concrete classification

Stratum	No. tests	DS	ACEC
Made Ground	1	DS-1	AC-1
Forest Marble Formation*	10	DS-1	AC-1
BOMCLF	1	DS-1	AC-1

*Assuming pyrite is not present and subject to the assumption a piled solution will be adopted.

5.7.9 Intact material strength – rock

Table 5.14 summarises information pertaining to the strength of the intact rock material (not rock mass) according to geological stratum and, if applicable, weathering zones or other variations within particular strata.

Factual results are summarised for laboratory and field tests. Where point load index tests are used to infer unconfined compressive strength (UCS), this is also tabulated. Rock strength terms follow the method of BS EN ISO 14689-1:2003.

Care should be exercised in using these assumed rock strength parameters for any purpose beyond the scope of this report because it may be that additional sampling and testing is required for certain purposes. The reader should refer to the original test results in Appendix C. Note also that rock mass properties, rather than intact rock material properties, may be more suitable for design purposes.

Table 5.14: Intact rock strength results and derived values

Stratum	No. of tests	Point load index (Range)		UCS (MPa) (range)	Method
		Is	Is(50)		
Forest Marble Formation	3	0.46 – 6.74	0.59 – 7.42	-	Axial point load
	3	-	-	8.85 – 111.3	Point load correlation (Bell 1995)
BOMCLF	4	0.80 – 1.26	1.03 – 1.59	-	Axial point load
	4	-	-	15.45 – 23.85	Point load correlation (Bell 1995)
	1	-	-	6.47	UCS test

6. Geotechnical assessment

6.1 Geotechnical categorization of the proposed development

At the time of writing, an appropriate mine risk survey has not been undertaken. Until the mine risk has been adequately considered, the below recommendations assume that the mine has no influence upon design. These recommendations shall be updated on completion of the mine survey.

Eurocode 7, Section 2 advocates the use of geotechnical categorization of the proposed structures to establish the design requirements.

The proposed development is shown on the Pre-Application Advice (Ref:22077, dated December 2022) in Appendix A. This comprises a three- to four-storey unit (with additional storey of plant) with associated external plant rooms, service yards, access roads and infrastructure.

A cut and fill exercise is required to create the development platform with the western portion of the structure supported in cut and the western and northern sections supported on fill. The Pre-Application Advice (Ref:22077, dated December 2022) in Appendix A, displays their areas subject to cut/fill.

Based on the above, for the purposes of this investigation, the proposed structures have been classed as Geotechnical Category 2. There is potential to increase to Category 3 dependant on the findings of the mine survey and risk assessment.

For Category 2 or 3 structures, the Geotechnical Category should be re-assessed at the design stage and specific geotechnical design (in addition to this investigation), is required.

Following ground investigation and as part of the assessment provided in the following section, the preliminary geotechnical hazard identification undertaken in Section 3.3 has been updated.

Assessment has been undertaken in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HD 41/15 and CD 622. The preliminary Geotechnical Risk Register following investigation is provided in Appendix G (Table G.3) and will need to be updated during future design works.

6.2 Characteristic design values

In accordance with BS EN ISO 1997-1 (EC 7), Hydrock consider the proposed structures would be classified as Category 2 structures. As part of the separate geotechnical design, the designer should determine the geotechnical design values.

Table 6.1 provides characteristic geotechnical values to assist the designer. These are based on laboratory testing, *in situ* testing and by professional judgement using published data together with knowledge and experience of the ground conditions. Care should be exercised in using these assumed soil strength parameters for any purpose beyond the scope of this report because it may be that additional sampling and testing are required for certain purposes. The reader should refer to the original test results summarised in Section 5 and provided in Appendix B and Appendix C.

Table 6.1: Characteristic geotechnical values

Parameter	Bulk unit weight kN/m ³	Effective angle of internal friction °	Effective cohesion kN/m ²	Undrained shear strength kN/m ²	UCS (MPa)
Stratum	γ^a	$\phi'^{b,c}$	c'^d	c_u^e	k^f
Forest Marble Formation (Cohesive fraction)	18	24	1	17 - 210 significant increase with depth with the highest values encountered near the rock interface.	-
Forest Marble Formation (Granular/Rock fraction)	20	-	5	-	8.85
Bath Oolite Member and Corsham Limestone Formation	21.5	41	20	-	6.47

a. Estimated based on the recommendations of BS 8004-2015.

b. Internal friction (ϕ') values for the granular in situ material derived from SPT data following the recommendations of Peck et al., (1967).

c. Internal friction (ϕ') values for the cohesive in-situ material derived from BS 8004-2015, where ϕ_{cv}' is derived from plasticity index. The use of ϕ_{cv}' in the analysis is considered to provide a conservative estimate of ϕ' .

d. BS 8002:1994 Code of practice for Earth retaining structures, British Standards institution.

e. Site measurements and laboratory data.

f. Laboratory data.

6.3 Groundwork

6.3.1 Site preparation

The redevelopment will involve demolition of the existing building foundations. This should be undertaken to an appropriate Specification to ensure any asset materials generated are geotechnically suitable for use.

Buried obstructions were encountered during this investigation associated with foundations of old buildings including potential tanks, services, and there is a possibility of further such obstructions being encountered.

Topsoil should be removed from beneath all proposed building and hardstanding areas.

6.3.2 Groundworks

Following breaking out of hardstanding and obstructions, excavation of shallow soils should be readily undertaken by conventional plant and equipment. However, excavation through any buried intact rock quality strata may require heavy-duty excavation plant or the use of specialist breaking

equipment. Every trial pit barring TP10 and locations terminated due to infiltration testing/encountering asbestos, refused upon intact quality rock strata. Trial pits were undertaken using an 8-tonne tracked machine.

Trial pit faces were noted to remain generally vertical without collapse. The faces of shallow, near vertically sided excavations put down at the site are likely to remain stable for short periods of time.

Temporary trench support, or battering of excavation sides, is recommended for all excavations that are to be left open for any length of time and will definitely be required where man entry is required. Particular attention should be paid to excavation at, or close to, site boundaries, where collapse of excavation faces could have a disproportionate effect.

A risk assessment of the stability of any open excavation should be undertaken by a competent person and appropriate measures adopted to ensure safe working practise in and around open excavations. Further guidance on responsibilities and requirements for working near, and in, excavations can be obtained from the Construction Design and Management Regulations (2015); Construction Information Sheet 47: Inspections and Reports (2005) and HSG47: Avoiding Danger from Underground Services.

To ensure no loads are imposed on the sides of the excavation, spoil should not be placed immediately adjacent to the excavation. Spoil should be placed a suitable distance from the side of the excavation (as assessed by a competent person).

Based on site observations, the rate of water ingress to the proposed excavations is likely to be slow. In these circumstances, groundwater control by sump pumping is likely to be sufficient.

However, it should be recognised that groundwater levels may vary from those at the time of the investigation, for example in response to seasonal fluctuations and the timing of construction may dictate the extent of groundwater control required.

Any water pumped from excavations may need to be passed via settlement tanks (to reduce suspended solids) before being discharged to the sewer. Discharge consents may also be required.

6.3.3 *Earthworks/reuse of site-won materials*

Whilst Hydrock has not been provided with the specific requirements for earthworks (cut / fill depths and volumes), it is understood earthworks are proposed at the site as shown on Pre-Application Advice (Ref:22077, dated December 2022) in Appendix A. The cut / fill exercise is thought to be approximately 1.0m of cut and 1.0m of fill across the building footprint and external service yards. Whilst not a significant depth / thickness the volume of materials are expected to be large due to the footprint of the development

An initial assessment has been completed on the potential to reuse site-won materials as a General Fill material. This is summarised in Table 6.2.

The classification of materials depends on both the proposed end use and whether the material will meet the performance requirements of that end use. Based on Hydrock's understanding, the following assessment is based on General Fill for external yard areas and Structural Fill for the building footprint. Where the building will be placed on both cut and fill detailed analysis to check for potential differential settlement should be undertaken as part of the GDR.

An initial assessment of classification data (see Section 5.7 and Appendix C) has been completed based on Hydrock's understanding of the development and the potential to reuse site-won materials as an engineered fill material. This is summarised in Table 6.2.

Table 6.2: Preliminary earthworks assessment

Stratum	Proposed end use	Preliminary classification (SHW Series 600)	Comment	Suitability for improvement by the inclusion of binders
Made Ground	Open Space	Class 4 (Landscape Fill)	Can only be used in areas which are not sensitive to settlement, and where chemically suitable.	Unlikely to be suitable
Made Ground	External Areas	Assumed to be Class 2A&B General Fill & Class 1C General Fill	Processing to remove oversize and deleterious material required.	May be suitable subject to further detailed design and testing.
Topsoil	Open Space	Class 4 (Landscape Fill)	Unsuitable for General Fill due to high organic content. Can only be used in areas which are not sensitive to settlement.	Unlikely to be suitable
Forest Marble Formation	External Areas / Structural Fill	Class 2A&B General Fill & Class 1C General Fill	Wet of optimum, moisture conditioning (e.g. lime modification) likely to be required.	May be suitable subject to further detailed design and testing.

The earthworks may need to be undertaken under a Materials Management Plan (see Section 8.3).

6.4 Slope stability

Whilst slope stability was considered a risk during the desk study, the siteworks has demonstrated that the site is relatively level with some sloping ground to the south west beyond the site boundaries. The site was heavily vegetated during the desk study walkover and so topographical features may not have been apparent.

Hydrock consider that there is no longer an apparent risk of slope stability.

6.5 Retaining walls

Retaining walls (<2.0m) may be required to retain both cut soils and placed soils. If retaining structures are required this should be considered as part of the Geotechnical Design Report.

Allowance should be made in the design of the retaining walls for adequate drainage behind the structure, or for water seepage through the face of the wall. The stability of the retaining walls is not considered in this report and should be assessed by the designer.

6.6 Foundation recommendations

In accordance with EC7, BS EN 1997-1+A1 (2013), the proposed structures are considered to be Geotechnical Category 2. As such, foundation recommendations are presented to aid development proposals only and separate geotechnical design will be required.

6.6.1 Foundation Types

It is understood that maximum point loads would be 1200 kN for the proposed development (main structure) with the smaller auxiliary buildings/plant rooms having smaller loads but still significant.

There is some cut/fill required across the site area to create the development platform with the cut/fill line falling across the building footprint. Checks for differential settlement will therefore need to be undertaken as part of the GDR.

The Made Ground is considered unsuitable in its present condition for use as founding soils on the basis of its unpredictable nature and likely deposition in an uncontrolled manner and should be fully penetrated by all new foundations or excavated, screened, processed and re-engineered to create the development platform.

Due to the made ground and presence of soft weathered layers within the Forest Marble Limestone, bearing capacities are likely to be variable and it is expected that the main building will need to be piled due to the loadings. It may be possible to found smaller more lightly loaded buildings in the west of the site on spread foundations, where rock is shallower.

Subject to detailed geotechnical design, the permissible bearing pressures for foundations detailed in this report take into consideration the risk of shear failure of the ground (ultimate limit state). However, they do not assess acceptable limits of settlement (serviceability limit state). Serviceability limit state assessment will need to be undertaken as part of the separate geotechnical design.

6.6.2 Spread foundations

Pad foundations are considered potentially suitable to support smaller buildings in the west of the site, depending on loadings. The pad foundations should be founded at least 300mm into the firm (or better) clay or limestone of the Forest Marble Formation.

A permissible net bearing pressure (for a pad foundation up to 3.00m by 3.00m) 125kN/m² for the firm clay (or better) or the weak to medium strong limestone of the Forest Marble Formation is recommended.

If enlarging the foundations is considered (for example because loads are such that the quoted permissible bearing pressure is inadequate) this could lead to increased settlements and the above recommendations should be reviewed.

Based on the high volume change potential of the clay soils, the minimum founding depth for pad foundations is below the base of the Made Ground, and 1.00m into the Forest Marble Formation, whichever is deeper.

In addition, the foundations may need to be deepened to below the depth of influence of trees from desiccation effects and roots.

If trees are to be removed, the roots should be grubbed out and foundations extended to below the zone of disturbance created by this activity and to below any remaining root hairs.

Deepening of foundations in accordance with BRE 240 and BRE 298 will be required where pad foundations are within the zone of influence of existing, removed or proposed trees and proposed shrub planting. NHBC Standards (Chapter 4.2) should also be taken into account. A tree survey should be undertaken by an arboriculturist in accordance with BS 5837:2012 to identify the type, and height of existing trees on the site and including any off-site trees, that could have an effect on foundation design.

Where it is not practical to deepen individual pads beyond the influencing distance of the desiccated soils, it is recommended that bulk excavation of the affected area be undertaken and, following moisture conditioning, the soils are replaced to an Engineered Specification.

Where foundations are within the zone of potential desiccation from trees and are deeper than 1.5m bgl, a suitable compressible material or void former will be required on the inside faces of foundations to external walls, and beneath piled ring beams and ground bearing floor slabs.

Foundation formations should be inspected by a geotechnical engineer or other suitably competent person to ensure the founding conditions are suitable and as indicated in this report. Any formation materials deemed as unsuitable should be excavated and replaced with lean mix concrete or deepened to suitable strata.

Foundation excavations should be protected from rain and snow and inflow of surface water, frost and freezing conditions. They should also be protected from drying out in hot dry weather.

Any water that collects at the base of the foundation excavations should be removed by pumping from a sump in the base.

6.6.3 *Piled foundations*

Piled foundations are recommended for the main building structure due to the presence of Made Ground, the thickness of fill required to create the development platform and the variable nature of the Forest Marble Formation.

Depending on column loads and layouts, piles should extend through the Made Ground and Forest Marble Formation and to a suitable depth into the underlying BOMCLF.

Bored or CFA piles should be suitable to support the foundations for the structure. However, the choice of piling system should be undertaken by a specialist piling Contractor and the design of piles is beyond the scope of this report. The decision on pile type and design should take into account the following factors relevant to the site:

- » Obstructions in the ground are expected from the previous structures, which could cause piles to stop shallower than the design depths, or to deviate from the vertical, thereby reducing their capacity. In some circumstances, obstructions can lead to pile breakage.
- » Pile installation can create preferential pathways for the migration of contaminants to the groundwater.
- » Boring of piles through coarse soils can result in loosening of the material, with resultant risk of shaft collapse prior to concreting and reduced shaft friction.
- » Groundwater levels are not known at depth but are considered to be a perched horizon between 1.63m – 2.01m bgl within the Forest Marble Formation, temporary casing may be required for bored piles. If CFA piles are used, concrete is placed as the auger is withdrawn, which can balance the water pressure if the operation is undertaken carefully.
- » Piles should extend a minimum of five pile diameters into the BOMCLF to mobilise sufficient shaft friction and end-bearing resistance to carry the required loads without unacceptable settlement. As such, the rig must be capable of boring through the stronger limestone layers within the Forest Marble Formation and into the BOMCLF itself. This may preclude the use of some CFA rigs.

- » As some of the piles may have fill placed over them, piles should also be designed to cater for the potential down-drag effects of negative skin friction on piles from the secondary consolidation of the recently placed fill.
- » Collapse of the pile shaft can be caused by 'necking' of the pile in running sand conditions, leading to pile failure.

Based on the ground model and the geotechnical parameters in Section 5 the initial pile capacities for a range of pile diameters and depths are shown in Table 6.3. These have been calculated using EC7 methods.

The preliminary Safe Working Loads calculated are a guide only and should not be used for design purposes. The pile design should be undertaken by a specialist based on loading criteria and the serviceability limit states provided by the structural engineer.

Table 6.3: Preliminary safe working loads (Bored piles)

Pile Length (m)	Preliminary safe working load (kN)		
	450mm diameter	600mm diameter	750mm diameter
7.5	800	1200	1700
10	1100	1700	2300

6.6.4 Foundation works risk assessment

As there is a low risk to Controlled Waters, Hydrock believes that a foundation works risk assessment is not required as the proposed piling will not result in a significant increase in risk of pollution to Controlled Waters.

6.6.5 Working platform

For piling, a working platform will be required prior to the arrival on site of tracked plant. This should be designed and installed in accordance with BR470 (BRE 2004) based on data on the piling plant in accordance with an FPS certificate for the rig loadings.

6.7 Ground floor slabs

Whilst ground conditions would typically require a suspended floor slab approach, due to presence of Made Ground and variability of the Forest Marble Formation, it is understood that this would not be viable for the proposed development due to the high floor loads to support the data centre equipment.

In order to achieve a ground bearing slab, a thickened raft slab supported on settlement-reducing piles or Controlled Modulus Columns would be required to mitigate differential settlements given the sensitivity of the structure. Other ground improvement techniques such as excavate and replace, or vibro stone columns, are not expected to be suitable due to the interbedded hard (limestone) and soft (clay) layers within the Forest Marble Formation.

The raft slab should be designed by a structural engineer and a limit state assessment undertaken as part of the geotechnical design. Piles or Controlled Modulus columns would need to be designed by a specialist contractor.

6.8 Roads and pavements

Roads and pavements are anticipated to be founded in significantly different materials including areas of cut / fill, in-situ natural soils and Made Ground.

The areas of fill will be constructed to a specification which will detail the methodology required in order to achieve the required CBR value for construction.

The in-situ soils are also highly variable as proved by the investigation and based on the test results and subject to *in situ* testing during construction, it is considered likely an equilibrium CBR of >2.5% will be achievable over the majority of the site.

Proof rolling of the formation level will be required and any loose or soft spots should be removed and replaced with an engineered fill, in accordance with a suitable Specification. The formation level will also need to be protected during inclement weather from deterioration; all slopes should be trimmed to falls to shed rain water and the surface sealed to limit infiltration.

Prior to the placement of the founding materials and the construction of the road pavement, the sub-formation and formation will need to be inspected and checked in accordance with a suitable specification to ensure the ground conditions are as expected. All testing should be carried out in accordance with DMRB IAN 73/06 to confirm that the ground conditions at time of construction are consistent with the previous design parameters.

In addition, on account of the significant depth of Made Ground in the north of the site, it is considered that ground improvement will be required even if suitable CBR values exist at the surface or can be engineered by a capping layer and early consultation is recommended.

Where the CBR is found to be less than 2.5%, the sub-grade may be unsuitable for both the trafficking of site plant and as support for a permanent foundation, without improvement works being undertaken. Improvement works should be carried out in accordance with DMRB IAN 73/06 Rev 1 Chapter 5. In summary, consideration may be given to the following potential remedial techniques:

- » excavation and re-engineering or replacement of weaker soils;
- » the inclusion of geosynthetic reinforcement within the unbound layers of the capping and sub-grade;
- » where cohesive soils are present and they are deemed suitable for treatment with hydraulic binders, to employ modification and/or stabilisation techniques on the formation; and
- » where granular soils are present, de-watering and re-engineering the formation.

6.9 Drainage

Indicative infiltration rates for the ground investigation are presented in Appendix C and are summarised in Table 5.5.

Soakaways or infiltration as part of a Sustainable Urban Drainage System (SUDS) is considered suitable for the site based on the tested infiltration rates, subject to detailed drainage design by a specialist.

It should be noted that:

- » In regards to the infiltration testing due to the variable nature of Forest Marble Formation the results may vary upon the final strata presented at construction level. It would be anticipated that a permeability may be highly variable;
- » Geo Environmental testing has not indicated that a significant risk is posed to controlled waters. It is recommended that the attenuation basin is constructed below any Made Ground levels;
- » Groundwater levels have not been established; seepages have been noted in the Forest Marble Formation however no true level established;
- » It may still be a requirement that seasonal groundwater monitoring is undertaken to prove groundwater levels; and

- » Notwithstanding the above should underground mineworkings be present below site it may not be viable to allow for water to infiltrate through the solid geology and into any mineworkings.
- » The risk presented by underground mineworkings to the proposed surface water drainage was assessed within Hydrock Technical Design Note (Ref: 24639-HYD-XX-XX-TN-GE-1003). Results from the electrical resistivity survey indicated the ground in the eastern end of the site to be disturbed, potentially due to historical mining activity. Soakaway drains should be located outside of this area and areas with recorded historical mineworkings. Refer to the Hydrock Technical Design Note for full details.

6.10 Buried concrete

Analysis has been undertaken in line with BRE Special Digest 1 (BRE 2005) and this indicates that pyrite is not present in eight of the ten samples of Forest Marble Formation tested.

Two of the samples recovered from depths of 2.60m and 3.90m are potentially pyritic, and if the pyrites were oxidised would result in buried concrete class requirements of DS-4 and ACEC Class AC-4.

Concrete in potentially pyritic ground does not need to be designed to withstand high potential sulphate unless the ground is likely to be disturbed to the extent that it is able to be oxidised. As piled foundations are recommended it is considered that the following buried concrete class requirements are acceptable.

Based on guidelines provided in BRE Special Digest 1 (BRE 2005) and the information presented in Section 5.7.8 (Table 5.13):

- » All strata can be classified as Design Sulfate Class DS-1 and ACEC Class AC-1.

This equates to a Design Chemical Class³ of:

- » DC-1 for all strata.

However, if shallow foundations are to be adopted in lieu of piled foundations (following further geotechnical design and analysis), in the absence of further location- and depth-specific testing, buried concrete class requirements of DS-4 and ACEC Class AC-4 should be used.

The designer should check and confirm the classification of concrete using the information presented in Appendix B and Appendix C during the design.

³ The calculated ACEC class can be used in accordance with BS 8500-1+A2 (2019), Table A.9 to select the Designated Concrete (DC) class for an intended working life of 50 years. However, the designer is referred to BS 8500-1+A2 (2019), for full details and notes to Table A.9, including any Additional Protective Measures (APMs).

7. Geo-environmental assessment

7.1 Updated conceptual model

7.1.1 Updated ground model

The initial conceptual site model developed from the desk study and field reconnaissance survey in Section 2 been updated using the findings of the ground investigation and is presented in Section 3. This CSM is the basis for the geo-environmental assessment presented in this section.

7.1.2 Updated exposure model

Following the ground investigation, the plausible contaminant sources, receptors and pathways identified in the preliminary geo-environmental exposure model Section 3 have been updated or confirmed as follows.

7.1.2.1 Sources

The following potential source has been removed from the exposure model.

- » Coal tar, potentially present in the bituminous bound pavements and roads (S03), as no old asphalt surfacing was encountered during investigation works. The client had recently resurfaced the public right of way across site.

7.1.2.2 Receptors

No potential receptors have been removed from, or added to, the exposure model.

7.1.2.3 Pathways

No pathways have been removed from, or added to, the exposure model.

Using the updated ground model and updated exposure model, generic risk assessment is undertaken as presented below.

7.2 Risk assessment approach

Using the updated CSM, a Tier 2 generic quantitative risk assessment (GQRA) for identified receptors based on all media sampled has been undertaken in accordance with the principles of LCRM.

Firstly, the risks associated with the identified potential contaminant linkages have been estimated using standardised methods (typically involving comparison of site data with published 'screening values'). Secondly, where screening values are exceeded, the result has been evaluated in an authoritative review of the findings with other pertinent information to determine whether or not the exceedance is or is not acceptable in the site-specific circumstances.

The data sets used in the assessment comprise the analytical results obtained by Hydrock as listed in Section 4.

In cases where potentially unacceptable risks are indicated and/or the land is potentially unsuitable for its intended use, actions such as more advanced stages of risk assessment (Tier 3, detailed quantitative risk assessment (DQRA)) or remediation are proposed in Section 7.9.

7.3 Human health risk assessment

7.3.1 Soils Assessment

7.3.1.1 Generic Assessment Criteria

The soil screening values used are generic assessment criteria (GAC) (i.e. derived in accordance with EA CLEA guidance (2009) using the updated exposure model detailed in Defra SP1010 (2014), with the exception of published C4SLs. The term 'GAC' used in this report is inclusive of all generic soil screening values.

Based on the proposed development, generic assessment criteria (GAC) based on commercial and public open space (park) CLEA land use scenarios have been adopted.

As the Public Right Of Way (PROW) will be diverted around the main structure and include areas of planned landscaping this also needs to be assessed alongside the Commercial land use scenario. This is considered to be a conservative screening assessment as the PROW will not receive as many critical receptors and duration of visits time as the designed scenario. However in light of a specific scenario not existing this has been applied.

GAC are selected based on the following hierarchy:

- » Category 4 Screening Levels (C4SL), where available.
- » SoBRA Acute GAC for free cyanide, as acute dose toxicity is the primary risk driver.
- » Hydrock GAC, derived by Hydrock as detailed in Appendix E.

The results of the assessment are presented in Appendix E.

7.3.1.2 Data sets

The data sets used in this report are based on the conceptual site model and the proposed development, and are summarised as:

- » Stockpiles;
- » General Made Ground;
- » Topsoil;
- » natural soils of the Forest Marble Formation; and
- » natural soils of the BOMCLF.

GAC based on a soil organic matter (SOM) of 2.5% for all soils based on laboratory results. Assessment sheets are presented in Appendix E

7.3.1.3 Assessment Results

Based on individual test results that exceed the GAC, the chemicals of potential concern (CoPC) which require further assessment are summarised in Table 7.1.

Table 7.1: CoPC in soils which require further assessment (human health)

CoPC	GAC (mg/kg)	GAC Source	No. samples	Min. (mg/kg)	Max. (mg/kg)	No. samples >GAC
Stockpiles						
Benzo(b)fluoranthene	45	Hydrock Derived	4	0.84	53.00	1

Dibenz(ah)anthracene	3.6	Hydrock Derived	4	0.12	6.30	1
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Made Ground

No Exceedances

Topsoil

No Exceedances

Forest Marble Formation

No Exceedances

POS Area**Stockpiles**

Benzo(a)pyrene	21	C4SL - CL:AIRE 2014	4	0.66	43.00	1
Benzo(b)fluoranthene	15	Hydrock Derived	4	0.84	53.00	1
Dibenz(ah)anthracene	1.3	Hydrock Derived	4	0.12	6.30	2

Made Ground

Benzo(b)fluoranthene	15	Hydrock Derived	11	0.05	19.00	1
Dibenz(ah)anthracene	1.3	Hydrock Derived	11	0.05	2.30	1

Topsoil

No Exceedances

Forest Marble Formation

No Exceedances

The individual analytical results have been compared with the relevant GAC in the summary table Appendix E. From this, the CoPC in the Stockpiles and Made Ground have been exceeded for PAHs and Forest Marble Formation have been exceeded for Beryllium. The presence of PAHs and Beryllium requires further consideration.

All samples submitted for analysis of petroleum hydrocarbons (PHCs) reported concentrations below the GAC and/or laboratory limit of detection.

The phrase 'further assessment required' is used to denote soil concentrations that exceed a GAC. This does not necessarily mean that the soil is 'contaminated' or not otherwise suitable for use. The assessment and any mitigation required are to ensure the site does not pose an 'unacceptable risk' as defined under Planning and Part 2A of EPA 1990.

7.3.2 Asbestos

There is visual evidence of Asbestos Containing Materials (ACM) in a number of exploratory hole locations. Asbestos has been identified by laboratory testing of soil samples as provided in Table 7.2. The locations of these test are identified on the Site Conditions Plan (Ref: 24639-HYD-XX-XX-DR-GE-1004, dated 26 April 2023) presented in Appendix A.

Table 7.2: Asbestos in soil samples (laboratory testing)

Location	Depth (m bgl)	% Asbestos (w/w)	Comment
SA01	0.2	<0.001	Fibres (amosite).
SA02	0.2	<0.001	Fibres (chrysotile).
SP03	n/a	0.013	Fibres (chrysotile & amosite).
SP03	n/a	Bulk sample	Chrysotile, Amosite - Asbestos Insulating Board
TP07	0.40 – 0.50		Chrysotile – Asbestos cement
TP07a	0.3		Chrysotile – Asbestos cement

The presence of Asbestos Containing Materials and asbestos fibres in soil requires further consideration.

7.3.3 Risk evaluation

The screening exercise has identified PAHs in Stockpile and Made Ground soils and Beryllium in Forest Marble Formation soils at concentrations above the GAC. These are considered further here to assess if the exceedance may be acceptable with respect to the proposed development. The phrase 'further assessment' does not necessarily mean that the soil is 'contaminated' or not fit for use.

7.3.3.1 PAHs in Stockpiles

Benzo(a)pyrene, Benzo(b)fluoranthene and Dibenzo(ah)anthracene are present in the Stockpile at concentrations of 43.0 mg/kg, 53.0 mg/kg and 6.3 mg/kg against a GAC of 21.0 mg/kg, 15.0 mg/kg and 1.30 mg/kg respectively for the Public Open Space land use scenario.

Benzo(b)fluoranthene and Dibenzo(ah)anthracene are present in the Stockpile at concentrations of 53.0 mg/kg and 6.3 mg/kg against a GAC of 45.0 mg/kg and 3.6 mg/kg respectively. This is only relevant for the Commercial land use scenario.

Analysis of the compounds on a double ratio plot indicates that the PAHs within the stockpiles are derived from combustible products, i.e. coal. This is presented in Appendix E. This may be from combustible materials used historically to heat the accommodation blocks.

It could be considered that these pose less of a risk to human health based upon their potential source. This would be subject to agreement with the local authority but at this time these exceedances are considered to be an unacceptable risk, which requires mitigation for the proposed end use. Notwithstanding this, the presence of asbestos will also require mitigation measures (see below).

7.3.3.2 PAHs in Made Ground

Benzo(b)fluoranthene and Dibenzo(ah)anthracene are present in the Made Ground at concentrations of 19.0 mg/kg and 2.3 mg/kg against a GAC of 15.0 mg/kg and 1.30 mg/kg respectively. This is only relevant for the Public Open Space land use scenario as no exceedances have been detected for the Commercial Land Use Scenario.

Analysis of the compounds on a double ratio plot indicates that the PAHs within the Made Ground are derived from combustible products, i.e. coal, and Petroleum Combustion Products. This is presented in Appendix E. It is considered the range of data assessed cannot definitively confirm a source.

These significant exceedances are considered to be an unacceptable risk, which requires mitigation for the proposed end use. Notwithstanding this, the presence of asbestos will also require mitigation measures (see below).

7.3.3.3 Asbestos

There were a number of exploratory hole locations (TP07, TP07a and stockpile SP03) where Asbestos Containing Materials were potentially identified during the investigation. Samples of these materials were sent to the laboratory for confirmation.

Asbestos fibres have been identified as part of the soil site screening in SA01 and SA02 (<0.001%v/v of chrysotile and amosite) and in Stockpile SP03 (0.013%v/v of chrysotile and amosite).

The locations of these test are identified on the Site Conditions Plan (Ref: 24639-HYD-XX-XX-DR-GE-1004, dated 26 April 2023) presented in Appendix A.

Hydrock consider it plausible for asbestos to be present in any of the Made Ground & stockpiled soils and asbestos, (even at low concentrations), represents an unacceptable risk and mitigation measures will be required in this area of the site.

7.4 Phytotoxicity risk assessment

7.4.1 Risk estimation

Priority phytotoxic chemical concentrations have been screened against published values to determine the likely risk to plant growth (phytotoxic GAC). Phytotoxic GAC based on a pH of <7 for all soils based on laboratory results.

As with human health, individual sample test results are compared directly with the phytotoxic GAC.

Based on individual test results that exceed the phytotoxic GAC, CoPC which require further assessment are summarised in Table 7.3.

Table 7.3: CoPC which require further assessment (phytotoxic)

CoPC	GAC (mg/kg)	Basis for GAC	No. samples	Min. (mg/kg)	Max. (mg/kg)	No. samples >GAC
Stockpiles						
Zinc	300	BS3882 2015	26	35.00	540	1
Made Ground						

CoPC	GAC (mg/kg)	Basis for GAC	No. samples	Min. (mg/kg)	Max. (mg/kg)	No. samples >GAC
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No Exceedances

Topsoil

No Exceedances

Forest Marble Formation

No Exceedances

7.4.2 Risk evaluation

Detriment to plant life is difficult to quantify and many of the GAC are based on agricultural crop yields rather than harm to particular plant species.

Within the stockpiled soils, concentrations of zinc are significantly elevated when compared to the GAC. Whilst detriment to plant life is difficult to quantify as many of the GAC are based on agricultural crop yields rather than harm to particular plant species, the significant exceedance of the GAC indicates the probability of an unacceptable risk to plant life and mitigation may be required.

The requirement for mitigation of risk to human health (as discussed in Section 7.3.3) will also serve to mitigate risks to plant life.

7.5 Pollution of controlled waters risk assessment

7.5.1 Risk estimation

The risks to groundwater and surface water from contaminants on site have been assessed in accordance with the Environment Agency (2006) Remedial Targets Methodology (RTM).

Site contaminant loadings are compared with relevant screening values (Water Quality Targets (WQTs)), which are linked to the CSM.

Acceptable WQT are defined for protection of human health (based on Drinking Water Standards (DWS)) and for protection of aquatic ecosystems (Environmental Quality Standards (EQS)).

As related specifically to this site, the data are compared with criteria selected in accordance with the methodology presented in Appendix E. This methodology involves selecting which of several alternative risk scenarios apply in this case. The assessment is presented in Table 7.4 below, with the justification for the scenarios selected explained in the following text:

- » The primary natural surface water features are several ponds located approximately 450m north east of the site.
- » The Forest Marble is a Secondary A Aquifer and the deeper BOMCLF limestones are classified as a Principal Aquifer by the Environment Agency.
- » The site is within a Zone 2 Source Protection Zone (BOMCLF is a principal Aquifer) and there are no groundwater abstractions within 1km of the site.
- » A perched groundwater horizon is noted between 1.63m – 2.01m bgl within the Forest Marble Formation.

Table 7.4: Summary of water quality risk assessment protocol

Hydrock scenario	Water body receptors	Secondary receptors	Example contaminant linkages	RTM level and data used	Water quality targets
A	Groundwater	Human health (abstraction)	Contaminants from site leach or seep into a groundwater body that is a (potential/actual) source of water for human consumption.	RTM Level 2 - Groundwater. Direct comparison of surface water samples	DWS

Notes:

Some EQS are water hardness dependent. This is measured either in the receiving surface water or in groundwater (if it is part of the pathway), or is estimated from national maps.

Inland waters EQS applicable to freshwater, 'other' waters EQS applicable to coastal or transitional waters.

This table and the results of the assessment are considered as a first screening for potential risks of pollution of Controlled Waters. More specific requirements may be stipulated by the relevant Agency.

The results of the screening assessment are presented in Appendix E and are summarised in Table 7.5.

In some instances, the reporting limit (or detection limit) quoted by the laboratory may be greater than the WQT that it is being assessed against. As the current exercise is an initial screening assessment, further assessment of these elements has not been undertaken.

Table 7.5: CoPC which require further assessment (controlled waters)

CoPC	WQT (µg/l)	Basis for WQT	No. samples	No. samples above LoD	Min. (µg/l)	Max. (µg/l)	No. samples exceeding WQT and above LoD
Groundwater							
Manganese	50	DWS†	1	1	160	160	1

Note: the maximum recorded value is compared with the water quality target.

† The EQS for these substances represents a bioavailable concentration. Accordingly, a site-specific Predicted No-effect Concentration (PNECdissolved, abbreviated to PNEC for brevity) has been calculated using appropriate Ca, DOC and pH readings from the receiving surface-water course using the M-BAT spreadsheet tool, included at Appendix E.

7.5.2 Risk evaluation

The DWS for manganese are exceeded.

Whilst there are exceedances of the water quality targets, these exceedances are considered not to represent a significant risk of pollution of Controlled Waters from an on-site source as there is no

evidence of artificial accumulations of these substances on the site. Either they originate from the natural geology (Shand et. al. 2007) or they represent inflow from an off-site source.

Furthermore, the inland waters EQSs for manganese are based on the bioavailable fraction and because bioavailability has not been calculated for these metals the assessment is conservative as it assumes 100% bioavailability.

It would be technically challenging and probably disproportionately costly to remove these natural contaminants from the water or to prevent further infiltration.

Hydrock believes that the risks to Controlled Waters do not need further consideration.

7.6 Ground gases risk assessment

CL:AIRE RB17 (Card et al 2012) states that where there are natural soils with low organic content and 1m to 5m of Made Ground that comprises general infill and car park construction materials, and total organic carbon (TOC) less than 1%, no gas protection is required as this represents Characteristic Situation 1 (CS1) – very low hazard potential.

However, TOC has not been tested for and as such confirmatory monitoring has been undertaken to confirm the ground gas regime.

7.6.1 Data

It is judged from the available evidence that the gas generation potential at the site is low (due to the depositional environment of the bedrock geology and lack of superficial deposits) and that the sensitivity of the development is low (due to the commercial end use). Consequently, and in accordance with CIRIA C665 (Table 5.5a and 5.5b), an appropriate minimum monitoring regime is 6 readings over 2 months, provided other monitoring requirements are also met, such as prevailing atmospheric pressure conditions (for example, BS 8485:2015 +A1:2019 suggests monitoring should include a period of falling atmospheric pressure).

It is judged from the available evidence that the gas generation potential at the site is negligible and as such the monitoring regime suggested by CIRIA is not proportionate to the risk. However, six monitoring rounds have been undertaken to confirm the insignificant nature of risk.

Hydrock has undertaken the six readings required, including periods of falling and low atmospheric pressure.

7.6.2 Assessment

The risks associated with the ground gases methane (CH₄) and carbon dioxide (CO₂) have been assessed using BS 8485:2015 +A1:2019, which cites the guidelines published by CIRIA (C655, 2007) (known as Situation A).

The assessment guidelines set out in Table 2 of BS 8485 are based on interpretation of the gas concentrations and the gas flow rates. The quantitative assessment has been carried out by comparing the individual gas concentrations and gas screening values (GSV⁴) in Appendix D with the published CS thresholds (BS 8485 Table 2), in addition to a worst-case GSV assessment in accordance with section 6.3.7 of BS 8485. The assessment is summarised in Table 7.6 and the full assessment is presented in Appendix D.

⁴ Note: GSV is synonymous with 'site characteristic hazardous gas flow rate' (Q_{hgs}) of BS 8485:2015 +A1:2019 Table.

Table 7.6: Ground gas risk assessment

	Min	Max	Typical ⁽ⁱ⁾	Comment
Steady Flow Rate (L/hr)	0.0	0.3	<1	-
Methane (%)	0.0	0.2	<1	The typical methane concentration is <1% and the typical carbon dioxide concentration is greater than <1%.
Carbon Dioxide (%)	0.1	1.4	<1	
Oxygen (%)	12.0	21.4		-
Carbon Dioxide GSV (L/hr)	0	0.003	<0.07	CS1
Methane GSV (L/hr)	0	0.0006	<0.07	CS1

⁽ⁱ⁾ Hydrock assume that values are considered to be atypical if 95% or more of the remaining data are less than the value under consideration

For the purposes of the calculation, where the recorded gas flow rate is below the manufacturer's limit of detection for the instrument used, the detection limit has been adopted for the gas flow rate.

As indicated in Table 7.6, the computed GSV for carbon dioxide and methane indicates CS1 conditions and methane and carbon dioxide at concentrations are both 'typically' below 1%. As such, the site is provisionally classified as Characteristic Situation 1 (Situation A).

7.7 Construction materials risk assessment

7.7.1 Water pipelines

A formal water pipe investigation and risk assessment is beyond the scope of this report. However, the findings of this investigation have been compared to the threshold values in Water UK HBF (2014), Table 1 as far as is practicable.

The site is brownfield and organic contamination (VOC and petroleum hydrocarbons) has been identified in exceedance of the threshold values within some stockpiled materials only and this would require that barrier pipe is used. No exceedances have been detected within the in situ Made Ground or natural soils.

Hydrock believes standard pipework to be suitable for the in-situ soils site provided that should stockpiled materials be suitable for use as fill then barrier pipes are adopted within fill areas.

However, confirmation should be sought from the water supply company at the earliest opportunity.

7.7.2 Other construction materials

Plastic pipes for drains and sewers are manufactured from unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) or polyethylene (PE). These materials may be affected by the presence of organic compounds in the soil.

In accordance with the British Plastics Federation Guidance (August, 2018), as the concentrations of PAH, and BTEX are below 100mg/kg and the concentrations of petroleum hydrocarbons (TPH) are below 200 mg/kg, PVC-U, PP or PE pipework is considered suitable. It should be noted that excessive detections of PAHs within the stockpiled materials would change this outcome, the mitigation for human health will also allow the use of PVC-U, PP or PE pipework.

The implications for buried concrete are discussed in Section 6.10.

7.8 Findings of the generic contamination risk assessments

The potential sources, pathways and receptors identified in the desk study (Section 2) have been investigated (Sections 5 and 6) and assessed (Sections 7.2 to 7.7). A Source-Pathway-Receptor linkage assessment has been undertaken and is presented in Appendix H (Table H.2).

A summary of the Source-Pathway-Receptor (SPR) contaminant linkages for which the risks may be unacceptable and require mitigation (those that are moderate or higher) are discussed in Table 7.7.

Table 7.7: Residual risks following risk evaluation

Contaminant Linkage				Comments	
Pollutant Linkage	Sources	Pathways	Receptors	General	Mitigation
PL 1.	Pervasive PAHs in the Stockpiled materials.	Ingestion, inhalation or direct contact.	Human health.	Significant exceedance of the GAC.	Removal of impacted stockpiles from site. Should the material be used a fill for the development platform then it needs to be placed below areas of hardstanding or an engineered cover system to stop direct contact with these materials. The thickness and extents of this can be confirmed during the remedial options appraisal.
PL 2.	Pervasive PAHs in the Made Ground	Ingestion, inhalation or direct contact.	Human health.	Significant exceedance of the GAC.	Mitigation required in the form of an engineered cover system.
PL 3.	Asbestos fibres in soils and asbestos-containing materials in the Stockpiled materials	Inhalation of fugitive dust.	Human health (site neighbours).	Stockpiled materials seen to contain asbestos-containing materials. Asbestos fibres measured in soil samples.	Removal of impacted stockpiles from site. Should the material be used a fill for the development platform then it needs to be placed below areas of hardstanding or an engineered cover system to stop direct

Contaminant Linkage				Comments	
Pollutant Linkage	Sources	Pathways	Receptors	General	Mitigation
					contact with these materials. The thickness and extents of this can be confirmed during the remedial options appraisal. If removal considered, then removal under controlled conditions should limit off-site spread of fibres. In addition, any ACM encountered during earthworks will need to be handpicked and removed from site.
PL 4.	Asbestos fibres in soils and asbestos-containing materials in the Made Ground	Inhalation of fugitive dust.	Human health (site neighbours).	Made Ground soils are seen to contain asbestos-containing materials. Asbestos fibres measured in soil samples.	Mitigation required in the form of an engineered cover system where Made Ground is to remain at the surface not beneath hardstanding or fill. The thickness and extents of this can be confirmed during the remedial options appraisal. Should further investigation be considered this could further refine the remedial options. In addition, any ACM encountered during earthworks will need to be handpicked and removed from site.
PL 5.	Pervasive zinc in stockpiled materials.	Root Uptake	Plant life	Significant exceedance of the GAC.	Materials cannot be used in areas of proposed soft landscaping and

Contaminant Linkage				Comments	
Pollutant Linkage	Sources	Pathways	Receptors	General	Mitigation
					therefore pose no risk to plant life or impacted stockpiles are removed from site.
PL 6.	Minor detections of VOCs and Petroleum Hydrocarbons in stockpiled materials.	Direct contact	Human Heath	Detections of VOCs and Petroleum Hydrocarbons in stockpiled materials above the recommendations for water supply pipes.	Barrier pipe to be used in areas where the stockpiled materials are to be used as fill or the impacted stockpiles are removed from site.

7.9 Mitigation measures

The outline remediation strategy presented below is provided for guidance only, and does not represent a 'Remediation Options Appraisal', or a 'Remediation Strategy', prepared in accordance with LCRM (2021).

As shown in Table 7.7 (and subject to regulatory agreement), Hydrock consider the following mitigation is required to ensure the site is suitable for use for the proposed end use. The mitigation measures include:

- » Further investigation could be undertaken to further delineate the contamination highlighted in the soft landscaping areas and further testing of all stockpiled could be undertaken. This may allow for the remedial options to be further considered and mitigation measures reduced and/or revised.
- » The installation of a 600mm engineered clean cover in public open space, comprising a high visibility geo textile, subsoil beneath a topsoil thickness of between 150mm and 300mm (PL2, PL3 and PL4). The thickness and extents of this can be confirmed during the remedial options appraisal.
- » Off-site disposal of impacted stockpiles, SPO3 and SPO4, including picking of ACM materials by a licensed contractor (PL1, PL5 and PL6).

The methodology for the remediation should be set out in a Remediation Strategy (which will include the 'Implementation Plan', the 'Verification Plan' and the 'Long Term Monitoring and Maintenance Plan'), which will need to be submitted to the warranty provider and the regulatory authorities for approval.

In addition, the production of a Materials Management Plan and its approval by a Qualified Person will be required to allow reuse of suitable material at the site in accordance with waste regulations.

Verification reports by a competent independent geo-environmental specialist will be required following completion of any remedial works.

8. Waste and materials management

8.1 Introduction

The Waste Framework Directive (WFD) (2009/98/EC) defines waste as *'any substance which the holder discards or intends to discard.'* In a geo-environmental context, the waste is most often 'soil' and the two main scenarios are offsite disposal of the material as a waste and/or reuse of the material on site. For cost and sustainability reasons, reuse is preferred to off-site disposal.

Section 8.2 below describes the key issues relating to off-site disposal to landfill and Section 8.3 considers requirements relating to reuse of soils and materials management.

8.2 Waste disposal

8.2.1 Principles

Based on the WFD, any material excavated on site may be classified as waste and it is the responsibility of the producer of a material to determine whether or not it is waste. Where off-site disposal is undertaken, the following guidance applies.

Classification is a staged process:

- » A hazardous waste is defined under the WFD as one which possesses one or more of fifteen defined hazardous properties. If a waste is not defined as hazardous, then it is non-hazardous.
- » Where the materials are soil, it is then be assigned using the 'List of Waste Codes', which classifies the material as either:
 - » hazardous (17-05-03), which is defined as *"soil and stones containing hazardous substances"*; or
 - » non-hazardous (17-05-04), which is defined as *"soil and stones other than those mentioned in 17-05-03"*.
 - » Hydrock utilise the proprietary assessment tool, HazWasteOnline™ to undertake this assessment.
- » Waste Acceptance Criteria (WAC) testing is then undertaken if required, and are only applicable following classification of the waste, and only where the waste is destined for disposal to landfill. The WAC are both qualitative and quantitative. The WAC and the associated laboratory analyses (leaching tests) are not suitable for use in the determination of whether a waste is hazardous or non-hazardous.

It should be noted that some non-hazardous wastes may be suitable for disposal at an inert landfill as non-hazardous waste, subject to meeting the appropriate waste acceptance criteria.

It should be noted that classification must be undertaken on the waste produced, by the waste producer. Necessary sampling frequency to adequately characterise a soil population is defined within WM3.

Further discussion with regards to the characterisation process for different scenarios and waste types is provided below.

Topsoil and Peat

Topsoil and peat are biodegradable, therefore if they are surplus to requirements and cannot be re-used in accordance with a Materials Management Plan, they cannot be classified as inert. As such, topsoil and peat need to be classified by a staged assessment and sampling process and would either be classified as hazardous or non-hazardous, depending upon the results of the assessment.

Greenfield sites

Waste from completely greenfield sites may be accepted at a landfill as inert waste if it meets the requirements of paragraph 10 (wastes acceptable without testing at landfills for inert waste) of the Landfill (England and Wales) (Amendment) Regulations (2005) ('the Regulations') can be met. Paragraph 10 of the Regulations states, "*soils may be able to be classified as inert waste without testing, if:*

- » *they are single stream waste of a single waste type;*
- » *there is no suspicion of contamination and they do not contain other material or substances such as metals, asbestos, plastics, chemicals, etc...."*

As such, where the site is greenfield and the waste producer is confident about the quality of a soil (i.e. naturally occurring and uncontaminated), further sampling and laboratory testing is not necessary for the Basic Characterisation and this can be undertaken on qualitative Waste Acceptance Criteria testing.

In this instance the waste producer can characterise the waste based on visual assessment and written description of the waste in addition to supporting evidence such as a desk study assessment of the greenfield status. However, it should be noted this characterisation is subject to agreement by the landfill operator who may require testing to be undertaken to confirm classification.

Contaminated or potentially contaminated sites

If the site is brownfield, contaminated or potentially contaminated, the waste must undergo an initial waste classification exercise using background information on the source and origin of the waste and assessment of chemical test data in accordance with Environment Agency Technical Guidance WM3.

If following the initial waste classification exercise, the soils are acceptable for disposal to a non-hazardous landfill, further qualitative Waste Acceptance Criteria (WAC) testing is not required.

However, if soils are potentially able to be disposed to an inert landfill as non-hazardous waste, or require testing to determine if they can be disposed of to a stable non-reactive hazardous or hazardous class of landfill, the next stage of assessment is to undertake qualitative WAC testing. This will determine the Basic Characterisation and the landfill category at which the soils can be accepted.

Hazardous material must be subjected to WAC testing to determine whether it requires treatment before it can be accepted at the hazardous landfill, while non-hazardous material can be tested to determine whether it may be suitable for placement in an inert landfill.

8.2.2 HazWasteOnline™ assessment

As the site is brownfield, in order to inform the preliminary waste characterisation process, Hydrock has undertaken an exercise using the proprietary web-based tool HazWasteOnline™. The output of the HazWasteOnline™ assessment is provided in Appendix F and a summary of the preliminary waste classification is provided below in Section 8.2.4.

8.2.3 WAC testing

The site is brownfield. However, WAC testing has not been undertaken to date but will be required on the excavated soils that are to be disposed of, to assist with waste disposal options prior to disposal. A summary of the preliminary waste disposal options is provided below in Section 8.2.4.

8.2.4 Preliminary waste disposal options

The site is brownfield and based on the HazWasteOnline™ assessment, if suitable segregation of different types of waste is put in place, for soils to be disposed of, it is considered that:

- » The natural uncontaminated subsoils of the Forest Marble Formation are likely to be classified as 'Non-hazardous' waste and subject to WAC testing should be able to be disposed of at an inert landfill.
- » Hand-picking of visible asbestos in the stockpiles and Made Ground would potentially allow for classification as non-hazardous waste. The type of disposal facility would be decided following WAC testing. Asbestos quantification testing to date has recorded asbestos below the hazardous waste threshold of 0.1%; however, further testing shall be required to satisfy any prospective receiving facility.
- » In the absence of further testing and assessment, it is recommended that off-site disposal of Made Ground/Stockpiles to a hazardous waste landfill is budgeted for, should further testing prove this to be the case.

Any soils containing > 0.1% asbestos or visible asbestos containing materials would be considered as hazardous.

8.2.5 General waste comments

It should be noted that:

- » It is the waste producer's responsibility to segregate the waste at source and waste producers must not mix waste materials/streams or dilute hazardous components, for example by mixing with less or non-hazardous waste on site to meet WAC limit values.
- » The above preliminary assessment has been made on the basis of the soils tested as part of the ground investigation, using the HazWasteOnline™ assessment. However, the formal classification of waste can only be undertaken on the material to be disposed of, and by the waste producer and the receiving landfill as license conditions vary from landfill to landfill.
- » Basic Characterisation should be undertaken in accordance with Environment Agency guidance by the waste producer. Hydrock can assist if required and this report will assist the characterisation. However, Basic Characterisation does not form part of the current commission and would require further assessment and testing on the wastes actually to be disposed.
- » Once the waste producer has undertaken an initial Basic Characterisation on each waste stream, they can manage the soils as part of the on-site processing programme (for example, stockpiling, treatment, screening and separation). The waste producer and landfill operator will then need to agree the suite of compliance testing for regularly generated waste to demonstrate compliance with the initial Basic Characterisation prior to disposal.
- » At the time of disposal, additional testing on the excavated soils to be disposed of, will likely be necessary.

- » Non-hazardous and hazardous soils require pre-treatment (separation, sorting and screening) prior to disposal.
- » The costs for disposal of non-hazardous and hazardous soils are significant compared to disposal of inert material.
- » In addition to disposal costs, landfill tax will be applicable. Non-hazardous and hazardous waste will generally be subject to the Standard Rate Landfill Tax. Inert or inactive waste will generally be subject to the Lower Rate Landfill Tax. The landfill tax value changes each April and can be found at <https://www.gov.uk/government/publications/rates-and-allowances-landfill-tax/landfill-tax-rates-from-1-april-2013>.
- » Before a waste producer can move waste to a landfill site for disposal, they need to check the landfill site has the appropriate permit and must have completed the following⁵:
 - » Duty of care transfer note / Hazardous Waste consignment note, including comment as to if pre-treatment has been undertaken; and
 - » Basic Characterisation of the waste, to include: description of the waste; waste code (using list of wastes); composition of the waste (by testing, if necessary) and; WAC testing (if required).

8.3 Materials management

8.3.1 Introduction

Soils that are to remain on site, should be managed and reused in accordance with a Materials Management Plan (MMP), prepared in accordance with 'The Definition of Waste: Development Industry Code of Practice', Version 2 (CL:AIRE), known as the DoWCoP. Where all aspects of the DoWCoP are followed the soils are considered not to be waste, because they were never discarded in the first place.

Version 2 of the DoWCoP clearly sets out the principles and an outline of the requirements of a MMP. The following compliance criteria must be seen to apply to the MMP for the site:

- Factor 1: Protection of human health and protection of the environment.
- Factor 2: Suitability for use, without further treatment.
- Factor 3: Certainty of Use.
- Factor 4: Fixed Quantity of Material.

The reuse of soils at sites should be considered during the planning and development design process so that compliance with issues such as fixed quantity and certainty of use clearly relate to agreed site levels. Suitability of Use is normally evident from the remediation strategy or the design statement, which form an integral part of a MMP. However, some soils may need to be tested post-excavation to prove they are suitable for use.

Once the MMP is finalised, it must be declared by a Qualified Person (QP). The Declaration is an on-line submission as part of which the QP is required to confirm that the declaration is being made before the relevant works have commenced (i.e. it is not a retrospective application).

Once all material movements have been completed in accordance with the MMP a verification report must be produced, kept for 2 years and provided to the EA on request.

⁵ ENVIRONMENT AGENCY. November 2010. Guidance on waste acceptance procedures and criteria. Waste acceptance at landfills. The Environment Agency.

It should be noted that failure to comply with the requirements of the DoWCoP when re-using materials has potentially significant consequences for the waste holder. The risk is that the reused materials are still regarded as a waste that has been illegally deposited. From 1 April 2018, the scope of Landfill Tax has been extended to sites operating without the appropriate environmental disposal permit, and operators of illegal waste sites will now be liable for Landfill Tax. Further information is available at: <https://www.gov.uk/government/publications/landfill-tax-disposals-not-made-at-landfill-sites/landfill-tax-disposals-not-made-at-landfill-sites>.

If soils are excavated and reused on sites (or moved to another site) without a MMP, exemption, or appropriate Permit in place, anyone who knowingly facilitates the disposal may be 'jointly and severally liable' to any assessment of tax, fines or prosecution.

8.3.2 *Materials management scenarios*

The materials management scenarios present on site are discussed below.

It should be noted that more than one scenario may apply, dependent upon where the soils are proposed for reuse.

8.3.2.1 *Clean, naturally occurring materials – reused on the site of origin*

Where soils are naturally occurring, uncontaminated and are reused on the site they are excavated (i.e. greenfield site with documented site history, with no Made Ground), they will fall outside the Waste Framework Directive (WFD) (i.e. they will not be a waste when reused on the site of origin).

However, there needs to be certainty of that reuse, and evidence is necessary to support this strategy, for example through information provided during the planning process. The onus is on the developer to demonstrate that the materials are not a waste and will never become a waste. As such, a Materials Re-use Strategy is recommended to show certainty. Alternatively, if the volume of material is under 1,000 tonnes, then a U1 waste exemption may be applied for from the Environment Agency.

It may be noted that some 'clean naturally occurring materials' may still fail the 'suitable for use' test, for example, soils with a naturally high organic content may not be suitable for use because of their propensity to produce ground gases such as methane. Rules regarding other more unusual circumstances such as where natural soils contain an unacceptably high mineral content are described in the DoWCoP.

8.3.2.2 *Clean, naturally occurring materials – transferred to other sites*

Where soils are naturally occurring, uncontaminated and are transferred to other sites (i.e. direct transfer), they will not become waste as long as the transfer is undertaken in accordance with the DoWCoP. A MMP must be prepared for the receiving site and the materials movement must be noted in the MMP of the Donor site. This movement must have been declared to CL:AIRE prior to the works commencing.

8.3.2.3 *Made Ground and other contaminated soils*

On sites where Made Ground or contaminated soils are present, any soils excavated will be a waste as soon as they are excavated (even if they are clean, naturally occurring materials), unless they are subject to reuse in accordance with the DoWCoP. As such, for any brownfield site or a site where Made Ground is present and soils are being moved and reused, the materials could be deemed a waste, subject to either:

- a Materials Management Plan (MMP), to prevent the material being classified as a waste following reuse; or
- an exemption (for limited volumes); or

- an environmental permit, dependant on its status.

Other commonly occurring circumstances are:

If Made Ground is being moved between sites, it must be ensured that appropriate permits are in place to ensure the soils are not classified as a waste. Made Ground cannot be moved between sites under DoWCoP alone and would require relevant permits as part of the MMP documentation for the Hub site the material is being treated at.

8.3.2.4 *Made Ground and other contaminated soils*

All recycled materials (6F2 etc.) must be produced under the 2013 WRAP 'Quality Protocol: Aggregates from inert waste', whether on site or off-site. If they are not, they will be deemed a waste and can only be used on site under a permit. More information can be found at <https://www.gov.uk/government/publications/quality-protocol-production-of-aggregates-from-inert-waste>.

8.3.2.5 *Geotechnical improvement requirements*

Construction activities carried out on uncontaminated soils solely for the purpose of improving geotechnical properties e.g. lime / cement modification, are not generally regarded as waste treatment operations and do not require a permit.

However, should processing be needed (such as screening, treatment or improvement), that would constitute a waste activity and require a mobile treatment permit. This may be as simple as removing oversize material with an excavator bucket, to using a riddle bucket to remove hardcore to full mechanical screening.

9. Uncertainties and limitations

9.1 Site-specific comments

At the time of writing, an appropriate mine risk survey has not been undertaken and so the areal extent and the depth to underground workings is not known. Until the mine risk has been adequately considered the recommendations presented in this report assume that the mine has no influence upon design.

Groundwater levels have not been established, it is assumed that the regional groundwater table lies at depth beneath the underground mineworkings, this has not been proven.

Four of the largest stockpiles have been investigated for initial characterisation, this has proven that contaminants are present in the form of PAHs and asbestos. Based on the initial findings further testing should be undertaken.

Boreholes were limited to a maximum depth of 10.00m bgl in order to ensure that the mine workings were not encountered/penetrated as permission to investigate this had not been granted.

Limited Geotechnical testing has been undertaken within the Stockpiles/Made Ground as this is generally not considered suitable for construction. Should there be a requirement to maintain a balance at the site these could be investigated further.

9.2 General comments

Hydrock Consultants Limited (Hydrock) has prepared this report in accordance with the instructions of Ark Data Centres Limited (the Client), by e-mail dated January 2023 under the terms of appointment for Hydrock, for the sole and specific use of the Client and parties commissioned by them to undertake work where reliance is placed on this report. Any third parties who use the information contained herein do so at their own risk. Hydrock shall not be responsible for any use of the report or its contents for any purpose other than that for which it was prepared or for use of the report by any parties not defined in Hydrock's appointment.

This report details the findings of work carried out in March 2023. The report has been prepared by Hydrock on the basis of available information obtained during the study period. Although every reasonable effort has been made to gather all relevant information, not all potential environmental constraints or liabilities associated with the site may have been revealed.

Hydrock has used reasonable skill, care and diligence in the design of the investigation of the site and in its interpretation of the information obtained. The inherent variation of ground conditions allows only definition of the actual conditions at the locations and depths of trial pits and boreholes at the time of the investigation. At intermediate locations, conditions can only be inferred.

Groundwater data are only representative of the dates on which they were obtained and both levels and quality may vary.

Plans that provide assessment of foundation types and depths are indicative and subject to further design. This design should incorporate a detailed assessment of the influence of trees, influence of cut to fill proposals and geological conditions.

Unless otherwise stated, the recommendations in this report assume that ground levels will remain as existing. If there is to be any re-profiling (e.g. to create development platforms or for flood alleviation) then the recommendations may not apply.

Information provided by third parties has been used in good faith and is taken at face value; however, Hydrock cannot guarantee its accuracy or completeness.

Where the existing report(s) prepared by others have been provided by the Client, it is assumed that these have been either commissioned by the Client, or can be assigned to the Client, and can be relied upon by Hydrock. Should this not be the case Hydrock should be informed immediately as additional work may be required. Hydrock is not responsible for any factual errors or omissions in the supplied data, or for the opinions and recommendations of others. It is possible that the conditions described may have since changed through natural processes or later activities.

The work has been carried out in general accordance with recognised best practice. Unless otherwise stated, no assessment has been made for the presence of radioactive substances or unexploded ordnance. Where the phrase 'suitable for use' is used in this report, it is in keeping with the terminology used in planning control and does not imply any specific warranty or guarantee offered by Hydrock.

The chemical analyses reported were scheduled for the purposes of risk assessment with respect to human health, plant life and controlled waters as discussed in the report. Whilst the results may be useful in applying the Hazardous Waste Assessment Methodology given in Environment Agency Technical Guidance WM3, they are not primarily intended for that purpose and additional analysis will be required at the time of disposal to fully classify waste. Discussion and comment with regards to waste classification are preliminary and do not form the requirements of 'Basic Characterisation' as required.

Assessment and testing for the presence of coal tar has only been completed at the locations of exploratory holes undertaken for risk assessment purposes. This investigation is not designed to provide a definitive assessment of the risk from coal tar, nor the waste classification for bituminous bound pavement arising at the site.

Unless otherwise stated, at the time of this investigation the future routes of water supply pipes had not been established. This investigation and sampling strategy may not be fully compliant with UKWIR recommendations. Consequently, a targeted investigation and specific sampling and chemical testing may be required at a later date once the routes of the supply pipes are known. In addition, it is recommended that the relevant water supply company be contacted at an early stage to confirm its requirements for assessment, which may not necessarily be the same as those recommended by UKWIR.

Whilst the preliminary risk assessment process has identified potential risks to construction workers, consideration of occupational health and safety issues is beyond the scope of this report.

The non-specialist UXO screening has been undertaken for the purposes of ground investigation only (i.e. low risk activity in accordance with CIRIA Report C681). Further assessment should be undertaken with regards to other higher risk activities e.g. construction.

Please note that notwithstanding any site observations concerning the presence or otherwise of archaeological sites, asbestos-containing materials or invasive weeds, this report does not constitute a formal survey of these potential constraints and specialist advice should be sought.

Any site boundary line depicted on plans does not imply legal ownership of land.

10. Recommendations for further work

After the planning determination has been made, the following further works are likely to be required to satisfy planning conditions pertaining to land stability and/or contaminated land, and to facilitate detailed design of the proposed development:

Post-planning determination/pre-construction

- » completion of a mine survey and risk assessment for the mines below site, and subsequent update of geotechnical recommendations where necessary. Depending on the findings of the assessment, additional ground investigation may be required to prove sufficient rockhead below piles;
- » provision of geotechnical design for the Category 2 structures (earthworks, retaining, floor slabs, foundations), including production of an Earthwork Specification;
- » discussions with piling contractors regarding conclusions of this report and design of the piles;
- » further testing and assessment of all stockpiles on site to further inform potential disposal costs and any potential for re-use on site as part of the fill exercise;
- » discussion and agreement with utility providers regarding the materials suitable for pipework;
- » discussions with regulatory bodies and the warranty provider regarding the conclusions of this report;
- » production of a Remediation Strategy and Verification Plan (and agreement with the regulatory bodies and the warranty provider); and
- » production of a Materials Management Plan relating to reuse of soils at the site and import of soils to the site.

Construction

- » remediation and mitigation works; and
- » verification of earthworks/development platform.

Post-construction

- » verification of the remediation and mitigation works.

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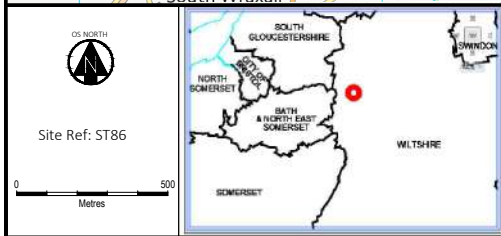
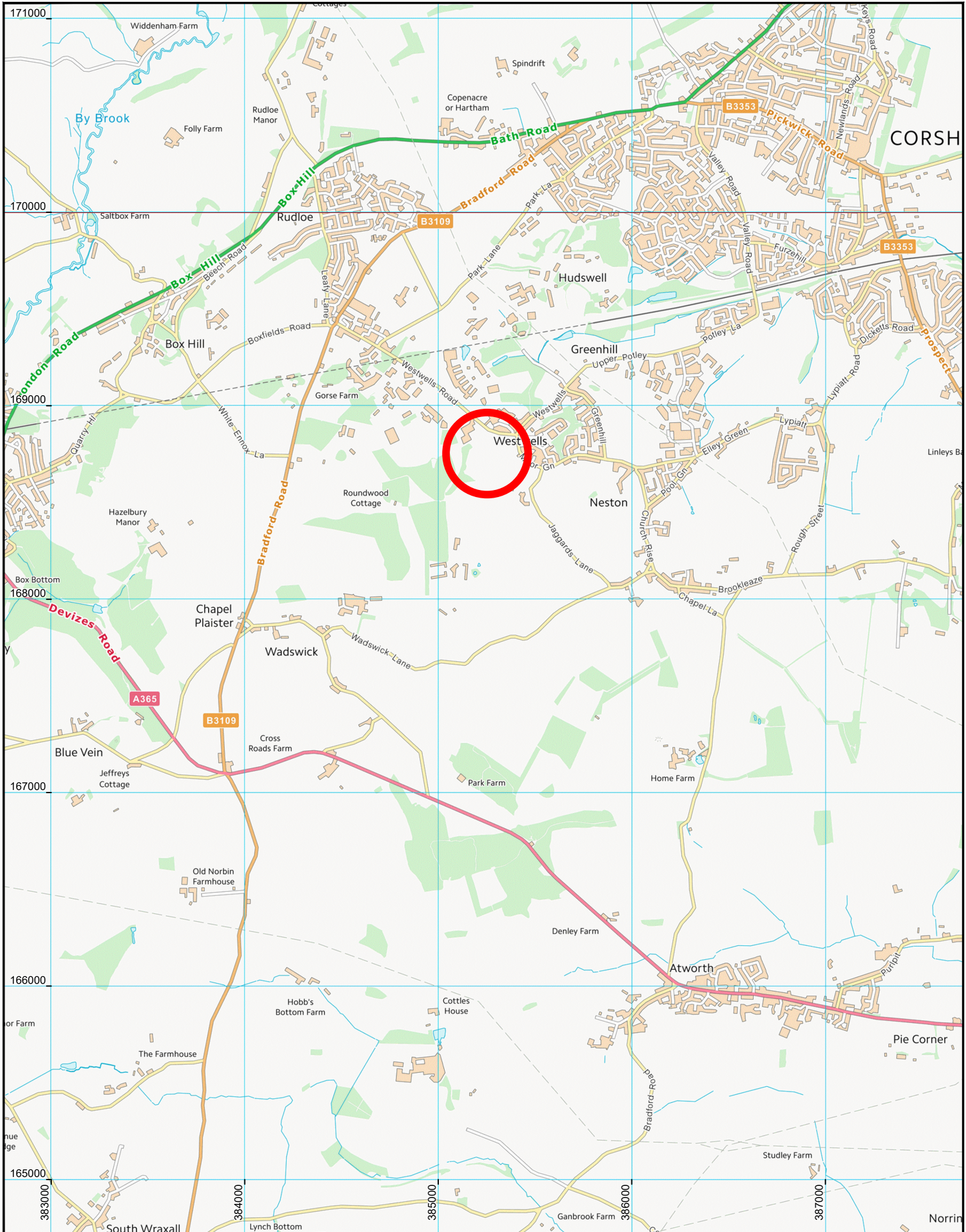
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Appendix A Drawings



P1				
FIRST ISSUE				
EP	27/06/22	ES	27/06/22	ES
REVISION NOTES/COMMENTS				
REV.	DRAWN BY	DATE	CHECKED BY	DATE
				APPROVED BY
				DATE

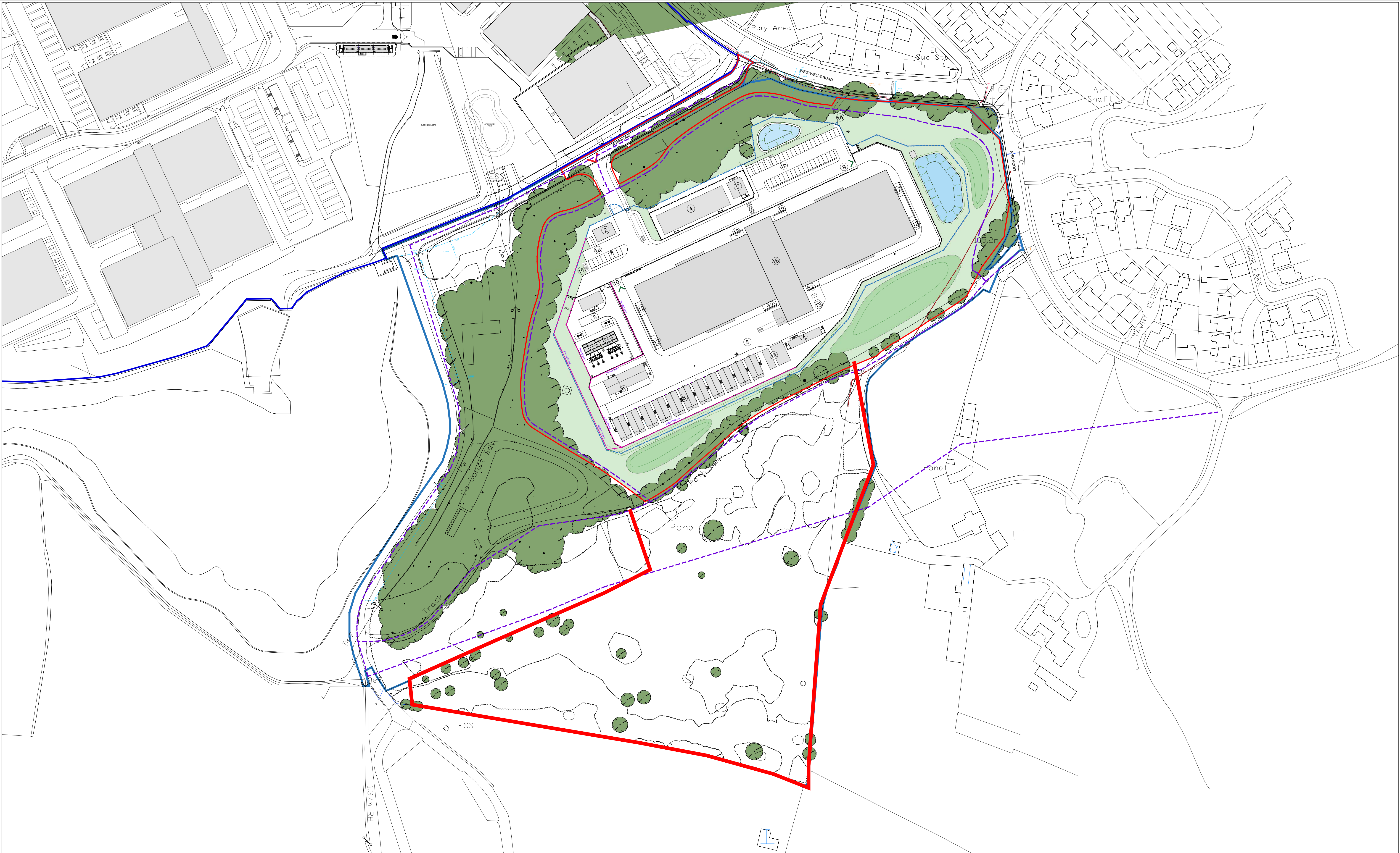


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CLIENT
ARK DATA CENTRES

PROJECT
**SPRING PARK EXPANSION,
WEST WELLS ROAD, CORSHAM, WILTS**

TITLE SITE LOCATION PLAN	
HYDROCK PROJECT NO. C-24639-C	SCALE @ A4 1:25,000
PURPOSE OF ISSUE SUITABLE FOR INFORMATION	STATUS S2
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) 24639-HYD-XX-XX-DR-GE-1000	REVISION P1



Disclaimer:
Subject to survey.

Notes:

0m 20 40 60 80m
1:1000 @ A1

Rev:	Notes:	Date:	Dwn:	Iss:
00	Planning Issue	XX.XX.2023	LT	HA

KEY

	Ownership Boundary	①	1a - Visitors car parking (8 spaces)	⑧	Service Yard	⑮	Cycle Shelter (10 cycles)
	Proposed Site Boundary 4.38 hectares (10.82 acre)(to be verified)	②	1b - Staff car parking (38 spaces)	⑨	Ingress gate	⑯	Data Centre
	Campus Entrance	③	Visitor Reception Centre	⑩	Egress gate		
	Overhead Line	④	Substation compound	⑪	Fire Suppression Plant/Tank		
	Inner security fenceline	⑤	Water treatment plant	⑫	Energy Centre AHU		
	Outer Campus fenceline	⑥	HV/LV Switchroom	⑬	LV Switchroom Transformers		
	PROWs (Approximate positions)	⑦	Generators	⑭	Emergency Pedestrian Access Gate		
	Retaining Structure		Splitter buildings				

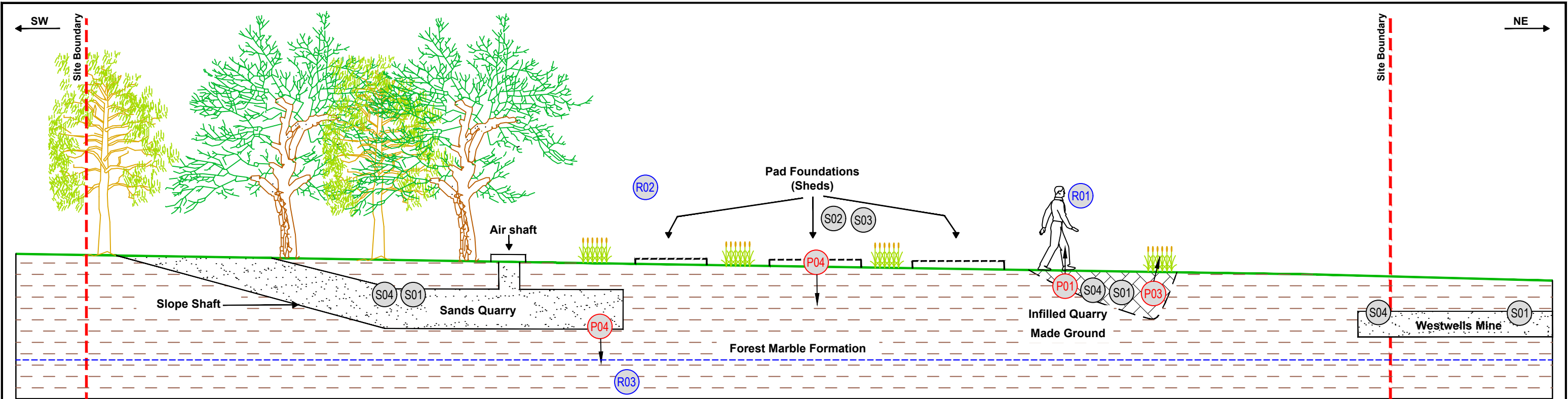
P6 - DC01	4 Floors (G, 1st, 2nd & 3rd)
Approx height	+18.3m to top of roof mounted plant +15.4m high to building parapet
4 x data halls / floor @ 0.75MW each - 3MW / floor	
IT Load	12MW
P6 - DC02	3 Floors (G, 1st & 2nd)
Approx height	+14.5m to top of roof mounted plant +11.6m high to building eaves
4 x data halls / floor @ 0.75MW each - 3MW / floor	
IT Load	9MW

hale
ARCHITECTURE
22c Leathermarket Street, London, SE1 3HP
Client:

ARK
DATA CENTRES

Issue Purpose:
PLANNING

Project: P6, Spring Park Corsham		
Drawing Title: Proposed Masterplan		
Project No: 22077	Scale @ A1: 1:1000	Revision: 00
Drawing No: PL1100		



Potential on-site sources of contamination

- S01. Made Ground, associated with historical mining activities and imported fill, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons.
- S02. Made Ground, associated with former MoD activity and imported fill, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons.
- S03. Coal tar, potentially present in the bituminous bound pavements and roads.
- S04. Ground gases (carbon dioxide and methane) from organic materials in the Made Ground or potential build up in the underground mineworkings .

Potential off-site sources of contamination

No potential off-site sources of contamination have been identified.

Potential receptors

The following potential receptors in relation to the proposed land use have been identified.

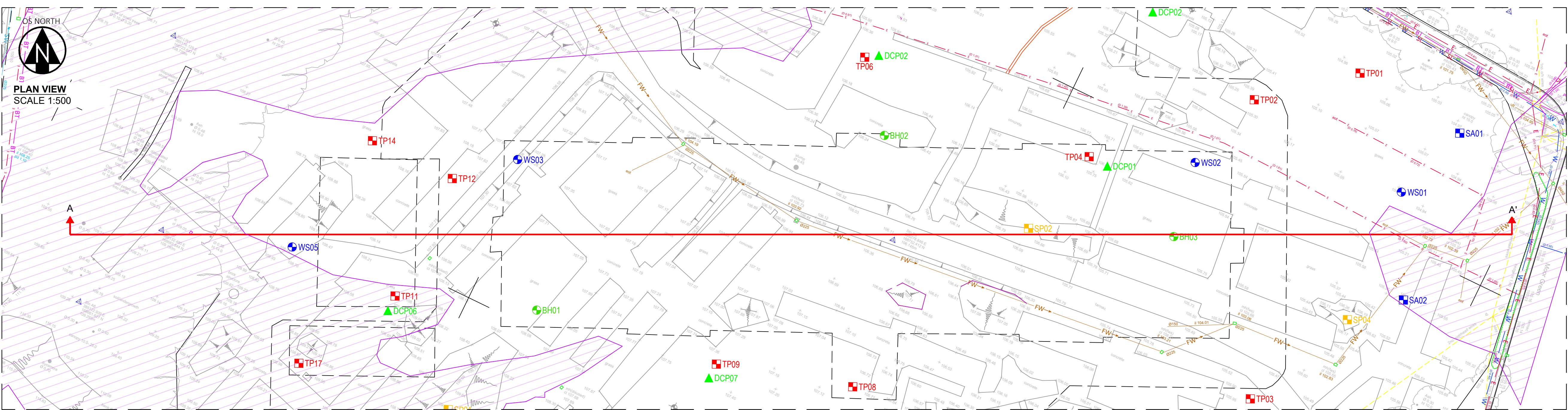
- R01. People (site end users, neighbours).
- R02. Development end use (buildings, utilities and landscaping).
- R03. Groundwater: Secondary A aquifer status of the Forest Marble Formation and Principal Aquifer Status of the Bath Oolite Member and Corham Limestone Formation (BOMCLF).

Potential pathways

The following potential pathways have been identified.

- P01. Ingestion, skin contact, inhalation of dust and outdoor air by people.
- P02. Petroleum hydrocarbon vapour ingress via permeable soils and/or construction gaps.
- P03. Root uptake by plants.
- P04. Migration of contaminant via leachate migration through the unsaturated zone in the Forest Marble Formation.

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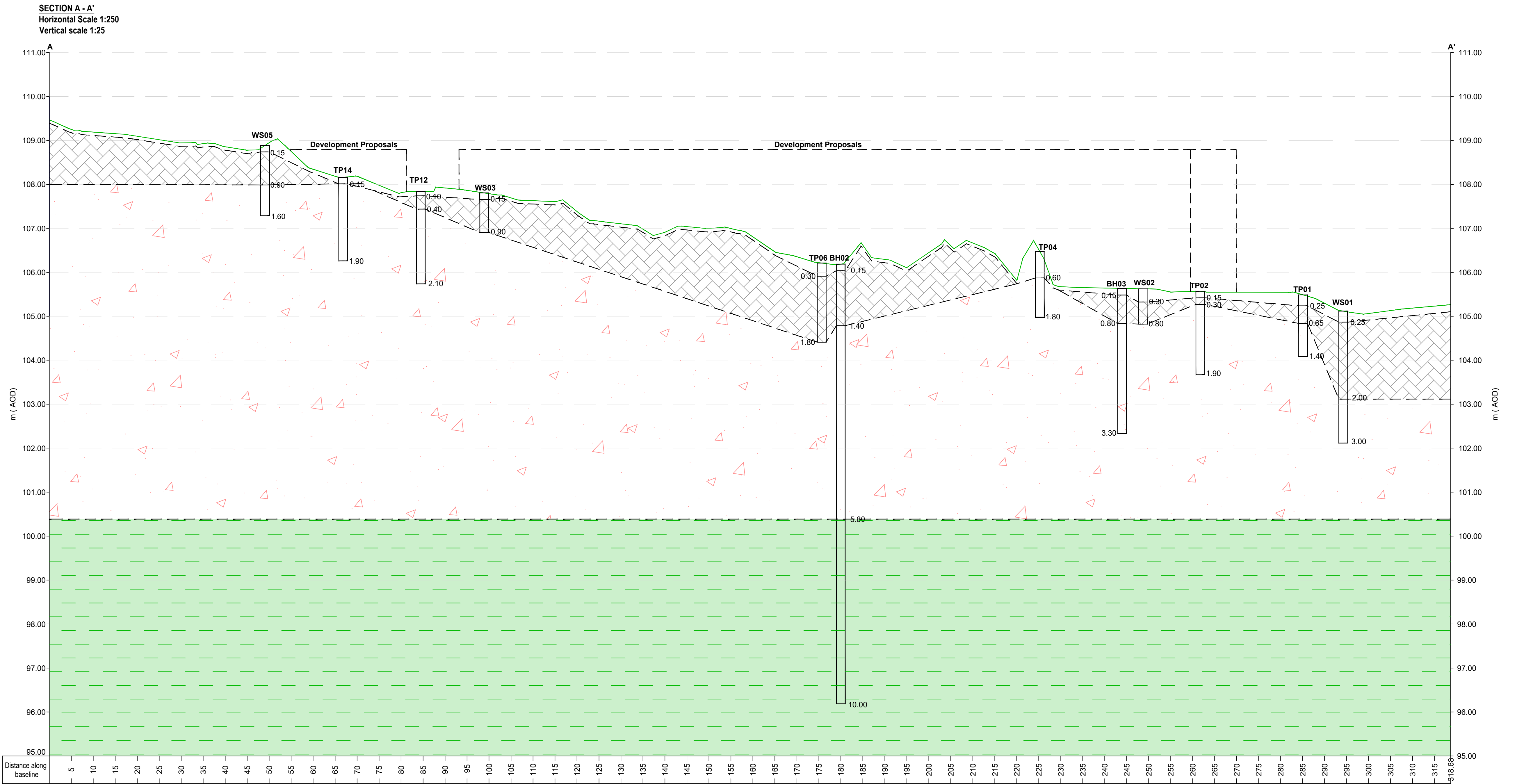
Bath Oolite & Corsham Limestone Formation

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.

2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.

3. This drawing has been based on the following drawings and information:
Clifton Surveys drawing Ref :122/5429/1 Dated: October 2022
for further details on underground service locations



P1

EP

26/04/23

KB

26/04/23

KB

26/04/23

REV.

REVISION NOTES/COMMENTS

DRAWN BY

DATE

CHECKED BY

DATE

APPROVED BY

DATE

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CLIENT

ARK DATA CENTRES

PROJECT

SPRING PARK DATA CENTRE

TITLE

PLAN VIEW AND CROSS SECTION A-A'

HYDROCK PROJECT NO.

24639

SCALE @ A1

AS SHOWN

PURPOSE OF ISSUE

SUITABLE FOR INFORMATION

DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)

24639-HYD-XX-XX-DR-G-1003

STATUS

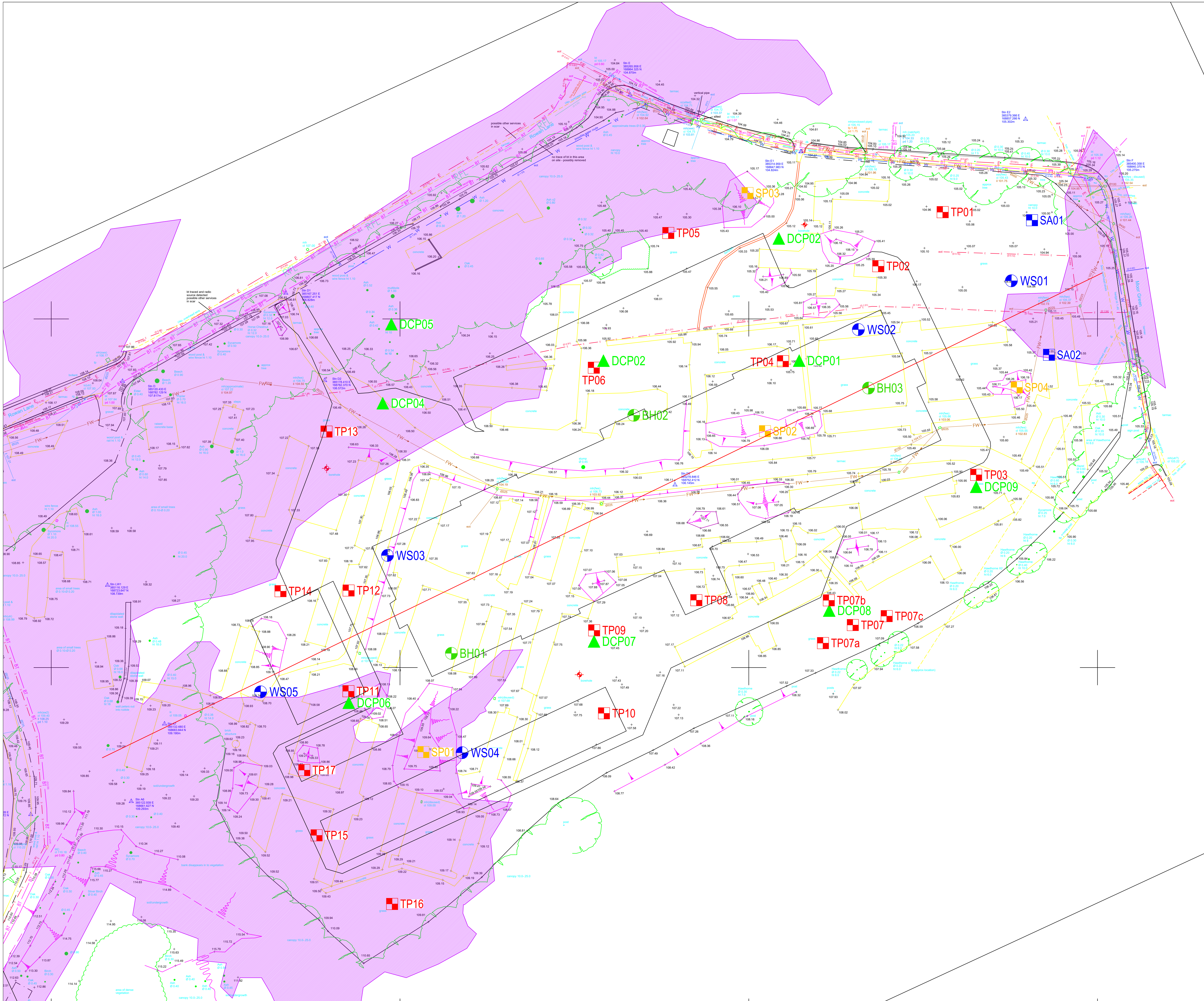
S2

REVISION

P1

Appendix B Exploratory hole location plan, exploratory hole logs and photographs

Exploratory hole location plan



KEY PLAN

NOTES

TP01 Trial Pit

SA01 Soakaway

WS01 Window Sample

BH01 Borehole

SP01 Stockpile Pit

DCP01 TRL DCP

Potential Extent of Mines

Development Proposals

REVISIONS

P02	Positions updated from proposed to undertaken.					
	KB	20/04/2023	SW			
P01	Proposed exploratory hole locations.					
	JH	07/03/2023	SW	07/03/2023	LL	07/03/2023
REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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CLIENT

Ark Data Centres

PROJECT

Spring Park Data Centre

TITLE

Exploratory Hole Location Plan

HYDROCK PROJECT NO.	SCALE @ A1	STATUS
24639	1:500	
SUITABLE FOR INFORMATION		
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)		REVISION
24639-HYD-XX-XX-DR-G-1002		P02

Plotted 26/04/2023 15:40:36

Exploratory hole logs

Drilled By: Structural Soils

Flush:

Scale: 1:100

Progress and Observations									Chiselling			General Remarks: 1. Location cleared for services prior to excavation. 2. No olfactory or visual evidence of contamination recorded.3. No groundwater encountered 4. Early termination due to abrupt refusal. 5. Backfilled with arisings.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	
SN2200	20/03	1115	0.00									
SN2200	20/03	1430	1.60	0.00								

Lapsed in general accordance with BS6030:2014

Method: Dynamic Sampled & Rotary Cored

Date(s): 20/03/2023 - 21/03/2023

Logged By: KB

Drilled By: Structural Soils

Client: Ark Data Centres

Co-ords: 385213.13, 168705.59

Checked By: LG

Flush: Water

Hydrock Project No: 24639

Ground Level: 108.05m OD

Scale: 1:50

Sample/Core Run (m) Smpl. Ø (mm) Smpl. rec. %	Samples / Tests			Mechanical Log				Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation	Backfill
	Depth (m)	Type	Results	TCR	SCR	RQD	Min If. Mean Max								
0.50 - 2.00 119mm 99% rec									Soft dark brown gravelly CLAY with rootlets. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL)	0.15	(0.15)	107.90			
									Firm brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular fine to coarse of limestone. (MADE GROUND)		(1.25)				
2.00 - 2.60 119mm 100% rec	2.00	SPT	N=14 (3,5,4,3,3,4)						Grey slightly sandy slightly clayey angular fine to coarse GRAVEL of limestone. Sand is fine to coarse. (WEATHERED FOREST MARBLE FORMATION)	1.40		106.65			
	2.40	D							Stiff to very stiff brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular fine to medium of limestone. (WEATHERED FOREST MARBLE FORMATION)	2.10	(0.70)	105.95			
2.60 - 2.90	2.60	SPT	50/5mm (25,50)							2.60		105.45			
2.90 - 4.30	3.10 - 3.25	C							Strong grey occasionally brown stained LIMESTONE with abundant fossils. Fractures are closely spaced subhorizontal planar rough with brown staining. (FOREST MARBLE FORMATION)						
				87	83	31					(2.70)				
4.30 - 5.80	4.30	SPT	50/20mm (25,50)						... At 4.4m bgl: 30mm fracture infilled with firm brown CLAY.						
	4.45 - 4.55	C							... At 4.7m bgl: 30mm fracture infilled with firm brown CLAY.						
	5.25 - 5.45	C							... At 5.2m bgl: 90mm band of firm brown CLAY.	5.30		102.75			
				100	91	32			Very strong brownish cream oolitic LIMESTONE. Fractures are closely to medium spaced subhorizontal planar rough. (BATH OOLITE MEMBER & CORSHAM LIMESTONE FORMATION)						
5.80 - 7.30	5.80	SPT	0/0mm (21,4)												
7.30 - 8.80				100	91	59					(3.50)				
	8.00 - 8.30	C		100	100	67									
8.80 - 10.00									Strong cream oolitic LIMESTONE. Fractures are closely to medium spaced subhorizontal planar rough. (BATH OOLITE MEMBER & CORSHAM LIMESTONE FORMATION)	8.80		99.25			
	9.30 - 9.50	C		80	68	39					(1.20)				
										10.00		98.05			
End of Borehole at 10.00m															

Progress and Observations

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)
SN2200	20/03	1500	0.00					
SN2200	20/03	1730	2.60	0.00				
SN2200	21/03	0800	2.60	0.00	139		Water	Cream
SN2200	21/03	1700	10.00	2.60	139		Water	Cream

General Remarks:

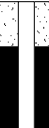
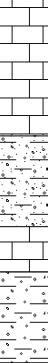
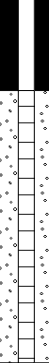
1. Location cleared for services prior to excavation. 2. No olfactory or visual evidence of contamination recorded. 3. No groundwater encountered 4. Hole terminated at target depth. 5. Monitoring well installed, response zone between 4.0m and 10.0m.

Drilled By: Structural Soils

Flush: Water

Scale: 1:50

Progress and Observations									General Remarks: 1. Location cleared for services prior to excavation. 2. No olfactory or visual evidence of contamination recorded. 3. No groundwater encountered. 4. Hole terminated at target depth. Monitoring well installed, response zone between 6.5m and 10.0m.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	
SN2200	22/03	0915	0.00	2.50	139		Water Water	Grey	
SN2200	22/03	1730	8.80						
SN2200	23/03	1000	10.00						
									Logged in general accordance with BS5930:2015

				Project: Spring Park Data Centre				Borehole No BH03							
								Page No. 1 of 1							
Method: Dynamic Sampled & Rotary Cored				Date(s): 23/03/2023				Logged By: KB		Drilled By: Structural Soils					
Client: Ark Data Centres				Co-ords: 385332.60, 168780.81				Checked By: LG		Flush: Water					
Hydrock Project No: 24639				Ground Level: 105.50m OD						Scale: 1:50					
Sample/Core Run (m) Smpl. Ø (mm) Smpl. rec. %	Samples / Tests			Mechanical Log				Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill	
	Depth (m)	Type	Results	TCR	SCR	RQD	Min If: Mean Max								
0.80 - 1.80	0.80	SPT	50/125mm (4,12,29,21)					NI 10 40	Soft dark brown gravelly CLAY with rootlets. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL) Brown slightly sandy clayey angular to subangular fine to coarse GRAVEL of limestone concrete and brick fragments. Sand is fine to coarse. (MADE GROUND) Medium strong LIMESTONE with abundant fossils. Fractures are very closely spaced subhorizontal planar rough infilled with soft to firm clay. (FOREST MARBLE FORMATION)	0.15	(0.15)	105.35			
				90	40	0				0.80		104.70			
1.80 - 3.30	1.80 2.20 2.35 - 2.45	SPT D C	50/70mm (4,12,50)					70 80 110	Soft to firm brownish slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is angular fine to medium of limestone. (FOREST MARBLE FORMATION) Medium strong LIMESTONE with abundant fossils. Fractures are closely spaced subhorizontal planar rough. (FOREST MARBLE FORMATION) Firm to stiff brownish grey CLAY with bands of limestone. (FOREST MARBLE FORMATION)	1.80					
									End of Borehole at 3.30m	3.30					
										4					
										5					
										6					
										7					
										8					
										9					
										10					
Progress and Observations									General Remarks: 1. Location cleared for services prior to excavation. 2. No olfactory or visual evidence of contamination recorded. 3. No groundwater encountered. 4. Hole terminated at target depth. Monitoring well installed, response zone between 1.5m and 3.3m.						
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)							
SN2200 SN2200	23/03 23/03	1000 1700	0.00 3.30				Water	Grey							

Logged in general accordance with BS5930:2015

HoleBASE SI - Hydrock Combined Drilling 2 Template v3

Method: Trial Pit

Date(s): 20/03/2023

Logged By: PK

Checked By: LG

Client: Ark Data Centres

Co-ords: 385381.21, 168828.31

Stability: Unstable

Dimensions:

Scale:

Hydrock Project No: 24639

Ground Level: 104.98m OD

Plant: Tracked

1.00m 2.00m

1:25

Samples / Tests			Water- Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES			Soft dark brown slightly sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular fine to coarse limestone and bricks. Cobbles are subangular of limestone <120mm. (TOPSOIL)	0.10 0.20	(0.10) (0.10)	104.88 104.78	
0.50	ES			Dark brown gravelly clayey fine to coarse SAND with low cobble and boulder content. Gravel is subangular fine to coarse of limestone, bricks, glass and asphalt. Cobbles are subangular limestone <130mm. Boulders are subangular limestone <330mm. (MADE GROUND)				
0.90 - 1.00	B			Light yellowish brown gravelly clayey fine to coarse SAND with low boulder content. Gravel is subangular fine to coarse of limestone, bricks, asphalt. Boulders are subangular limestone <300mm. (MADE GROUND)		(0.80)		
1.00	ES			Soft yellowish brown sandy gravelly CLAY with low cobble content. Gravel is subangular fine to coarse of limestone. Cobbles are subangular limestone <130mm. (FOREST MARBLE FORMATION)	1.00		103.98	
1.40 - 1.60	B			... At 1.30m bgl: Light seepage encountered.	1.40	(0.40)	103.58	
1.50	ES			Stiff to very stiff blueish grey mottled orange sandy CLAY. Sand is fine to coarse. (FOREST MARBLE FORMATION) ... 1.40m-1.60m: occasional organic material.	1.60	(0.20)	103.38	
Base of Excavation at 1.60m								
					2			
					3			
					4			
					5			

General Remarks:

1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.60m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. Light seepage recorded at 1.30m bgl. 5. Some pit wall collapse recorded during soakaway testing. 6. Hole terminated on refusal. 7. Infiltration test undertaken. 8. Backfilled with arisings.

Method: Trial Pit	Date(s): 20/03/2023	Logged By: PK	Checked By: LG
Client: Ark Data Centres	Co-ords: 385386.09, 168789.71	Stability: Stable	Dimensions: 1.00m 2.00m
Hydrock Project No: 24639	Ground Level: 105.30m OD	Plant: Tracked	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES			Soft dark brown slightly sandy slightly gravelly CLAY with a low cobble content. Sand is fine to coarse. Gravel is subangular to angular fine to coarse of limestone, bricks and asphalt. Cobbles are subangular to angular of limestone <120mm. (TOPSOIL)	0.20	(0.20)	105.10	
0.30 - 0.60	B			... 0.00m-0.20m: possible asbestos encountered. ... 0.00m-0.40m: occasional rootlets <5mm in diameter.				
0.50	ES			Soft light yellowish brown sandy gravelly CLAY with a low cobble content. Sand is fine to coarse. Gravel is subangular to angular fine to coarse of limestone, brick, concrete and asphalt. Cobbles are subangular to angular of limestone and concrete <110mm. (MADE GROUND)	0.70	(0.50)	104.60	
1.00	ES			Soft to firm yellowish greyish brown sandy gravelly CLAY with a medium cobble content. Sand is fine to coarse. Gravel is angular fine to coarse of limestone. Cobbles are angular limestone <220mm. (FOREST MARBLE FORMATION)	1	(0.90)		
				... 0.70m-1.60m: occasional organic material.	1.60		103.70	
1.90	ES			Firm to stiff yellowish greyish brown sandy gravelly CLAY with a medium cobble content. Sand is fine to coarse. Gravel is angular fine to coarse of limestone. Cobbles are angular of limestone <120mm. (FOREST MARBLE FORMATION)	2	(0.90)		
2.10 - 2.50	B			... At 2.40m bgl: light seepage encountered.	2.50		102.80	
				Base of Excavation at 2.50m				
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 2.50m bgl. 3. Potential asbestos encountered. 4. Light seepage recorded at 2.40m bgl. 5. Hole remained stable. 6. Hole terminated due to seepage, which may have impacted the infiltration test. 7. Infiltration test undertaken 8. Backfilled with arisings.



Method: Trial Pit	Date(s): 21/03/2023	Logged By: KB	Checked By: LG	
Client: Ark Data Centres	Co-ords: 385355.60, 168830.64	Stability: Stable	Dimensions: 2.00m	Scale:
Hydrock Project No: 24639	Ground Level: 105.05m OD	Plant: Tracked	0.60m	1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20 0.20	D ES			Soft dark brown slightly sandy gravelly CLAY with rootlets. Gravel is angular to subangular fine to medium of limestone. Sand is fine to coarse. (TOPSOIL)	0.25	(0.25)	104.80	
0.50 0.50	D ES			Firm brown gravelly CLAY with limestone cobbles. Gravel is subangular to subrounded fine to coarse of limestone. (MADE GROUND)	0.65	(0.40)	104.40	
1.00 1.00	D ES			Stiff grey mottled brown gravelly CLAY. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)	1.10	(0.45)	103.95	
				Strong bluish grey LIMESTONE. (FOREST MARBLE FORMATION)	1.40	(0.30)	103.65	
				Base of Excavation at 1.40m				
					2			
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.40m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.

Method: Trial Pit	Date(s): 21/03/2023	Logged By: KB	Checked By: LG
Client: Ark Data Centres	Co-ords: 385337.14, 168815.14	Stability: Stable	Dimensions: 2.00m
Hydrock Project No: 24639	Ground Level: 105.34m OD	Plant: Tracked	0.60m 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.00 - 0.15	B	46kPa		Soft dark brown slightly sandy gravelly CLAY with rootlets. Gravel is angular to subangular fine to medium of limestone. Sand is fine to coarse. (TOPSOIL)	0.15	(0.15)	105.19	
0.40 - 0.60	B			Soft brown slightly sandy clayey angular to subangular fine to coarse GRAVEL of limestone. Sand is fine to coarse. (MADE GROUND)	0.30	(0.15)	105.04	
				Firm brown slightly sandy CLAY. Sand is fine to medium. (FOREST MARBLE FORMATION)		(0.40)		
1.00	HSV			Strong bluish grey LIMESTONE with closely spaced subhorizontal fractures infilled with stiff grey mottled brown clay. (FOREST MARBLE FORMATION)	0.70		104.64	
1.50 - 1.70	B					(1.20)		
				Base of Excavation at 1.90m	1.90		103.44	
					2			
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.90m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.

Method: Trial Pit

Date(s): 20/03/2023

Logged By: KB

Checked By: LG

Client: Ark Data Centres

Co-ords: 385365.19, 168755.29

Stability: Stable

Dimensions:

Scale:

Hydrock Project No: 24639

Ground Level: 105.59m OD

Plant: JCB 8t 360

0.60
+1.00m2.00m
1:25

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES			Soft dark brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of limestone. (TOPSOIL)	0.20	(0.20)	105.39	
0.50	ES			Soft light brown mottled white sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of limestone. (FOREST MARBLE FORMATION)	0.60	(0.40)	104.99	
0.75	ES			Soft reddish brown sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of limestone. (FOREST MARBLE FORMATION)	0.90	(0.30)	104.69	
1.00	ES			Firm to stiff grey gravelly CLAY. Gravel is subangular to angular fine to coarse of limestone. (FOREST MARBLE FORMATION)	1.10	(0.20)	104.49	
1.95 - 2.50	B			Light yellowish brown clayey sandy angular fine to coarse GRAVEL of limestone with a medium cobble content. Sand is fine to coarse. Cobbles are angular of limestone <180mm. (FOREST MARBLE FORMATION)	2.70	(1.60)	102.89	
Base of Excavation at 2.70m					2.70		102.89	
					3			
					4			
					5			

General Remarks:

1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 2.70m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. Seepage recorded at 2.70m bgl. 5. Hole remained stable. 6. Hole terminated on refusal. 7. Backfilled with arisings.

Method: Trial Pit	Date(s): 21/03/2023	Logged By: KB	Checked By: LG
Client: Ark Data Centres	Co-ords: 385309.79, 168787.89	Stability: Stable	Dimensions: 2.00m
Hydrock Project No: 24639	Ground Level: 106.13m OD	Plant: Tracked	0.60m 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES			Concrete slab. (MADE GROUND) Dark brown sandy clayey subangular to subrounded fine to coarse GRAVEL of brick and clinker. Sand is fine to coarse. (MADE GROUND) Cream subangular limestone COBBLES (up to 300mm) (MADE GROUND)	0.12 0.25	(0.12) (0.13)	106.01 105.88	 
0.80	ES			Firm brown mottled grey gravelly CLAY with a medium cobble content. Gravel is angular medium to coarse of limestone. Cobbles are angular of limestone. (FOREST MARBLE FORMATION)	0.60 1 1.20	(0.35) (0.60)	105.53 104.93	
1.40	D			Strong grey LIMESTONE recovered as cobbles. (FOREST MARBLE FORMATION)	1.50	(0.30)	104.63	
Base of Excavation at 1.50m								
					2			
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.50m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.

Logged in general accordance with BS5930:2015

Method: Trial Pit	Date(s): 21/03/2023	Logged By: KB	Checked By: LG
Client: Ark Data Centres	Co-ords: 385255.57, 168786.00	Stability: Stable	Dimensions: 2.00m
Hydrock Project No: 24639	Ground Level: 106.36m OD	Plant: Tracked	0.60m 1:25

Samples / Tests			Water- Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10 - 0.30	B			Soft dark brown slightly gravelly sandy CLAY with rootlets. Sand is fine to coarse. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL)				
0.20	ES				0.30	(0.30)	106.06	
0.50	ES			Stiff brown slightly sandy gravelly CLAY with a low cobble content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of limestone brick and concrete. Cobbles are angular of limestone and concrete. (MADE GROUND)				
1.00	ES				1	(1.50)		
1.50	ES							
				Base of Excavation at 1.80m	1.80		104.56	
					2			
					3			
					4			
					5			

General Remarks:

1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.80m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.



Method: Trial Pit	Date(s): 22/03/2023	Logged By: KB	Checked By: LG	
Client: Ark Data Centres	Co-ords: 385329.84, 168712.19	Stability: Stable	Dimensions:	Scale:
Hydrock Project No: 24639	Ground Level: 106.43m OD	Plant: Tracked	0.60m 2.00m	1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES			Soft dark brown slightly gravelly sandy CLAY with rootlets and a low cobble content. Sand is fine to coarse. Gravel is angular to subangular fine to medium of limestone and concrete. Cobbles are subangular of limestone. (TOPSOIL)	0.20	(0.20)	106.23	
0.40	ASB			Firm brown slightly gravelly CLAY with visible ACM . Gravel is subangular fine to coarse of limestone and brick. (MADE GROUND)		(0.40)		
0.50	ES				0.60		105.83	
Base of Excavation at 0.60m								
					1			
					2			
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 0.60m bgl. 3. Visible ACM fragments encountered. 4. No groundwater encountered. 5. Hole terminated due to asbestos. 6. Backfilled with arisings.

Logged in general accordance with BS5930:2015



Method: Trial Pit	Date(s): 23/03/2023	Logged By: KB	Checked By: LG	
Client: Ark Data Centres	Co-ords: 385321.27, 168707.02	Stability: Stable	Dimensions:	Scale:
Hydrock Project No: 24639	Ground Level: 106.51m OD	Plant: Tracked	0.60m 2.00m	1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.30	ASB			Soft dark brown slightly gravelly sandy CLAY with rootlets. Sand is fine to coarse. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL)	0.15	(0.15)	106.36	
0.30	ES			Firm brown slightly gravelly CLAY with visible ACM . Gravel is subangular fine to coarse of limestone brick and ceramic. (MADE GROUND)	0.45	(0.30)	106.06	
Base of Excavation at 0.45m								
					1			
					2			
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 0.45m bgl. 3. Visible ACM fragments ecountered. 4. No groundwater encountered. 5. Hole terminated due to asbestos. 6. Backfilled with arisings.

Logged in general accordance with BS5930:2015



Method: Trial Pit	Date(s): 23/03/2023	Logged By: KB	Checked By: LG	
Client: Ark Data Centres	Co-ords: 385322.95, 168719.29	Stability: Stable	Dimensions:	Scale:
Hydrock Project No: 24639	Ground Level: 106.43m OD	Plant: Tracked	0.60m 2.00m	1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.40	ES			Soft dark brown slightly gravelly sandy CLAY with rootlets. Sand is fine to coarse. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL)	0.15	(0.15)	106.28	
				Firm brown slightly gravelly CLAY . Gravel is subangular fine to coarse of brick and limestone. (MADE GROUND)		(0.45)		
				Base of Excavation at 0.60m				
					1			
					2			
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 0.60m bgl. 3. No olfactory or visual evidence of contamination. 4. No groundwater encountered. 5. Hole terminated at target depth. 6. Backfilled with arisings.

Logged in general accordance with BS5930:2015

Method: Trial Pit	Date(s): 23/03/2023	Logged By: KB	Checked By: LG
Client: Ark Data Centres	Co-ords: 385339.55, 168714.76	Stability: Stable	Dimensions: 2.00m
Hydrock Project No: 24639	Ground Level: 106.36m OD	Plant: Tracked	0.60m 1:25

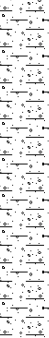
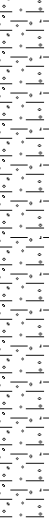
Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.50	ES			Soft dark brown slightly gravelly sandy CLAY with rootlets. Sand is fine to coarse. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL)	0.15	(0.15)	106.21	
				Brownish cream subangular COBBLES and BOULDERS of oolitic limestone. (MADE GROUND)	0.30	(0.15)	106.06	
				Firm brown slightly gravelly CLAY. Gravel is angular fine to coarse of limestone. (MADE GROUND)		(0.30)		
				Base of Excavation at 0.60m	0.60		105.76	
					1			
					2			
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 0.60m bgl. 3. No olfactory or visual evidence of contamination. 4. No groundwater encountered. 5. Hole terminated at target depth. 6. Backfilled with arisings.

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.10m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 2.40m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. Moderate groundwater seepage at 2.20m bgl. 5. Hole terminated on refusal. 6. Backfilled with arisings.

Method: Trial Pit	Date(s): 23/03/2023	Logged By: KB	Checked By: LG
Client: Ark Data Centres	Co-ords: 385258.48, 168686.88	Stability: Stable	Dimensions: 2.00m
Hydrock Project No: 24639	Ground Level: 107.67m OD	Plant: Tracked	0.60m 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.30 0.30	D ES			Soft dark brown slightly gravelly sandy CLAY with rootlets. Sand is fine to coarse. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL) Firm brown gravelly CLAY. Gravel is angular to subangular fine to coarse of limestone and brick. (MADE GROUND)	0.10 0.45	(0.10) (0.35)	107.57 107.22	
0.80 0.80	D ES			Firm brown slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to coarse angular of limestone. (FOREST MARBLE FORMATION)	1	(1.15)		
1.40 1.40	D ES				1.60		106.07	
2.00	D			Firm to stiff dark grey mottled brown gravelly CLAY. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)	2	(1.80)		
3.00 3.00	D HSV	75kPa			3			
Base of Excavation at 3.40m					3.40		104.27	
					4			
					5			

General Remarks:

1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 3.40m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.

Checked By: LG

Dimensions:	Scale:
-------------	--------

2.00m

0.60m

1:25

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.80m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.

Checked By: LG

Dimensions:	Scale:
-------------	--------

2.00m

0.60m

1:25

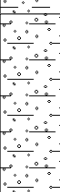
General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 2.10m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. Minor groundwater seepage at 2.00m bgl. 5. Hole terminated on refusal. 6. Backfilled with arisings.



Method: Trial Pit	Date(s): 22/03/2023	Logged By: KB	Checked By: LG	
Client: Ark Data Centres	Co-ords: 385178.93, 168767.69	Stability: Stable	Dimensions:	Scale:
Hydrock Project No: 24639	Ground Level: 106.86m OD	Plant: Tracked	0.60m 2.00m	1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10 0.10	D ES			Soft dark brown slightly gravelly sandy CLAY with rootlets. Sand is fine to coarse. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL)	0.15	(0.15)	106.71	
0.50 0.50	D ES			Firm to stiff brown slightly gravelly CLAY. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)	0.60	(0.45)	106.26	
1.00 1.00	D ES			Stiff brown gravelly CLAY with a medium cobble content. Gravel is angular fine to coarse of limestone. Cobbles are angular of limestone. (FOREST MARBLE FORMATION)	1.50	(0.90)	105.36	
1.60 1.60	D ES			Medium strong bluish grey LIMESTONE with closely spaced subhorizontal fractures infilled with clay. (FOREST MARBLE FORMATION)	1.70	(0.20)	105.16	
Base of Excavation at 1.70m					2			
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.70m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.

			Project: Spring Park Data Centre		Trialpit No TP14 Page No. 1 of 1				
Method: Trial Pit			Date(s): 22/03/2023		Logged By: KB				
Client: Ark Data Centres			Co-ords: 385165.73, 168721.92		Stability: Stable				
Hydrock Project No: 24639			Ground Level: 108.21m OD		Plant: Tracked				
Dimensions: 2.00m 0.60m			Scale: 1:25						
Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	
Depth (m)	Type	Results							
0.00 - 0.15 0.10 0.10	B D ES	148kPa		Soft dark brown slightly gravelly sandy CLAY with rootlets. Sand is fine to coarse. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL)	0.15	(0.15)	108.06		
0.40 - 0.60 0.50 0.50	B D ES			Firm to stiff brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)	0.70	(0.55)	107.51		
0.80 - 1.00 0.80	B HSV			Stiff brown mottled grey slightly gravelly CLAY. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)	1.30	(0.60)	106.91		
1.00 1.00	D ES			Grey and brown clayey angular fine to coarse GRAVEL of limestone with a high cobble content. Cobbles are angular of limestone. (FOREST MARBLE FORMATION)	1.90	(0.60)	106.31		
1.50 1.50	D ES			Base of Excavation at 1.90m					
					2				
					3				
					4				
					5				

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.90m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.

Logged in general accordance with BS5930:2015



Method: Trial Pit	Date(s): 22/03/2023	Logged By: KB	Checked By: LG	
Client: Ark Data Centres	Co-ords: 385176.08, 168651.88	Stability: Stable	Dimensions:	Scale:
Hydrock Project No: 24639	Ground Level: 109.40m OD	Plant: Tracked	0.60m 2.00m	1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10 0.10	D ES			Soft dark brown slightly gravelly sandy CLAY with rootlets. Sand is fine to coarse. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL)	0.15	(0.15)	109.25	
0.30 0.30	D ES			Firm brown slightly sandy gravelly CLAY. Gravel is angular fine to coarse of limestone and brick. (MADE GROUND)		(0.45)	108.80	
0.80 0.80	D ES			Stiff brown gravelly CLAY. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)		(0.40)	108.40	
				Greyish brown gravelly clayey angular COBBLES. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)		(0.60)		
Base of Excavation at 1.60m					1.60		107.80	
					2			
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.60m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.



Method: Trial Pit	Date(s): 23/03/2023	Logged By: KB	Checked By: LG	
Client: Ark Data Centres	Co-ords: 385197.74, 168632.20	Stability: Stable	Dimensions: 2.00m	Scale: 1:25
Hydrock Project No: 24639	Ground Level: 109.65m OD	Plant: Tracked	0.60m	

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.00 - 0.15	B			Soft dark brown slightly gravelly sandy CLAY with rootlets and rare glass . Sand is fine to coarse. Gravel is angular to subangular fine to medium of limestone. (TOPSOIL)	0.15	(0.15)	109.50	
0.40 - 0.60	B			Firm brown gravelly CLAY. Sand is fine to coarse. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)	0.40	(0.25)	109.25	
0.70 - 0.90	B			Brown slightly clayey angular fine to coarse GRAVEL with a high cobble content. Cobbles are angular of mudstone. (FOREST MARBLE FORMATION)		(0.60)		
1.30 - 1.50	B			Greyish brown gravelly slightly clayey angular COBBLES. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)	1.00	(0.10)	108.65	
				Greyish brown gravelly slightly clayey angular COBBLES. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)	1.10	(0.10)	108.55	
				Greyish brown gravelly slightly clayey angular COBBLES. Gravel is angular fine to coarse of limestone. (FOREST MARBLE FORMATION)		(0.60)		
Base of Excavation at 1.60m					1.60		108.05	
					2			
					3			
					4			
					5			

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 1.60m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. Minor groundwater seepage at 1.00m bgl. 5. Hole terminated on refusal. 6. Backfilled with arisings.

Checked By: LG

Dimensions:	Scale:
-------------	--------

0.60m

1:25

General Remarks:
1. Cat & Genny cleared prior to excavation. 2. Machine excavated to 2.00m bgl. 3. No olfactory or visual evidence of contamination recorded. 4. No groundwater encountered. 5. Hole terminated on refusal. 6. Backfilled with arisings.

Drilled By: Marshall Drilling

Rig: Dando Terrier

Scale: 1:30

General Remarks:
1. CAT & Genny and GPR scanned prior to excavation. 2. No olfactory or visual evidence of contamination recorded. 3. Light seepage at 2.00m indicated by wet/damp casing. 4. Hole terminated at 3.00m bgl due to refusal. 5. 50mm monitoring well installed, response zone between 2.00m - 3.00m bgl.



Method: Window Sampler	Date(s): 23/03/2023	Logged By: PK	Drilled By: Marshall Drilling
Client: Ark Data Centres	Co-ords: 385196.41, 168732.17	Checked By: LG	Rig: Dando Terrier
Hydrock Project No: 24639	Ground Level: 107.10m OD		Scale: 1:30

Sample Run Info			Testing			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
			0.20	ES			Soft dark brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular fine to coarse of limestone and bricks. (TOPSOIL) ... 0.00m-0.15m: occasional rootlets <5mm.	0.15	(0.15)	106.95		
			0.50	ES			Light yellow mottled white and orange sandy clayey angular fine to coarse GRAVEL of limestone sandstone brick and porcelin with medium cobble content. Sand is fine to coarse. Cobbles are subangular to angular limestone <200mm. (MADE GROUND)		(0.75)			
			0.90	SPT	53/225mm (2,5,26,12,15)	▼	... 0.85m-0.90m: light seepage at the base of the starter pit. End of Borehole at 0.90m	0.90		106.20		
								1				
								2				
								3				
								4				
								5				
								6				

General Remarks:
1. CAT & Genny and GPR scanned prior to excavation. 2. No olfactory or visual evidence of contamination recorded. 3. Hand tools refused at 0.90m bgl on large boulders. 4. Seepage at 0.90m. 5. Hole terminated at 2.20m bgl due to refusal.

Logged in general accordance with BS5930:2015



Method: Window Sampler	Date(s): 23/03/2023	Logged By: PK	Drilled By: Marshall Drilling
Client: Ark Data Centres	Co-ords: 385217.80, 168675.58	Checked By: LG	Rig: Dando Terrier
Hydrock Project No: 24639	Ground Level: 108.52m OD		Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
			0.20	ES	N=21 (3,2,2,0,7,12)		Soft dark brown slightly sandy CLAY. Sand is fine to coarse. (TOPSOIL) ... 0.00m-0.20m: occasional rootlets <3mm.	0.20	(0.20)	108.32		
			0.50	ES			Soft light brown slightly sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is subsubangular to angular fine to coarse of limestone bricks asphalt porcelain. Cobbles subangular to angular of limestone and bricks <100mm. (MADE GROUND)		(0.60)			
			0.80	SPT			End of Borehole at 0.80m	0.80		107.72		
								1				
								2				
								3				
								4				
								5				
								6				

General Remarks:
1. CAT & Genny and GPR scanned prior to excavation. 2. No olfactory or visual evidence of contamination recorded. 3. Hand tools refused at 0.80m bgl on large boulders. 4. Hole terminated at 0.80m bgl due to refusal.

Method: Window Sampler

Date(s): 23/03/2023

Logged By: PK

Drilled By: Marshall Drilling

Client: Ark Data Centres

Co-ords: 385160.02, 168693.04

Checked By: LG

Rig: Dando Terrier

Hydrock Project No: 24639

Ground Level: 108.69m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
1.10 - 1.60	116mm	100%	0.10	ES	N=41 (1,1,1,1,2,37)		Soft dark brown slightly sandy CLAY. Sand is fine to coarse. (TOPSOIL)	0.15	(0.15)	108.54		
			0.20	ES			Dark brown to black fragments of charcoal and burnt wood and cinder blocks. (MADE GROUND)	0.35	(0.20)	108.34		
			0.50	ES			Light yellow mottled white and orange sandy clayey angular fine to coarse GRAVEL of limestone sandstone brick and porcelain. Sand is fine to coarse. (MADE GROUND)		(0.55)			
			1.00	ES			Soft greyish mottled orange slightly sandy CLAY. Sand is fine to coarse. (FOREST MARBLE FORMATION)	1	(0.30)			
			1.10	SPT				1.20		107.49		
			1.30 - 1.60	B			Firm to stiff greyish mottled orange slightly sandy CLAY. Sand is fine to coarse. (FOREST MARBLE FORMATION)		(0.35)			
							Yellowish mottled grey clayey angular fine to coarse GRAVEL of limestone. (FOREST MARBLE FORMATION) ... 1.55m-1.60m bgl: Limestone boulder encountered, window sampler and SPT unable to continue. End of Borehole at 1.60m	1.55 1.60	(0.05)	107.14 107.09		
								2				
								3				
								4				
								5				
								6				

General Remarks:

1. CAT & Genny and GPR scanned prior to excavation. 2. Remnant charcoal fragments and burnt material from combustion found between 0.10m bgl and 0.35m bgl. 3. No ground water encountered. 4. Hole terminated at 1.60m on refusal. 5. 50mm monitoring well installed, response zone between 0.90m bgl and 1.60m bgl.

TEST CERTIFICATE

Determination of TRL Dynamic Cone Penetrometer

Tested in accordance with In TRL Road Note 31 & 8 and IAN 73/06 (2009 amendment)

Construction
Infrastructure
Environment

3 Hawthorn Park
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Tel: +44 (0)1604 842888
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Email: northampton@hydrock.com

Client: Ark Data Centres

Client Address:

Postcode:

Contact:

Site Name: Spring Park
Site Address: Westwells Road
Corsham

Certificate Number:

Client Reference:

Job Number: 24639

Date Received:

Date Tested: 22/03/2023

Test Results:

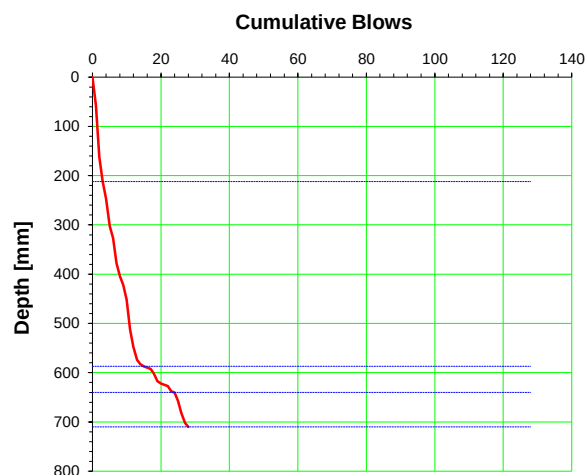
Sample Description:

Sample Number:

Start Depth [mm]:

Test Location: TP04

Layer	No of Blows	Cumulative Blows	CBR [%]	Layer Thickness [mm]	Total Depth [mm]
MG	3	3	3	212	212
MG	12	15	8	375	587
MG	9	24	46	53	640
FMF	4	28	15	70	710



Comments: TRL Equation : $\log_{10}(\text{CBR}) = 2.480 - 1.057 \times \log_{10}(\text{Strength})$

Approved Signatory:

Name:

Signed:

Position: Geotechnical Engineer

for and behalf of

Hydrock

Registered Office:
Hydrock Consultants Ltd
Over Court Barns
Over Lane Almondsbury
Bristol BS32 4DF U.K.

Date Reported:

Page 1 of 1

Form Number: HD-TRL-DCP ver1

TEST CERTIFICATE

Determination of TRL Dynamic Cone Penetrometer

Tested in accordance with In TRL Road Note 31 & 8 and IAN 73/06 (2009 amendment)

Construction
Infrastructure
Environment

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Tel: +44 (0)1604 842888
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Email: northampton@hydrock.com

Client: Ark Data Centres

Client Address:

Postcode:

Contact:

Site Name: Spring Park
Site Address: Westwells Road
Corsham

Certificate Number:

Client Reference:

Job Number: 24639

Date Received:

Date Tested: 22/03/2023

Test Results:

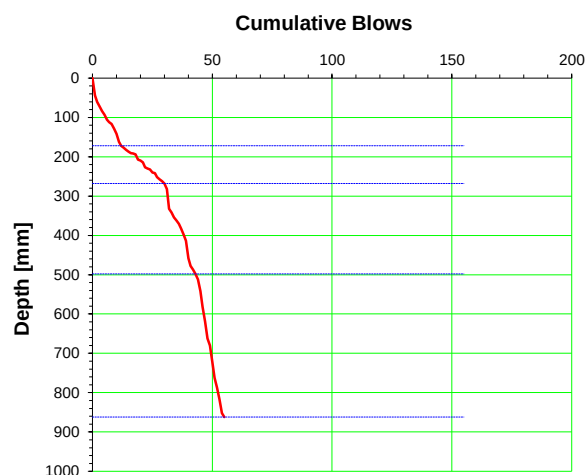
Sample Description:

Sample Number:

Start Depth [mm]:

Test Location: TP06

Layer	No of Blows	Cumulative Blows	CBR [%]	Layer Thickness [mm]	Total Depth [mm]
TS	12	12	18	172	172
TS	18	30	51	96	268
MG	13	43	14	230	498
MG	12	55	8	364	862



Comments: TRL Equation : $\log_{10}(\text{CBR}) = 2.480 - 1.057 \times \log_{10}(\text{Strength})$

Approved Signatory:

Name:

Signed:

Position: Geotechnical Engineer

for and behalf of
Hydrock

Date Reported:

Page 1 of 1

Form Number: HD-TRL-DCP ver1

Registered Office:
Hydrock Consultants Ltd
Over Court Barns
Over Lane Almondsbury
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TEST CERTIFICATE

Determination of TRL Dynamic Cone Penetrometer

Tested in accordance with In TRL Road Note 31 & 8 and IAN 73/06 (2009 amendment)

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Email: northampton@hydrock.com

Client: Ark Data Centres

Client Address:

Postcode:

Contact:

Site Name: Spring Park
Site Address: Westwells Road
Corsham

Certificate Number:

Client Reference:

Job Number: 24639

Date Received:

Date Tested: 22/03/2023

Test Results:

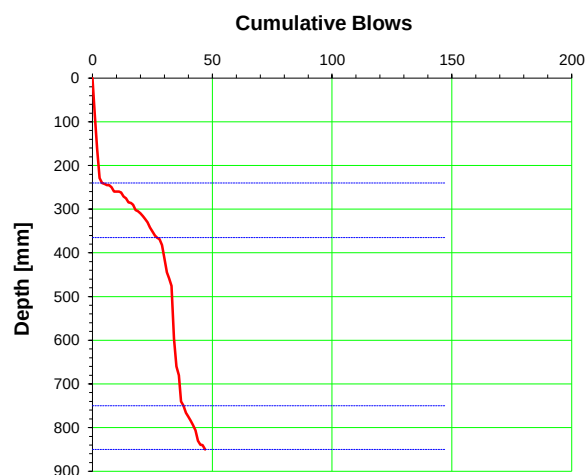
Sample Description:

Sample Number:

Start Depth [mm]:

Test Location: TP13

Layer	No of Blows	Cumulative Blows	CBR [%]	Layer Thickness [mm]	Total Depth [mm]
TS	4	4	4	240	240
FMF	23	27	50	125	365
FMF	11	38	7	385	750
FMF	9	47	24	100	850



Comments: TRL Equation : $\log_{10}(\text{CBR}) = 2.480 - 1.057 \times \log_{10}(\text{Strength})$

Approved Signatory:

Name:

Signed:

Position: Geotechnical Engineer

for and behalf of
Hydrock

Date Reported:

Page 1 of 1

Form Number: HD-TRL-DCP ver1

Registered Office:
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Over Lane Almondsbury
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TEST CERTIFICATE

Determination of TRL Dynamic Cone Penetrometer

Tested in accordance with In TRL Road Note 31 & 8 and IAN 73/06 (2009 amendment)

Construction
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Tel: +44 (0)1604 842888
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Email: northampton@hydrock.com

Client: Ark Data Centres

Client Address:

Postcode:

Contact:

Site Name: Spring Park
Site Address: Westwells Road
Corsham

Certificate Number:

Client Reference:

Job Number: 24639

Date Received:

Date Tested: 22/03/2023

Test Results:

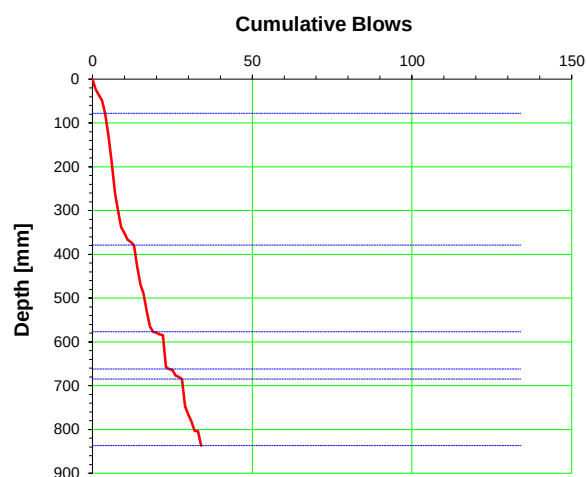
Sample Description:

Sample Number:

Start Depth [mm]:

Test Location: DCP04

Layer (Inferred)	No of Blows	Cumulative Blows	CBR [%]	Layer Thickness [mm]	Total Depth [mm]
TS	4	4	13	78	78
FMF	9	13	7	301	379
FMF	6	19	7	198	577
FMF	5	24	15	85	662
FMF	4	28	48	23	685
FMF	6	34	10	152	837



Comments: TRL Equation : $\log_{10}(\text{CBR}) = 2.480 - 1.057 \times \log_{10}(\text{Strength})$

Approved Signatory:

Name:

Signed:

Position: Geotechnical Engineer

for and behalf of

Hydrock

Registered Office:
Hydrock Consultants Ltd
Over Court Barns
Over Lane Almondsbury
Bristol BS32 4DF U.K.

Date Reported:

Page 1 of 1

Form Number: HD-TRL-DCP ver1

TEST CERTIFICATE

Determination of TRL Dynamic Cone Penetrometer

Tested in accordance with In TRL Road Note 31 & 8 and IAN 73/06 (2009 amendment)

Construction
Infrastructure
Environment

3 Hawthorn Park
Holdenby Road
Spratton
Northampton
NN6 8LD

United Kingdom

Tel: +44 (0)1604 842888
Fax: +44 (0)1604 842666

Email: northampton@hydrock.com

Client: Ark Data Centres

Client Address:

Postcode:

Contact:

Site Name: Spring Park
Site Address: Westwells Road
Corsham

Certificate Number:

Client Reference:
Job Number: 24639
Date Received:
Date Tested: 22/03/2023

Test Results:

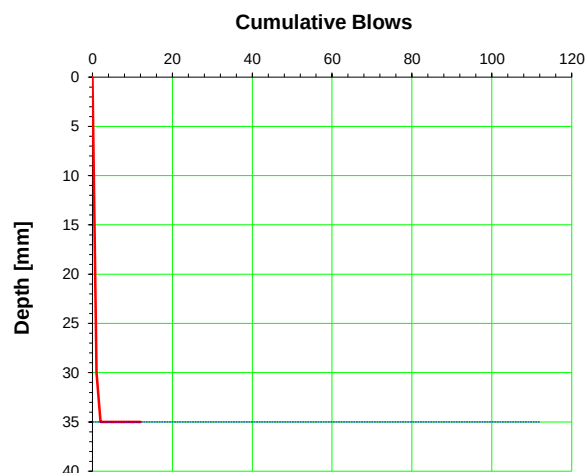
Sample Description:

Sample Number:

Start Depth [mm]:

Test Location: DCP05

Layer (Inferred)	No of Blows	Cumulative Blows	CBR [%]	Layer Thickness [mm]	Total Depth [mm]
MG	9	9	72	35	35



Comments: TRL Equation : $\log_{10}(\text{CBR}) = 2.480 - 1.057 \times \log_{10}(\text{Strength})$

Approved Signatory:

Name:

Signed:

Position: Geotechnical Engineer

Date Reported:

Form Number: HD-TRL-DCP ver1

Page 1 of 1

for and behalf of

Hydrock

Registered Office:
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Determination of TRL Dynamic Cone Penetrometer

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Construction
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Environment

3 Hawthorn Park
Holdenby Road
Spratton
Northampton
NN6 8LD

United Kingdom

Tel: +44 (0)1604 842888
Fax: +44 (0)1604 842666

Client: Ark Data Centres Limited

Site Name: Spring Park Data Centre
Site Address: Westwells Road
Corsham

Job Number: 24639
Date Received:
Date Tested: 24/03/2023

Test Results:

Start Depth [mm]: 0
Test Location: TP03

Layer	No of Blows	Cumulative Blows	CBR [%]	Layer Thickness [mm]	Total Depth [mm]
Topsoil	1	1	4	65	65
Topsoil	6	7	16	97	162
Topsoil	5	12	>100	8	170



Comments: TRL Equation : $\log_{10}(\text{CBR}) = 2.480 - 1.057 \times \log_{10}(\text{Strength})$

Approved Signatory:

Name:

Signed:

Position: Geotechnical Engineer

Date Reported:

Page 1 of 1

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TEST CERTIFICATE

Determination of TRL Dynamic Cone Penetrometer

Tested in accordance with In TRL Road Note 31 & 8 and IAN 73/06 (2009 amendment)

Construction
Infrastructure
Environment

3 Hawthorn Park
Holdenby Road
Spratton
Northampton
NN6 8LD

United Kingdom

Tel: +44 (0)1604 842888
Fax: +44 (0)1604 842666

Client: Ark Data Centres Limited

Site Name: Spring Park Data Centre
Site Address: Westwells Road
Corsham

Job Number: 24639
Date Received:
Date Tested: 24/03/2023

Test Results:

Start Depth [mm]: 0
Test Location: TP09

Layer	No of Blows	Cumulative Blows	CBR [%]	Layer Thickness [mm]	Total Depth [mm]
MG	1	4	2	109	109
MG	6	10	6	232	341
MG	20	30	35	154	495
MG	15	45	>100	32	527



Comments: TRL Equation : $\log_{10}(\text{CBR}) = 2.480 - 1.057 \times \log_{10}(\text{Strength})$

Approved Signatory:

Name: Kieran Bayley

Signed: KB

Position: Geotechnical Engineer

Date Reported:

Page 1 of 1

Form Number: HD-TRL-DCP ver1

for and behalf of

Hydrock
Registered Office:
Hydrock Consultants Ltd
Over Court Barns
Over Lane Almondsbury
Bristol BS32 4DF U.K.

Hydrock
Registered Office:
Hydrock Consultants Ltd
Over Court Barns
Over Lane Almondsbury
Bristol BS32 4DF U.K.

Exploratory hole photographs

Site Investigation Photograph 1	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP01	

Site Investigation Photograph 2	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP01 arising	

Site Investigation Photograph 3	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP02	

Site Investigation Photograph 4	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP02 arising	

Site Investigation Photograph 5	
Date: 20/03/23	
Direction Photograph Taken: n/a.	
Description: TP03.	

Site Investigation Photograph 6	
Date: 20/03/23	
Direction Photograph Taken: n/a.	
Description: TP03 arisings.	

Site Investigation Photograph 7	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP04.	

Site Investigation Photograph 8	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP04 arisings.	

Site Investigation Photograph 9	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP05.	

Site Investigation Photograph 10	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP05 arising.	

Site Investigation Photograph 11	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP06 showing brick foundation.	

Site Investigation Photograph 12	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP06	

Site Investigation Photograph 13	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: TP06 arising.	

Site Investigation Photograph 14	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP07	

Site Investigation Photograph 15	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP07 arisings.	

Site Investigation Photograph 16	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP07 visible evidence of ACM.	

Site Investigation Photograph 17	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP07a	

Site Investigation Photograph 18	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP07a arising.	

Site Investigation Photograph 19		
Date: 23/03/23		
Direction Photograph Taken: n/a.		
Description: TP07b		

Site Investigation Photograph 20		
Date: 23/03/23		
Direction Photograph Taken: n/a.		
Description: TP07b arising.		

Site Investigation Photograph 21		
Date: 23/03/23		
Direction Photograph Taken: n/a.		
Description: TP07c		

Site Investigation Photograph 22		
Date: 23/03/23		
Direction Photograph Taken: n/a.		
Description: TP07c arisings.		

Site Investigation Photograph 23		
Date: 23/03/23		
Direction Photograph Taken: n/a.		
Description: TP08.		

Site Investigation Photograph 24		
Date: 23/03/23		
Direction Photograph Taken: n/a.		
Description: TP08 arisings.		

Site Investigation Photograph 25	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP09.	

Site Investigation Photograph 26	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP09 arising.	

Site Investigation Photograph 27	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP10.	

Site Investigation Photograph 28	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP10 arising.	

Site Investigation Photograph 29	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: TP11 arisings.	

Site Investigation Photograph 30	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: TP11 arisings.	

Site Investigation Photograph 31		
Date: 22/03/23		
Direction Photograph Taken: n/a.		
Description: TP12.		

Site Investigation Photograph 32		
Date: 22/03/23		
Direction Photograph Taken: n/a.		
Description: TP12 arising.		

Site Investigation Photograph 33	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: TP13.	

Site Investigation Photograph 34	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: TP13 arising.	

Site Investigation Photograph 35	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: TP14.	

Site Investigation Photograph 36	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: TP14 arisings.	

Site Investigation Photograph 37	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: TP15.	

Site Investigation Photograph 38	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: TP15 arisings.	

Site Investigation Photograph 39	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP16.	

Site Investigation Photograph 40	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: TP16 arising.	

Site Investigation Photograph 41	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: TP17.	

Site Investigation Photograph 42	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: TP17 arisings.	

Site Investigation Photograph 43		
Date: 20/03/23		
Direction Photograph Taken: n/a.		
Description: SA01.		

Site Investigation Photograph 44		
Date: 20/03/23		
Direction Photograph Taken: n/a.		
Description: SA01 arising.		

Site Investigation Photograph 45		
Date: 20/03/23		
Direction Photograph Taken: n/a.		
Description: SA02.		

Site Investigation Photograph 46		
Date:		
Direction Photograph Taken: n/a.		
Description: SA02 arising.		

Site Investigation Photograph 47	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: WS01 1.2m – 1.0m.	

Site Investigation Photograph 48	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: WS01 2.0m – 3.0m	

Site Investigation Photograph 49	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: WS05 1.2m – 1.6m.	

Site Investigation Photograph 50	
Date: 20/03/23	
Direction Photograph Taken: n/a.	
Description: BH01 0.9m – 1.6m	

Site Investigation Photograph 51	
Date: 20/03/23	
Direction Photograph Taken: n/a.	
Description: BH01a 0.5m – 2.6m.	

Site Investigation Photograph 52	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: BH01a 2.6m – 4.3m	

Site Investigation Photograph 53	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: BH01a 4.3m – 7.3m	

Site Investigation Photograph 54	
Date: 21/03/23	
Direction Photograph Taken: n/a.	
Description: BH01a 7.3m – 10.0m	

Site Investigation Photograph 55	
Date: 22/03/23	
Direction Photograph Taken: n/a.	
Description: BH02 1.2m – 3.0m	

Site Investigation Photograph 56	
Date: 22/05/23	
Direction Photograph Taken: n/a.	
Description: BH02 3.0m – 5.8m	

Site Investigation Photograph 57	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: BH02 5.8m - 8.8m.	

Site Investigation Photograph 58	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: BH02 8.8m – 10.0m.	

Site Investigation Photograph 59	
Date: 23/03/23	
Direction Photograph Taken: n/a.	
Description: BH03 0.8m – 3.3m	

Appendix C Geotechnical test results and geotechnical plots

Client Ark Data Centres	Location or material to which this assessment applies Made Ground	
Project Spring Park Data Centre Expansion		
Job number 24639		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
--------------------------------------	--	----------------------------------

Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	1	1	0
No. tests in 20% data set	0	0	
No. tests with suspected pyrite		0	
Maximum value	5.9	0.1	
Mean of highest two values	6	0	
Mean of highest 20%			
Characteristic Value	5.9	0.1	
			Mg not required
	[no pyrite]	[pyrite suspected]	
DS Class	DS-1	DS-1	
If pyrite suspected, DS Class limited to		DS-1	
Is pyrite assumed to be present?	Yes	Adopted DS Class =	DS-1

Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0
		Mg not required
DS Class		

pH data		
	Soil	Water
Number of tests	1	2
No. tests in 20% data set	0	0
Lowest pH	8.1	12.0
Mean of lowest 20%		
Characteristic value	8.1	12.0
Design value	8.1	
Number of soil pH results less than 5.5	0	

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Brownfield
	Mobile groundwater
	AC-1

4041

Client: Hydrock Consultants Ltd

Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley

Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 24639

Job Number: 23-26023-1

Date Sampled: 27/03/2023

Date Received: 29/03/2023

Date Tested: 05/04/2023

Sampled By: Not Given

Test Results:

Laboratory Reference: 2635704

Hole No.: BH01A

Sample Reference: Not Given

Sample Description: Brownish grey slightly gravelly slightly sandy CLAY

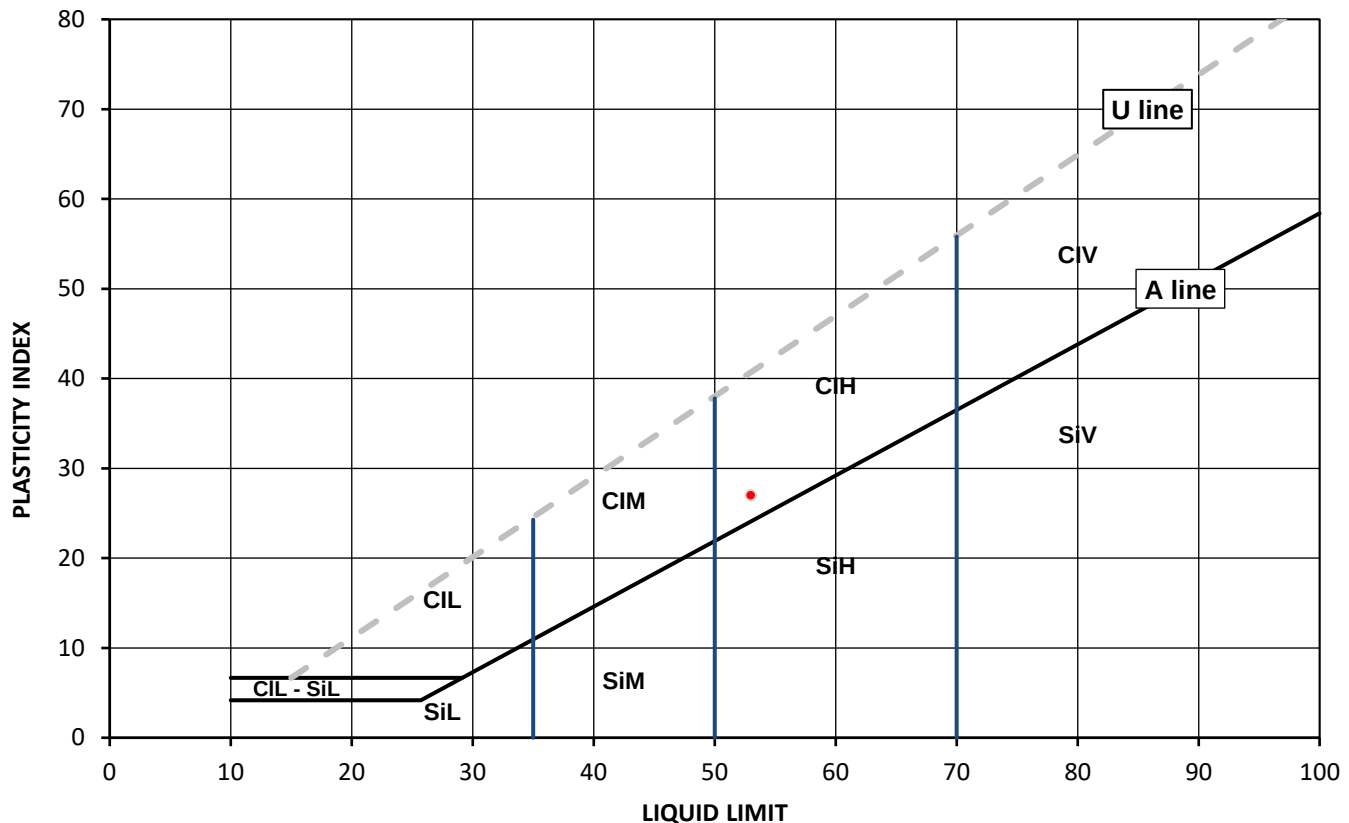
Depth Top [m]: 2.40

Depth Base [m]: Not Given

Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
16	53	26	27	76



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

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

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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.

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-26023-1
Date Sampled: 27/03/2023
Date Received: 29/03/2023
Date Tested: 05/04/2023
Sampled By: Not Given

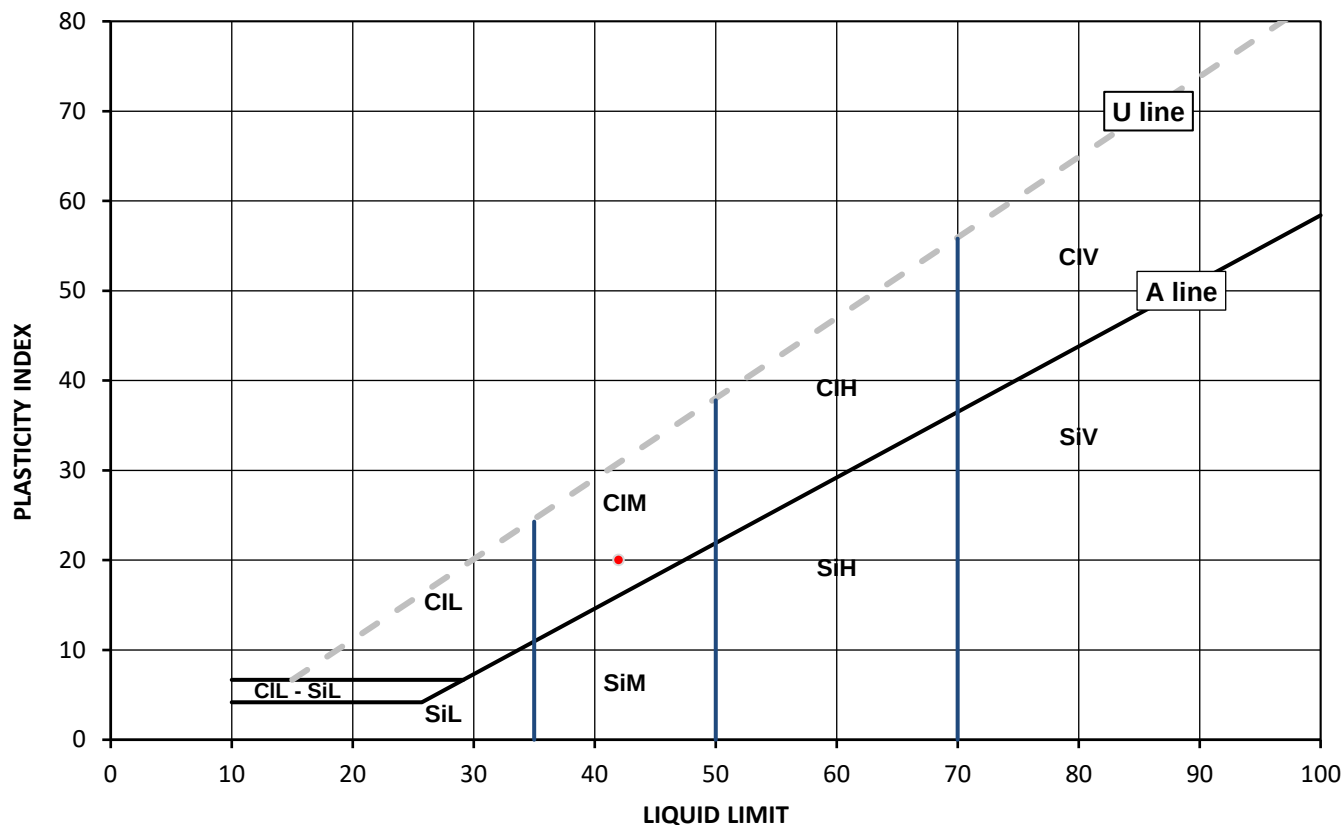
Test Results:

Laboratory Reference: 2635711
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Grey slightly gravelly sandy CLAY

Depth Top [m]: 2.20
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	42	22	20	71



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 CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-26023-1
Date Sampled: 23/03/2023
Date Received: 29/03/2023
Date Tested: 05/04/2023
Sampled By: Not Given

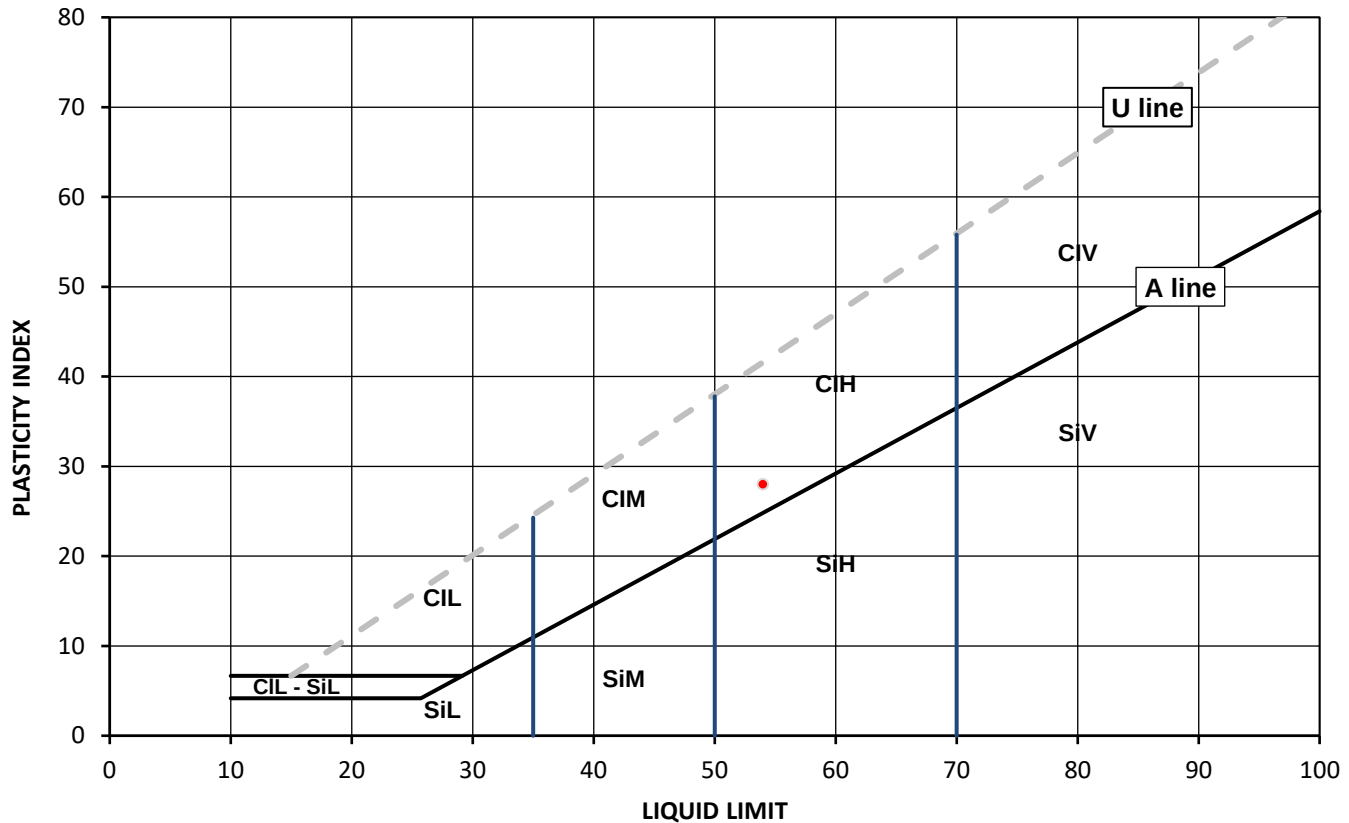
Test Results:

Laboratory Reference: 2635715
Hole No.: TP08
Sample Reference: Not Given
Sample Description: Greyish brown gravelly slightly sandy CLAY

Depth Top [m]: 0.80
Depth Base [m]: Not Given
Sample Type: B

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
10	54	26	28	51



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

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

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

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



4041

Client: Hydrock Consultants Ltd

Water Content by BS 1377-2:1990: Clause 3.2
Atterberg by BS 1377-2: 1990:
Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5

Client Reference: 24639

Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Job Number: 23-26023-1

Date Sampled: 23/03 - 27/03/2023

Contact: Kieran Bayley

Date Received: 29/03/2023

Date Tested: 05/04/2023

Site Address: Spring Park Data Centre Expansion, Corsham

Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W] %	Water Content BS EN ISO 17892-2 [W] %	Atterberg				Density			Total Porosity# %		
		Reference	Depth Top m	Depth Base m	Type					% Passing 425um %	WL %	Wp %	Ip %	bulk Mg/m3	dry Mg/m3	PD Mg/m3			
2635704	BH01A	Not Given	2.40	Not Given	D	Brownish grey slightly gravelly slightly sandy CLAY	Atterberg 4 Point	16		76	53	26	27						
2635711	BH03	Not Given	2.20	Not Given	D	Grey slightly gravelly sandy CLAY	Atterberg 4 Point	18		71	42	22	20						
2635715	TP08	Not Given	0.80	Not Given	B	Greyish brown gravelly slightly sandy CLAY	Atterberg 4 Point	10		51	54	26	28						

Note: # Non accredited; NP - Non plastic

Comments:

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Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd



4041

Client: Hydrock Consultants Ltd

Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley

Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

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



Environmental Science

Client Reference: 24639

Job Number: 23-26023-1

Date Sampled: 23/03 - 27/03/2023

Date Received: 29/03/2023

Date Tested: 05/04/2023

Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type							
2635704	BH01A	Not Given	2.40	Not Given	D	Brownish grey slightly gravelly slightly sandy CLAY		16	Sample was quartered, oven dried at 106.8 °C			
2635711	BH03	Not Given	2.20	Not Given	D	Grey slightly gravelly sandy CLAY		18	Sample was quartered, oven dried at 106.8 °C			
2635715	TP08	Not Given	0.80	Not Given	B	Greyish brown gravelly slightly sandy CLAY		10	Sample was quartered, oven dried at 106.4 °C			

Comments:

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

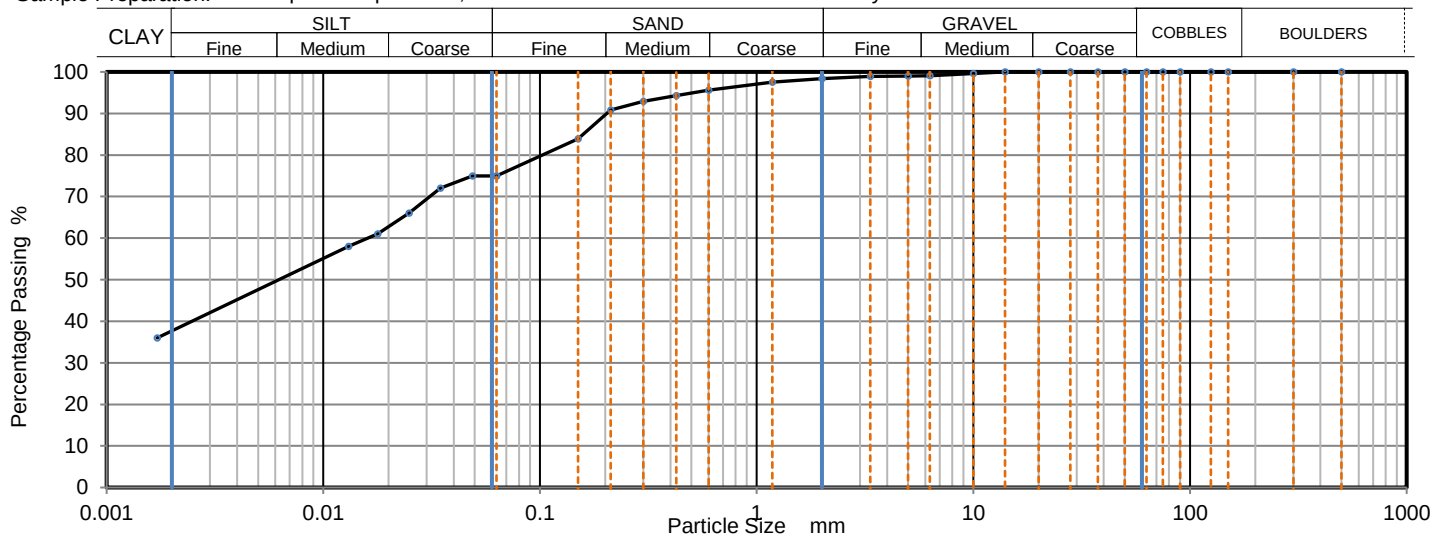
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-26023-1
Date Sampled: 21/03/2023
Date Received: 29/03/2023
Date Tested: 05/04/2023
Sampled By: Not Given

Test Results:

Laboratory Reference: 2635713
Hole No.: TP02
Sample Reference: Not Given
Sample Description: Brownish grey sandy CLAY
Sample Preparation: Sample was quartered, oven dried at 106.4 °C and broken down by hand.

Depth Top [m]: 0.40
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	75
300	100	0.0487	75
150	100	0.0347	72
125	100	0.0248	66
90	100	0.0178	61
75	100	0.0131	58
63	100	0.0017	36
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	99	Particle density (assumed) 2.65 Mg/m ³	
2	98		
1.18	98		
0.6	96		
0.425	94		
0.3	93		
0.212	91		
0.15	84		
0.063	75		

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	24
Silt	36
Clay	38

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 9.4
Curvature Coefficient	

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

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

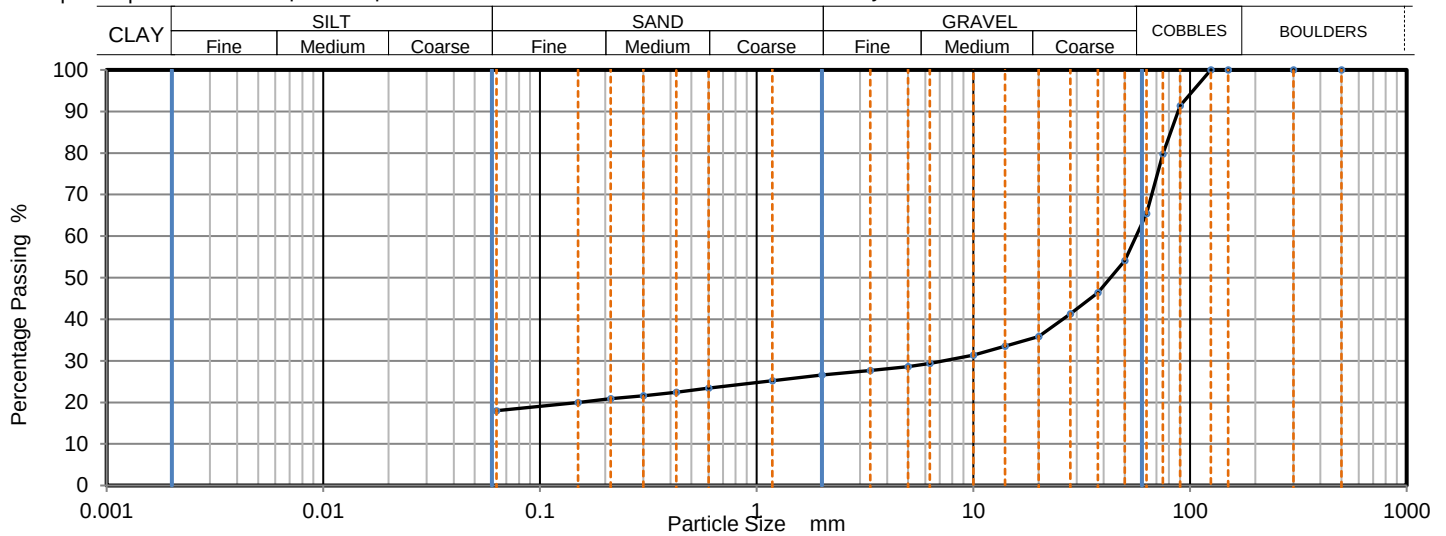
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-26023-1
Date Sampled: 23/03/2023
Date Received: 29/03/2023
Date Tested: 05/04/2023
Sampled By: Not Given

Test Results:

Laboratory Reference: 2635716
Hole No.: TP09
Sample Reference: Not Given
Sample Description: Dark brown clayey GRAVEL
Sample Preparation: Sample was quartered, oven dried at 107.2 °C and broken down by hand.

Depth Top [m]: 1.80
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	91		
75	80		
63	65		
50	54		
37.5	46		
28	41		
20	36		
14	34		
10	31		
6.3	29		
5	29		
3.35	28		
2	27		
1.18	25		
0.6	23		
0.425	22		
0.3	22		
0.212	21		
0.15	20		
0.063	18		

Sample Proportions	% dry mass
Very coarse	35
Gravel	39
Sand	8
Fines <0.063mm	18

Grading Analysis	
D100	mm 125
D60	mm 56.4
D30	mm 7.18
D10	mm
Uniformity Coefficient	> 900
Curvature Coefficient	

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

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
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Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

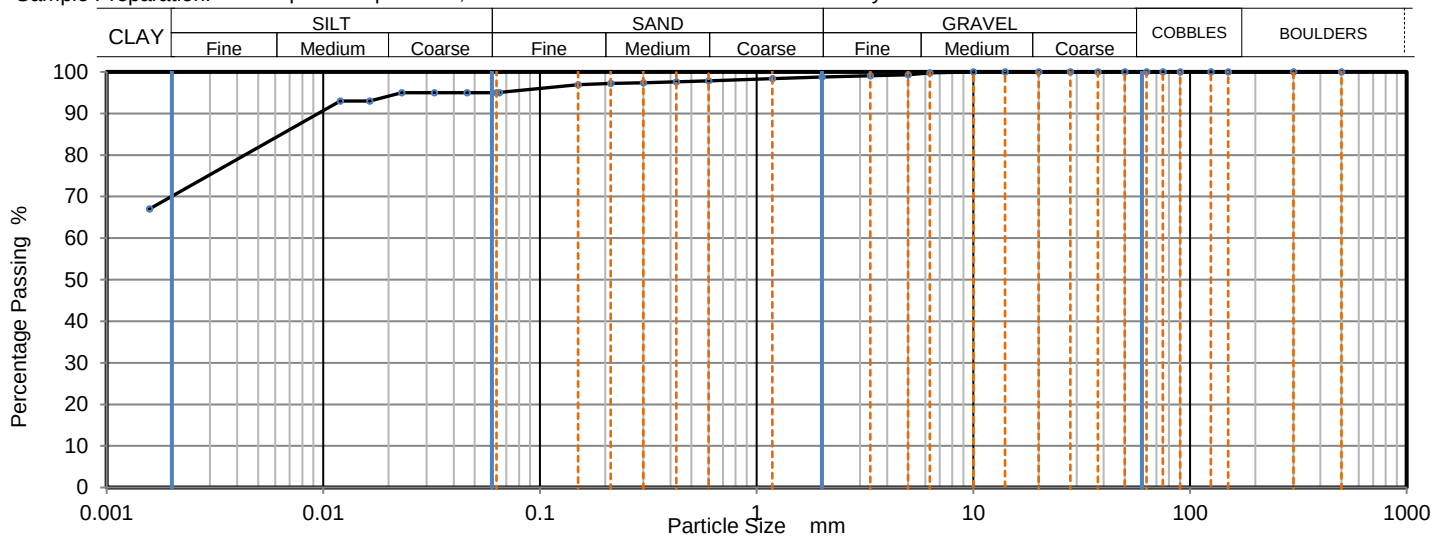
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-26023-1
Date Sampled: 22/03/2023
Date Received: 29/03/2023
Date Tested: 05/04/2023
Sampled By: Not Given

Test Results:

Laboratory Reference: 2635717
Hole No.: TP14
Sample Reference: Not Given
Sample Description: Greyish brown CLAY
Sample Preparation: Sample was quartered, oven dried at 106.4 °C and broken down by hand.

Depth Top [m]: 0.80
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0650	95
300	100	0.0459	95
150	100	0.0325	95
125	100	0.0230	95
90	100	0.0164	93
75	100	0.0120	93
63	100	0.0016	67
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99	Particle density (assumed) 2.65 Mg/m3	
2	99		
1.18	98		
0.6	98		
0.425	98		
0.3	97		
0.212	97		
0.15	97		
0.063	95		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	3
Silt	26
Clay	70

Grading Analysis		
D100	mm	10
D60	mm	
D30	mm	
D10	mm	
Uniformity Coefficient		N/A
Curvature Coefficient		

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

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed:

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PL Deputy Head of Reporting Team
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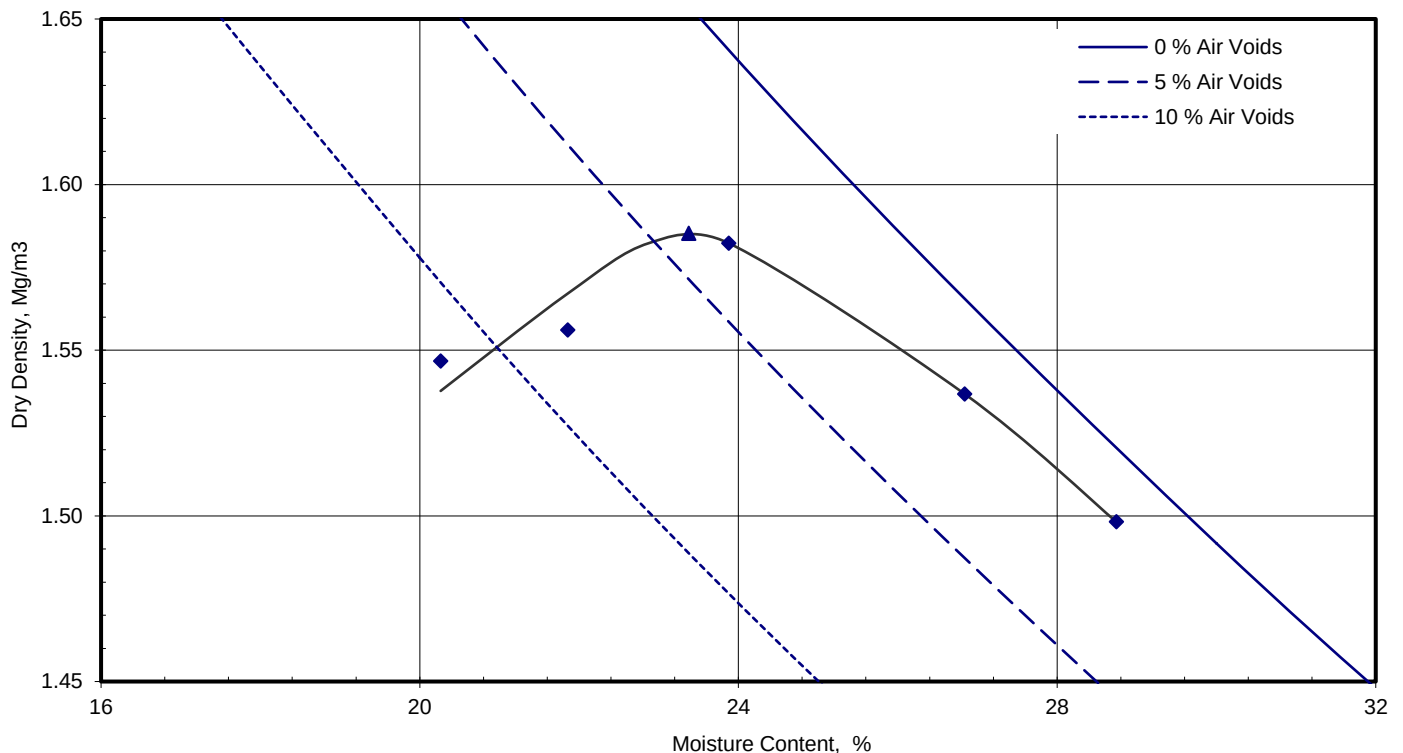
4041

TEST CERTIFICATE**DETERMINATION OF DRY DENSITY/MOISTURE
CONTENT RELATIONSHIP METHOD USING
4.5 KG RAMMER**

Tested in Accordance with: BS 1377-4: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EBClient: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DFContact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, CorshamClient Reference: 24639
Job Number: 23-26023-1
Date Sampled: 22/03/2023
Date Received: 29/03/2023
Date Tested: 15/04/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:Laboratory Reference: 2635720
Hole No.: TP16
Sample Reference: Not Given
Sample Description: Yellowish brown slightly sandy gravelly CLAY
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.Depth Top [m]: 0.70
Depth Base [m]: 0.90
Sample Type: B

Compaction Point No.	1	2	3	4	5	
Moisture Content	%	20	22	24	27	29
Dry Density	Mg/m³	1.55	1.56	1.58	1.54	1.50

Mould Type		CBR
Samples Used		Single sample tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.70
As received Moisture Content	%	38
Maximum Dry Density	Mg/m³	1.59

Optimum Moisture Content	%	23
--------------------------	---	----

Note: Tested in Accordance with BS 1377-4: 1990: Clause 3.6 using 4.5kg [heavy] Rammer

Remarks:

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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4041

Client: Hydrock Consultants Ltd

Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley

Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT**DETERMINATION OF POINT LOAD STRENGTH**

Tested in Accordance with: ISRM: 2007, pages 125-132

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

Environmental Science

Client Reference: 24639

Job Number: 23-26023-1

Date Sampled: 21/03 - 27/03/2023

Date Received: 29/03/2023

Date Tested: 13/04/2023

Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P kN	Equivalent diameter, De mm	Point Load Strength Index	
		Reference	Depth Top m	Depth Base m	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne mm	W mm	Dps mm	Dps' mm			Is MPa	Is(50) MPa
2635705	BH01A	Not Given	3.10	Not Given	C	Grey mottled dark grey LIMESTONE	WC = 0.7%	1	A	U	YES	-	89.2	57.0	46.0	22.5	72.3	4.30	5.07
2635706	BH01A	Not Given	8.00	Not Given	C	Light brown LIMESTONE	WC = 7.7%	1	D	U	YES	75.3	89.0	89.0	86.0	6.2	87.5	0.80	1.03
2635707	BH01A	Not Given	9.30	Not Given	C	Light brown LIMESTONE	WC = 6.3%	1	D	U	YES	66.3	89.0	89.0	78.0	8.8	83.3	1.26	1.59
2635708	BH02	Not Given	6.40	Not Given	C	Light brown LIMESTONE	WC = 4.9%	1	D	U	YES	137.6	88.8	89.0	79.0	8.7	83.8	1.23	1.56
2635709	BH02	Not Given	7.80	Not Given	C	Light brown LIMESTONE	WC = 9.6%	1	D	U	YES	87.7	88.9	89.0	74.0	8.2	81.1	1.25	1.55
2635712	BH03	Not Given	2.35	Not Given	C	Grey mottled dark grey LIMESTONE	WC = 0.6%	1	D	U	YES	59.1	89.1	89.0	86.0	3.5	87.5	0.46	0.59
2635714	TP02	Not Given	1.50	Not Given	B	Dark grey to grey LIMESTONE	WC = 1.3%	1	I	U	YES	51.7	91.3	40.0	33.0	25.9	61.9	6.74	7.42

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen separation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments:

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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4041

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Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley

Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT

DETERMINATION OF UNIAXIAL COMPRESSIVE STRENGTH OF ROCK MATERIALS

Tested in Accordance with: ISRM, 2007, p153, part 1

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



Environmental Science

Client Reference: 24639

Job Number: 23-26023-1

Date Sampled: 27/03/2023

Date Received: 29/03/2023

Date Tested: 13/04/2023

Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Specimen Dimensions (2)				Bulk density (2)	Water Content (1)	Uniaxial Compression (3)			
		Reference	Depth Top	Depth Base	Type			Diameter	Length	H/D	Orientation of sample			Condition	Stress Rate	Mode of failure	UCS
			m	m													
2635710	BH02	Not Given	9.65	Not Given	C	Light brown LIMESTONE	Duration of test fell below time specified in ISRM method, 2007, p153, part1.	84.4	236.8	2.8	Vertical	2.33	10.6	as received	0.0357	MS	6.47

Note: 1 - ISRM p87 test 1, water content at 105 ± 3 °C - not accredited, specimen as tested for UCS, 2 - ISRM p86 clause (vii), Caliper method used for determination of bulk volume and derivation of bulk density, 3 - ISRM p153 part 1, determination of Uniaxial Compressive Strength (UCS) of Rock Materials, above notes apply unless annotated otherwise in the remarks. Compaction machine: VJ Tech AUTOCON - VJT 51-3011; Mode of failure legend: S - Single shear, MS - multiple shear, AC - Axial cleavage, F - Fragmented

Comments:

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF
Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

Client Reference: 24639
Job Number: 23-26148-1
Date Sampled: 21/03/2023
Date Received: 29/03/2023
Date Tested: 06/04/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

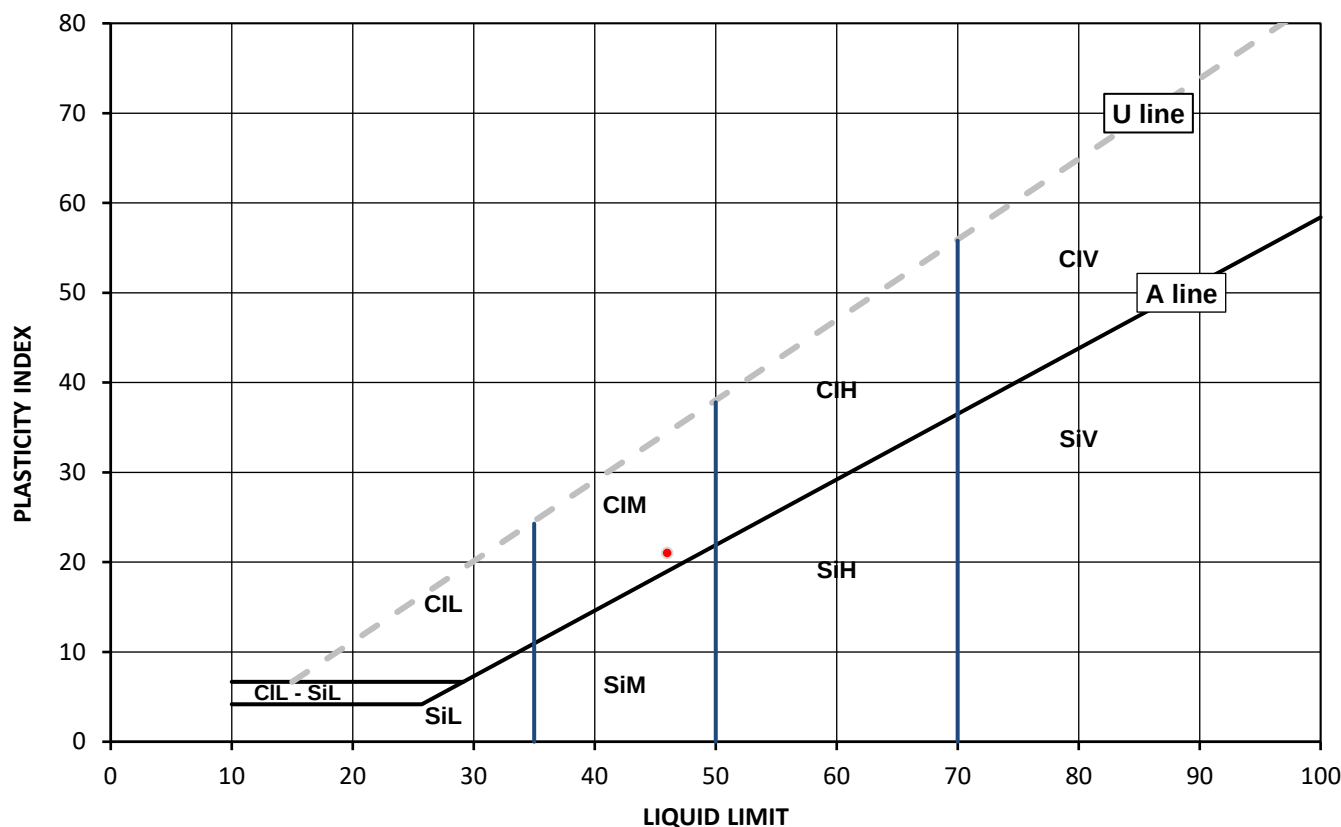
Test Results:

Laboratory Reference: 2636408
Hole No.: TP01
Sample Reference: 3
Sample Description: Greyish brown gravelly slightly sandy CLAY

Depth Top [m]: 1.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
14	46	25	21	53



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

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

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-26148-1
Date Sampled: 23/03/2023
Date Received: 29/03/2023
Date Tested: 06/04/2023
Sampled By: Not Given

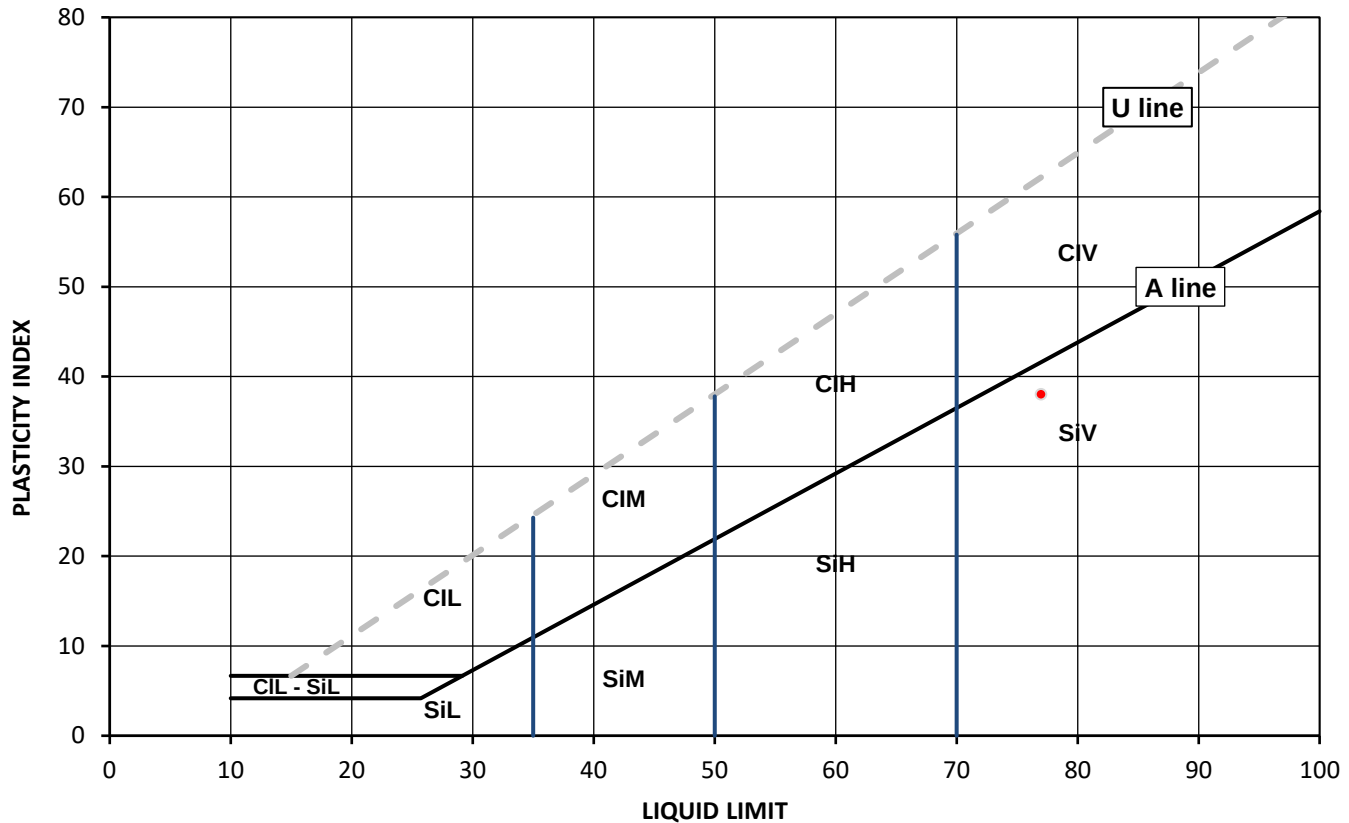
Test Results:

Laboratory Reference: 2636409
Hole No.: TP10
Sample Reference: 4
Sample Description: Brownish grey slightly gravelly clayey SILT

Depth Top [m]: 2.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
35	77	39	38	97



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

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

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041

Client: Hydrock Consultants Ltd

Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley

Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 24639

Job Number: 23-26148-1

Date Sampled: 23/03/2023

Date Received: 29/03/2023

Date Tested: 06/04/2023

Sampled By: Not Given

Test Results:

Laboratory Reference: 2636410

Hole No.: TP10

Sample Reference: 5

Sample Description: Brownish grey slightly gravelly slightly sandy CLAY

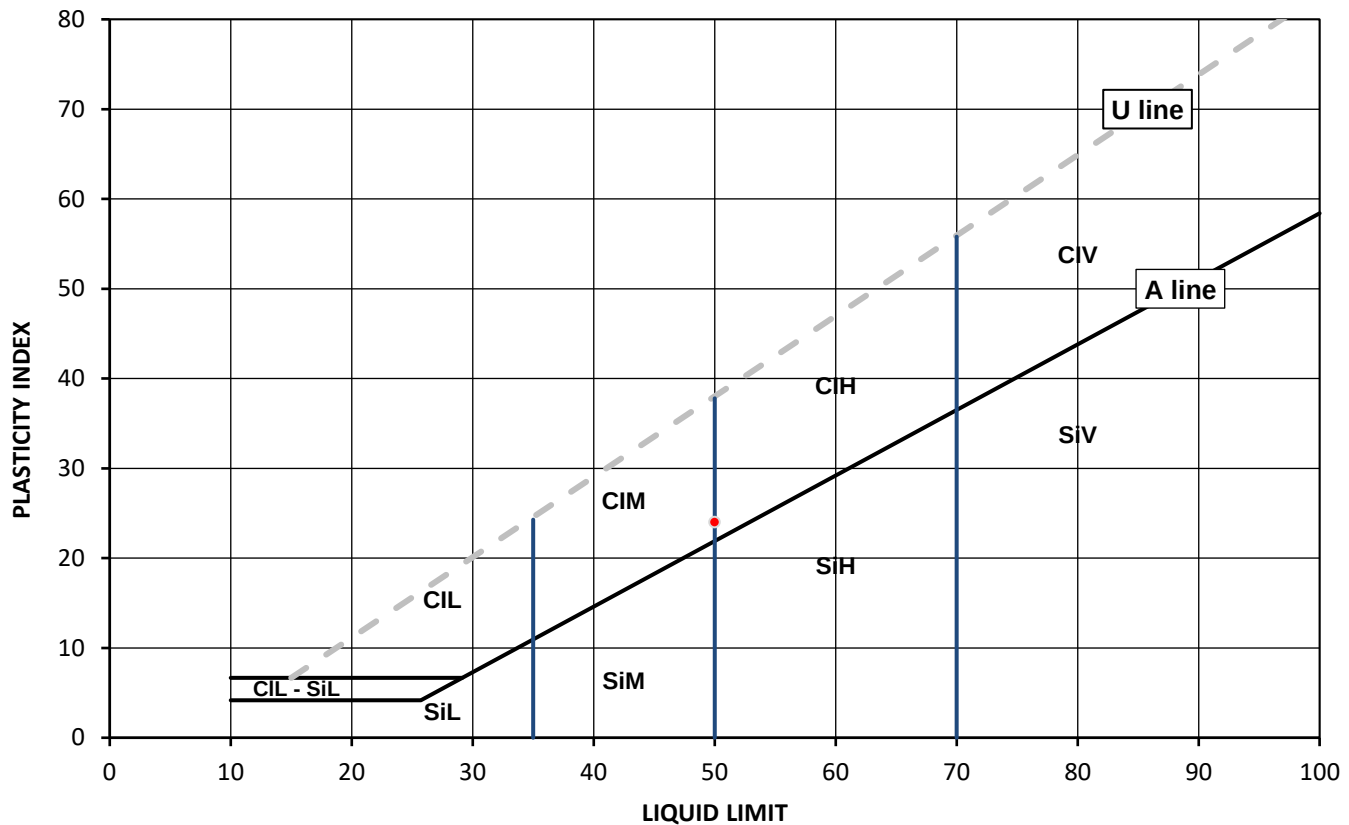
Depth Top [m]: 3.00

Depth Base [m]: Not Given

Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
29	50	26	24	99



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

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

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF
Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

Client Reference: 24639
Job Number: 23-26148-1
Date Sampled: 22/03/2023
Date Received: 29/03/2023
Date Tested: 06/04/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

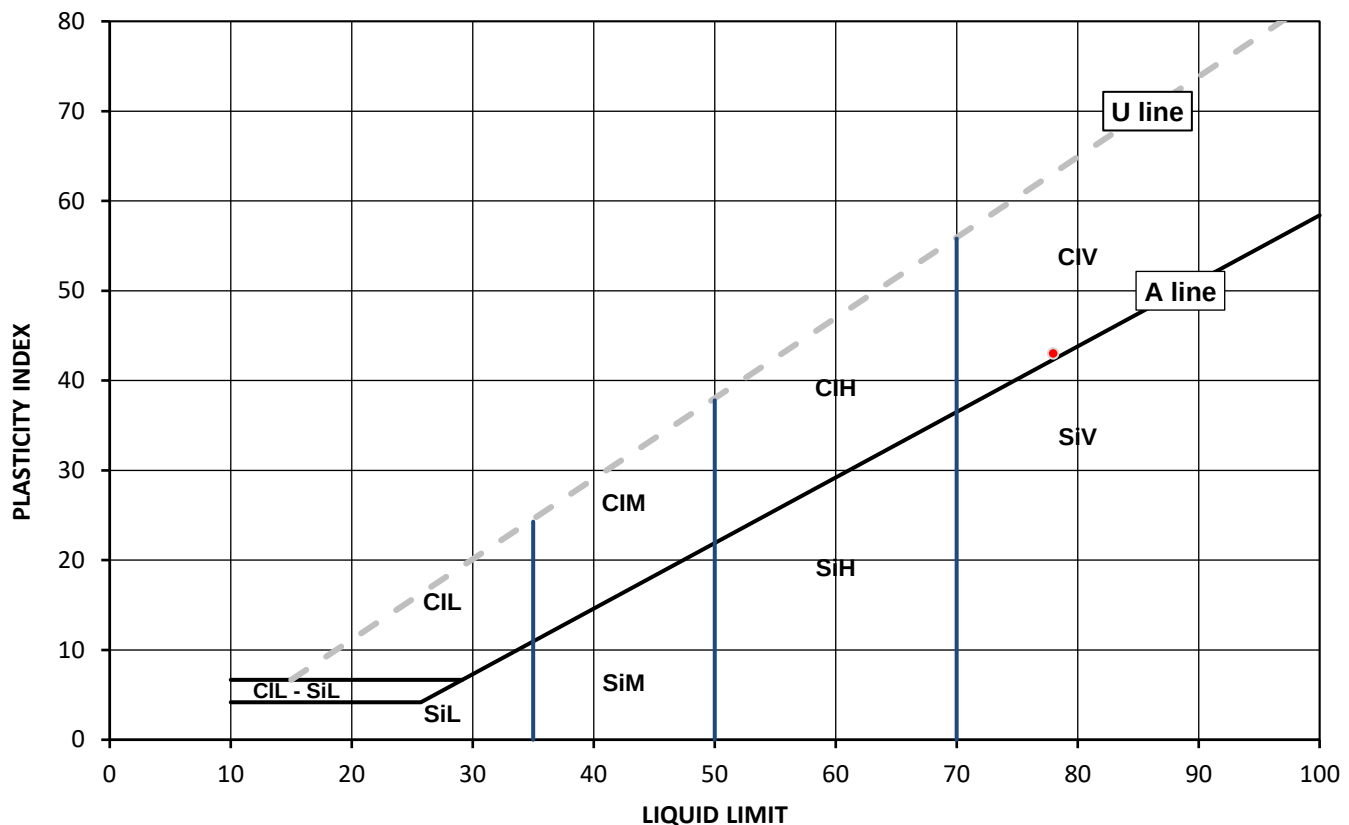
Test Results:

Laboratory Reference: 2636411
Hole No.: TP11
Sample Reference: 2
Sample Description: Yellowish brown slightly silty CLAY

Depth Top [m]: 0.50
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
36	78	35	43	100



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

Cl	Clay	Plasticity	L	Low	Liquid Limit	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 CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

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Reporting Specialist
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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

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Brackmills Industrial Estate
Northampton NN4 7EB

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
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Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-26148-1
Date Sampled: 22/03/2023
Date Received: 29/03/2023
Date Tested: 06/04/2023
Sampled By: Not Given

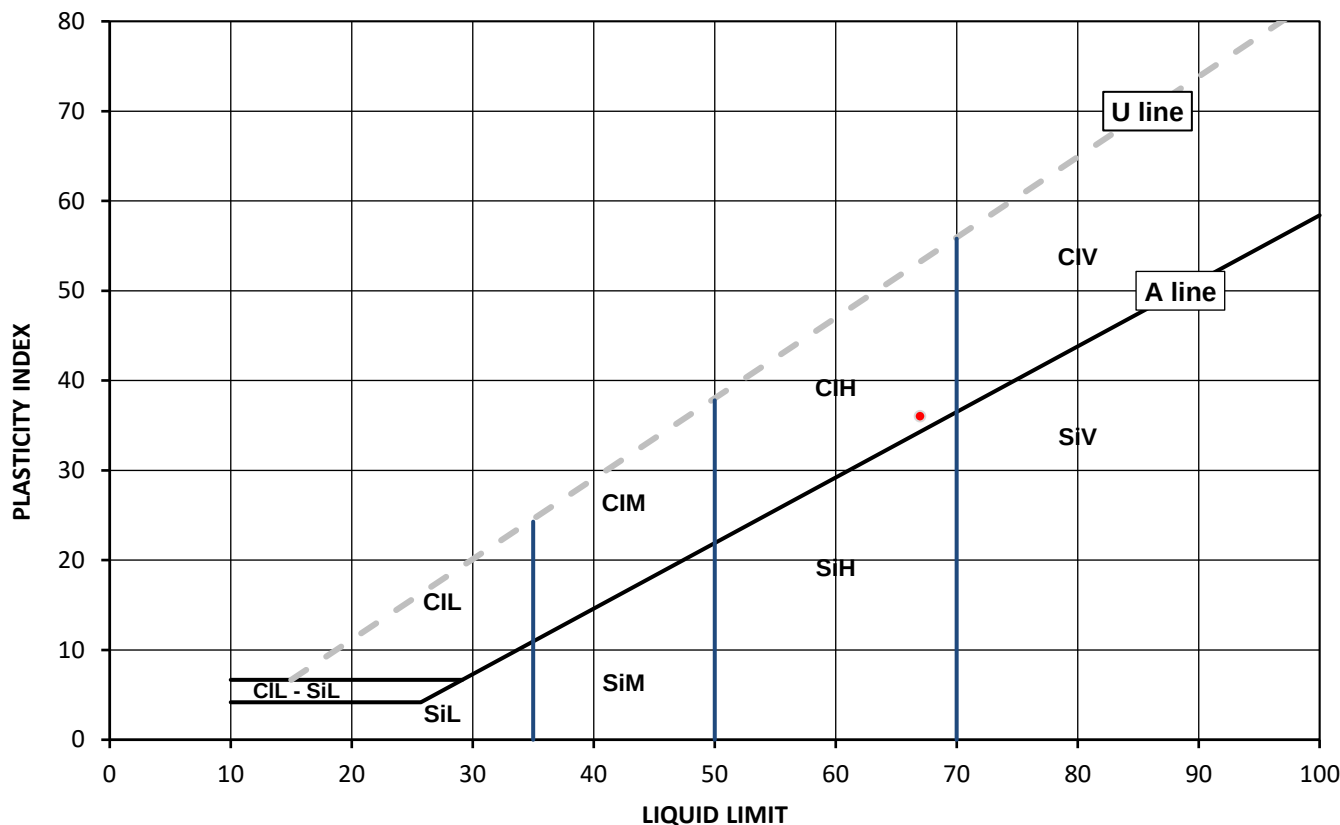
Test Results:

Laboratory Reference: 2636412
Hole No.: TP12
Sample Reference: 2
Sample Description: Yellowish brown CLAY

Depth Top [m]: 0.50
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
30	67	31	36	100



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

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

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-26148-1
Date Sampled: 22/03/2023
Date Received: 29/03/2023
Date Tested: 06/04/2023
Sampled By: Not Given

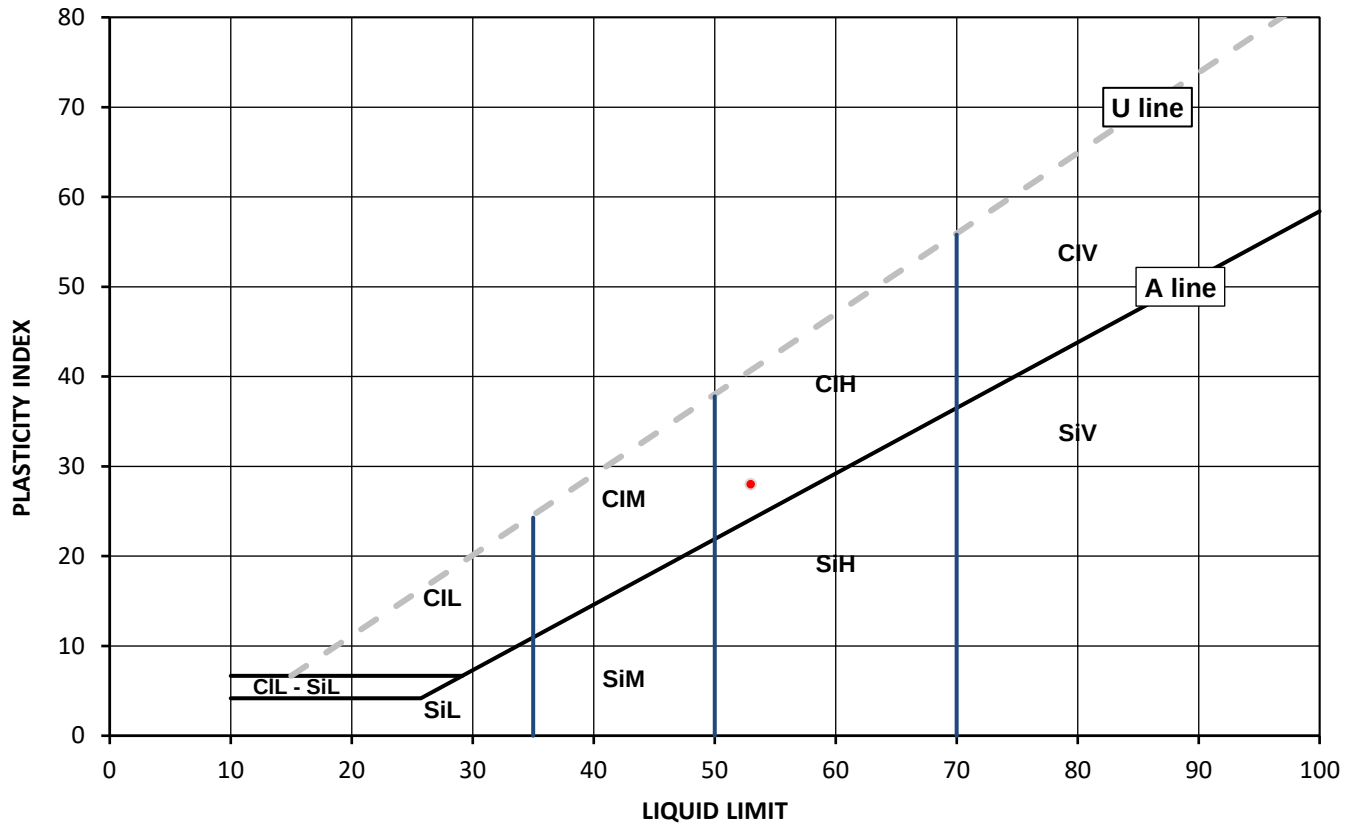
Test Results:

Laboratory Reference: 2636413
Hole No.: TP12
Sample Reference: 3
Sample Description: Greyish brown slightly gravelly slightly sandy CLAY

Depth Top [m]: 1.20
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
23	53	25	28	86



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 CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-26148-1
Date Sampled: 22/03/2023
Date Received: 29/03/2023
Date Tested: 06/04/2023
Sampled By: Not Given

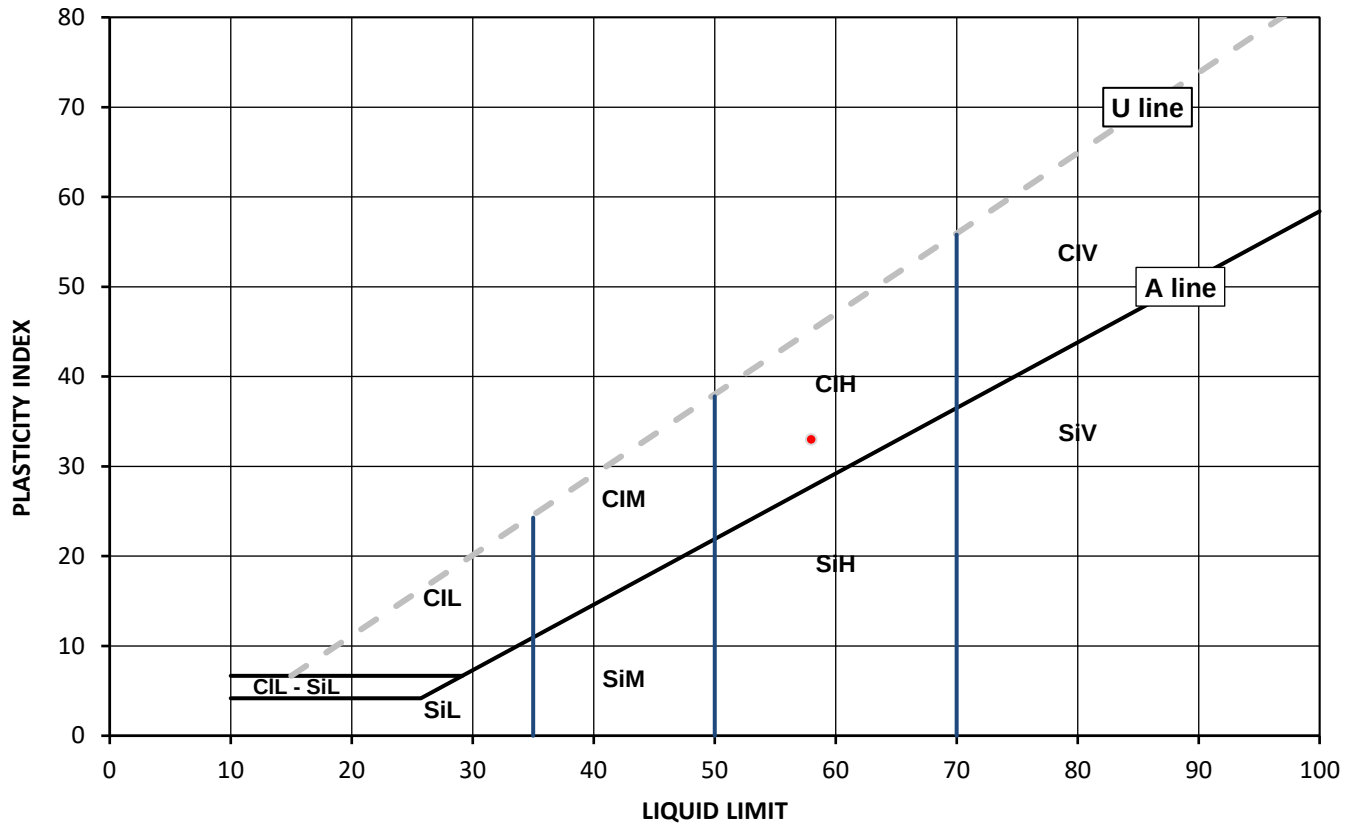
Test Results:

Laboratory Reference: 2636414
Hole No.: TP12
Sample Reference: 4
Sample Description: Greyish brown slightly sandy CLAY

Depth Top [m]: 2.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
23	58	25	33	100



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

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

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF
Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

Client Reference: 24639
Job Number: 23-26148-1
Date Sampled: 22/03/2023
Date Received: 29/03/2023
Date Tested: 06/04/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

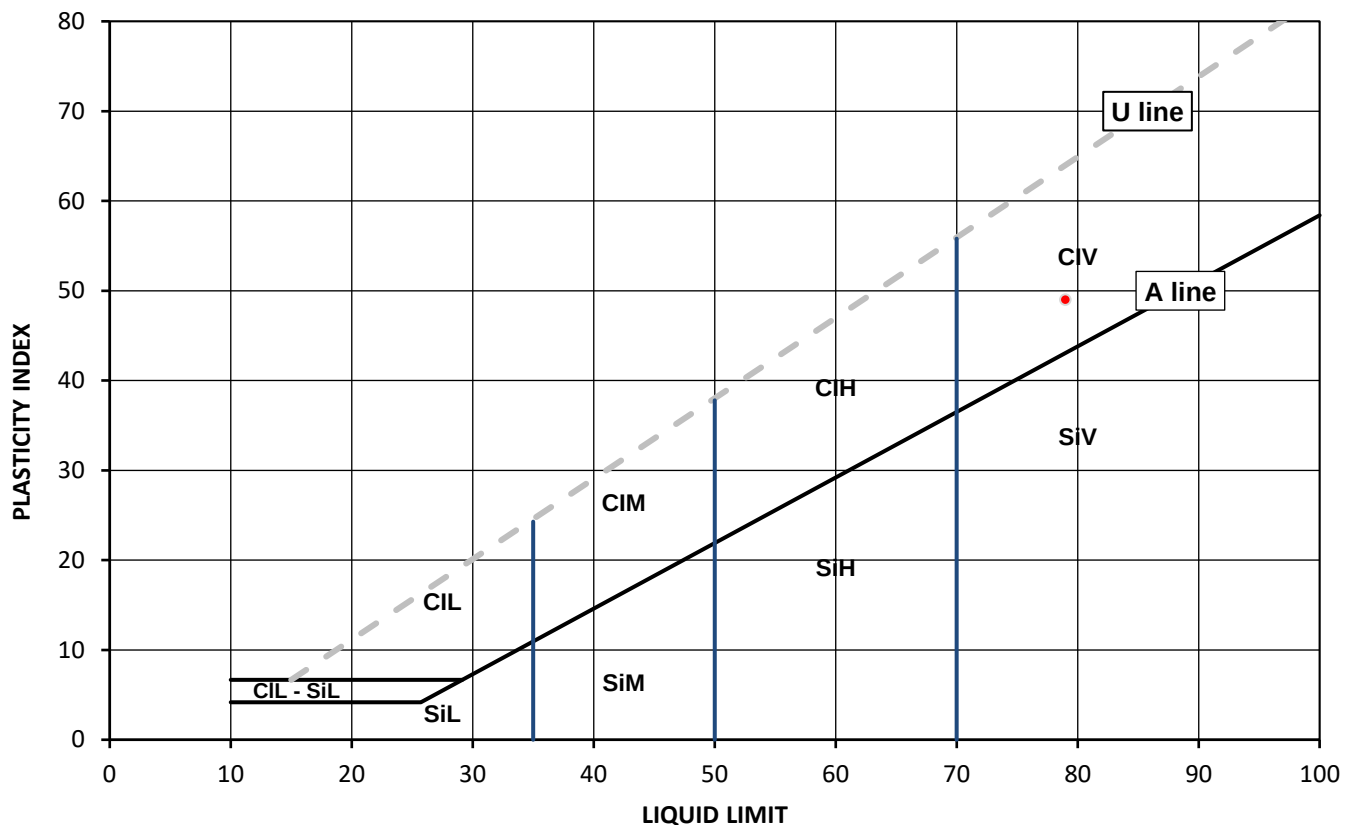
Test Results:

Laboratory Reference: 2636415
Hole No.: TP15
Sample Reference: 3
Sample Description: Yellowish brown very gravelly CLAY

Depth Top [m]: 0.80
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22	79	30	49	35



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 CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley
Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-26148-1
Date Sampled: 22/03/2023
Date Received: 29/03/2023
Date Tested: 06/04/2023
Sampled By: Not Given

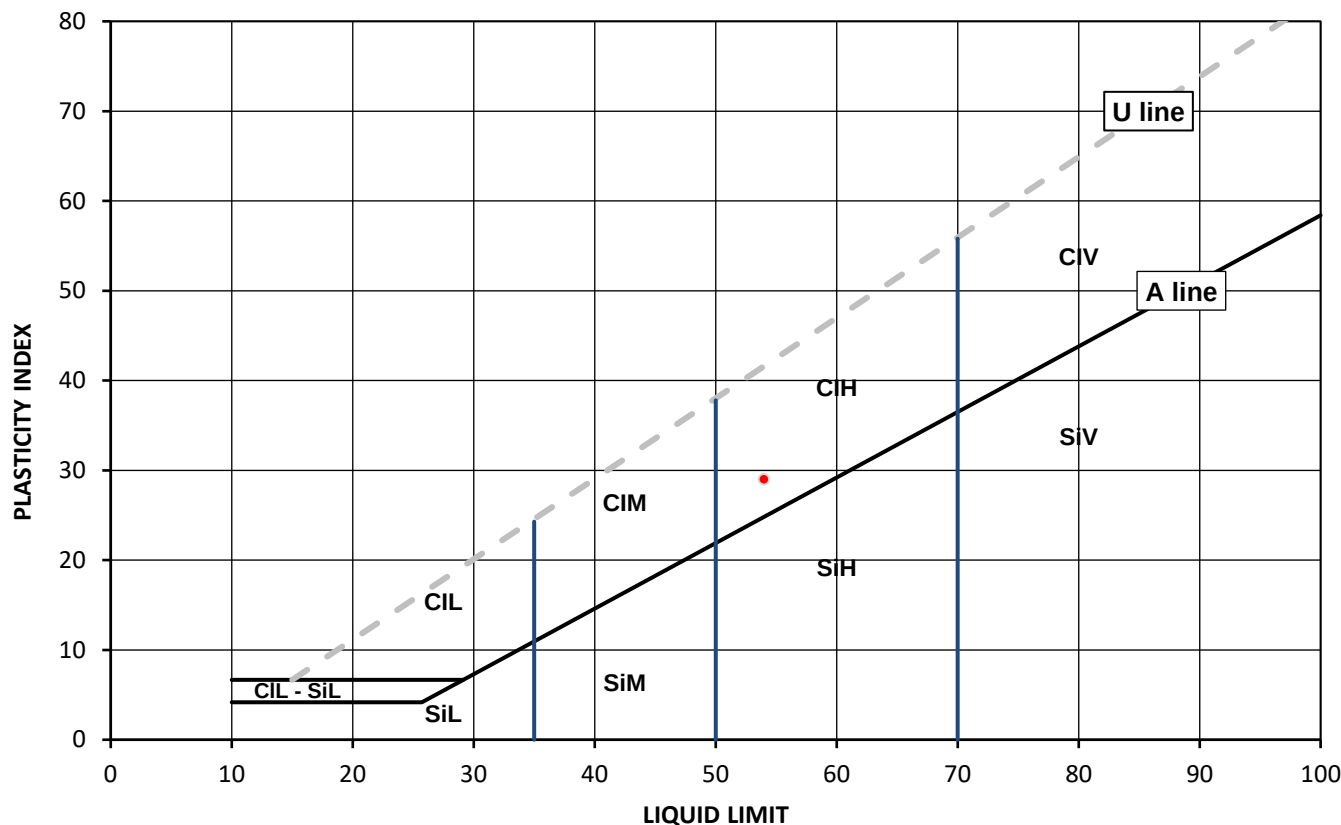
Test Results:

Laboratory Reference: 2636416
Hole No.: TP17
Sample Reference: 3
Sample Description: Greyish brown slightly gravelly slightly sandy CLAY

Depth Top [m]: 1.80
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
25	54	25	29	99



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 CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

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Reporting Specialist
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SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

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



4041

Client: Hydrock Consultants Ltd

Water Content by BS 1377-2:1990: Clause 3.2
Atterberg by BS 1377-2: 1990:
Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5

Client Reference: 24639

Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Job Number: 23-26148-1

Date Sampled: 21/03 - 23/03/2023

Contact: Kieran Bayley

Date Received: 29/03/2023

Site Address: Spring Park Data Centre Expansion, Corsham

Date Tested: 06/04/2023

Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W] %	Water Content BS EN ISO 17892-2 [W] %	Atterberg				Density			Total Porosity# %		
		Reference	Depth Top m	Depth Base m	Type					% Passing 425um %	WL %	Wp %	Ip %	bulk Mg/m3	dry Mg/m3	PD Mg/m3			
2636408	TP01	3	1.00	Not Given	D	Greyish brown gravelly slightly sandy CLAY	Atterberg 4 Point	14		53	46	25	21						
2636409	TP10	4	2.00	Not Given	D	Brownish grey slightly gravelly clayey SILT	Atterberg 4 Point	35		97	77	39	38						
2636410	TP10	5	3.00	Not Given	D	Brownish grey slightly gravelly slightly sandy CLAY	Atterberg 4 Point	29		99	50	26	24						
2636411	TP11	2	0.50	Not Given	D	Yellowish brown slightly silty CLAY	Atterberg 4 Point	36		100	78	35	43						
2636412	TP12	2	0.50	Not Given	D	Yellowish brown CLAY	Atterberg 4 Point	30		100	67	31	36						
2636413	TP12	3	1.20	Not Given	D	Greyish brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	23		86	53	25	28						
2636414	TP12	4	2.00	Not Given	D	Greyish brown slightly sandy CLAY	Atterberg 4 Point	23		100	58	25	33						
2636415	TP15	3	0.80	Not Given	D	Yellowish brown very gravelly CLAY	Atterberg 4 Point	22		35	79	30	49						
2636416	TP17	3	1.80	Not Given	D	Greyish brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	25		99	54	25	29						

Note: # Non accredited; NP - Non plastic

Comments:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041

Client: Hydrock Consultants Ltd

Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Kieran Bayley

Site Address: Spring Park Data Centre Expansion, Corsham

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

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

Environmental Science

Client Reference: 24639

Job Number: 23-26148-1

Date Sampled: 21/03 - 23/03/2023

Date Received: 29/03/2023

Date Tested: 06/04/2023

Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type							
2636408	TP01	3	1.00	Not Given	D	Greyish brown gravelly slightly sandy CLAY		14	Sample was quartered, oven dried at 107.4 °C			
2636409	TP10	4	2.00	Not Given	D	Brownish grey slightly gravelly clayey SILT		35	Sample was quartered, oven dried at 107.4 °C			
2636410	TP10	5	3.00	Not Given	D	Brownish grey slightly gravelly slightly sandy CLAY		29	Sample was quartered, oven dried at 107.4 °C			
2636411	TP11	2	0.50	Not Given	D	Yellowish brown slightly silty CLAY		36	Sample was quartered, oven dried at 107.4 °C			
2636412	TP12	2	0.50	Not Given	D	Yellowish brown CLAY		30	Sample was quartered, oven dried at 107.4 °C			
2636413	TP12	3	1.20	Not Given	D	Greyish brown slightly gravelly slightly sandy CLAY		23	Sample was quartered, oven dried at 107.4 °C			
2636414	TP12	4	2.00	Not Given	D	Greyish brown slightly sandy CLAY		23	Sample was quartered, oven dried at 107.4 °C			
2636415	TP15	3	0.80	Not Given	D	Yellowish brown very gravelly CLAY		22	Sample was quartered, oven dried at 107.4 °C			
2636416	TP17	3	1.80	Not Given	D	Greyish brown slightly gravelly slightly sandy CLAY		25	Sample was quartered, oven dried at 107.4 °C			

Comments:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

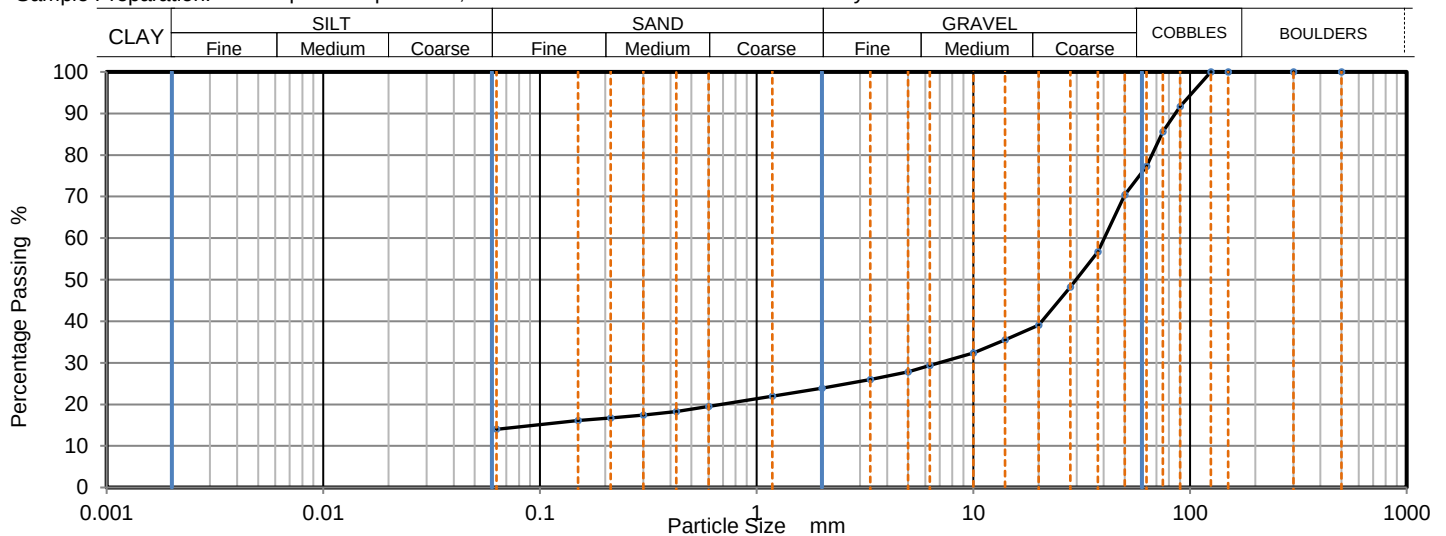
Contact: Kieran Bayley
Site Address: Spring Park

Client Reference: 24639
Job Number: 23-29352-1
Date Sampled: Not Given
Date Received: 29/03/2023
Date Tested: 21/04/2023
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 2653610
Hole No.: TP03
Sample Reference: Not Given
Sample Description: Brownish grey clayey GRAVEL with fragments of cobbles
Sample Preparation: Sample was quartered, oven dried at 106 °C and broken down by hand.

Depth Top [m]: 1.95
Depth Base [m]: 2.50
Sample Type: B


Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	92		
75	86		
63	77		
50	70		
37.5	57		
28	48		
20	39		
14	36		
10	32		
6.3	29		
5	28		
3.35	26		
2	24		
1.18	22		
0.6	20		
0.425	18		
0.3	17		
0.212	17		
0.15	16		
0.063	15		

Sample Proportions	% dry mass
Very coarse	23
Gravel	53
Sand	9
Fines <0.063mm	15

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 640
Curvature Coefficient	

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

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS1377 Part 2 Table 3

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP METHOD USING 4.5 KG RAMMER

Tested in Accordance with: BS 1377-4: 1990

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF

Contact: Scott Williams
Site Address: Spring Park Data Centre Expansion, Corsham

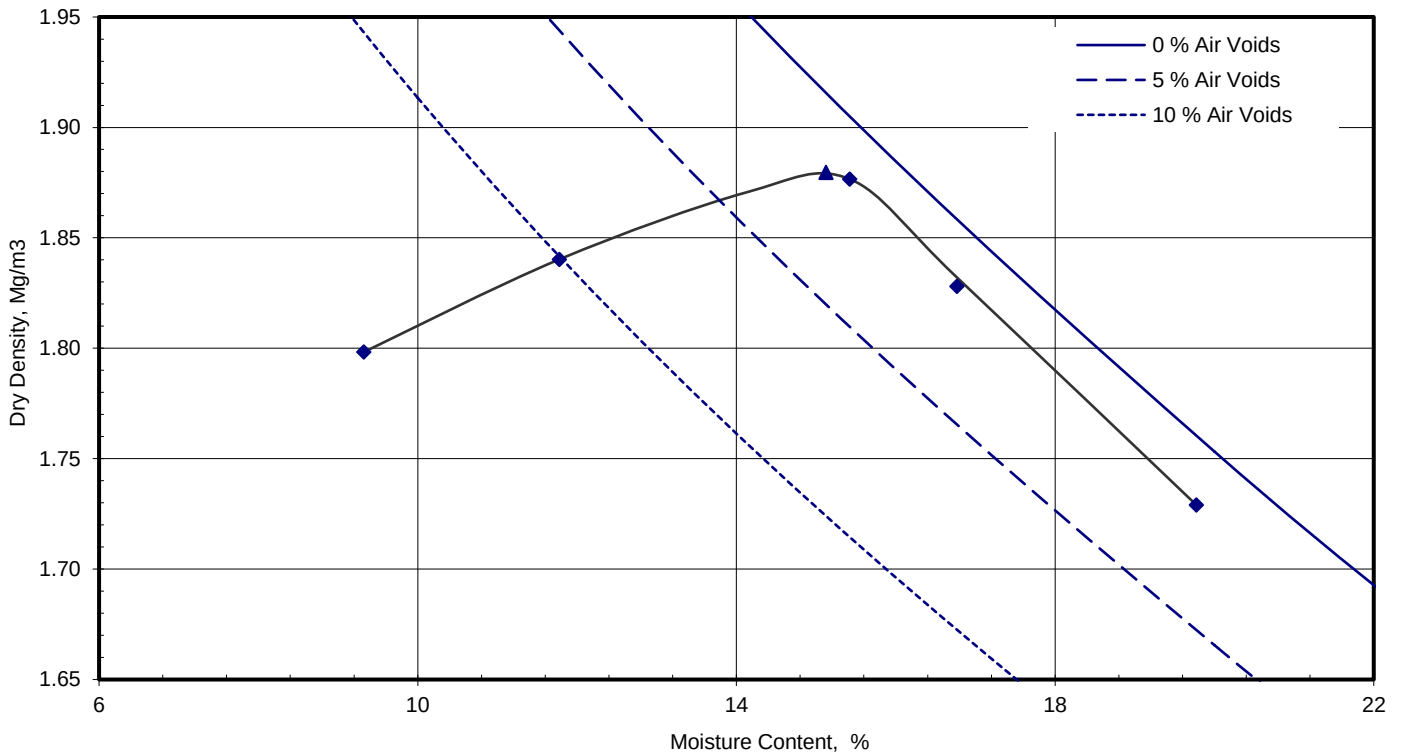
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 24639
Job Number: 23-30543-2
Date Sampled: Not Given
Date Received: 21/04/2023
Date Tested: 05/05/2023
Sampled By: Not Given

Test Results:

Laboratory Reference: 2660461
Hole No.: SA02
Sample Reference: Not Given
Sample Description: Brownish grey very gravelly CLAY
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: 2.10
Depth Base [m]: 2.50
Sample Type: B



Compaction Point No.	1	2	3	4	5
Moisture Content %	9.3	12	15	17	20
Dry Density Mg/m³	1.80	1.84	1.88	1.83	1.73

Mould Type	CBR
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	37
Material Retained on 20.0 mm Sieve %	62
Particle Density - Assumed Mg/m³	2.70
As received Moisture Content %	26
Maximum Dry Density Mg/m³	1.88

Optimum Moisture Content %	15
----------------------------	----

Note: Tested in Accordance with BS 1377-4: 1990: Clause 3.6 using 4.5kg [heavy] Rammer

Remarks: Replaces Analytical Report Number 23-30543, issue no. 1; Zone X - test carried out with clients consent.

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP METHOD USING 4.5 KG RAMMER

Tested in Accordance with: BS 1377-4: 1990

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

Client: Hydrock Consultants Ltd
Client Address: Over Court Barns, Over Lane,
Bristol, BS32 4DF
Contact: Scott Williams
Site Address: Spring Park Data Centre Expansion, Corsham

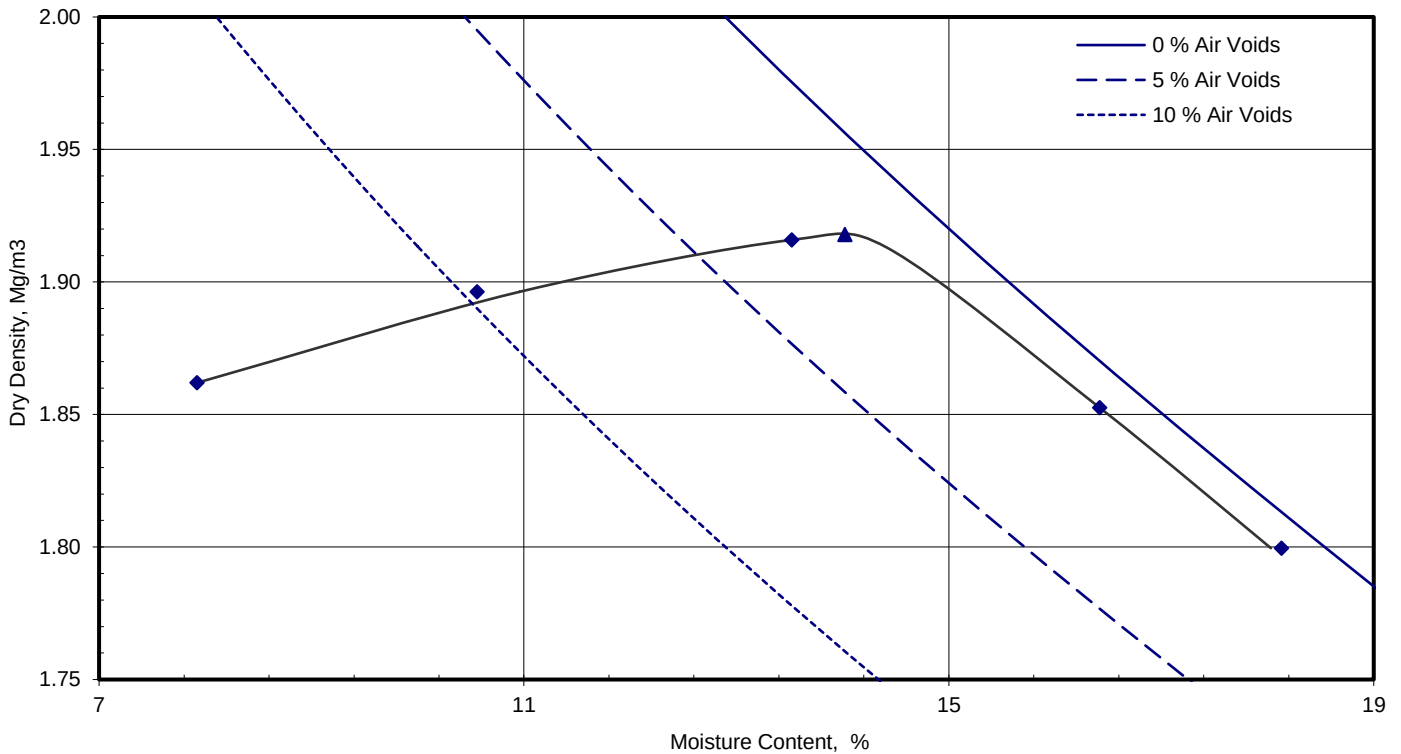
Client Reference: 24639
Job Number: 23-30543-2
Date Sampled: Not Given
Date Received: 21/04/2023
Date Tested: 04/05/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2660462
Hole No.: TP05
Sample Reference: Not Given
Sample Description: Light brown gravelly CLAY
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: 1.80
Depth Base [m]: 2.00
Sample Type: B



Compaction Point No.	1	2	3	4	5
Moisture Content %	7.9	11	14	16	18
Dry Density Mg/m³	1.86	1.90	1.92	1.85	1.80

Mould Type	CBR
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	8
Material Retained on 20.0 mm Sieve %	26
Particle Density - Assumed Mg/m³	2.70
As received Moisture Content %	18
Maximum Dry Density Mg/m³	1.92

Optimum Moisture Content %	14
----------------------------	----

Note: Tested in Accordance with BS 1377-4: 1990: Clause 3.6 using 4.5kg [heavy] Rammer

Remarks:

Signed:

Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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Client Ark Data Centres	Location or material to which this assessment applies Bath Oolite Member & Corsham Limestone Formation	
Project Spring Park Data Centre Expansion		
Job number 24639		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
--------------------------------------	--	----------------------------------

Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	1	1	0
No. tests in 20% data set	0	0	
No. tests with suspected pyrite		0	
Maximum value	9.6	0.1	
Mean of highest two values	10	0	
Mean of highest 20%			
Characteristic Value	9.6	0.1	
			Mg not required
	[no pyrite]	[pyrite suspected]	
DS Class	DS-1	DS-1	
If pyrite suspected, DS Class limited to		DS-1	
Is pyrite assumed to be present?	Yes	Adopted DS Class =	DS-1

Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0
		Mg not required
DS Class		

pH data		
	Soil	Water
Number of tests	1	2
No. tests in 20% data set	0	0
Lowest pH	8.6	12.0
Mean of lowest 20%		
Characteristic value	8.6	12.0
Design value	8.6	
Number of soil pH results less than 5.5	0	

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Brownfield
	Mobile groundwater
	AC-1

Client Ark Data Centres	Location or material to which this assessment applies Forest Marble Formation	
Project Spring Park Data Centre Expansion		
Job number 24639		

Concrete in aggressive ground

After BRE Special Digest 1, 2005

Soil data

	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	10	10	0
No. tests in 20% data set	2	2	
No. tests with suspected pyrite		2	
Maximum value	224	2.2	
Mean of highest two values	152	2	
Mean of highest 20%	200	2	
Characteristic Value	200	1.7	

Mg not required

	[no pyrite]	[pyrite suspected]
DS Class	DS-1	DS-4 m

If pyrite suspected, DS Class limited to **DS-4 m**

Is pyrite assumed to be present? **No** Adopted DS Class = **DS-1**

Water data

	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0

Mg not required

DS Class

pH data

	Soil	Water
Number of tests	10	2
No. tests in 20% data set	2	0
Lowest pH	7.3	12.0
Mean of lowest 20%	7.6	
Characteristic value	7.6	12.0

Design value	7.6
---------------------	------------

Number of soil pH results less than 5.5 0

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Brownfield Mobile groundwater
	DS-1
	AC-1

Appendix D Site monitoring data and ground gas risk assessment

Site: Spring Park Data Centre Job number: 24639 Client: Ark Data Centre								Notes on site conditions: - 04.04.23 - Sunny, dry and warm (14°C) 12.04.23 - Intermittent heavy rain and cloud, cold (6°C) 18.04.23 - Dry, sunny intervals, windy & mild (10°C) 27.04.23 - Dry, overcast, light breeze, cool (11°C) 04.05.23 - Dry, overcast, mild (14°C), breezy. Dry, sunny (16°C). Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported. GSVs are rounded to 3 places.																				17.05.23
Gas analyser: GA5000 Equipment check OK: Y Service in date: Y Calibration check OK: Y Name of person monitoring: Paddy Keene 1 & 2) / AH (3, 4 & 5) / DK (6)																												
Monitoring round		Borehole details						Pressure and flow						Gas concentrations									GSV		Local conditions			
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Volume of headspace in BH (well pipie & filter pack) (m³)	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	Gas flow* (absolute value) (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases	Gas Screening Value (CH ₄) (l/hr)	Gas Screening Value (CO ₂) (l/hr)	Notes on condition of borehole and surrounding ground			
														Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady					PID		
								Max. individual values:		0.3		0.2		1.4		21.4		0.0006		0.0027		Summary statistics for this monitoring period.						
								Min. individual values:		0.0		0.0		0.1		12.0		0		0								
								Worst-case GSVs based on max. individual flow and max. individual conc. over the duration of this table:																0.0006		0.0042		
04.04.23		WS01	S	2.00-3.00	1.98		0.01098	1017	S	0.07	0.0	0.0		0.1	0.1		0.1	0.4	21.5	19.5		0	0	DTB = 3.34m (measured from well not bgl). Water bailed from window sample hole.				
		WS01	S	2.00-3.00	1.92		0.01065	982	S	0.05	0.1	0.1		0.1	0.1		0.2	1	21.1	20.7		0.0001	0.001	DTB = 3.32m (measured from well), water sampled from WS01.				
18.04.23	12:55	WS01	S	2.00-3.00	1.63		0.00904	1015	F	0.05	0.3	0.3		0.1	0.1		0.1	0.5	21.1	20.6		0.0003	0.0015	DTB = 2.97m bgl (3.33m from top of well TH and DTW = 1.99m). Flow measured -0.0l/hr stable over 2 mins. Water sampled for Hydrock suite and TPH L2).				
27.04.23	11:55	WS01	S	2.00-3.00	1.66		0.00920	1002	F	0.04	-0.3	0.3		0.1	0		0.1	0.6	21.2	19.3		0	0.0018	DTB = 2.97m bgl (3.33m from top of well TH and DTW = 2.02m). Flow measured -0.0l/hr stable over 2 mins. CO measured at 1ppm. Gas monitored over 3 mins.				
04.05.23	12:30	WS01	S	2.00-3.00	1.67		0.00926	1000	F	0.09	0.3	0.3		0	0		0.1	0.6	20	17.6		0	0.0018	DTB = 2.97m bgl (3.33m from top of well TH and DTW = 2.03m). Flow measured 0.1l/hr stable over 2 mins. CO measured at 1ppm. Gas monitored over 3 mins.				
17.05.23	12:20	WS01	S	2.00-3.00	2.016			1019	R	0.00	0.0	0.0		0	0		0.1	0.9	19.1	12		0	0	DTB = 3.301m bgl. Gas monitored over 7 minutes.				
04.04.23		WS05	S	0.90-1.60	1.96	D	0.00947	1017	S	0.04	0.0	0.0		0	0		0.2	0.3	21	19.6		0	0	DTB = 1.96m. Borehole was dry.				
		WS05	S	0.90-1.60	1.96	D	0.00947	982	S	0.05	0.1	0.1		0.1	0.1		0.2	0.7	21.3	20.2		0.0001	0.0007	DTB = 1.96m. Borehole was dry.				
18.04.23	11:20	WS05	S	0.90-1.60	1.47		0.00710	1014	F	0.05	0.3	0.3		0.2	0.2		0.1	0.7	21	19.5		0.0006	0.0021	DTB = 1.50m bgl (1.95m from top of well TH and DTW = 1.92m). Flow measured 0.0l/hr stable over 2 mins.				
27.04.23	10:55	WS05	S	0.90-1.60	1.48		0.00715	1001	F	0.05	0.3	0.3		0.1	0.1		0.1	0.8	20.8	19.7		0.0003	0.0024	DTB = 1.50m bgl (1.95m from top of well TH and DTW = 1.93m). Flow measured 0.0l/hr stable over 2 mins.				
04.05.23	11:10	WS05	S	0.90-1.60	1.49	D	0.00421	1000	F	0.04	0.3	0.3		0.1	0		0.1	0.9	21.1	20.4		0	0.0027	DTB = 1.50m bgl (1.95m from top of well TH and DTW = 1.94m). 1cm sludge at base of well. Flow measured 0.0l/hr stable over 2 mins.				
17.05.23	11:20	WS05	S	0.90-1.60	1.93	D		1017	S	0.07	-0.1	0.1		0.1	0.1		1.4	1.4	20.4	17.3		0.0001	0.0014	DTB = 1.93m bgl. Borehole was dry.				
04.04.23		BH01	S	4.00-10.00	9.14	D	0.04415	1018	S	0.02	0.0	0.0		0	0		0.1	0.9	20.6	20		0	0	DTB = 9.14. Borehole was dry.				
		BH01	S	4.00-10.00	9.09	D	0.04391	982	S	0.09	0.0	0.0		0.1	0.1		0.2	0.2	21.4	21.4		0	0	DTB = 9.09. Borehole was dry.				
18.04.23	11:40	BH01	S	4.00-10.00	8.83		0.04265	1015	F	0.00	-0.3	0.3		0.1	0.1		0.2	0.2	20.6	20.6		0.0003	0.0006	DTB = 8.94m bgl (9.15m from top of well TH and DTW = 9.04m). Ground level was measured to top of concrete mound surrounding well. Water was sludge at bottom of well. Flow measured 0.0l/hr to -0.1l/hr over 2 mins.				

Monitoring round		Borehole details						Pressure and flow					Gas concentrations									GSV		Local conditions	
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Volume of headspace in BH (well pipie & filter pack) (m ³)	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	Gas flow* (absolute value) (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases PID	Gas Screening Value (CH ₄) (l/hr)	Gas Screening Value (CO ₂) (l/hr)	Notes on condition of borehole and surrounding ground
														Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady				
27.04.23	10:55	BH01	S	4.00-10.00	8.85		0.04275	1002	F	0.05	0.3	0.3		0.1	0.1			0.1	0.6	21.0	20.3		0.0003	0.0018	DTB = 8.95m bgl (9.16m from top of well TH and DTW = 9.06m). Ground level was measured to top of concrete mound surrounding well. Water was sludge at bottom of well. Flow measured 0.0l/hr stable over over 2 mins.
04.05.23	11:30	BH01	S	4.00-10.00	8.83		0.04265	1000	F	0.05	0.3	0.3		0.1	0			0.1	0.6	20.4	19.5		0	0.0018	DTB = 8.93m bgl (9.14m from top of well TH and DTW = 9.06m). Ground level was measured to top of concrete mound surrounding well. Water was sludge at bottom of well. Flow measured 0.1 to 0.0l/hr over 2 mins.
17.05.23	11:35	BH01	S	4.00-10.00	9.076			1018	R	-0.05	0.0	0.0		0.1	0.1			0.6	0.6	20.3	20		0	0	DTB = 9.114m bgl.
04.04.23		BH02	S	6.50-10.00	10.14	D	0.04898	1017	S	0.02	0.0	0.0		0	0			0.1	0.1	21.2	20.1		0	0	DTB = 10.14. Borehole was dry.
		BH02	S	6.50-10.00	10.09	D	0.04874	983	S	0.07	0.0	0.0		0.1	0.1			0.2	0.3	21.3	20.9		0	0	DTB = 10.09. Borehole was dry.
18.04.23	12:05	BH02	S	6.50-10.00	9.75	D	0.04709	1016	F	0.00	-0.3	0.3		0.1	0.1			0.1	0.5	21.1	19.9		0.0003	0.0015	DTB = 9.75m bgl (10.10m from top of well TH). 1cm of sludge at base of well. Flow measured -0.1l/hr over 2 mins.
27.04.23	11:25	BH02	S	6.50-10.00	9.75	D	0.04709	1002	F	0.11	0.3	0.3		0.1	0.1			0.1	0.9	21.1	19.6		0.0003	0.0027	DTB = 9.75m bgl (10.10m from top of well TH). 1cm of sludge at base of well. Flow measured 0.0l/hr stable over 2 mins.
04.05.23	11:50	BH02	S	6.50-10.00	9.75	D	0.04709	1000	F	0.04	-0.3	0.3		0	0			0.1	0.9	20.0	18.6		0	0.0027	DTB = 9.75m bgl (10.10m from top of well TH). 1cm of sludge at base of well. Flow measured 0.0 to -0.1l/hr over 2 mins.
17.05.23	11:55	BH02	S	6.50-10.00	10.07	D		1019	R	-0.05	0.0	0.0		0	0			0.9	1.0	20.2	18.8		0	0	DTB = 10.07m bgl.
04.04.23		BH03	S	1.50-3.30	0.47		0.00227	1017	S	0.26				0.1				0.1		21.6					DTB = 0.76. Water level too high, meaning flow and gas reading tests failed. Water was bailed after failed tests. Check on next visit as recorded depth of the hole is 3.30m bgl.
		BH03	S	1.50-3.30	0.51		0.00246	982	S	0.09	0.1	0.1		0.1	0.1			0.9	0.3	20.8	21.1		0.0001	0.0003	DTB = 0.76. Water level was too high so test suspended after 45 seconds. Although depth of the borehole is recorded as 3.30m bgl, the base of the borehole is now recorded at 0.76m. The well has 0.25m of water in the base.

Appendix E Contamination test results and GQRA

Contamination test results

**Scott Williams**

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Analytical Report Number : 23-29271

Project / Site name:	Spring Park Data Centre, Corsham	Samples received on:	19/04/2023
Your job number:	C-24639	Samples instructed on/ Analysis started on:	19/04/2023
Your order number:	PO_25454	Analysis completed by:	26/04/2023
Report Issue Number:	1	Report issued on:	26/04/2023
Samples Analysed:	1 water sample		

Signed:

Anna Goc
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 23-29271

Project / Site name: Spring Park Data Centre, Corsham

Your Order No: PO_25454

Lab Sample Number	2653110			
Sample Reference	WS01			
Sample Number	None Supplied			
Depth (m)	1.80			
Date Sampled	18/04/2023			
Time Taken	1330			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH (L005B)	pH Units	N/A	ISO 17025	7.1
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	700
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0
Sulphate as SO ₄	µg/l	45	ISO 17025	36200
Chloride	mg/l	0.15	ISO 17025	5.6
Fluoride	µg/l	50	ISO 17025	230
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	370
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	450
Ammoniacal Nitrogen as NH ₄	µg/l	15	ISO 17025	480
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	2.91
Nitrate as N	mg/l	0.01	ISO 17025	1.07
Nitrate as NO ₃	mg/l	0.05	ISO 17025	4.74
Nitrite as N	µg/l	1	ISO 17025	9.1
Nitrite as NO ₂	µg/l	5	ISO 17025	30

Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	412
Bromate by IC	mg/l	0.002	ISO 17025	< 0.002

Total Phenols

Total Phenols (monohydric)	µg/l	1	ISO 17025	2.6
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01

PAH Sums

Sum of Benzo(b)fluoranthene & Benzo(k)fluoranthene	µg/l	0.02	NONE	< 0.020
Sum of Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.02	NONE	< 0.020
Sum of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene	µg/l	0.04	NONE	< 0.040

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16
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Heavy Metals / Metalloids

Analytical Report Number: 23-29271

Project / Site name: Spring Park Data Centre, Corsham

Your Order No: PO_25454

Lab Sample Number				2653110
Sample Reference				WS01
Sample Number				None Supplied
Depth (m)				1.80
Date Sampled				18/04/2023
Time Taken				1330
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
Boron (dissolved)	µg/l	10	ISO 17025	68
Calcium (dissolved)	mg/l	0.012	ISO 17025	140
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.012
Magnesium (dissolved)	mg/l	0.005	ISO 17025	13
Sodium (dissolved)	mg/l	0.01	ISO 17025	9.1

Aluminium (dissolved)	µg/l	1	ISO 17025	14
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.5
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.58
Barium (dissolved)	µg/l	0.06	ISO 17025	37
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	0.7
Copper (dissolved)	µg/l	0.5	ISO 17025	2.2
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	160
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.3
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6
Silver (dissolved)	µg/l	0.05	NONE	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	0.54
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.5

Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0
Sum of m, p & o-Xylene	µg/l	2	ISO 17025	< 2.0

Analytical Report Number: 23-29271

Project / Site name: Spring Park Data Centre, Corsham

Your Order No: PO_25454

Lab Sample Number				2653110
Sample Reference				WS01
Sample Number				None Supplied
Depth (m)				1.80
Date Sampled				18/04/2023
Time Taken				1330
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 _{HS,1D,AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8 _{HS,1D,AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10 _{HS,1D,AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12 _{EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 _{EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C35 _{EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C35 - C44 _{EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH,1D,AL,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C44) _{HS+EH,1D,AL,MS}	µg/l	10	NONE	< 10

TPH-CWG - Aromatic >C5 - C7 _{HS,1D,AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS,1D,AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS,1D,AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH,1D,AR,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 _{EH,1D,AR,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 _{EH,1D,AR,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 _{EH,1D,AR,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C35 - C44 _{EH,1D,AR,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) _{HS+EH,1D,AR,MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C44) _{HS+EH,1D,AR,MS}	µg/l	10	NONE	< 10

TPH-CWG Total C5 - C44 _{EH+HS,1D,TOTAL,MS}	µg/l	10	NONE	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-29271

Project / Site name: Spring Park Data Centre, Corsham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Fluoride in water	Determination of fluoride in water by 1:1 ratio with a buffer solution followed by Ion Selective Electrode. Accredited matrices: SW, PW, GW.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Speciated EPA-16 PAHs in water (LOW LEVEL Dets)	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270 (low level)	L102B-PL	W	NONE
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-MS	In-house method, TPH with carbon banding.	L070-PL	W	NONE

Analytical Report Number : 23-29271

Project / Site name: Spring Park Data Centre, Corsham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH ₃ in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammonium as NH ₄ in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	ISO 17025
TPH Chromatogram in Water	TPH Chromatogram in Water.	In-house method	L070-PL	W	NONE
Cr (III) in water	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Free cyanide (low level) in water	Determination of free cyanide by distillation followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Bromate in Water	Determination of bromate in waters based on ion chromatography. Accredited matrices GW, PW, SW.	In house method based on Standard Methods for the Analysis of Water and Waste Water, method 4500	L008-PL	W	ISO 17025
Specific PAH sums in water	Determination of PAH compounds in water by extraction in hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
Chloride in water	Determination of Chloride (dissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

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 aravimetrically 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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
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Analytical Report Number : 23-29271

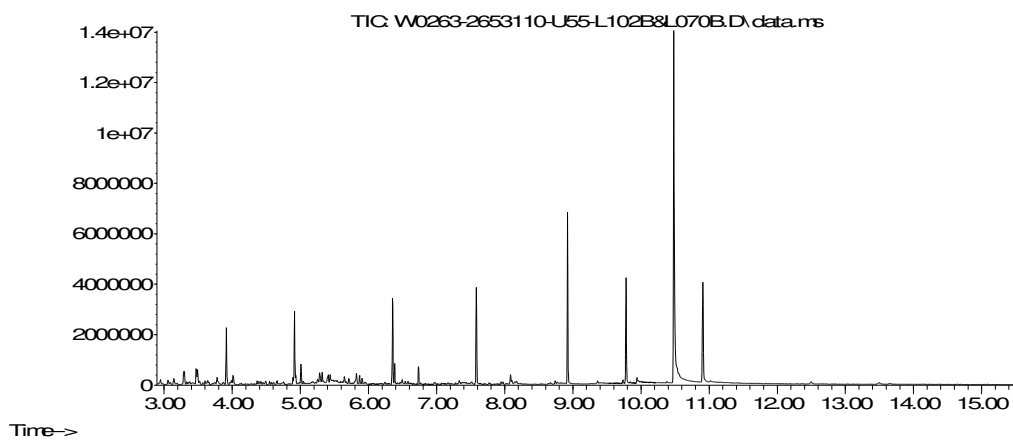
Project / Site name: Spring Park Data Centre, Corsham

Water matrix abbreviations:

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

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

Abundance





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Analytical Report Number : 23-25938-2

Replaces Analytical Report Number: 23-25938, issue no. 1
Additional analysis undertaken.
Asbestos quantification to sample 2635282 added as per client's request.

Project / Site name:	Spring Park Data Centre Expansion Corsham	Samples received on:	29/03/2023
Your job number:	24639	Samples instructed on/ Analysis started on:	30/03/2023
Your order number:	PO25070	Analysis completed by:	19/04/2023
Report Issue Number:	2	Report issued on:	20/04/2023
Samples Analysed:	2 bulk samples - 35 soil samples		

Signed:

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

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

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

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

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

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

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

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635255	2635256	2635257	2635258	2635259
Sample Reference				TP07B	TP07C	WS01	SA01	SA02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.50	0.20	0.20	0.50
Date Sampled				23/03/2023	23/03/2023	22/03/2023	20/03/2023	20/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	-	-	< 0.1	-	< 0.1
Moisture Content	%	0.01	NONE	-	-	29	-	22
Total mass of sample received	kg	0.001	NONE	-	-	1.2	-	1.2

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Amosite	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	< 0.001	-
Asbestos Analyst ID	N/A	N/A	N/A	LFT	LFT	LFT	LFT	LFT

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	-	7.8	-	7.9
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	-
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	0.009	-	0.011
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	-
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	-	-	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Sulphur	%	0.005	MCERTS	-	-	-	-	-
Ammoniacal Nitrogen as NH ₄	mg/kg	0.5	MCERTS	-	-	-	-	-
Ammonium as NH ₄ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	-	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	0.053	-	0.021
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	-
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	2	NONE	-	-	-	-	-
Water Soluble Nitrate (2:1) as NO ₃ (leachate equivalent)	mg/l	5	NONE	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	< 1.0	-	< 1.0
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Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635255	2635256	2635257	2635258	2635259
Sample Reference				TP07B	TP07C	WS01	SA01	SA02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.50	0.20	0.20	0.50
Date Sampled				23/03/2023	23/03/2023	22/03/2023	20/03/2023	20/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	-	0.06	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	0.05	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	0.49	-	0.06
Anthracene	mg/kg	0.05	MCERTS	-	-	0.1	-	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	1.5	-	0.12
Pyrene	mg/kg	0.05	MCERTS	-	-	1.5	-	0.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	1.1	-	0.06
Chrysene	mg/kg	0.05	MCERTS	-	-	1.2	-	0.07
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	1.3	-	0.07
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	0.7	-	0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	1.1	-	0.06
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	0.69	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.21	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	0.69	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	10.7	-	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	24	-	19
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	-	1.3	-	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	1.5	-	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	< 0.2	-	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	< 1.8	-	< 1.8
Chromium (III)	mg/kg	1	NONE	-	-	26	-	25
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	26	-	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	35	-	9.1
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	93	-	28
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	< 0.3	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	32	-	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	< 1.0	-	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	47	-	47
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	250	-	69

Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
p & m-xylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
o-xylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	< 5.0

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635255	2635256	2635257	2635258	2635259
Sample Reference				TP07B	TP07C	WS01	SA01	SA02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.50	0.20	0.20	0.50
Date Sampled				23/03/2023	23/03/2023	22/03/2023	20/03/2023	20/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 _{HS,1D,AL}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS,1D,AL}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS,1D,AL}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH,CU,1D,AL}	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH,CU,1D,AL}	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35 _{EH,CU,1D,AL}	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aliphatic > EC35 - EC44 _{EH,CU,1D,AL}	mg/kg	8.4	NONE	-	-	-	-	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	-	-	-	-	< 10
TPH-CWG - Aliphatic (EC5 - EC44) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	-	-	-	-	< 10
TPH-CWG - Aromatic >EC5 - EC7 _{HS,1D,AR}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS,1D,AR}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS,1D,AR}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 _{EH,CU,1D,AR}	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH,CU,1D,AR}	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aromatic > EC35 - EC44 _{EH,CU,1D,AR}	mg/kg	8.4	NONE	-	-	-	-	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	-	-	-	-	< 10
TPH-CWG - Aromatic (EC5 - EC44) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	-	-	-	-	< 10
TPH Total C5 - C44 _{EH,CU+HS,1D,TOTAL}	mg/kg	10	NONE	-	-	-	-	< 10

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

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635260	2635261	2635262	2635263	2635264
Sample Reference				SA02	TP01	TP03	TP04	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.50	0.20	0.50
Date Sampled				20/03/2023	21/03/2023	20/03/2023	21/03/2023	21/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	-	25	20	18	14
Total mass of sample received	kg	0.001	NONE	-	1.2	1.2	1.2	1.2

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	LFT	LFT	LFT	LFT	LFT

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	7.6	7.8	8.4	8.1
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	-
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.016	0.009	0.17	0.0089
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	-
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	-	-	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Sulphur	%	0.005	MCERTS	-	-	-	-	-
Ammoniacal Nitrogen as NH ₄	mg/kg	0.5	MCERTS	-	-	-	-	-
Ammonium as NH ₄ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	-	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.048	0.021	0.036	0.013
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	-
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	2	NONE	-	-	-	-	-
Water Soluble Nitrate (2:1) as NO ₃ (leachate equivalent)	mg/l	5	NONE	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
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Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635260	2635261	2635262	2635263	2635264
Sample Reference				SA02	TP01	TP03	TP04	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.50	0.20	0.50
Date Sampled				20/03/2023	21/03/2023	20/03/2023	21/03/2023	21/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	0.06	0.05	0.09	0.35
Acenaphthylene	mg/kg	0.05	MCERTS	-	0.13	< 0.05	0.06	1
Acenaphthene	mg/kg	0.05	MCERTS	-	0.12	< 0.05	0.11	2
Fluorene	mg/kg	0.05	MCERTS	-	0.16	< 0.05	0.18	4
Phenanthrene	mg/kg	0.05	MCERTS	-	3.3	0.25	2.3	41
Anthracene	mg/kg	0.05	MCERTS	-	0.73	0.05	0.44	9.8
Fluoranthene	mg/kg	0.05	MCERTS	-	7.8	0.79	2.9	48
Pyrene	mg/kg	0.05	MCERTS	-	6.4	0.73	2.3	39
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	3.3	0.42	1	20
Chrysene	mg/kg	0.05	MCERTS	-	3.4	0.52	1.2	16
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	3.5	0.57	1	19
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	2	0.26	0.52	8.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	3.2	0.46	0.8	17
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	1.8	0.34	0.49	8.8
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.48	0.09	0.12	2.3
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	1.8	0.35	0.53	8.2

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	38.2	4.88	14.1	244
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	19	16	13	15
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	1.1	1	0.54	0.78
Boron (water soluble)	mg/kg	0.2	MCERTS	-	0.4	< 0.2	0.5	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	-	24	20	8.9	16
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	25	21	9.1	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	32	20	12	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	240	25	19	39
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	24	21	16	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	45	36	23	32
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	290	60	51	93

Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Toluene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
p & m-xylene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
o-xylene	µg/kg	5	MCERTS	-	-	-	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	< 5.0	-

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635260	2635261	2635262	2635263	2635264
Sample Reference				SA02	TP01	TP03	TP04	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.50	0.20	0.50
Date Sampled				20/03/2023	21/03/2023	20/03/2023	21/03/2023	21/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 _{HS,1D,AL}	mg/kg	0.001	NONE	-	-	-	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 _{HS,1D,AL}	mg/kg	0.001	NONE	-	-	-	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 _{HS,1D,AL}	mg/kg	0.001	NONE	-	-	-	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 _{EH,CU,1D,AL}	mg/kg	1	MCERTS	-	-	-	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 _{EH,CU,1D,AL}	mg/kg	2	MCERTS	-	-	-	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	-	-	-	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	-	-	-	< 8.0	-
TPH-CWG - Aliphatic >EC16 - EC35 _{EH,CU,1D,AL}	mg/kg	10	MCERTS	-	-	-	< 10	-
TPH-CWG - Aliphatic > EC35 - EC44 _{EH,CU,1D,AL}	mg/kg	8.4	NONE	-	-	-	< 8.4	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	-	-	-	< 10	-
TPH-CWG - Aliphatic (EC5 - EC44) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	-	-	-	< 10	-
TPH-CWG - Aromatic >EC5 - EC7 _{HS,1D,AR}	mg/kg	0.001	NONE	-	-	-	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 _{HS,1D,AR}	mg/kg	0.001	NONE	-	-	-	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 _{HS,1D,AR}	mg/kg	0.001	NONE	-	-	-	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 _{EH,CU,1D,AR}	mg/kg	1	MCERTS	-	-	-	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH,CU,1D,AR}	mg/kg	2	MCERTS	-	-	-	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	-	-	-	< 10	-
TPH-CWG - Aromatic >EC21 - EC35 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	-	-	-	< 10	-
TPH-CWG - Aromatic > EC35 - EC44 _{EH,CU,1D,AR}	mg/kg	8.4	NONE	-	-	-	< 8.4	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	-	-	-	< 10	-
TPH-CWG - Aromatic (EC5 - EC44) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	-	-	-	< 10	-
TPH Total C5 - C44 _{EH,CU+HS,1D,TOTAL}	mg/kg	10	NONE	-	-	-	< 10	-

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

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635265	2635266	2635267	2635268	2635269
Sample Reference				TP06	TP08	TP08	TP09	TP10
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.10	0.40	1.00	0.30
Date Sampled				21/03/2023	23/03/2023	23/03/2023	23/03/2023	23/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	28	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	26	19	24	25
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2	1.2	1.2

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	JBH	JBH	JBH	JBH	JBH

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.3	7.6	7.9	8.1	7
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	1000	-
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	0.1	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.011	0.006	0.0072	0.015	0.0099
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	14.7	-
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	-	2.8	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	1.4	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	420	-
Total Sulphur	%	0.005	MCERTS	-	-	-	0.042	-
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	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.013	0.039	0.021	0.0079	0.025
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	-
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	2	NONE	-	-	-	2.1	-
Water Soluble Nitrate (2:1) as NO ₃ (leachate equivalent)	mg/l	5	NONE	-	-	-	< 5.0	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635265	2635266	2635267	2635268	2635269
Sample Reference				TP06	TP08	TP08	TP09	TP10
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.10	0.40	1.00	0.30
Date Sampled				21/03/2023	23/03/2023	23/03/2023	23/03/2023	23/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.06	0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.25	0.13	0.06	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.28	0.38	0.18	< 0.05	0.12
Pyrene	mg/kg	0.05	MCERTS	0.23	0.33	0.15	< 0.05	0.11
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.13	0.19	0.09	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.14	0.24	0.11	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.15	0.29	0.12	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.07	0.12	0.07	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.12	0.23	0.12	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.08	0.16	0.07	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.08	0.17	0.09	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.74	2.29	1.06	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	22	18	17	28	26
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.95	1.2	1.1	1.1	1.5
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.4	0.3	0.2	1.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	20	21	21	24	32
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	22	22	24	32
Copper (aqua regia extractable)	mg/kg	1	MCERTS	7.6	39	14	9.6	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23	65	29	16	49
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	24	20	25	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	44	44	43	63	64
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	56	190	130	53	87

Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	7.4	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	3.7	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Toluene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
o-xylene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	-	-	-

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Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635265	2635266	2635267	2635268	2635269
Sample Reference				TP06	TP08	TP08	TP09	TP10
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.10	0.40	1.00	0.30
Date Sampled				21/03/2023	23/03/2023	23/03/2023	23/03/2023	23/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 _{HS,1D,AL}	mg/kg	0.001	NONE	-	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 _{HS,1D,AL}	mg/kg	0.001	NONE	-	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 _{HS,1D,AL}	mg/kg	0.001	NONE	-	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 _{EH,CU,1D,AL}	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 _{EH,CU,1D,AL}	mg/kg	2	MCERTS	-	< 2.0	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	-	< 8.0	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	-	< 8.0	-	-	-
TPH-CWG - Aliphatic >EC16 - EC35 _{EH,CU,1D,AL}	mg/kg	10	MCERTS	-	< 10	-	-	-
TPH-CWG - Aliphatic > EC35 - EC44 _{EH,CU,1D,AL}	mg/kg	8.4	NONE	-	< 8.4	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	-	< 10	-	-	-
TPH-CWG - Aliphatic (EC5 - EC44) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	-	< 10	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 _{HS,1D,AR}	mg/kg	0.001	NONE	-	< 0.001	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 _{HS,1D,AR}	mg/kg	0.001	NONE	-	< 0.001	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 _{HS,1D,AR}	mg/kg	0.001	NONE	-	< 0.001	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 _{EH,CU,1D,AR}	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH,CU,1D,AR}	mg/kg	2	MCERTS	-	< 2.0	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	-	< 10	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	-	< 10	-	-	-
TPH-CWG - Aromatic > EC35 - EC44 _{EH,CU,1D,AR}	mg/kg	8.4	NONE	-	< 8.4	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	-	< 10	-	-	-
TPH-CWG - Aromatic (EC5 - EC44) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	-	< 10	-	-	-
TPH Total C5 - C44 _{EH,CU+HS,1D,TOTAL}	mg/kg	10	NONE	-	< 10	-	-	-

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

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635270	2635271	2635272	2635273	2635274
Sample Reference				TP11	TP12	TP12	TP13	TP13
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	1.20	0.10	0.50
Date Sampled				22/03/2023	22/03/2023	22/03/2023	21/03/2023	21/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	24	18	16	21	15
Total mass of sample received	kg	0.001	NONE	0.5	1.2	0.4	1.3	0.6

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	JBH	JBH	JBH	JBH	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.8	7.9	8	7.9	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	1500	-	-
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	0.152	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0073	0.0076	0.0084	0.011	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	8.4	-	-
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	1.3	-	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	0.7	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	630	-	-
Total Sulphur	%	0.005	MCERTS	-	-	0.063	-	-
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	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.012	0.022	0.0051	0.049	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	-
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	2	NONE	-	-	< 2.0	-	-
Water Soluble Nitrate (2:1) as NO ₃ (leachate equivalent)	mg/l	5	NONE	-	-	< 5.0	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
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Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635270	2635271	2635272	2635273	2635274
Sample Reference				TP11	TP12	TP12	TP13	TP13
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	1.20	0.10	0.50
Date Sampled				22/03/2023	22/03/2023	22/03/2023	21/03/2023	21/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.11	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.06	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.06	-
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.24	< 0.05	0.93	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.05	< 0.05	0.25	-
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.81	< 0.05	3.1	-
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.7	< 0.05	2.9	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.46	< 0.05	1.8	-
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.51	< 0.05	1.9	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.6	< 0.05	2.8	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.23	< 0.05	0.98	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.42	< 0.05	2.2	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.26	< 0.05	1.4	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.23	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.26	< 0.05	1.5	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	4.54	< 0.80	20.3	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	29	18	12	19	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	2.2	0.93	1.2	0.72	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	0.3	0.2	1.8	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	1.1	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	-
Chromium (III)	mg/kg	1	NONE	46	17	26	25	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	47	17	26	25	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	12	6.5	33	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	25	24	11	65	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	50	20	23	29	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	89	38	31	32	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	79	54	52	230	-

Magnesium (water soluble)	mg/kg	5	NONE	-	-	< 5.0	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	< 2.5	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
p & m-xylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
o-xylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	< 5.0

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635270	2635271	2635272	2635273	2635274
Sample Reference				TP11	TP12	TP12	TP13	TP13
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	1.20	0.10	0.50
Date Sampled				22/03/2023	22/03/2023	22/03/2023	21/03/2023	21/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 _{HS,1D,AL}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS,1D,AL}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS,1D,AL}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH,CU,1D,AL}	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH,CU,1D,AL}	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35 _{EH,CU,1D,AL}	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aliphatic > EC35 - EC44 _{EH,CU,1D,AL}	mg/kg	8.4	NONE	-	-	-	-	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	-	-	-	-	< 10
TPH-CWG - Aliphatic (EC5 - EC44) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	-	-	-	-	< 10
TPH-CWG - Aromatic >EC5 - EC7 _{HS,1D,AR}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS,1D,AR}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS,1D,AR}	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 _{EH,CU,1D,AR}	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH,CU,1D,AR}	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aromatic > EC35 - EC44 _{EH,CU,1D,AR}	mg/kg	8.4	NONE	-	-	-	-	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	-	-	-	-	< 10
TPH-CWG - Aromatic (EC5 - EC44) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	-	-	-	-	< 10
TPH Total C5 - C44 _{EH,CU+HS,1D,TOTAL}	mg/kg	10	NONE	-	-	-	-	< 10

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

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635275	2635276	2635277	2635278	2635279
Sample Reference				TP13	TP14	TP14	TP15	TP15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.10	0.50	0.30	0.80
Date Sampled				21/03/2023	22/03/2023	22/03/2023	22/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		
Stone Content				%	0.1	NONE	< 0.1	< 0.1
Moisture Content				%	0.01	NONE	16	23
Total mass of sample received				kg	0.001	NONE	0.6	1.2

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	JBH	ASE	ASE	ASE

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	7.7	7.9	7.6	8.1
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	980
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-	0.098
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.0082	0.0063	0.0066	0.0084
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	8.4
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	-	-	3
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	1.5
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	470
Total Sulphur	%	0.005	MCERTS	-	-	-	-	0.047
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
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.034	0.019	0.02	0.0042
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	-
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	2	NONE	-	-	-	-	3.8
Water Soluble Nitrate (2:1) as NO ₃ (leachate equivalent)	mg/l	5	NONE	-	-	-	-	< 5.0

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
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Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635275	2635276	2635277	2635278	2635279
Sample Reference				TP13	TP14	TP14	TP15	TP15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.10	0.50	0.30	0.80
Date Sampled				21/03/2023	22/03/2023	22/03/2023	22/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	0.09	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	0.15	< 0.05	< 0.05	0.13
Pyrene	mg/kg	0.05	MCERTS	-	0.13	< 0.05	< 0.05	0.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.1	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	0.13	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	0.17	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	0.06	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.12	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.07	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.09	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	1.11	< 0.80	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	19	25	20	15
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	1.1	1.6	1.4	0.73
Boron (water soluble)	mg/kg	0.2	MCERTS	-	1.5	1.4	0.6	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	-	19	35	30	15
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	20	36	30	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	18	11	12	5.3
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	44	25	37	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	22	32	30	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	40	66	52	36
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	99	74	77	35

Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	< 5.0
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	< 2.5

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
p & m-xylene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
o-xylene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	-	-	-	-

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635275	2635276	2635277	2635278	2635279
Sample Reference				TP13	TP14	TP14	TP15	TP15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.10	0.50	0.30	0.80
Date Sampled				21/03/2023	22/03/2023	22/03/2023	22/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 _{EH,CU,1D,AL}	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 _{EH,CU,1D,AL}	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC35 _{EH,CU,1D,AL}	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aliphatic > EC35 - EC44 _{EH,CU,1D,AL}	mg/kg	8.4	NONE	< 8.4	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	< 10	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC44) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	< 10	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 _{EH,CU,1D,AR}	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH,CU,1D,AR}	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic > EC35 - EC44 _{EH,CU,1D,AR}	mg/kg	8.4	NONE	< 8.4	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	< 10	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC44) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	< 10	-	-	-	-
TPH Total C5 - C44 _{EH,CU+HS,1D,TOTAL}	mg/kg	10	NONE	< 10	-	-	-	-

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

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635280	2635281	2635282	2635283	2635284
Sample Reference				SP01	SP02	SP03	SP04	WS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	0.50
Date Sampled				23/03/2023	23/03/2023	23/03/2023	23/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	20	< 0.1
Moisture Content	%	0.01	NONE	31	21	21	9.3	23
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.3	1.2	0.6

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile & Amosite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	0.013	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	0.013	-	-
Asbestos Analyst ID	N/A	N/A	N/A	ASE	ASE	ASE	ASE	ASE

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.9	8.9	8.1	8.2	7.6
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	-
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.012	0.023	0.032	0.013	0.0086
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	-
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	-	-	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Sulphur	%	0.005	MCERTS	-	-	-	-	-
Ammoniacal Nitrogen as NH ₄	mg/kg	0.5	MCERTS	-	-	-	-	-
Ammonium as NH ₄ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	-	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.0095	0.046	0.014	0.027
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.083	-	-	-	-
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	2	NONE	-	-	-	-	-
Water Soluble Nitrate (2:1) as NO ₃ (leachate equivalent)	mg/l	5	NONE	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635280	2635281	2635282	2635283	2635284
Sample Reference				SP01	SP02	SP03	SP04	WS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	0.50
Date Sampled				23/03/2023	23/03/2023	23/03/2023	23/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.76	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.2	< 0.05	0.3	5.1	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.13	< 0.05	0.31	6.1	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.16	< 0.05	0.29	10	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	2.8	0.67	5.8	100	0.14
Anthracene	mg/kg	0.05	MCERTS	0.79	0.16	1.5	31	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	7.8	1.5	15	130	0.36
Pyrene	mg/kg	0.05	MCERTS	7.1	1.3	13	110	0.33
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4	0.64	7.1	54	0.17
Chrysene	mg/kg	0.05	MCERTS	4	0.68	7.6	49	0.2
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	5.8	0.84	10	53	0.28
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	2.1	0.35	3.6	21	0.13
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.6	0.66	7.4	43	0.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.6	0.42	4.6	23	0.14
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.58	0.12	1.4	6.3	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.1	0.46	5.5	26	0.17

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	45.9	7.79	83.8	673	2.12
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	30	14	17	27
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.63	2.6	0.91	0.42	1.6
Boron (water soluble)	mg/kg	0.2	MCERTS	4.3	1.9	1.6	0.3	2.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	1.1	1	1.8	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	9.6	35	17	9.7	30
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	9.8	35	17	10	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	24	63	38	18	21
Lead (aqua regia extractable)	mg/kg	1	MCERTS	220	150	120	44	37
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	38	19	13	31
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	19	70	32	18	64
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	250	210	540	130

Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	< 5.0

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635280	2635281	2635282	2635283	2635284
Sample Reference				SP01	SP02	SP03	SP04	WS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	0.50
Date Sampled				23/03/2023	23/03/2023	23/03/2023	23/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH,CU,1D,AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH,CU,1D,AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	-	3.4	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	-	9.3	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	13	< 8.0	-	19	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35 _{EH,CU,1D,AL}	mg/kg	10	MCERTS	13	< 10	-	28	< 10
TPH-CWG - Aliphatic > EC35 - EC44 _{EH,CU,1D,AL}	mg/kg	8.4	NONE	< 8.4	< 8.4	-	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	16	< 10	-	33	< 10
TPH-CWG - Aliphatic (EC5 - EC44) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	16	< 10	-	33	< 10
TPH-CWG - Aromatic >EC5 - EC7 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 _{EH,CU,1D,AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	-	1.2	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH,CU,1D,AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	-	26	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	10	< 10	-	200	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	51	< 10	-	180	< 10
TPH-CWG - Aromatic > EC35 - EC44 _{EH,CU,1D,AR}	mg/kg	8.4	NONE	< 8.4	< 8.4	-	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	61	13	-	400	< 10
TPH-CWG - Aromatic (EC5 - EC44) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	66	13	-	400	< 10
TPH Total C5 - C44 _{EH,CU+HS,1D,TOTAL}	mg/kg	10	NONE	82	13	-	440	< 10

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

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635285	2635286	2635287	2635288	2635289
Sample Reference				WS03	TP04	TP04	TP11	TP11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.30	1.40	1.00	1.50
Date Sampled				22/03/2023	21/03/2023	21/03/2023	22/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	19	5.8	17	13
Total mass of sample received	kg	0.001	NONE	0.6	0.6	0.6	0.6	0.6

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	8.1	8.4	8.1	8
Free Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	470	1400	1300	1900
Total Sulphate as SO ₄	%	0.005	MCERTS	-	0.047	0.141	0.127	0.19
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.0059	0.016	0.0086	0.013
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	5.9	16	8.6	12.6
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	1.4	4.2	2	1.9
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	0.7	2.1	1	0.9
Total Sulphur	mg/kg	50	MCERTS	-	270	760	560	880
Total Sulphur	%	0.005	MCERTS	-	0.027	0.076	0.056	0.088
Ammoniacal Nitrogen as NH ₄	mg/kg	0.5	MCERTS	-	< 0.5	< 0.5	< 0.5	< 0.5
Ammonium as NH ₄ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05	< 0.05
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	-	-	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	-
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	2	NONE	-	3.2	2.2	2.1	< 2.0
Water Soluble Nitrate (2:1) as NO ₃ (leachate equivalent)	mg/l	5	NONE	-	< 5.0	< 5.0	< 5.0	< 5.0

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-
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Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635285	2635286	2635287	2635288	2635289
Sample Reference				WS03	TP04	TP04	TP11	TP11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.30	1.40	1.00	1.50
Date Sampled				22/03/2023	21/03/2023	21/03/2023	22/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	-	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	-	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	-
Chromium (III)	mg/kg	1	NONE	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

Magnesium (water soluble)	mg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	< 5.0
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	< 2.5	< 2.5	< 2.5	< 2.5

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
p & m-xylene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
o-xylene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	-	-	-	-

Analytical Report Number: 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635285	2635286	2635287	2635288	2635289
Sample Reference				WS03	TP04	TP04	TP11	TP11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.30	1.40	1.00	1.50
Date Sampled				22/03/2023	21/03/2023	21/03/2023	22/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 _{EH,CU,1D,AL}	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 _{EH,CU,1D,AL}	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC35 _{EH,CU,1D,AL}	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aliphatic > EC35 - EC44 _{EH,CU,1D,AL}	mg/kg	8.4	NONE	< 8.4	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	< 10	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC44) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	< 10	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 _{EH,CU,1D,AR}	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH,CU,1D,AR}	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic > EC35 - EC44 _{EH,CU,1D,AR}	mg/kg	8.4	NONE	< 8.4	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	< 10	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC44) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	< 10	-	-	-	-
TPH Total C5 - C44 _{EH,CU+HS,1D,TOTAL}	mg/kg	10	NONE	< 10	-	-	-	-

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



Analytical Report Number: 23-25938
Project / Site name: Spring Park Data Centre Expansion Corsham
Your Order No: PO25070

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2635258	SA01	0.20	138	Loose Fibres	Amosite	< 0.001	< 0.001
2635260	SA02	0.20	119	Loose Fibres	Chrysotile	< 0.001	< 0.001
2635282	SP03		124	Loose Fibres & Loose Fibrous Debris	Chrysotile & Amosite	0.013	0.013

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

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Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2635290	2635291
Sample Reference				TP07	TP07A
Sample Number				None Supplied	None Supplied
Depth (m)				0.40-0.50	0.30
Date Sampled				23/03/2023	23/03/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Bulk Analysis)				Units	Limit of detection
				Accreditation Status	

Asbestos Identification	Type	N/A	ISO 17025	Chrysotile-Asbestos Cement	Chrysotile-Asbestos Cement
Asbestos Analyst ID	N/A	N/A	N/A	ASE	ASE

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

Analytical Report Number : 23-25938

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* 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 *
2635257	WS01	None Supplied	0.2	Brown clay and loam with gravel and vegetation.
2635259	SA02	None Supplied	0.5	Brown clay and loam.
2635261	TP01	None Supplied	0.2	Brown clay and loam with gravel and vegetation.
2635262	TP03	None Supplied	0.5	Brown clay and loam with gravel and vegetation.
2635263	TP04	None Supplied	0.2	Brown loam and sand with clinker and gravel
2635264	TP05	None Supplied	0.5	Brown clay and sand with gravel.
2635265	TP06	None Supplied	1	Brown clay and sand with gravel and vegetation.
2635266	TP08	None Supplied	0.1	Brown loam and clay with gravel and vegetation.
2635267	TP08	None Supplied	0.4	Brown clay and sand with gravel and vegetation.
2635268	TP09	None Supplied	1	Brown clay and sand with gravel.
2635269	TP10	None Supplied	0.3	Brown clay and sand with gravel and vegetation.
2635270	TP11	None Supplied	0.5	Brown clay and sand with vegetation.
2635271	TP12	None Supplied	0.2	Brown clay and sand with vegetation and clinker
2635272	TP12	None Supplied	1.2	Brown clay and sand with gravel.
2635273	TP13	None Supplied	0.1	Brown sand with gravel and vegetation.
2635274	TP13	None Supplied	0.5	Brown clay and sand with gravel and vegetation.
2635275	TP13	None Supplied	1	Brown clay and sand with gravel and vegetation.
2635276	TP14	None Supplied	0.1	Brown clay and sand with vegetation and stones.
2635277	TP14	None Supplied	0.5	Brown clay and sand with vegetation.
2635278	TP15	None Supplied	0.3	Brown clay and sand with vegetation.
2635279	TP15	None Supplied	0.8	Brown clay and sand.
2635280	SP01	None Supplied	None Supplied	Brown sand with gravel and vegetation.
2635281	SP02	None Supplied	None Supplied	Brown sand with gravel and vegetation.
2635282	SP03	None Supplied	None Supplied	Brown sand with gravel and vegetation.
2635283	SP04	None Supplied	None Supplied	Brown clay and sand with gravel and stones.
2635284	WS02	None Supplied	0.5	Brown loam and clay with vegetation.
2635285	WS03	None Supplied	0.5	Brown clay and sand with vegetation and gravel
2635286	TP04	None Supplied	0.3	Brown clay and sand with gravel.
2635287	TP04	None Supplied	1.4	Brown clay and sand with concrete.
2635288	TP11	None Supplied	1	Brown clay and sand with gravel.
2635289	TP11	None Supplied	1.5	Brown clay and sand with gravel.

Analytical Report Number : 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023	D	MCERTS
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	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
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
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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.	L038-PL	D	MCERTS

Analytical Report Number : 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L0738-PL	W	MCERTS
Ammonium as NH ₄ 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	L082-PL	W	MCERTS
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with Iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Water Soluble Nitrate (leachate equivalent)	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE

Analytical Report Number : 23-25938

Project / Site name: Spring Park Data Centre Expansion Corsham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

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

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

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

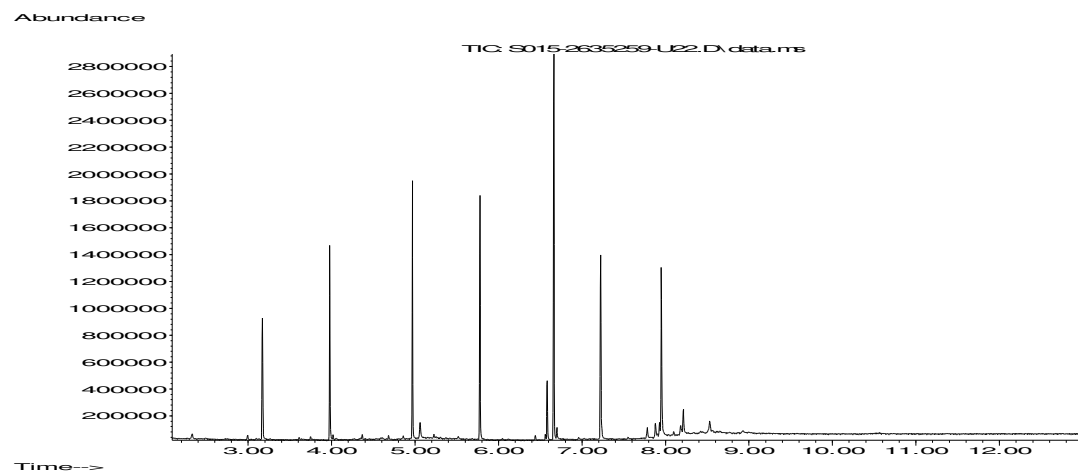
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

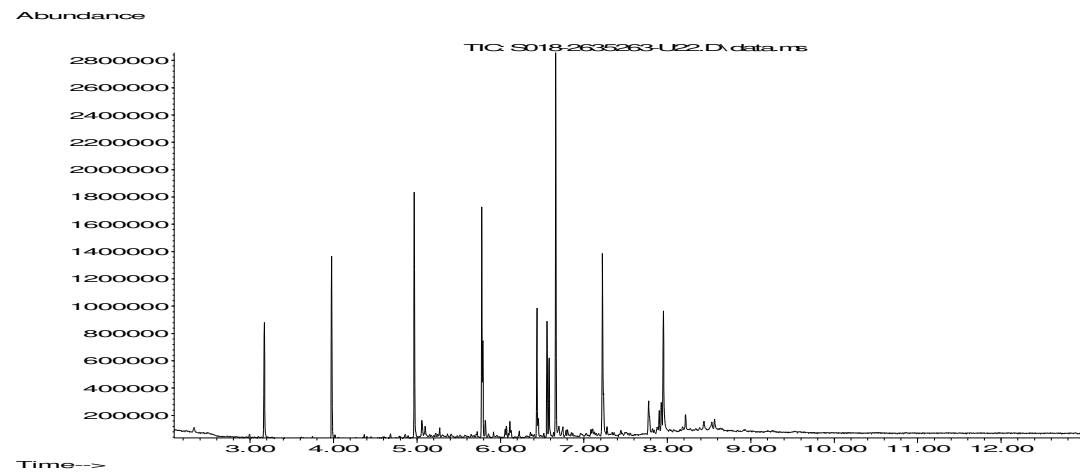
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

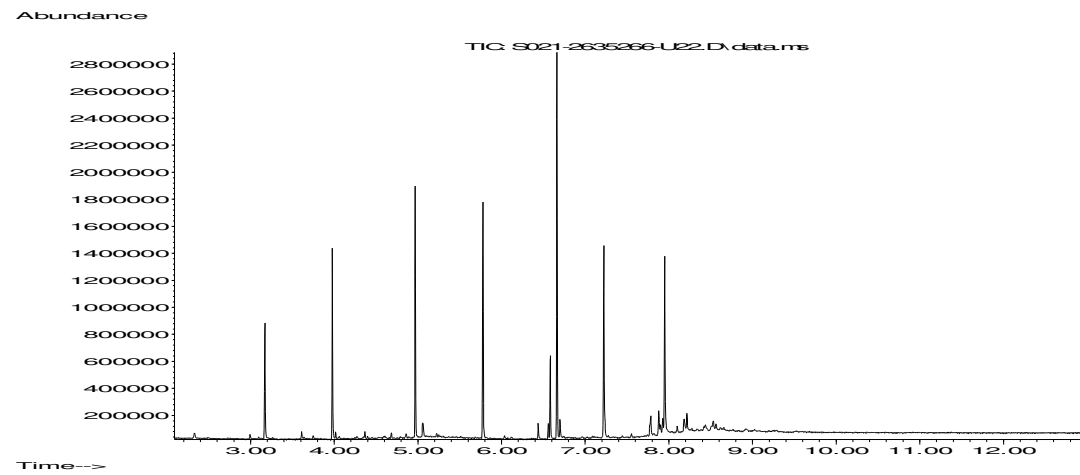
Information in Support of Analytical Results

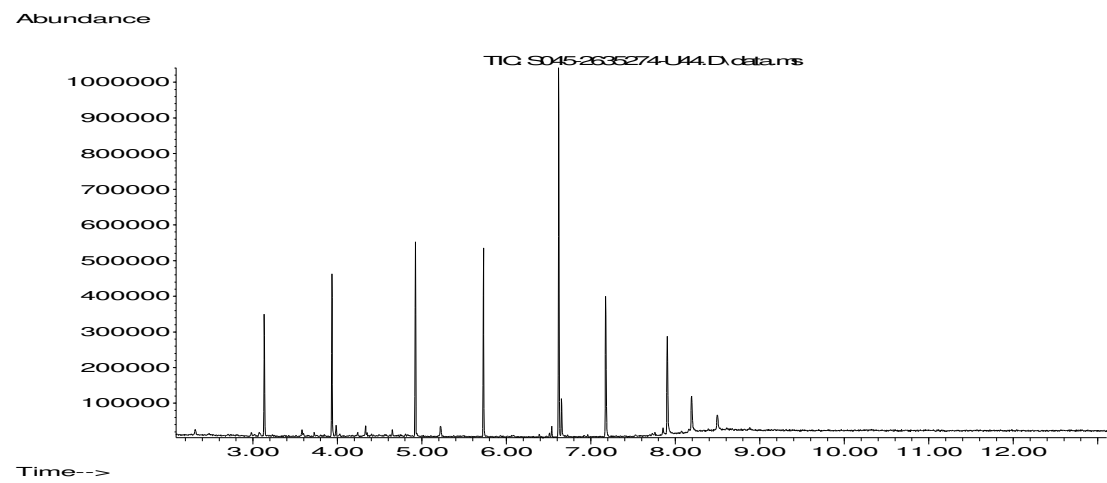
List of HWOL Acronyms and Operators

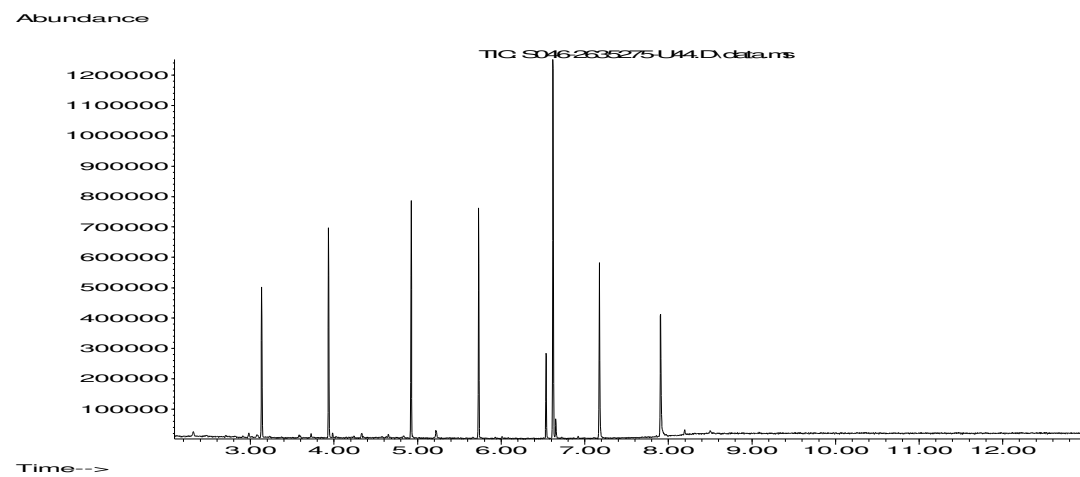
Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column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

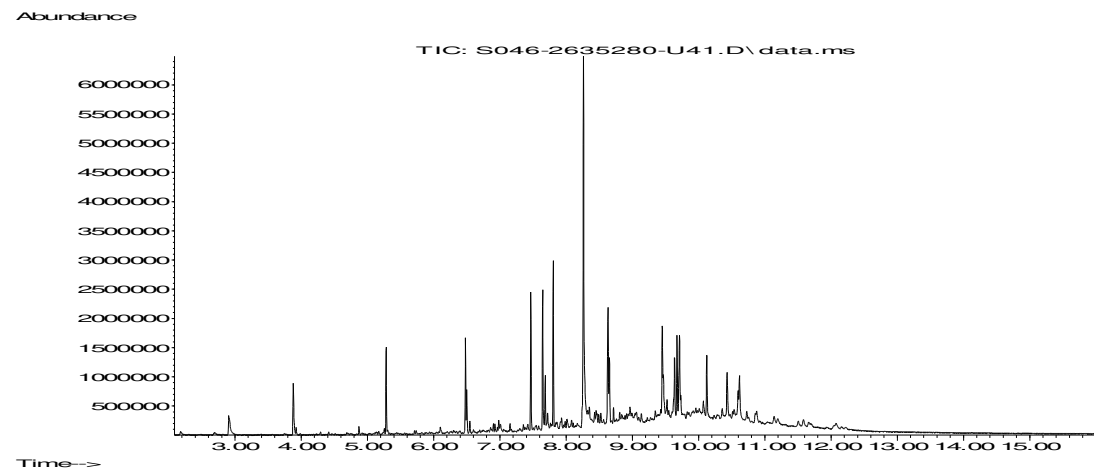


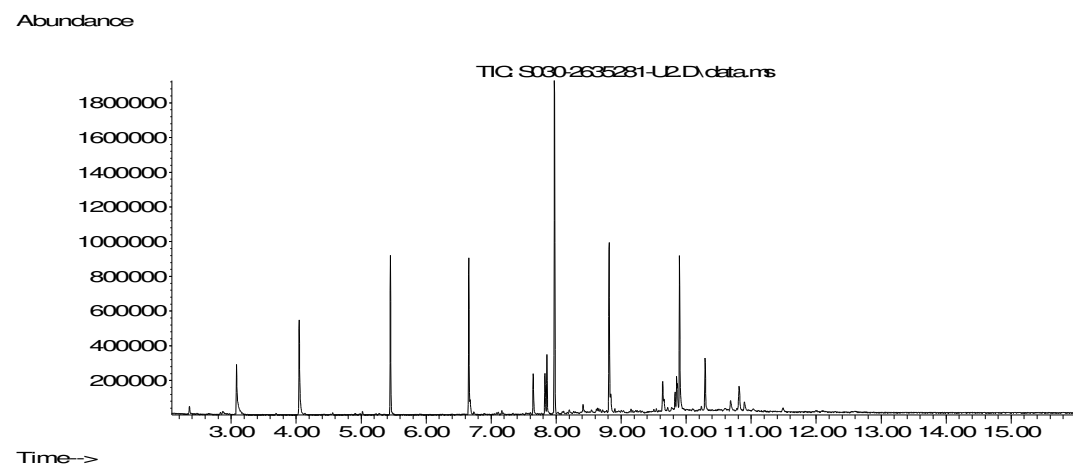


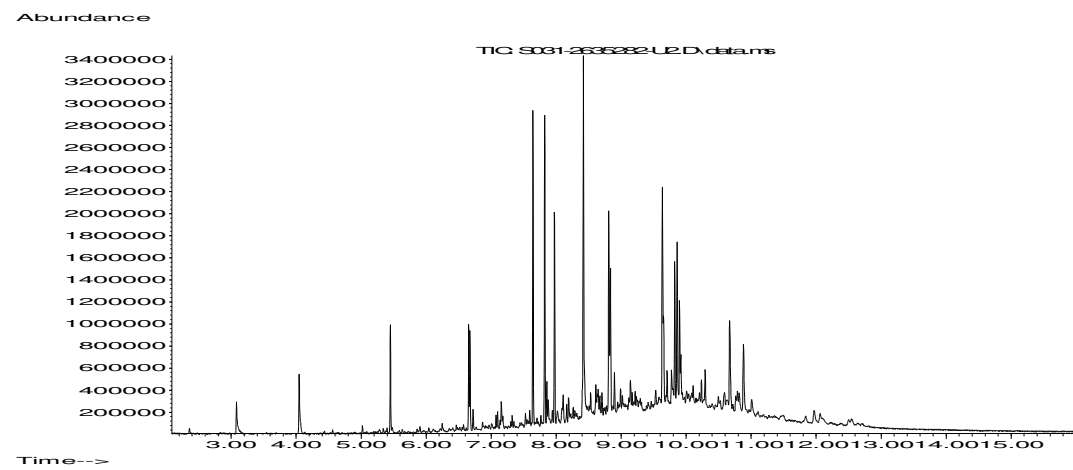


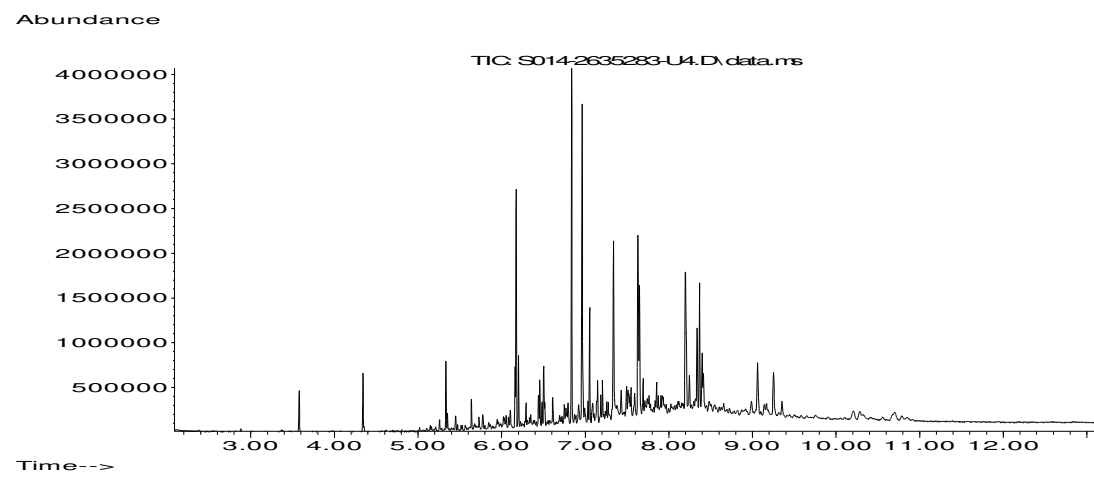


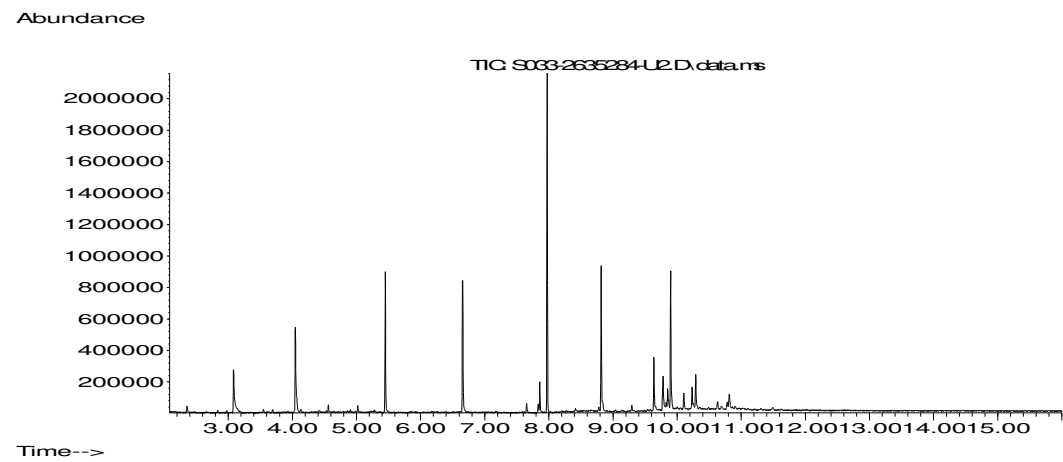


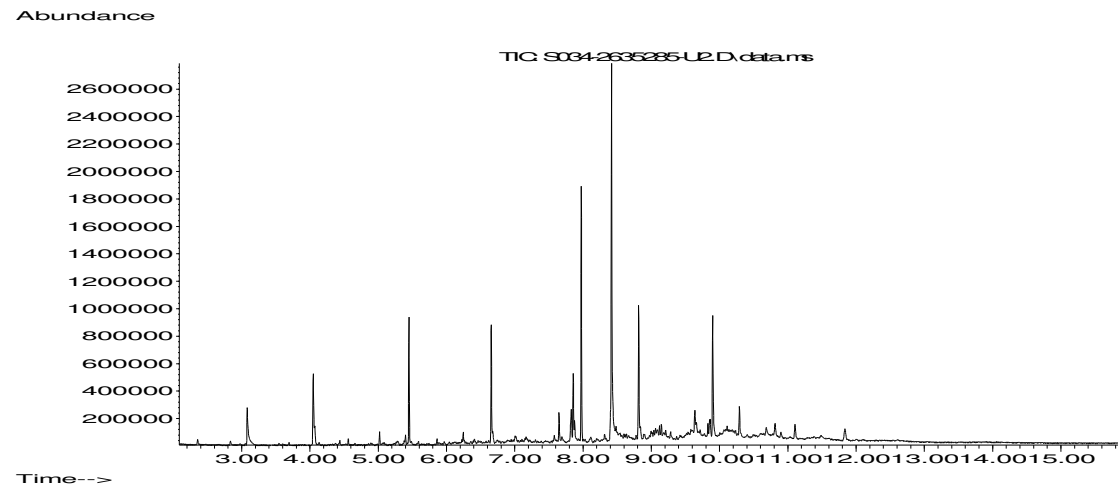












Analytical Report Number : 23-25938**Project / Site name: Spring Park Data Centre Expansion Corsham**

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 c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SA02	None Supplied	S	2635259	c	Free cyanide in soil	L080-PL	c
SP01	None Supplied	S	2635280	bc	Free cyanide in soil	L080-PL	c
SP01	None Supplied	S	2635280	bc	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
SP01	None Supplied	S	2635280	bc	TPHCWG (Soil)	L088/76-PL	b
SP02	None Supplied	S	2635281	bc	Free cyanide in soil	L080-PL	c
SP02	None Supplied	S	2635281	bc	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
SP02	None Supplied	S	2635281	bc	TPHCWG (Soil)	L088/76-PL	b
SP03	None Supplied	S	2635282	c	Free cyanide in soil	L080-PL	c
SP04	None Supplied	S	2635283	c	Free cyanide in soil	L080-PL	c
TP01	None Supplied	S	2635261	c	Free cyanide in soil	L080-PL	c
TP03	None Supplied	S	2635262	c	Free cyanide in soil	L080-PL	c
TP04	None Supplied	S	2635263	c	Free cyanide in soil	L080-PL	c
TP05	None Supplied	S	2635264	c	Free cyanide in soil	L080-PL	c
TP06	None Supplied	S	2635265	c	Free cyanide in soil	L080-PL	c
TP08	None Supplied	S	2635266	bc	Free cyanide in soil	L080-PL	c
TP08	None Supplied	S	2635266	bc	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TP08	None Supplied	S	2635266	bc	TPHCWG (Soil)	L088/76-PL	b
TP08	None Supplied	S	2635267	c	Free cyanide in soil	L080-PL	c
TP09	None Supplied	S	2635268	c	Free cyanide in soil	L080-PL	c
TP10	None Supplied	S	2635269	c	Free cyanide in soil	L080-PL	c
TP11	None Supplied	S	2635270	c	Free cyanide in soil	L080-PL	c
TP12	None Supplied	S	2635271	c	Free cyanide in soil	L080-PL	c
TP12	None Supplied	S	2635272	c	Free cyanide in soil	L080-PL	c
TP13	None Supplied	S	2635273	c	Free cyanide in soil	L080-PL	c
TP13	None Supplied	S	2635275	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TP13	None Supplied	S	2635275	b	TPHCWG (Soil)	L088/76-PL	b
TP14	None Supplied	S	2635276	c	Free cyanide in soil	L080-PL	c
TP14	None Supplied	S	2635277	c	Free cyanide in soil	L080-PL	c
TP15	None Supplied	S	2635278	c	Free cyanide in soil	L080-PL	c
TP15	None Supplied	S	2635279	c	Free cyanide in soil	L080-PL	c
WS01	None Supplied	S	2635257	c	Free cyanide in soil	L080-PL	c
WS02	None Supplied	S	2635284	bc	Free cyanide in soil	L080-PL	c
WS02	None Supplied	S	2635284	bc	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
WS02	None Supplied	S	2635284	bc	TPHCWG (Soil)	L088/76-PL	b
WS03	None Supplied	S	2635285	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
WS03	None Supplied	S	2635285	b	TPHCWG (Soil)	L088/76-PL	b



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Analytical Report Number : 23-26459

Project / Site name:	Spring Park Data Centre Expansion Corsham	Samples received on:	04/04/2023
Your job number:	24639	Samples instructed on/ Analysis started on:	04/04/2023
Your order number:	PO25070	Analysis completed by:	12/04/2023
Report Issue Number:	1	Report issued on:	12/04/2023
Samples Analysed:	5 soil samples		

Signed:

Anna Goc
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 23-26459

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2638027	2638028	2638029	2638030	2638031
Sample Reference				WS01	WS05	BH01a	BH02	BH02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	4.45	2.60	3.90
Date Sampled				22/03/2023	22/03/2023	21/03/2023	22/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	65	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	19	2.3	16	15
Total mass of sample received	kg	0.001	NONE	0.8	0.8	1.2	0.5	0.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	7.7	8.4	7.9	7.8
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	960	1900	1700
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	0.096	0.19	0.17
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0077	0.033	0.023	0.22	0.08
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	22.6	224	80.4
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	16	14	6.7
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	7.9	7.2	3.3
Total Sulphur	mg/kg	50	MCERTS	-	-	480	7300	3600
Total Sulphur	%	0.005	MCERTS	-	-	0.048	0.729	0.358
Ammoniacal Nitrogen as NH ₄	mg/kg	0.5	MCERTS	-	-	< 0.5	< 0.5	< 0.5
Ammonium as NH ₄ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	-	< 0.05	< 0.05	< 0.05
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0037	0.041	-	-	-
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	2	NONE	-	-	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as NO ₃ (leachate equivalent)	mg/l	5	NONE	-	-	< 5.0	< 5.0	< 5.0

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	0.16	0.3	-	-	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.07	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	0.67	0.45	-	-	-
Pyrene	mg/kg	0.05	MCERTS	0.63	0.46	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.36	0.34	-	-	-
Chrysene	mg/kg	0.05	MCERTS	0.4	0.47	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.44	0.45	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.2	0.17	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.37	0.3	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.21	< 0.05	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.25	0.23	-	-	-

Analytical Report Number: 23-26459

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2638027	2638028	2638029	2638030	2638031
Sample Reference				WS01	WS05	BH01a	BH02	BH02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	4.45	2.60	3.90
Date Sampled				22/03/2023	22/03/2023	21/03/2023	22/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Total PAH								
Speciated Total EPA-16 PAHs		mg/kg	0.8	ISO 17025	3.69	3.24	-	-

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	11	-	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.65	1	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.4	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	-	-	-
Chromium (III)	mg/kg	1	NONE	14	8.4	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14	9.8	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	34	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12	27	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	19	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	21	26	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	36	71	-	-	-
Magnesium (water soluble)	mg/kg	5	NONE	-	-	8.4	24	21
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	4.2	12	10

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	-
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	-
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-

Analytical Report Number: 23-26459

Project / Site name: Spring Park Data Centre Expansion Corsham

Your Order No: PO25070

Lab Sample Number				2638027	2638028	2638029	2638030	2638031
Sample Reference				WS01	WS05	BH01a	BH02	BH02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	4.45	2.60	3.90
Date Sampled				22/03/2023	22/03/2023	21/03/2023	22/03/2023	22/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 _{HS,1D,AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 _{EH,CU,1D,AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 _{EH,CU,1D,AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 _{EH,CU,1D,AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	-	-	-
TPH-CWG - Aliphatic >EC16 - EC35 _{EH,CU,1D,AL}	mg/kg	10	MCERTS	< 10	< 10	-	-	-
TPH-CWG - Aliphatic > EC35 - EC44 _{EH,CU,1D,AL}	mg/kg	8.4	NONE	< 8.4	< 8.4	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	< 10	< 10	-	-	-
TPH-CWG - Aliphatic (EC5 - EC44) _{EH,CU+HS,1D,AL}	mg/kg	10	NONE	< 10	< 10	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 _{HS,1D,AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 _{EH,CU,1D,AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH,CU,1D,AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	< 10	< 10	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 _{EH,CU,1D,AR}	mg/kg	10	MCERTS	< 10	< 10	-	-	-
TPH-CWG - Aromatic > EC35 - EC44 _{EH,CU,1D,AR}	mg/kg	8.4	NONE	< 8.4	< 8.4	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	< 10	< 10	-	-	-
TPH-CWG - Aromatic (EC5 - EC44) _{EH,CU+HS,1D,AR}	mg/kg	10	NONE	< 10	< 10	-	-	-
TPH Total C5 - C44 _{EH,CU+HS,1D,TOTAL}	mg/kg	10	NONE	< 10	< 10	-	-	-

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

Analytical Report Number : 23-26459

Project / Site name: Spring Park Data Centre Expansion Corsham

* 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 *
2638027	WS01	None Supplied	0.5	Brown clay and sand with gravel.
2638028	WS05	None Supplied	0.2	Brown gravely loam with clinker.
2638029	BH01a	None Supplied	4.45	Brown sand with concrete and stones.
2638030	BH02	None Supplied	2.6	Light grey clay.
2638031	BH02	None Supplied	3.9	Brown clay.

Analytical Report Number : 23-26459

Project / Site name: Spring Park Data Centre Expansion Corsham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
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	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
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
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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.	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L0738-PL	W	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	L082-PL	W	MCERTS

Analytical Report Number : 23-26459

Project / Site name: Spring Park Data Centre Expansion Corsham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Water Soluble Nitrate (leachate equivalent)	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics

Analytical Report Number : 23-26459

Project / Site name: Spring Park Data Centre Expansion Corsham

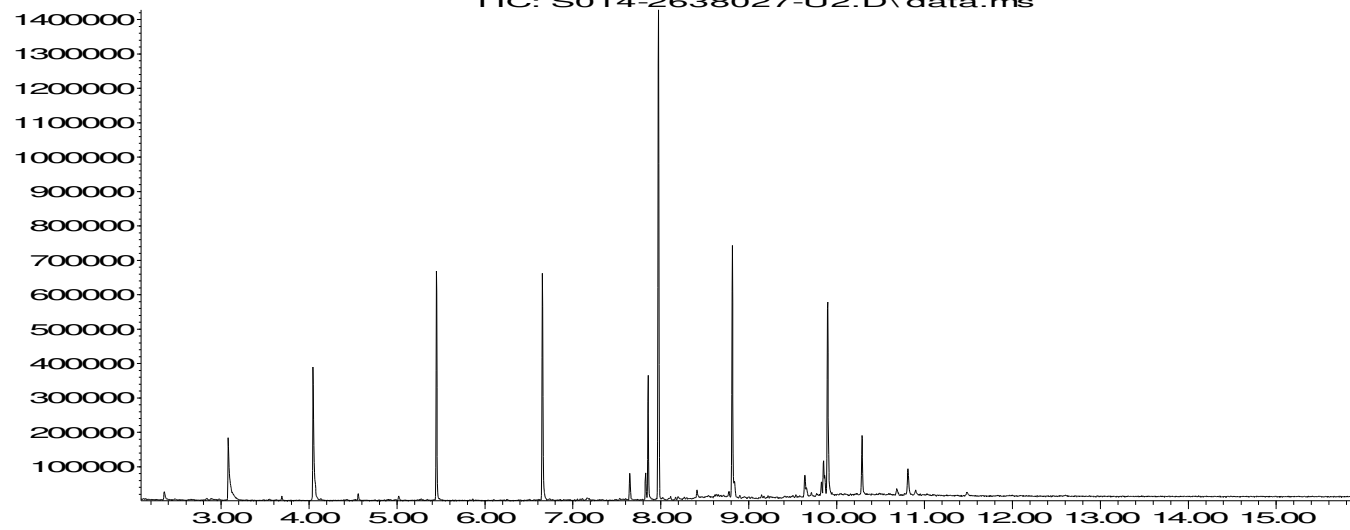
Water matrix abbreviations:

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

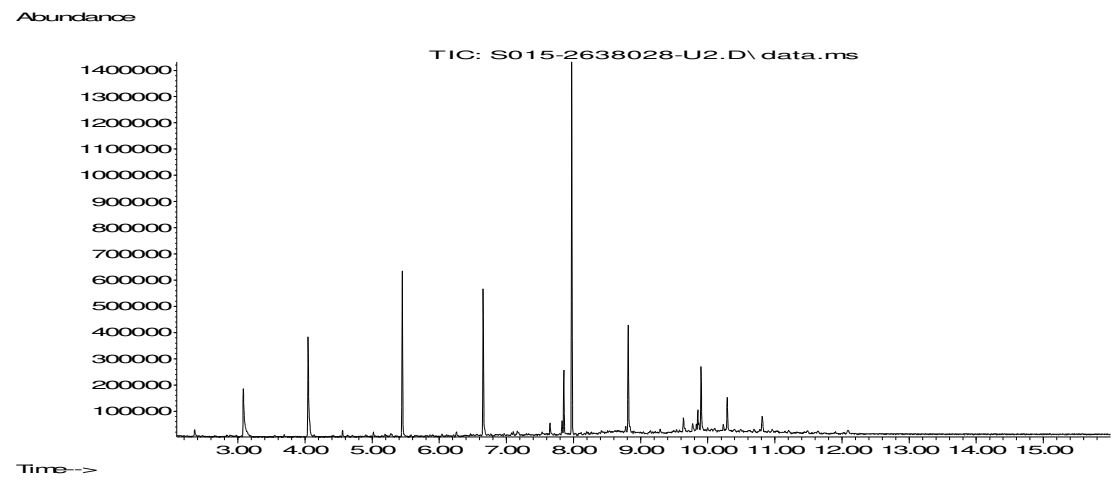
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
-	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

Abundance

TIC: S014-2638027-U2.D\data.ms



Time-->



Sample Deviation Report



Analytical Report Number : 23-26459

Project / Site name: Spring Park Data Centre Expansion Corsham

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 c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS01	None Supplied	S	2638027	c	Free cyanide in soil	L080-PL	c
WS05	None Supplied	S	2638028	c	Free cyanide in soil	L080-PL	c



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Analytical Report Number : 23-27050

Project / Site name: Spring Park Data Centre Expansion,
Corsham

Your job number: 24639

Your order number: PO25070

Report Issue Number: 1

Samples Analysed: 1 bulk sample

Samples received on: 29/03/2023

**Samples instructed on/
Analysis started on:** 06/04/2023

Analysis completed by: 11/04/2023

Report issued on: 13/04/2023

Signed: _____

Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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



Analytical Report Number: 23-27050

Project / Site name: Spring Park Data Centre Expansion, Corsham

Your Order No: PO25070

Lab Sample Number				2640722
Sample Reference				SP03
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				23/03/2023
Time Taken				None Supplied
Analytical Parameter (Bulk Analysis)				
	Units	Limit of detection	Accreditation Status	

Asbestos Identification	Type	N/A	ISO 17025	Chrysotile, Amosite- Asbestos Insulating Board
Asbestos Analyst ID	N/A	N/A	N/A	JSW

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



Analytical Report Number : 23-27050

Project / Site name: Spring Park Data Centre Expansion, Corsham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in BULKs	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025

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

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

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

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C. Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.



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Analytical Report Number : 23-27240

Project / Site name: Spring Park Data Centre Expansion,
Corsham

Your job number: 24639

Your order number: PO25070

Report Issue Number: 1

Samples Analysed: 2 soil samples

Samples received on: 06/04/2023

**Samples instructed on/
Analysis started on:** 06/04/2023

Analysis completed by: 14/04/2023

Report issued on: 14/04/2023

Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 23-27240

Project / Site name: Spring Park Data Centre Expansion, Corsham

Your Order No: PO25070

Lab Sample Number				2641687	2641688
Sample Reference				BH01A	TP10
Sample Number				None Supplied	None Supplied
Depth (m)				6.00	1.40
Date Sampled				21/03/2023	23/03/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	0.33	18
Total mass of sample received	kg	0.001	NONE	0.8	0.8

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.6	7.3
Total Sulphate as SO ₄	mg/kg	50	MCERTS	820	980
Total Sulphate as SO ₄	%	0.005	MCERTS	0.082	0.098
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0096	0.023
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	9.6	23.1
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	7.9	2.4
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	4	1.2
Total Sulphur	mg/kg	50	MCERTS	280	590
Total Sulphur	%	0.005	MCERTS	0.028	0.059
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
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	2	NONE	< 2.0	60
Water Soluble Nitrate (2:1) as NO ₃ (leachate equivalent)	mg/l	5	NONE	< 5.0	30

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	8.9	10
Magnesium (leachate equivalent)	mg/l	2.5	NONE	4.4	5.2

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

Analytical Report Number : 23-27240

Project / Site name: Spring Park Data Centre Expansion, Corsham

* 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 *
2641687	BH01A	None Supplied	6	Beige rubble.**
2641688	TP10	None Supplied	1.4	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 23-27240

Project / Site name: Spring Park Data Centre Expansion, Corsham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
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	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
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
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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.	L038-PL	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	L082-PL	W	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Water Soluble Nitrate (leachate equivalent)	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

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.

**UNACCREDITED SAMPLE MATRIX

GAC derivation

Background

Initially, the Hydrock GAC were derived following the publishing of soil guideline values (SGV), toxicological (TOX) reports and associated publications by the Environment Agency (EA) in 2009 referenced under Science Report SC050021 (EA, 2009a, b, c, d). The Hydrock GAC have then been periodically updated following publication of new information on toxicological, physico-chemical, land use or receptor parameters, namely:

- » LQM/CIEH, 2009. LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment, second edition. Nathaniel, C. P., McCaffrey, C., Ashmore, M., Cheng, Y., Gillet, A. G., Ogden, R. C. and Scott, D.
- » CL:AIRE, 2010. 'The EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment'. Environmental Industries Commission, The Association of Geotechnical and Geoenvironmental Specialists and Contaminated Land: Applications in Real Environment.
- » CL:AIRE, 2014. 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010. Contaminated Land: Applications in Real Environment.
- » LQM/CIEH, 2015. 'The LQM/CIEH S4ULs for Human Health Risk Assessment'. Nathaniel, C. P., McCaffrey, C., Gillet, A. G., Ogden, R. C. and Nathaniel, J. F.
- » CL:AIRE, 2021. 'C4SL Phase 2 Technical Reports'. Contaminated Land: Applications in Real Environment.

Land use scenarios

Hydrock has derived generic assessment criteria (GAC) for human health based on the six exposure scenarios defined in CL:AIRE (2014) using generic default assumptions from published guidance. GAC for each exposure scenario have been derived for three soil organic matter (SOM) contents, 1%, 2.5% and 6%.

All GAC have been rounded to two significant figures.

Exposure parameters

The exposure parameters used for the Hydrock GAC are the default parameters stated in SR3, unless updated in CL:AIRE (2014) where the CL:AIRE (2014) values have been adopted.

Approach to consumption rates

Hydrock have adopted the 90th percentile consumption rates from Table 3.4 of CL:AIRE (2014) for all produce types. This is noted to be more conservative than the "top two" approach taken in the derivation of C4SLs.

Approach to plant uptake for GAC omitted in CL:AIRE (2010)

Plant uptake factors were not identified in CL:AIRE (2010) for antimony, barium and molybdenum. Hydrock has sourced the required parameter values from ORNL (1984) in order to derive GAC that are inclusive of the homegrown produce exposure pathway.

Chemical and toxicity parameters

The chemical and toxicity parameters have been adopted based on the following documents:

- » IRIS, 2016. 'Toxicological Review of Trimethylbenzenes'. Integrated Risk Information System, National Centre for Environmental Assessment, office of Research and Development, U.S. Environmental Protection Agency.
- » LQM/CIEH, 2015.

- » ORNL, 1984. 'ORNL-5786. A Review and Analysis of Parameters for Assessing Transport of Environmentally released Radionuclides through Agriculture'. Oak Ridge National Laboratory.
- » CL:AIRE, 2010.
- » RIVM, 2001. RIVM Report 711701 025 'HCV Re-evaluation of human-toxicological maximum-permissible risk levels'. National Institute of Public Health and the Environment.
- » LQM/CIEH, 2009.
- » EA, 2009a.

Approach to Cyanide GAC

The Hydrock GAC for free cyanide have been derived based on ingestion of a bolus of contaminated soil. The GAC are derived for acute exposure of a child (0-6 years old) for all land uses except commercial, where the GAC are derived for acute exposure of an adult (16-65 years old). For the purpose of GQRA, the child value may be adopted for all land use scenarios.

For complex cyanide, the GAC have been derived based on chronic exposure, using the default exposure scenarios but excluding the consumption of homegrown produce, soil attached to homegrown produce, indoor vapour and outdoor vapour pathways. The chronic health criteria value (HCV) for complex cyanide is based on the EA (2009a) HCV for free cyanide and the ratio of toxicity between free and complex cyanide proposed by RIVM (2001).

Approach to Phenol GAC

In accordance with the EA Science Report SC050021 / Phenol SGV, a $GAC_{ing/inh}$ has been derived for ingested and inhaled phenol using the CLEA model, with a GAC_{derm} derived for dermal contact using Equation 5.7 within SR3. The lower of the $GAC_{ing/inh}$ and GAC_{derm} has been adopted as the final GAC.

Approach to PCB GAC

GAC for assessing the non-dioxin-like risk from PCBs have been based on the "Dutch 7". As the TDI used by the authors of the Dutch guidance is for the sum of the 7 individual congeners, the TDI has been divided by 7 to create a TDI for each congener. The non-dioxin-like risk from PCBs is therefore assessed using a Hazard Index approach as for total petroleum hydrocarbons (TPH).

Sub-surface soil to indoor air correction factors

Reflecting the approach taken by the Environment Agency in the development of revised SGV in 2009 for BTEX, a sub-surface soil to indoor air correction factor of 10 has been applied for petroleum hydrocarbons in order to account for over-prediction of vapour intrusion into building using the Johnson and Ettinger approach.

The correction factor of 10 has been applied to the following petroleum hydrocarbons (it makes negligible difference to less volatile TPH and PAH compounds):

- » TPHCWG fractions, namely aliphatic EC>5-44 and aromatic EC>6-44;
- » PAHs (acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene), benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, phenanthrene, pyrene);
- » BTEX;
- » Isopropylbenzene;
- » Propylbenzene;
- » 1,2,4- and 1,3,5-trimethylbenzene; and
- » Styrene.

Approach to saturation limits

The CLEA model includes a traffic light colour system to highlight when saturated soil conditions have potentially been exceeded for the vapour pathways during calculation of assessment criteria. The colours represent:

- » Green: the assessment criteria do not exceed the saturated soil concentration.
- » Amber: the assessment criteria exceed the saturated soil concentration but the contribution of the indoor and outdoor vapour pathway to total exposure is less than 10% and will not significantly affect the assessment criteria.
- » Red: the assessment criteria exceed the saturated soil concentration and the contribution of the indoor and outdoor vapour pathway to total exposure is greater than 10% and will significantly affect the assessment criteria.

Hydrock have not applied any further calculations or assessment in relation to saturation limits during GAC derivation, with the CLEA-modelled GAC being presented as the GAC. Consideration of saturation limits is undertaken during the data assessment stage.

References

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LQM/CIEH, 2009. LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment, second edition. Nathaniai, C. P., McCaffrey, C., Ashmore, M., Cheng, Y., Gillet, A. G., Ogden, R. C. and Scott, D.

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ORNL, 1984. 'ORNL-5786. A Review and Analysis of Parameters for Assessing Transport of Environmentally released Radionuclides through Agriculture'. Oak Ridge National Laboratory.

RIVM, 2001. RIVM Report 711701 025 'HCV Re-evaluation of human-toxicological maximum-permissible risk levels'. National Institute of Public Health and the Environment.

Human health GQRA

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter: Client: Site: Job no.: Lab. report no(s).: Default - Human Health - commercial (2.5%SOM) Ark Data Centres Limited Spring Park Data Centre Expansion 24639 23-25938-1, 23-26459-1 Data Filters Zone Strata Depth Min (m bgl) Depth Max (m bgl) Site TS 0 4.45 Hydrock Date 22/03/2023 21/03/2023 23/03/2023 21/03/2023 22/03/2023 Zone Site Site Site Site Site Location WS01 TP01 TP08 TP13 TP14 Depth (m bgl) 0.2 0.2 0.1 0.1 0.1																			
All values in mg/kg unless otherwise stated															Dataset mean SOM% 3.51				
															Scenario SOM% 2.5				
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source	Strata	TS	TS	TS	TS	TS
-	Asbestos										-								
P1020	Asbestos Identified	text	Y/N	30	-	-	-	-	No. of detects.	0	-	-	-		Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
P1889	Asbestos Screen Name	text		2	-	-	-	-	-		-	-	-						
P1880	Asbestos Containing Material Types Detected (ACM)	text		3	-	-	-	-	-		-	-	-						
o	Hydrock Default Suite - FOC / SOM / pH										-								
P1085	FOC (dimensionless)	l	0.001	3	0.019	0.021	0.020	0.021	0.00		-	-	-			0.021	0.021		0.019
-	SOM (calculated)	%	0.1724	3	3.28	3.62	3.51	3.62	0.20		-	-	-			3.6204	3.6204		3.2756
P1334	pH (su)	pH Units	0.1	3	7.80	7.90	7.87	7.90	0.06		-	-	-			7.8	7.9		7.9
-	Hydrock Default Suite - Metals & PAH																		
7440-38-2	Arsenic	mg/kg	1	5	18.00	24.00	19.80	19.00	2.39	0	NR	640	C4SL - CL:AIRE 2014		24	19	18	19	19
7440-41-7	Beryllium	mg/kg	0.06	5	0.72	1.30	1.08	1.10	0.22	0	NR	12	Hydrock Derived		1.3	1.1	1.2	0.72	1.1
7440-42-8	Boron	mg/kg	0.2	5	0.40	1.80	1.12	1.50	0.67	0	NR	240000	Hydrock Derived		1.5	0.4	0.4	1.8	1.5
7440-43-9	Cadmium	mg/kg	0.2	5	0.20	1.10	0.38	0.20	0.40	0	NR	410	C4SL - CL:AIRE 2014		<0.2	<0.2	<0.2	1.1	<0.2
16065-83-1	Chromium (III)	mg/kg	1	5	19.00	26.00	23.00	24.00	2.92	0	NR	8400	Hydrock Derived		26	24	21	25	19
18540-29-9	Chromium (VI)	mg/kg	1.8	5	1.80	1.80	1.80	1.80	0.00	0	NR	49	C4SL - CL:AIRE 2014		<1.8	<1.8	<1.8	<1.8	<1.8
7440-47-3	Chromium (Total)	mg/kg	1	5	20.00	26.00	23.60	25.00	2.51			-			26	25	22	25	20
7440-50-8	Copper	mg/kg	1	5	18.00	39.00	31.40	33.00	7.96	0	NR	68000	Hydrock Derived		35	32	39	33	18
7439-92-1	Lead	mg/kg	1	5	44.00	240.00	101.40	65.00	79.41	0	NR	2300	C4SL - CL:AIRE 2014		93	240	65	65	44
7439-97-6	Mercury, inorganic	mg/kg	0.3	5	0.30	0.30	0.30	0.30	0.00	0	NR	1100	Hydrock Derived		<0.3	<0.3	<0.3	<0.3	<0.3
7440-02-0	Nickel	mg/kg	1	5	22.00	32.00	26.20	24.00	4.15	0	NR	980	Hydrock Derived		32	24	24	29	22
7782-49-2	Selenium	mg/kg	1	5	1.00	1.00	1.00	1.00	0.00	0	NR	12000	Hydrock Derived		<1	<1	<1	<1	<1
7440-62-2	Vanadium	mg/kg	1	5	32.00	47.00	41.60	44.00	5.94	0	NR	9000	Hydrock Derived		47	45	44	32	40
7440-66-6	Zinc	mg/kg	1	5	99.00	290.00	211.80	230.00	72.64	0	NR	730000	Hydrock Derived		250	290	190	230	99
P1095	Cyanide (free)	mg/kg	1	5	1.00	1.00	1.00	1.00	0.00	0	NR	24	Acute Risk - SoBRA 2020		<1	<1	<1	<1	<1
P1186	Total Phenols (Monohydric)	mg/kg	1	5	1.00	1.00	1.00	1.00	0.00	0	38058	690	Hydrock Derived		<1	<1	<1	<1	<1
83-32-9	Acenaphthene	mg/kg	0.05	5	0.05	0.12	0.07	0.05	0.03	0	141	110000	Hydrock Derived		<0.05	0.12	<0.05	0.06	<0.05
208-96-8	Acenaphthylene	mg/kg	0.05	5	0.05	0.13	0.08	0.05	0.04	0	212	110000	Hydrock Derived		0.05	0.13	<0.05	0.11	<0.05
120-12-7	Anthracene	mg/kg	0.05	5	0.05	0.73	0.24	0.10	0.29	0	2.91	540000	Hydrock Derived		0.1	0.73	<0.05	0.25	<0.05
56-55-3	Benz(a)anthracene	mg/kg	0.05	5	0.10	3.30	1.30	1.10	1.32	0	4.28	180	Hydrock Derived		1.1	3.3	0.19	1.8	0.1
50-32-8	Benzo(a)pyrene	mg/kg	0.05	5	0.12	3.20	1.37	1.10	1.32	0	2.28	77	C4SL - CL:AIRE 2014		1.1	3.2	0.23	2.2	0.12
205-99-2	Benzo(b)fluoranthene	mg/kg	0.05	5	0.17	3.50	1.61	1.30	1.49	0	3.04	45	Hydrock Derived		1.3	3.5	0.29	2.8	0.17
191-24-2	Benzo(ghi)perylene	mg/kg	0.05	5	0.09	1.80	0.85	0.69	0.77	0	0.04	3900	Hydrock Derived		0.69	1.8	0.17	1.5	0.09
207-08-9	Benzo(k)fluoranthene	mg/kg	0.05	5	0.06	2.00	0.77	0.70	0.79	0	1.72	1200	Hydrock Derived		0.7	2	0.12	0.98	0.06
218-01-9	Chrysene	mg/kg	0.05	5	0.13	3.40	1.37	1.20	1.35	0	1.10	350	Hydrock Derived		1.2	3.4	0.24	1.9	0.13
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.05	5	0.05	0.48	0.20	0.21	0.18	0	0.010	3.6	Hydrock Derived		0.21	0.48	<0.05	0.23	<0.05
206-44-0	Fluoranthene	mg/kg	0.05	5	0.15	7.80	2.59	1.50	3.14	0	47	23000	Hydrock Derived		1.5	7.8	0.38	3.1	0.15
86-73-7	Fluorene	mg/kg	0.05	5	0.05	0.16	0.07	0.05	0.05	0	77	72000	Hydrock Derived		<0.05	0.16	<0.05	0.06	<0.05
193-39-5	Indeno(123cd)pyrene	mg/kg	0.05	5	0.07	1.80	0.82	0.69	0.76	0	0.15	510	Hydrock Derived		0.69	1.8	0.16	1.4	0.07
91-20-3	Naphthalene	mg/kg	0.05	5	0.05	0.06	0.05	0.05	0.01	0	183	3900	Hydrock Derived		0.06	0.06	0.05	<0.05	<0.05
85-01-8	Phenanthrene	mg/kg	0.05	5	0.09	3.30	0.99	0.49	1.34	0	90	23000	Hydrock Derived		0.49	3.3	0.13	0.93	0.09
129-00-0	Pyrene	mg/kg	0.05	5	0.13	6.40	2.25	1.50	2.57	0	5.5	55000	Hydrock Derived		1.5	6.4	0.33	2.9	0.13
P1310	PAH 16 Total	mg/kg	0.8	5	1.11	38.20	14.52	10.70	15.31			-			10.7	38.2	2.29	20.3	1.11
o	TPH fractions																		
P1407	TPH ali ECo5-ECo6	mg/kg	0.001	1	0.00	0.00	0.00	0.00	-	0	558	5900	Hydrock Derived				<0.001		
P1408	TPH ali >ECo6-ECo8	mg/kg	0.001	1	0.00	0.00	0.00	0.00	-	0	322	17000	Hydrock Derived				<0.001		
P1409	TPH ali >ECo8-EC10	mg/kg	0.001	1	0.00	0.00	0.00	0.00	-	0	190	4800	Hydrock Derived				<0.001		

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:

Client:

Site:

Job no.:

Lab. report no(s):

Default - Human Health - commercial (2.5%SOM)

Ark Data Centres Limited

Spring Park Data Centre Expansion

24639

23-25938-1, 23-26459-1

Data Filters

Zone

Strata

Depth Min (m bgl)

Depth Max (m bgl)

Site

TS

0

4.45

Hydrock

Date

22/03/2023

21/03/2023

23/03/2023

21/03/2023

22/03/2023

Zone

Site

Site

Site

Site

Site

Location

WS01

TP01

TP08

TP13

TP14

Depth (m bgl)

0.2

0.2

0.1

0.1

0.1

Dataset mean SOM%

3.51

Scenario SOM%

2.5

All values in mg/kg unless otherwise stated

CAS No / P Code

Chemical of Potential Concern

Units

LoD

No. Samples

Min. Value

Max. Value

Mean

Median

Standard Deviation

No. Samples >= GAC & > LoD

Soil Saturation Limit @2.5% SOM

GAC

GAC Source

Strata

TS

TS

TS

TS

TS

P1410

TPH ali >EC10-EC12

mg/kg

1

1

1.00

1.00

1.00

1.00

-

0

118

23000

Hydrock Derived

<1

P1411

TPH ali >EC12-EC16

mg/kg

2

1

2.00

2.00

2.00

2.00

-

0

59

82000

Hydrock Derived

<2

P1412

TPH ali >EC16-EC21

mg/kg

8

1

8.00

8.00

8.00

8.00

-

-

<8

P1413

TPH ali >EC21-EC35

mg/kg

8

1

8.00

8.00

8.00

8.00

-

-

<8

P1938

TPH ali >EC16-EC35

mg/kg

10

1

10.00

10.00

10.00

10.00

-

0

21

1700000

Hydrock Derived

<10

P1415

TPH ali >EC35-EC44

mg/kg

8.4

1

8.40

8.40

8.40

8.40

-

0

21

1700000

Hydrock Derived

<8.4

P1418

TPH ali >EC5-EC35

mg/kg

10

1

10.00

10.00

10.00

10.00

-

-

<10

P1420

TPH ali >EC5-EC44

mg/kg

10

1

10.00

10.00

10.00

10.00

-

-

<10

P1441

TPH aro >EC05-EC07

mg/kg

0.001

1

0.00

0.00

0.00

0.00

-

0

2265

46000

Hydrock Derived

<0.001

P1355

TPH aro >EC07-EC08

mg/kg

0.001

1

0.00

0.00

0.00

0.00

-

0

1916

110000

Hydrock Derived

<0.001

P1356

TPH aro >EC08-EC10

mg/kg

0.001

1

0.00

0.00

0.00

0.00

-

0

1503

8100

Hydrock Derived

<0.001

P1357

TPH aro >EC10-EC12

mg/kg

1

1

1.00

1.00

1.00

1.00

-

0

899

28000

Hydrock Derived

<1

P1358

TPH aro >EC12-EC16

mg/kg

2

1

2.00

2.00

2.00

2.00

-

0

419

37000

Hydrock Derived

<2

P1359

TPH aro >EC16-EC21

mg/kg

10

1

10.00

10.00

10.00

10.00

-

0

134

28000

Hydrock Derived

<10

P1360

TPH aro >EC21-EC35

mg/kg

10

1

10.00

10.00

10.00

10.00

-

0

12

28000

Hydrock Derived

<10

P1362

TPH aro >EC35-EC44

mg/kg

8.4

1

8.40

8.40

8.40

8.40

-

0

12

28000

Hydrock Derived

<8.4

P1365

TPH aro >EC5-EC35

mg/kg

10

1

10.00

10.00

10.00

10.00

-

-

<10

P1941

TPH aro >EC5-EC44

mg/kg

10

1

10.00

10.00

10.00

10.00

-

-

<10

P1373

Total TPH >EC5-EC44

mg/kg

10

1

10.00

10.00

10.00

10.00

-

-

<10

o

VOCs - BTEX & MTBE

71-43-2

Benzene

mg/kg

5

1

0.01

0.01

0.01

0.01

-

0

2265

50

C4SL - CL-AIRE 2014

<0.005

108-88-3

Toluene

mg/kg

5

1

0.01

0.01

0.01

0.01

-

0

1916

110000

Hydrock Derived

<0.005

100-41-4

Ethylbenzene

mg/kg

5

1

0.01

0.01

0.01

0.01

-

0

1216

13000

Hydrock Derived

<0.005

95-47-6

Xylene, o-

mg/kg

5

1

0.01

0.01

0.01

0.01

-

0

1120

15000

Hydrock Derived

<0.005

1330-20-7

Xylene, p- (or combined m & p)

mg/kg

5

1

0.01

0.01

0.01

0.01

-

0

1353

14000

Hydrock Derived

<0.005

1634-04-4

MTBE

mg/kg

5

1

0.01

0.01

0.01

0.01

-

0

33075

12000

Hydrock Derived

<0.005

TPH Additivity Check

HAZARD QUOTIENTS FOR EACH FRACTION

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:

Client:

Site:

Job no.:

Lab. report no(s):

Default - Human Health - commercial (2.5%SOM)

Ark Data Centres Limited

Spring Park Data Centre Expansion

24639

23-25938-1, 23-26459-1

Data Filters

Zone

Strata

Depth Min (m bgl)

Depth Max (m bgl)

Site

TS

0

4.45

Dataset mean SOM%

Scenario SOM%

3.51

2.5

WS01

TP01

TP08

TP13

TP14

22/03/2023

21/03/2023

23/03/2023

21/03/2023

22/03/2023

Date

Zone

Location

Depth (m bgl)

22/03/2023

21/03/2023

23/03/2023

21/03/2023

22/03/2023

Site

Site

Site

Site

Site

WS01

TP01

TP08

TP13

TP14

0.2

0.2

0.1

0.1

0.1

TS

TS

TS

TS

TS

Hydrock

15

All values in mg/kg unless otherwise stated

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:														Default - Human Health - commercial (2.5%SOM)											TP03-03										TP09-01										TP11-03										TP12-03										TP13-03										TP13-01										TP14-03										TP15-03										TP04-04										TP04-04										TP11-01										TP11-03										BH02-03										BH02-03																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																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Site:														Spring Park Data Centre Expansion											Depth Min (m bgl)										Depth Max (m bgl)										Dataset mean SOM%										4.97										Scenario SOM%										2.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

Hydrock

01/05/2023, 20:15

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:

Client:

Site:

Job no.:

Lab. report no(s).:

Default - Human Health - commercial (2.5%SOM)

Ark Data Centres Limited

Spring Park Data Centre Expansion

24639

23-25938-1, 23-26459-1

Data Filters

Zone

Strata

Depth Min (m bgl)

Depth Max (m bgl)

Site

FMF

0

4.45

Dataset mean SOM%

Scenario SOM%

4.97

2.5

Hydrock

Date

20/03/2023

23/03/2023

22/03/2023

22/03/2023

21/03/2023

21/03/2023

22/03/2023

22/03/2023

21/03/2023

22/03/2023

22/03/2023

22/03/2023

22/03/2023

Zone

Site

Site

Site

Site

Site

Site

Site

Site

Site

Site

Site

Site

Site

Location

TP03

TP09

TP11

TP12

TP13

TP13

TP14

TP15

TP04

TP11

TP11

BH02

BH02

Depth (m bgl)

0.5

1

0.5

1.2

0.5

1

0.5

0.8

1.4

1

1.5

2.6

3.9

All values in mg/kg unless otherwise stated

CAS No / P Code

Chemical of Potential Concern

Units

LoD

No. Samples

Min. Value

Max. Value

Mean

Median

Standard Deviation

No. Samples >= GAC & > LoD

Soil Saturation Limit @2.5% SOM

GAC

GAC Source

Strata

FMF

FMF

FMF

FMF

FMF

FMF

FMF

FMF

FMF

FMF

FMF

FMF

FMF

105: 11/04/23

• represents a data point that is not included in the current filter settings

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter: Client: Site: Job no.: Lab. report no(s):														Default - Human Health - commercial (2.5%SOM) Ark Data Centres Limited Spring Park Data Centre Expansion 24639 23-25938-1, 23-26459-1										Data Filters Zone Strata Depth Min (m bgl) Depth Max (m bgl)				Site MG 0 4.45		Hydrock																									
														Dataset mean SOM% Scenario SOM%										3.73 2.5																															
All values in mg/kg unless otherwise stated																																																							
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source	Strata	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG																							
-	Asbestos																																																						
P1020	Asbestos Identified	text	Y/N	30	-	-	-	-	No. of detects	2	-	-	-		Not-detected	Not-detected	Detected	Not-detected	Detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected																							
P1889	Asbestos Screen Name	text		2	-	-	-	-	-		-	-	-				Amosite		Chrysotile																																				
P1885	Asbestos Quant. (Stage 2)	%	0.001	2	0.001	0.001	0.001	0.001	No. > LOD:	0	-	-	-				<0.001		<0.001																																				
P1935	Asbestos Quant. Total	%	0.001	2	0.001	0.001	0.001	0.001	No. > LOD:	0	-	-	-				<0.001		<0.001																																				
P1880	Asbestos Containing Material Types Detected (ACM)	text		3	-	-	-	-	-		-	-	-				Loose Fibres		Loose Fibres																																				
o	Hydrock Default Suite - FOC / SOM / pH										-																																												
P1085	FOC (dimensionless)		0.001	10	0.004	0.053	0.022	0.013	0.02		-	-	-			0.053	0.021		0.048	0.013	0.013	0.039	0.0079	0.012	0.0051	0.0042																													
-	SOM (calculated)	%	0.1724	10	0.72	9.14	3.73	2.24	3.14		-	-	-			9.1372	3.6204		8.2752	2.2412	2.2412	6.7236	1.36196	2.0688	0.87924	0.72408																													
P1334	pH (su)	pH Units	0.1	14	7.60	8.40	7.96	8.00	0.24		-	-	-			7.8	7.9		7.6	8.1	8.3	7.6	8.1	7.8	8	8.1						8.1																							
-	Hydrock Default Suite - Metals & PAH																																																						
7440-38-2	Arsenic	mg/kg	1	11	11.00	27.00	18.18	18.00	5.34	0	NR	640	C4SL - CL-AIRE 2014					19		13	15	22	17	26	18	20	27																												
7440-41-7	Beryllium	mg/kg	0.06	11	0.54	1.60	1.06	1.00	0.34	0	NR	12	Hydrock Derived					1.2		0.54	0.78	0.95	1.1	1.5	0.93	1.4	1.6																												
7440-42-8	Boron	mg/kg	0.2	11	0.20	2.10	0.65	0.50	0.54	0	NR	240000	Hydrock Derived					0.5		0.5	<0.2	0.7	0.3	1.1	0.3	0.6	2.1																												
7440-43-9	Cadmium	mg/kg	0.2	11	0.20	0.20	0.20	0.20	0.00	0	NR	410	C4SL - CL-AIRE 2014					<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2																												
16065-83-1	Chromium (III)	mg/kg	1	11	8.40	32.00	20.21	20.00	8.30	0	NR	8400	Hydrock Derived					25		8.9	16	20	21	32	17	30	30																												
18540-29-9	Chromium (VI)	mg/kg	1.8	11	1.80	1.80	1.80	1.80	0.00	0	NR	49	C4SL - CL-AIRE 2014					<1.8		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8																												
7440-47-3	Chromium (Total)	mg/kg	1	11	9.10	32.00	20.63	20.00	8.16			-					25		9.1	17	20	22	32	17	30	31																													
7440-50-8	Copper	mg/kg	1	11	7.60	34.00	15.34	12.00	7.34	0	NR	68000	Hydrock Derived					9.1		12	19	7.6	14	16	12	12	21																												
7439-92-1	Lead	mg/kg	1	11	12.00	49.00	29.45	28.00	10.40	0	NR	2300	C4SL - CL-AIRE 2014					28		19	39	23	29	49	24	37	37																												
7439-97-6	Mercury, inorganic	mg/kg	0.3	11	0.30	0.30	0.30	0.30	0.00	0	NR	1100	Hydrock Derived					<0.3		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3																												
7440-02-0	Nickel	mg/kg	1	11	16.00	31.00	22.27	20.00	5.26	0	NR	980	Hydrock Derived					23		16	19	20	20	29	20	30	31																												
7782-49-2	Selenium	mg/kg	1	11	1.00	1.00	1.00	1.00	0.00	0	NR	12000	Hydrock Derived					<1		<1	<1	<1	<1	<1	<1	<1	<1																												
7440-62-2	Vanadium	mg/kg	1	11	21.00	64.00	41.27	43.00	15.05	0	NR	9000	Hydrock Derived					47		23	32	44	43	64	38	52	64																												
7440-66-6	Zinc	mg/kg	1	11	36.00	130.00	77.64	71.00	30.65	0	NR	730000	Hydrock Derived					69		51	93	56	130	87	54	77	130																												
P1095	Cyanide (free)	mg/kg	1	11	1.00	1.00	1.00	1.00	0.00	0	NR	24	Acute Risk - SoBRA 2020					<1		<1	<1	<1	<1	<1	<1	<1	<1																												
P1186	Total Phenols (Monohydric)	mg/kg	1	11	1.00	1.00	1.00	1.00	0.00	0	38058	690	Hydrock Derived					<1		<1	<1	<1	<1	<1	<1	<1	<1																												
83-32-9	Acenaphthene	mg/kg	0.05	11	0.05	2.00	0.23	0.05	0.59	0	141	110000	Hydrock Derived					<0.05		0.11	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05																												
208-96-8	Acenaphthylene	mg/kg	0.05	11	0.05	1.00	0.14	0.05	0.29	0	212	110000	Hydrock Derived					<0.05		0.06	1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05																												
120-12-7	Anthracene	mg/kg	0.05	11	0.05	9.80	0.97	0.05	2.93	0	2.91	540000	Hydrock Derived					<0.05		0.44	9.8	0.05	<0.05	<0.05	0.05	<0.05	<0.05																												
56-55-3	Benz(a)anthracene	mg/kg	0.05	11	0.05	20.00	2.06	0.17	5.96	0	4.28	180	Hydrock Derived					0.06		1	20	0.13	0.09	<0.05	0.46	<0.05	0.17																												
50-32-8	Benzo(a)pyrene	mg/kg	0.05	11	0.05	17.00	1.77	0.20	5.06	0	2.28	77	C4SL - CL-AIRE 2014					0.06		0.8	17	0.12	0.12	<0.05	0.42	<0.05	0.2																												
205-99-2	Benzo(b)fluoranthene	mg/kg	0.05	11	0.05	19.00	2.02	0.28	5.64	0	3.04	45	Hydrock Derived					0.07		1	19	0.15	0.12	<0.05	0.6	<0.05</																													

Hydrock

01/05/2023, 20:08

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter: Client: Site: Job no.: Lab. report no(s): Default - Human Health - commercial (2.5%SOM) Ark Data Centres Limited Spring Park Data Centre Expansion 24639 23-25938-1, 23-26459-1 Data Filters Zone Strata Depth Min (m bgl) Depth Max (m bgl) Site MG 0 4.45 Dataset mean SOM% Scenario SOM% 3.73 2.5 Hydrock TP07B 2.04 TP07C 2.04 SA01 2.04 SA02 2.04 SA02 2.04 TP04 2.04 TP05 2.04 TP06 2.04 TP08 2.04 TP10 2.04 TP12 2.04 TP15 2.04 WS02 2.04 WS03 2.04															<table><tr><th>Date</th><td>23/03/2023</td><td>23/03/2023</td><td>20/03/2023</td><td>20/03/2023</td><td>20/03/2023</td><td>21/03/2023</td><td>21/03/2023</td><td>21/03/2023</td><td>23/03/2023</td><td>23/03/2023</td><td>22/03/2023</td><td>22/03/2023</td><td>22/03/2023</td><td>22/03/2023</td></tr><tr><th>Zone</th><td>Site</td><td>Site</td><td>Site</td><td>Site</td><td>Site</td><td>Site</td><td>Site</td><td>Site</td><td>Site</td><td>Site</td><td>Site</td><td>Site</td><td>Site</td><td>Site</td></tr><tr><th>Location</th><td>TP07B</td><td>TP07C</td><td>SA01</td><td>SA02</td><td>SA02</td><td>TP04</td><td>TP05</td><td>TP06</td><td>TP08</td><td>TP10</td><td>TP12</td><td>TP15</td><td>WS02</td><td>WS03</td></tr><tr><th>Depth (m bgl)</th><td>0.4</td><td>0.5</td><td>0.2</td><td>0.5</td><td>0.2</td><td>0.2</td><td>0.5</td><td>1</td><td>0.4</td><td>0.3</td><td>0.2</td><td>0.3</td><td>0.5</td><td>0.5</td></tr></table>										Date	23/03/2023	23/03/2023	20/03/2023	20/03/2023	20/03/2023	21/03/2023	21/03/2023	21/03/2023	23/03/2023	23/03/2023	22/03/2023	22/03/2023	22/03/2023	22/03/2023	Zone	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Location	TP07B	TP07C	SA01	SA02	SA02	TP04	TP05	TP06	TP08	TP10	TP12	TP15	WS02	WS03	Depth (m bgl)	0.4	0.5	0.2	0.5	0.2	0.2	0.5	1	0.4	0.3	0.2	0.3	0.5	0.5
Date	23/03/2023	23/03/2023	20/03/2023	20/03/2023	20/03/2023	21/03/2023	21/03/2023	21/03/2023	23/03/2023	23/03/2023	22/03/2023	22/03/2023	22/03/2023	22/03/2023																																																																						
Zone	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site																																																																						
Location	TP07B	TP07C	SA01	SA02	SA02	TP04	TP05	TP06	TP08	TP10	TP12	TP15	WS02	WS03																																																																						
Depth (m bgl)	0.4	0.5	0.2	0.5	0.2	0.2	0.5	1	0.4	0.3	0.2	0.3	0.5	0.5																																																																						
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source	Strata	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG																																																											
Template Version: 1.05: 11/04/23		BOM/CLI Bath Oolite Member & Corhsam Lin			<10	Value excluded from statistical analysis																																																																														
					y	Text result																																																																														
					-	Represents a determinand that was not tested.																																																																														
					+	represents a data point that is not included in the current filter settings																																																																														

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:		Default - Human Health - commercial (2.5%SOM)											TP04 0.3WS01 0.5WS05 0.2					
Client:		Ark Data Centres Limited							Data Filters		Hydrock							
Site:		Spring Park Data Centre Expansion							Zone	Site								
Job no.:		24639							Strata	MG								
Lab. report no(s).:		23-25938-1, 23-26459-1							Depth Min (m bgl)	0								
									Depth Max (m bgl)	4.45								
									Dataset mean SOM%	3.73	21/03/2023	22/03/2023	22/03/2023					
/kg unless otherwise stated									Scenario SOM%	2.5	Site	Site	Site					
											TP04	WS01	WS05					
											0.3	0.5	0.2					
Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source	MG	MG	MG			
Asbestos																		
Asbestos Identified	text	Y/N	30	-	-	-	-	No. of detects:	2	-	-	-		Not-detected	Not-detected			
Asbestos Screen Name	text		2	-	-	-	-	-		-	-	-						
Asbestos Quant. (Stage 2)	%	0.001	2	0.001	0.001	0.001	0.001	No. > LOD:	0	-	-	-						
Asbestos Quant. Total	%	0.001	2	0.001	0.001	0.001	0.001	No. > LOD:	0	-	-	-						
Asbestos Containing Material Types Detected (ACM)	text		3	-	-	-	-	-		-	-	-						
Hydrock Default Suite - FOC / SOM / pH																		
FOC (dimensionless)		0.001	10	0.004	0.053	0.022	0.013	0.02		-	-	-						
SOM (calculated)	%	0.1724	10	0.72	9.14	3.73	2.24	3.14		-	-	-						
pH (su)	pH Units	0.1	14	7.60	8.40	7.96	8.00	0.24		-	-	-	8.4	8	7.7			
Hydrock Default Suite - Metals & PAH																		
Arsenic	mg/kg	1	11	11.00	27.00	18.18	18.00	5.34	0	NR	640	C4SL - CL:AIRE 2014		12	11			
Beryllium	mg/kg	0.06	11	0.54	1.60	1.06	1.00	0.34	0	NR	12	Hydrock Derived		0.65	1			
Boron	mg/kg	0.2	11	0.20	2.10	0.65	0.50	0.54	0	NR	240000	Hydrock Derived		0.4	0.4			
Cadmium	mg/kg	0.2	11	0.20	0.20	0.20	0.20	0.00	0	NR	410	C4SL - CL:AIRE 2014		<0.2	<0.2			
Chromium (III)	mg/kg	1	11	8.40	32.00	20.21	20.00	8.30	0	NR	8400	Hydrock Derived		14	8.4			
Chromium (VI)	mg/kg	1.8	11	1.80	1.80	1.80	1.80	0.00	0	NR	49	C4SL - CL:AIRE 2014		<1.8	<1.8			
Chromium (Total)	mg/kg	1	11	9.10	32.00	20.63	20.00	8.16			-			14	9.8			
Copper	mg/kg	1	11	7.60	34.00	15.34	12.00	7.34	0	NR	68000	Hydrock Derived		12	34			
Lead	mg/kg	1	11	12.00	49.00	29.45	28.00	10.40	0	NR	2300	C4SL - CL:AIRE 2014		12	27			
Mercury, inorganic	mg/kg	0.3	11	0.30	0.30	0.30	0.30	0.00	0	NR	1100	Hydrock Derived		<0.3	<0.3			
Nickel	mg/kg	1	11	16.00	31.00	22.27	20.00	5.26	0	NR	980	Hydrock Derived		18	19			
Selenium	mg/kg	1	11	1.00	1.00	1.00	1.00	0.00	0	NR	12000	Hydrock Derived		<1	<1			
Vanadium	mg/kg	1	11	21.00	64.00	41.27	43.00	15.05	0	NR	9000	Hydrock Derived		21	26			
Zinc	mg/kg	1	11	36.00	130.00	77.64	71.00	30.65	0	NR	730000	Hydrock Derived		36	71			
Cyanide (free)	mg/kg	1	11	1.00	1.00	1.00	1.00	0.00	0	NR	24	Acute Risk - SoBRA 2020		<1	<1			
Total Phenols (Monohydric)	mg/kg	1	11	1.00	1.00	1.00	1.00	0.00	0	38058	690	Hydrock Derived		<1	<1			
Acenaphthene	mg/kg	0.05	11	0.05	2.00	0.23	0.05	0.59	0	141	110000	Hydrock Derived		<0.05	<0.05			
Acenaphthylene	mg/kg	0.05	11	0.05	1.00	0.14	0.05	0.29	0	212	110000	Hydrock Derived		<0.05	<0.05			
Anthracene	mg/kg	0.05	11	0.05	9.80	0.97	0.05	2.93	0	2.91	540000	Hydrock Derived		<0.05	0.07			
Benz(a)anthracene	mg/kg	0.05	11	0.05	20.00	2.06	0.17	5.96	0	4.28	180	Hydrock Derived		0.36	0.34			
Benzo(a)pyrene	mg/kg	0.05	11	0.05	17.00	1.77	0.20	5.06	0	2.28	77	C4SL - CL:AIRE 2014		0.37	0.3			
Benzo(b)fluoranthene	mg/kg	0.05	11	0.05	19.00	2.02	0.28	5.64	0	3.04	45	Hydrock Derived		0.44	0.45			
Benzo(ghi)perylene	mg/kg	0.05	11	0.05	8.20	0.91	0.17	2.42	0	0.04	3900	Hydrock Derived		0.25	0.23			
Benzo(k)fluoranthene	mg/kg	0.05	11	0.05	8.30	0.89	0.13	2.46	0	1.72	1200	Hydrock Derived		0.2	0.17			
Chrysene	mg/kg	0.05	11	0.05	16.00	1.75	0.20	4.74	0	1.10	350	Hydrock Derived		0.4	0.47			
Dibenz(a,h)anthracene	mg/kg	0.05	11	0.05	2.30	0.26	0.05	0.68	0	0.010	3.6	Hydrock Derived		<0.05	<0.05			
Fluoranthene	mg/kg	0.05	11	0.05	48.00	4.90	0.36	14.32	0	47	23000	Hydrock Derived		0.67	0.45			
Fluorene	mg/kg	0.05	11	0.05	4.00	0.42	0.05	1.19	0	77	72000	Hydrock Derived		<0.05	<0.05			
Indeno(123cd)pyrene	mg/kg	0.05	11	0.05	8.80	0.93	0.08	2.61	0	0.15	510	Hydrock Derived		0.21	<0.05			
Naphthalene	mg/kg	0.05	11	0.05	0.35	0.08	0.05	0.09	0	183	3900	Hydrock Derived		<0.05	<0.05			
Phenanthrene	mg/kg	0.05	11	0.05	41.00	4.06	0.16	12.27	0	90	23000	Hydrock Derived		0.16	0.3			
Pyrene	mg/kg	0.05	11	0.05	39.00	4.01	0.33	11.62	0	5.5	55000	Hydrock Derived		0.63	0.46			
PAH 16 Total	mg/kg	0.8	11	0.80	244.00	25.17	2.12	72.68			-			3.69	3.24			
TPH fractions																		
TPH ali EC05-EC06	mg/kg	0.001	6	0.00	0.00	0.00	0.00	0.000	0	558	5900	Hydrock Derived		<0.001	<0.001			

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:		Default - Human Health - commercial (2.5%SOM)										TPH 21/03/2023WS01 22/03/2023WS05 22/03/2023							
Client:		Ark Data Centres Limited								Data Filters		Hydrock							
Site:		Spring Park Data Centre Expansion								Zone									
Job no.:		24639								Strata									
Lab. report no(s).:		23-25938-1, 23-26459-1								Depth Min (m bgl)									
										Depth Max (m bgl)		Site		21/03/2023		22/03/2023		22/03/2023	
												MG		Site		Site		Site	
												0		TP04		WS01		WS05	
										Dataset mean SOM%		3.73		0.3		0.5		0.2	
/kg unless otherwise stated										Scenario SOM%		2.5							
Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source		MG	MG	MG			
TPH ali >EC06-EC08	mg/kg	0.001	6	0.00	0.00	0.00	0.00	0.000	0	322	17000	Hydrock Derived		<0.001	<0.001				
TPH ali >EC08-EC10	mg/kg	0.001	6	0.00	0.00	0.00	0.00	0.000	0	190	4800	Hydrock Derived		<0.001	<0.001				
TPH ali >EC10-EC12	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	118	23000	Hydrock Derived		<1	<1				
TPH ali >EC12-EC16	mg/kg	2	6	2.00	2.00	2.00	2.00	0.00	0	59	82000	Hydrock Derived		<2	<2				
TPH ali >EC16-EC21	mg/kg	8	6	8.00	8.00	8.00	8.00	0.00			-			<8	<8				
TPH ali >EC21-EC35	mg/kg	8	6	8.00	8.00	8.00	8.00	0.00			-			<8	<8				
TPH ali >EC16-EC35	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00	0	21	1700000	Hydrock Derived		<10	<10				
TPH ali >EC35-EC44	mg/kg	8.4	6	8.40	8.40	8.40	8.40	0.00	0	21	1700000	Hydrock Derived		<8.4	<8.4				
TPH ali >EC5-EC35	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00			-			<10	<10				
TPH ali >EC5-EC44	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00			-			<10	<10				
TPH aro EC05-EC07	mg/kg	0.001	6	0.00	0.00	0.00	0.00	0.00	0	2265	46000	Hydrock Derived		<0.001	<0.001				
TPH aro >EC07-EC08	mg/kg	0.001	6	0.00	0.00	0.00	0.00	0.00	0	1916	110000	Hydrock Derived		<0.001	<0.001				
TPH aro >EC08-EC10	mg/kg	0.001	6	0.00	0.00	0.00	0.00	0.00	0	1503	8100	Hydrock Derived		<0.001	<0.001				
TPH aro >EC10-EC12	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	899	28000	Hydrock Derived		<1	<1				
TPH aro >EC12-EC16	mg/kg	2	6	2.00	2.00	2.00	2.00	0.00	0	419	37000	Hydrock Derived		<2	<2				
TPH aro >EC16-EC21	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00	0	134	28000	Hydrock Derived		<10	<10				
TPH aro >EC21-EC35	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00	0	12	28000	Hydrock Derived		<10	<10				
TPH aro >EC35-EC44	mg/kg	8.4	6	8.40	8.40	8.40	8.40	0.00	0	12	28000	Hydrock Derived		<8.4	<8.4				
TPH aro >EC5-EC35	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00			-			<10	<10				
TPH aro >EC5-EC44	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00			-			<10	<10				
Total TPH >EC5-EC44	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00			-			<10	<10				
VOCs - BTEX & MTBE																			
Benzene	mg/kg	5	6	0.01	0.01	0.01	0.01	0.00	0	2265	50	C4SL - CL:AIRE 2014		<0.005	<0.005				
Toluene	mg/kg	5	6	0.01	0.01	0.01	0.01	0.00	0	1916	110000	Hydrock Derived		<0.005	<0.005				
Ethylbenzene	mg/kg	5	6	0.01	0.01	0.01	0.01	0.00	0	1216	13000	Hydrock Derived		<0.005	<0.005				
Xylene, o-	mg/kg	5	6	0.01	0.01	0.01	0.01	0.00	0	1120	15000	Hydrock Derived		<0.005	<0.005				
Xylene, p- (or combined m & p)	mg/kg	5	6	0.01	0.01	0.01	0.01	0.00	0	1353	14000	Hydrock Derived		<0.005	<0.005				
MTBE	mg/kg	5	6	0.01	0.01	0.01	0.01	0.00	0	33075	12000	Hydrock Derived		<0.005	<0.005				
TPH Additivity Check		HAZARD QUOTIENTS FOR EACH FRACTION																	
													Aliph	1.69492E-07	1.69492E-07				
													Aliph	5.88235E-08	5.88235E-08				
													Aliph	2.08333E-07	2.08333E-07				
													Aliph	4.34783E-05	4.34783E-05				
													Aliph	2.43902E-05	2.43902E-05				
													Aliph	5.88235E-06	5.88235E-06				
													Aliph	4.94118E-06	4.94118E-06				
													Aro	2.17391E-08	2.17391E-08				
													Aro	9.09091E-09	9.09091E-09				
													Aro	1.23457E-07	1.23457E-07				
													Aro	3.57143E-05	3.57143E-05				
													Aro	5.40541E-05	5.40541E-05				
													Aro	0.000357143	0.000357143				
													Aro	0.000357143	0.000357143				
													Aro	0.0003	0.0003				
													Hazard Index	6.80768E-05	6.80768E-05				
													Hazard Index	8.98918E-05	8.98918E-05				
													Hazard Index f	0.000714286	0.000714286				
Legend:	MG	Made Ground	<0.02		Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.														
	TS	Topsoil																	
	FMF	Forest Marble Formation	0.02		Value greater than, or equal to, the generic assessment criterion (GAC).														

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:		Default - Human Health - commercial (2.5%SOM)										TP04 0.3			WS01 0.5			WS05 0.2					
Client:		Ark Data Centres Limited										Data Filters			Hydrock 21/03/2023 22/03/2023 22/03/2023 Site Site Site TP04 WS01 WS05 0.3 0.5 0.2								
Site:		Spring Park Data Centre Expansion										Zone									Site		
Job no.:		24639										Strata									MG		
Lab. report no(s).:		23-25938-1, 23-26459-1										Depth Min (m bgl)									0		
												Depth Max (m bgl)									4.45		
												Dataset mean SOM%			3.73								
												Scenario SOM%			2.5								
/kg unless otherwise stated																							
Chemical of Potential Concern		Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source	MG	MG	MG							
n:		BOM/CLI Bath Oolite Member & Corhsam Lir				<2.0	Value excluded from statistical analysis																
						Y	Text result																
						-	Represents a determinand that was not tested.																
						•	represents a data point that is not included in the current filter settings																

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter: Client: Site: Job no.: Lab. report no(s).:		Default - Human Health - commercial (2.5%SOM)												Sheet 2		Sheet 3		Sheet 4		Sheet 5					
		Data Filters Zone: Stockpile Strata: All Depth Min (m bgl): 0 Depth Max (m bgl): 4.45 Dataset mean SOM%: 3.99 Scenario SOM%: 2.5												Hydrock		Date		23/03/2023		23/03/2023		23/03/2023		23/03/2023	
																Zone		Stockpile		Stockpile		Stockpile		Stockpile	
																Location		SP01		SP02		SP03		SP04	
																Depth (m bgl)		0		0		0		0	
All values in mg/kg unless otherwise stated																									
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source	Strata	Stockpile	Stockpile	Stockpile	Stockpile							
-	Asbestos																								
P1020	Asbestos Identified	text	Y/N	30	-	-	-	-	No. of detects:	1	-	-	-		Not-detected	Not-detected	Detected	Not-detected							
P1889	Asbestos Screen Name	text		2	-	-	-	-	-		-	-	-												
P1880	Asbestos Containing Material Types Detected (ACM)	text		3	-	-	-	-	-		-	-	-				Chrysotile, Amosite- Loose Fibres, Amosite- Loose Fibrous Debris								
o	Hydrock Default Suite - FOC / SOM / pH										-														
P1085	FOC (dimensionless)	l	0.001	3	0.010	0.046	0.023	0.014	0.02		-	-	-		0.0095	0.046	0.014								
-	SOM (calculated)	%	0.1724	3	1.64	7.93	3.99	2.41	3.43		-	-	-		1.6378	7.9304	2.4136								
P1334	pH (su)	pH Units	0.1	4	7.60	8.90	8.20	8.15	0.54		-	-	-		8.9	8.1	8.2	7.6							
-	Hydrock Default Suite - Metals & PAH																								
7440-38-2	Arsenic	mg/kg	1	4	10.00	30.00	17.75	15.50	8.66	0	NR	640	C4SL - CL-AIRE 2014		10	30	14	17							
7440-41-7	Beryllium	mg/kg	0.06	4	0.42	2.60	1.14	0.77	0.99	0	NR	12	Hydrock Derived		0.63	2.6	0.91	0.42							
7440-42-8	Boron	mg/kg	0.2	4	0.30	4.30	2.03	1.75	1.67	0	NR	240000	Hydrock Derived		4.3	1.9	1.6	0.3							
7440-43-9	Cadmium	mg/kg	0.2	4	0.50	1.80	1.10	1.05	0.54	0	NR	410	C4SL - CL-AIRE 2014		0.5	1.1	1	1.8							
16065-83-1	Chromium (III)	mg/kg	1	4	9.60	35.00	17.83	13.35	11.96	0	NR	8400	Hydrock Derived		9.6	35	17	9.7							
18540-29-9	Chromium (VI)	mg/kg	1.8	4	1.80	1.80	1.80	1.80	0.00	0	NR	49	C4SL - CL-AIRE 2014		<1.8	<1.8	<1.8	<1.8							
7440-47-3	Chromium (Total)	mg/kg	1	4	9.80	35.00	17.95	13.50	11.85			-			9.8	35	17	10							
7440-50-8	Copper	mg/kg	1	4	18.00	63.00	35.75	31.00	20.01	0	NR	68000	Hydrock Derived		24	63	38	18							
7439-92-1	Lead	mg/kg	1	4	44.00	220.00	133.50	135.00	72.91	0	NR	2300	C4SL - CL-AIRE 2014		220	150	120	44							
7439-97-6	Mercury, inorganic	mg/kg	0.3	4	0.30	0.30	0.30	0.30	0.00	0	NR	1100	Hydrock Derived		<0.3	<0.3	<0.3	<0.3							
7440-02-0	Nickel	mg/kg	1	4	13.00	38.00	20.75	16.00	11.84	0	NR	980	Hydrock Derived		13	38	19	13							
7782-49-2	Selenium	mg/kg	1	4	1.00	1.00	1.00	1.00	0.00	0	NR	12000	Hydrock Derived		<1	<1	<1	<1							
7440-62-2	Vanadium	mg/kg	1	4	18.00	70.00	34.75	25.50	24.35	0	NR	9000	Hydrock Derived		19	70	32	18							
7440-66-6	Zinc	mg/kg	1	4	180.00	540.00	295.00	230.00	165.83	0	NR	730000	Hydrock Derived		180	250	210	540							
P1095	Cyanide (free)	mg/kg	1	4	1.00	1.00	1.00	1.00	0.00	0	NR	24	Acute Risk - SoBRA 2020		<1	<1	<1	<1							
P1186	Total Phenols (Monohydric)	mg/kg	1	4	1.00	1.00	1.00	1.00	0.00	0	38058	690	Hydrock Derived		<1	<1	<1	<1							
83-32-9	Acenaphthene	mg/kg	0.05	4	0.05	6.10	1.65	0.22	2.97	0	141	110000	Hydrock Derived		0.13	<0.05	0.31	6.1							
208-96-8	Acenaphthylene	mg/kg	0.05	4	0.05	5.10	1.41	0.25	2.46	0	212	110000	Hydrock Derived		0.2	<0.05	0.3	5.1							
120-12-7	Anthracene	mg/kg	0.05	4	0.16	31.00	8.36	1.15	15.10	0	2.91	540000	Hydrock Derived		0.79	0.16	1.5	31							
56-55-3	Benz(a)anthracene	mg/kg	0.05	4	0.64	54.00	16.44	5.55	25.18	0	4.28	180	Hydrock Derived		4	0.64	7.1	54							
50-32-8	Benzo(a)pyrene	mg/kg	0.05	4	0.66	43.00	13.92	6.00	19.59	0	2.28	77	C4SL - CL-AIRE 2014		4.6	0.66	7.4	43							
205-99-2	Benzo(b)fluoranthene	mg/kg	0.05	4	0.84	53.00	17.41	7.90	24.02	1	3.04	45	Hydrock Derived		5.8	0.84	10	53							
191-24-2	Benzo(ghi)perylene	mg/kg	0.05	4	0.46	26.00	8.77	4.30	11.67	0	0.04	3900	Hydrock Derived		3.1	0.46	5.5	26							
207-08-9	Benzo(k)fluoranthene	mg/kg	0.05	4	0.35	21.00	6.76	2.85	9.58	0	1.72	1200	Hydrock Derived		2.1	0.35	3.6	21							
218-01-9	Chrysene	mg/kg	0.05	4	0.68	49.00	15.32	5.80	22.63	0	1.10	350	Hydrock Derived		4	0.68	7.6	49							
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.05	4	0.12	6.30	2.10	0.99	2.85	1	0.010	3.6	Hydrock Derived		0.58	0.12	1.4	6.3							
206-44-0	Fluoranthene	mg/kg	0.05	4	1.50	130.00	38.58	11.40	61.20	0	47	23000	Hydrock Derived		7.8	1.5	15	130							
86-73-7	Fluorene	mg/kg	0.05	4	0.05	10.00	2.63	0.23	4.92	0	77	72000	Hydrock Derived		0.16	<0.05	0.29	10							
193-39-5	Indeno(123cd)pyrene	mg/kg	0.05	4	0.42	23.00	7.66	3.60	10.37	0	0.15	510	Hydrock Derived		2.6	0.42	4.6	23							
91-20-3	Naphthalene	mg/kg	0.05	4	0.05	0.76	0.23	0.05	0.36	0	183	3900	Hydrock Derived		<0.05	<0.05	<0.05	0.76							
85-01-8	Phenanthrene	mg/kg	0.05	4	0.67	100.00	27.32	4.30	48.50	0	90	23000	Hydrock Derived		2.8	0.67	5.8	100							
129-00-0	Pyrene	mg/kg	0.05	4	1.30	110.00	32.85	10.05	51.65	0	5.5	55000	Hydrock Derived		7.1	1.3	13	110							
P1310	PAH 16 Total	mg/kg	0.8	4	7.79	673.00	202.62	64.85	315.12			-			45.9	7.79	83.8	673							
o	TPH fractions																								
P1407	TPH ali ECo5-ECo6	mg/kg	0.001	3	0.00	0.00	0.00	0.00	0.000	0	558	5900	Hydrock Derived		<0.001	<0.001		<0.001							
P1408	TPH ali >ECo6-ECo8	mg/kg	0.001	3	0.00	0.00	0.00	0.00	0.000	0	322	17000	Hydrock Derived		<0.001	<0.001		<0.001							
P1409	TPH ali >ECo8-EC10	mg/kg	0.001	3	0.00	0.00	0.00	0.00	0.000	0	190	4800	Hydrock Derived		<0.001	<0.001		<0.001							

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:

Client:

Site:

Job no.:

Lab. report no(s).:

Default - Human Health - commercial (2.5%SOM)

Ark Data Centres Limited

Spring Park Data Centre Expansion

24639

23-25938-1. 23-26459-1

Data Filters

Zone

Strata

Depth Min (m bgl)

Depth Max (m bgl)

Stockpile

All

0

4.45

Dataset mean SOM%

Scenario SOM%

3.99

2.5

All values in mg/kg unless otherwise stated

CAS No / P Code

Chemical of Potential Concern

Units

LoD

No. Samples

Min. Value

Max. Value

Mean

Median

Standard Deviation

No. Samples >= GAC & > LoD

Soil Saturation Limit @2.5% SOM

GAC

GAC Source

Strata

Stockpile

Stockpile

Stockpile

Stockpile

P1410

TPH ali >EC10-EC12

mg/kg

1

3

1.00

1.00

1.00

1.00

0.00

0

118

23000

Hydrock Derived

<1

<1

P1411

TPH ali >EC12-EC16

mg/kg

2

3

2.00

3.40

2.47

2.00

0.81

0

59

82000

Hydrock Derived

<2

<2

P1412

TPH ali >EC16-EC21

mg/kg

8

3

8.00

9.30

8.43

8.00

0.75

-

<8

<8

P1413

TPH ali >EC21-EC35

mg/kg

8

3

8.00

19.00

13.33

13.00

5.51

-

13

<8

P1938

TPH ali >EC16-EC35

mg/kg

10

3

10.00

28.00

17.00

13.00

9.64

0

21

1700000

Hydrock Derived

13

<10

P1415

TPH ali >EC35-EC44

mg/kg

8.4

3

8.40

8.40

8.40

8.40

0.00

0

21

1700000

Hydrock Derived

<8.4

<8.4

P1418

TPH ali >EC5-EC35

mg/kg

10

3

10.00

33.00

19.67

16.00

11.93

-

16

<10

P1420

TPH ali >EC5-EC44

mg/kg

10

3

10.00

33.00

19.67

16.00

11.93

-

16

<10

P1441

TPH aro >EC05-EC07

mg/kg

0.001

3

0.00

0.00

0.00

0.00

0.00

0

2265

46000

Hydrock Derived

<0.001

<0.001

P1355

TPH aro >EC07-EC08

mg/kg

0.001

3

0.00

0.00

0.00

0.00

0.00

0

1916

110000

Hydrock Derived

<0.001

<0.001

P1356

TPH aro >EC08-EC10

mg/kg

0.001

3

0.00

0.00

0.00

0.00

0.00

0

1503

8100

Hydrock Derived

<0.001

<0.001

P1357

TPH aro >EC10-EC12

mg/kg

1

3

1.00

1.20

1.07

1.00

0.12

0

899

28000

Hydrock Derived

<1

<1

P1358

TPH aro >EC12-EC16

mg/kg

2

3

2.00

26.00

10.00

2.00

13.86

0

419

37000

Hydrock Derived

<2

<2

P1359

TPH aro >EC16-EC21

mg/kg

10

3

10.00

200.00

73.33

10.00

109.70

0

134

28000

Hydrock Derived

10

<10

P1360

TPH aro >EC21-EC35

mg/kg

10

3

10.00

180.00

80.33

51.00

88.71

0

12

28000

Hydrock Derived

51

<10

P1362

TPH aro >EC35-EC44

mg/kg

8.4

3

8.40

8.40

8.40

8.40

0.00

0

12

28000

Hydrock Derived

<8.4

<8.4

P1365

TPH aro >EC5-EC35

mg/kg

10

3

13.00

400.00

158.00

61.00

210.95

-

61

13

400

P1941

TPH aro >EC5-EC44

mg/kg

10

3

13.00

400.00

159.67

66.00

209.81

-

66

13

400

P1373

Total TPH >EC5-EC44

mg/kg

10

3

13.00

440.00

178.33

82.00

229.22

-

82

13

440

o

VOCs - BTEX & MTBE

<

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:

Client:

Site:

Job no.:

Lab. report no(s):

Default - Human Health - commercial (2.5%SOM)

Ark Data Centres Limited

Spring Park Data Centre Expansion

24639

23-25938-1, 23-26459-1

Data Filters

Zone

Strata

Depth Min (m bgl)

Depth Max (m bgl)

Stockpile

All

0

4.45

Dataset mean SOM%

Scenario SOM%

3.99

2.5

SP01 @ 0

SP02 @ 0

SP03 @ 0

SP04 @ 0

Hydrock

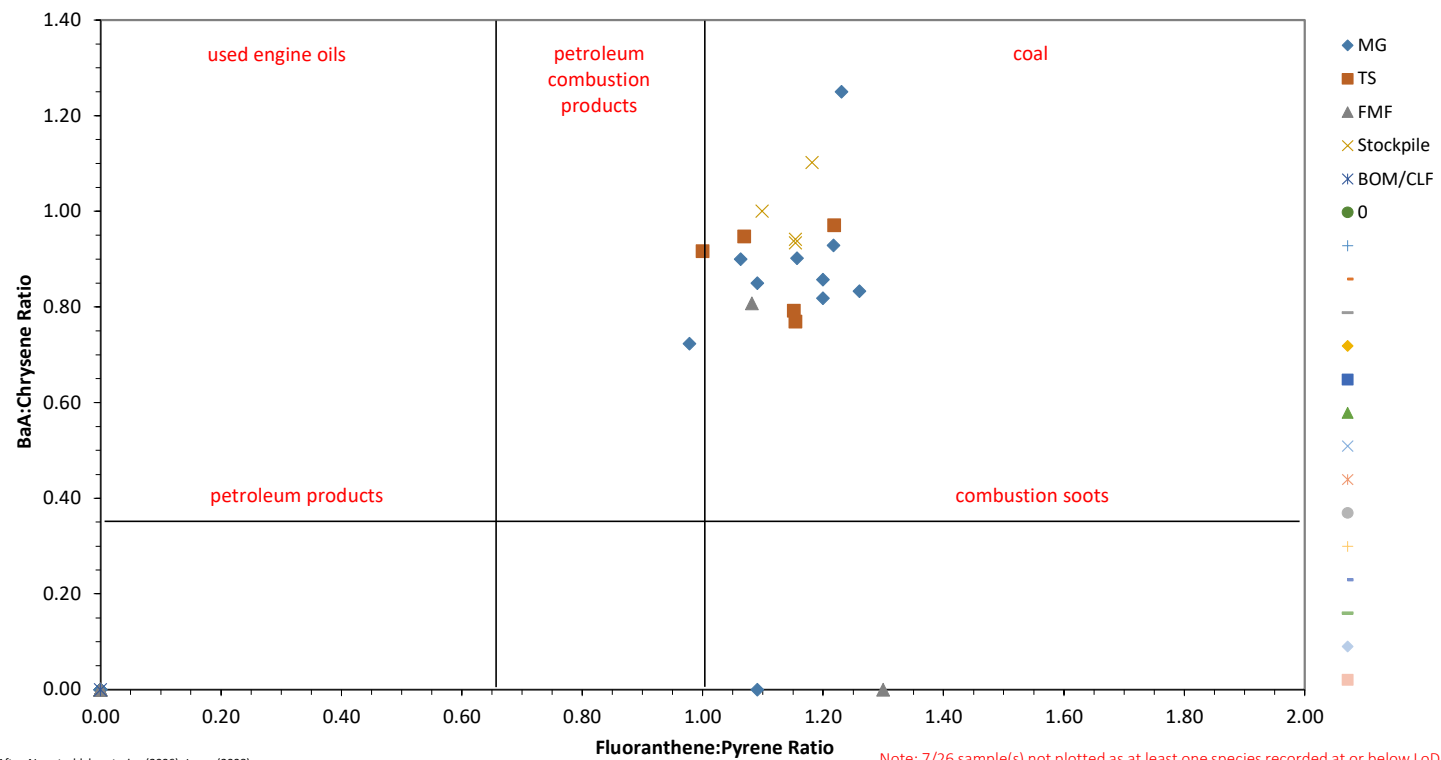
Date	23/03/2023	23/03/2023	23/03/2023	23/03/2023
Zone	Stockpile	Stockpile	Stockpile	Stockpile
Location	SP01	SP02	SP03	SP04
Depth (m bgl)	0	0	0	0

All values in mg/kg unless otherwise stated

CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source	Strata	Stockpile	Stockpile	Stockpile	Stockpile
105: 11/04/23					* represents a data point that is not included in the current filter settings													

Source signature double ratio plot

Dataset: All samples



After ALcontrol laboratories (2006), Jones (2008)

Note: 7/26 sample(s) not plotted as at least one species recorded at or below LoD

Phytotoxic GQRA

Assessment of Chemicals of Potential Concern to Plant Life

Risk parameter: Phytotoxic pH >7													WS01 & 02 TP01 & 02 TP08 & 03 TP13 & 04 TP14 & 05																		
Client: Ark Data Centres Limited													Hydrock																		
Site: Spring Park Data Centre Expansion																															
Job no.: 24639																															
Lab. report no(s): 23-25938-1, 23-26459-1																															
Data Filters																															
Zone																															
Strata																															
Depth Min (m bgl)																															
Depth Max (m bgl)																															
Dataset mean pH																															
Scenario pH																															
All values in mg/kg unless otherwise stated																															
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	GAC	GAC Source	Strata	TS	TS	TS	TS	TS													
o Hydrock Default Suite - FOC / SOM / pH																															
P1334	pH (su)	pH Units	0.1	3	7.80	7.90	7.87	7.90	0.06		-	-			7.8	7.9		7.9													
-	Hydrock Default Suite - Metals & PAH																														
7440-38-2	Arsenic	mg/kg	1	5	18.00	24.00	19.80	19.00	2.39	0	250	MAFF 1998		24	19	18	19	19													
7440-42-8	Boron	mg/kg	0.2	5	0.40	1.80	1.12	1.50	0.67	0	5	Nable, et al. 1997		1.5	0.4	0.4	1.8	1.5													
16065-83-1	Chromium (III)	mg/kg	1	5	19.00	26.00	23.00	24.00	2.92	0	400	MAFF 1998 (Cr(TI))		26	24	21	25	19													
18540-29-9	Chromium (VI)	mg/kg	1.8	5	1.80	1.80	1.80	1.80	0.00	0	25	ICRCL 70/90 1990		<1.8	<1.8	<1.8	<1.8	<1.8													
7440-50-8	Copper	mg/kg	1	5	18.00	39.00	31.40	33.00	7.96	0	200	BS3882 2015		35	32	39	33	18													
7440-02-0	Nickel	mg/kg	1	5	22.00	32.00	26.20	24.00	4.15	0	110	BS3882 2015		32	24	24	29	22													
7440-66-6	Zinc	mg/kg	1	5	99.00	290.00	211.80	230.00	72.64	0	300	BS3882 2015		250	290	190	230	99													
Legend:		MG Made Ground		<0.02		Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.																									
		TS Topsoil		0.02		Value greater than, or equal to, the generic assessment criterion (GAC).																									
		FMF Forest Marble Formation		* <10		Value excluded from statistical analysis																									
		BOM/CL Bath Oolite Member & Corhsam Lin		y		Text result																									
Template Version:				-															Represents a determinand that was not tested.												
105: 11/04/23				*															represents a data point that is not included in the current filter settings												

Assessment of Chemicals of Potential Concern to Plant Life

	Risk parameter:	Phytotoxic pH >7											TPo3 TPo9 TP11 TP12 TP13 TP14 TP15 TP04 TP11 TP15 BHO2 BHO2																		
	Client:	Ark Data Centres Limited											Data Filters					Zone Strata Site FMF 0 4.45													
	Site:	Spring Park Data Centre Expansion											Depth Min (m bgl)																		
	Job no.:	24639											Depth Max (m bgl)																		
	Lab. report no(s):	23-25938-1, 23-26459-1											Dataset mean pH					7.84													
All values in mg/kg unless otherwise stated																						Scenario pH					>7				
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	GAC	GAC Source	Strata	FMF	FMF	FMF	FMF	FMF	FMF	FMF	FMF	FMF	FMF	FMF							
Hydrock Default Suite - FOC / SOM / pH																															
P1334	pH (su)	pH Units	0.1	11	7.00	8.40	7.84	7.90	0.35		-	-		8.4	7	7.9	7.9		7.7	7.6	7.9	8.1	8		7.9	7.8					
-	Hydrock Default Suite - Metals & PAH																														
7440-38-2	Arsenic	mg/kg	1	6	12.00	29.00	20.83	20.50	7.36	0	250	MAFF 1998		16	28	29	12			25	15										
7440-42-8	Boron	mg/kg	0.2	6	0.20	1.40	0.58	0.40	0.49	0	5	Nable, et al. 1997		<0.2	0.2	0.9	0.2			1.4	0.6										
16065-83-1	Chromium (III)	mg/kg	1	6	15.00	46.00	27.67	25.00	11.18	0	400	MAFF 1998 (Cr(T))		20	24	46	26			35	15										
18540-29-9	Chromium (VI)	mg/kg	1.8	6	1.80	1.80	1.80	1.80	0.00	0	25	ICRCL 70/90 1990		<1.8	<1.8	<1.8	<1.8			<1.8	<1.8										
7440-50-8	Copper	mg/kg	1	6	5.30	20.00	11.07	10.30	5.38	0	200	BS3882 2015		20	9.6	14	6.5			11	5.3										
7440-02-0	Nickel	mg/kg	1	6	14.00	50.00	27.50	24.00	12.47	0	110	BS3882 2015		21	25	50	23			32	14										
7440-66-6	Zinc	mg/kg	1	6	35.00	79.00	58.83	56.50	16.04	0	300	BS3882 2015		60	53	79	52			74	35										
Legend:		MG Made Ground		<0.02		Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.																									
		TS Topsoil		0.02		Value greater than, or equal to, the generic assessment criterion (GAC).																									
		FMF Forest Marble Formation		<10		Value excluded from statistical analysis																									
		BOM/CL Bath Oolite Member & Corhsam Lin		Y		Text result																									
				-		Represents a determinand that was not tested.																									
				*		represents a data point that is not included in the current filter settings																									
Template Version:																															
105: 11/04/23																															

Assessment of Chemicals of Potential Concern to Plant Life

Risk parameter: Phytotoxic pH >7												Data Filters												Hydrock																							
Client: Ark Data Centres Limited												Zone																								Site											
Site: Spring Park Data Centre Expansion												Strata																								MG											
Job no.: 24639												Depth Min (m bgl)																								0											
Lab. report no(s): 23-25938-1, 23-26459-1												Depth Max (m bgl)																								4.45											
Dataset mean pH												7.96																																			
Scenario pH												>7																																			
All values in mg/kg unless otherwise stated																																															
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	GAC	GAC Source	Strata	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG																			
o Hydrock Default Suite - FOC / SOM / pH																																															
P1334	pH (su)	pH Units	0.1	14	7.60	8.40	7.96	8.00	0.24		-	-			7.8	7.9		7.6	8.1	8.3	7.6	8.1	7.8	8	8.1		8.1	8.4	8	7.7																	
-	Hydrock Default Suite - Metals & PAH																																														
7440-38-2	Arsenic	mg/kg	1	11	11.00	27.00	18.18	18.00	5.34	0	250	MAFF 1998				19		13	15	22	17	26	18	20	27			12	11																		
7440-42-8	Boron	mg/kg	0.2	11	0.20	2.10	0.65	0.50	0.54	0	5	Nable, et al 1997			0.5		0.5	<0.2	0.7	0.3	1.1	0.3	0.6	2.1				0.4	0.4																		
16065-83-1	Chromium (III)	mg/kg	1	11	8.40	32.00	20.21	20.00	8.30	0	400	MAFF 1998 (Cr(TI))				25		8.9	16	20	21	32	17	30	30			14	8.4																		
18540-29-9	Chromium (VI)	mg/kg	1.8	11	1.80	1.80	1.80	1.80	0.00	0	25	ICRCL 70/90 1990				<1.8		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8			<1.8	<1.8																		
7440-50-8	Copper	mg/kg	1	11	7.60	34.00	15.34	12.00	7.34	0	200	BS3882 2015			9.1		12	19	7.6	14	16	12	12	21			12	34																			
7440-02-0	Nickel	mg/kg	1	11	16.00	31.00	22.27	20.00	5.26	0	110	BS3882 2015				23		16	19	20	20	29	20	30	31			18	19																		
7440-66-6	Zinc	mg/kg	1	11	36.00	130.00	77.64	71.00	30.65	0	300	BS3882 2015				69		51	93	56	130	87	54	77	130			36	71																		
Legend:		MG	Made Ground		<0.02		Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.																																								
		TS	Topsoil		0.02		Value greater than, or equal to, the generic assessment criterion (GAC).																																								
		FMF	Forest Marble Formation		<10		Value excluded from statistical analysis																																								
		BOM/CL	Bath Oolite Member & Corhsam Lin		Y		Text result																																								
					-		Represents a determinand that was not tested.																																								
					•		represents a data point that is not included in the current filter settings																																								
Template Version:																																															
105: 11/04/23																																															

Assessment of Chemicals of Potential Concern to Plant Life

Risk parameter: Phytotoxic pH >7													SP01 0.0SP02 0.0SP03 0.0SP04 0.0																		
Client: Ark Data Centres Limited													Hydrock																		
Site: Spring Park Data Centre Expansion																															
Job no.: 24639																															
Lab. report no(s): 23-25938-1, 23-26459-1																															
Data Filters																															
Zone																															
Strata																															
Depth Min (m bgl)																															
Depth Max (m bgl)																															
Dataset mean pH																															
Scenario pH																															
All values in mg/kg unless otherwise stated																															
CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	GAC	GAC Source	Strata	Stockpile	Stockpile	Stockpile	Stockpile														
o	Hydrock Default Suite - FOC / SOM / pH																														
P1334	pH (su)	pH Units	0.1	4	7.60	8.90	8.20	8.15	0.54		-	-		8.9	8.1	8.2	7.6														
-	Hydrock Default Suite - Metals & PAH																														
7440-38-2	Arsenic	mg/kg	1	4	10.00	30.00	17.75	15.50	8.66	0	250	MAFF 1998		10	30	14	17														
7440-42-8	Boron	mg/kg	0.2	4	0.30	4.30	2.03	1.75	1.67	0	5	Nable, et al. 1997		4.3	1.9	1.6	0.3														
16065-83-1	Chromium (III)	mg/kg	1	4	9.60	35.00	17.83	13.35	11.96	0	400	MAFF 1998 (Cr(TI))		9.6	35	17	9.7														
18540-29-9	Chromium (VI)	mg/kg	1.8	4	1.80	1.80	1.80	1.80	0.00	0	25	ICRCL 70/90 1990		<1.8	<1.8	<1.8	<1.8														
7440-50-8	Copper	mg/kg	1	4	18.00	63.00	35.75	31.00	20.01	0	200	BS3882 2015		24	63	38	18														
7440-02-0	Nickel	mg/kg	1	4	13.00	38.00	20.75	16.00	11.84	0	110	BS3882 2015		13	38	19	13														
7440-66-6	Zinc	mg/kg	1	4	180.00	540.00	295.00	230.00	165.83	1	300	BS3882 2015		180	250	210	540														
Legend:		MG	Made Ground	<0.02 Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.																											
		TS	Topsoil	0.02 Value greater than, or equal to, the generic assessment criterion (GAC).																											
		FMF	Forest Marble Formation	<10 Value excluded from statistical analysis																											
		BOM/CL	Bath Oolite Member & Corhsam Lin	y Text result																											
Template Version:		-																													
105: 11/04/23		* represents a data point that is not included in the current filter settings																													

Controlled waters GQRA

Summary of Remedial Targets Methodology Screening

Hydrock Scenario: Scenario A - DWS RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples Water body receptor(s): Groundwater and surface water Secondary receptor(s): Human health (abstraction) Data set: Groundwater Client: Ark Data Site: Spring Park Job no: 24639 Test Certificate(s): 23-29271-1 Dataset: ALL ZONES											2013/39/EU Annex I P = priority substance PH = priority hazardous substances WFD Designation (2015 Directions) OP = Other substance identical to previous legislation SP = Specific Pollutant JAGDAG Hazardous Substances Determination (UK) H Hazardous substance NP Non-hazardous pollutant (blank) Not included in assessment					
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data					Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water		Notes
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-ile Value	DWS		DWS		DWS		
P1133	Hardness as mg/l CaCO ₃			-	-	-	10	-	-	-	-					
7440-22-4	Silver (Ag) (dissolved)			1	0	0.05	<0.05	<0.05	<0.05	<0.05	n/a					
7429-90-5	Aluminium (Al) (dissolved)			1	1	1	14	14	14	14	200	0		0		
7440-38-2	Arsenic (As) (dissolved)	SP	H	1	1	0.15	0.58	0.58	0.58	0.58	10	0		0		
7440-42-8	Boron (B) (dissolved)		NP	1	1	10	68	68	68	68	1000	0		0		
7440-39-3	Barium (Ba) (dissolved)			1	1	0.06	37	37	37	37	1300	0		0		
7440-43-9	Cadmium (Cd) (dissolved)	PH	NP	1	0	0.02	<0.02	<0.02	<0.02	<0.02	5	0		0		
7440-48-4	Cobalt (Co) (dissolved)		NP	1	1	0.2	0.7	0.7	0.7	0.7	n/a					
18540-29-9	Chromium (VI) (Cr) (dissolved)	SP	H	1	0	5	<5	<5	<5	<5	n/a					
16065-83-1	Chromium (III) (Cr) (dissolved)	SP		1	0	5	<5	<5	<5	<5	n/a					
7440-47-3	Chromium (Cr) (total) (dissolved)			1	0	0.2	<0.2	<0.2	<0.2	<0.2	50	0		0		
7440-50-8	Copper (Cu) (dissolved)	SP	NP	1	1	0.5	2.2	2.2	2.2	2.2	2000	0		0		
7439-89-6	Iron (Fe) (dissolved)	SP		1	1	0.000004	0.000012	0.000012	0.000012	0.000012	200	0		0		
7439-97-6	Mercury (Hg) (dissolved)	PH	H	1	0	0.05	<0.05	<0.05	<0.05	<0.05	1	0		0		
P1286	Manganese (Mn) (dissolved)	SP		1	1	0.05	160	160	160	160	50	1		1		
7440-23-5	Sodium (Na) (dissolved)			1	1	0.00001	0.0091	0.0091	0.0091	0.0091	200000	0		0		
7440-02-0	Nickel (Ni) (dissolved)	P	NP	1	1	0.5	2.3	2.3	2.3	2.3	20	0		0		
7439-92-1	Lead (Pb) (dissolved)	P	H	1	0	0.2	<0.2	<0.2	<0.2	<0.2	10	0		0		
7440-36-0	Antimony (Sb) (dissolved)		NP	1	1	0.4	0.5	0.5	0.5	0.5	5	0		0		
7782-49-2	Selenium (Se) (dissolved)		NP	1	0	0.6	<0.6	<0.6	<0.6	<0.6	10	0		0		
7440-31-5	Tin (Sn) (dissolved)			1	1	0.2	0.54	0.54	0.54	0.54	n/a					
7440-62-2	Vanadium (V) (dissolved)			1	0	0.2	<0.2	<0.2	<0.2	<0.2	n/a					
7440-66-6	Zinc (Zn) (dissolved)	SP	NP	1	1	0.5	4.5	4.5	4.5	4.5	n/a					
P1095	Cyanide (free) (hydrogen cyanide)	SP	NP	1	0	1	<1	<1	<1	<1	n/a					
57-12-5	Cyanide (total)			1	0	1	<1	<1	<1	<1	50	0		0		
P1140	Ammonium (NH ₄ ⁺)		NP	1	1	15	480	480	480	480	500	0		0		
P1238	Ammoniacal Nitrogen (as N)		NP	1	1	15	370	370	370	370	n/a					
P1720	Ammonia (unionised) (NH ₃ as N) (free ammonia)	SP	NP	1	1	15	450	450	450	450	n/a					
15541-45-4	Bromate (BrO ₃ ⁻)			1	0	1	<1	<1	<1	<1	10					
16887-00-6	Chloride (Cl ⁻)			1	1	0.00015	0.0056	0.0056	0.0056	0.0056	250000	0		0		
16984-48-8	Fluoride (F ⁻)			1	1	50	230	230	230	230	1500	0		0		
P1348	Nitrate (NO ₃ ⁻)			1	1	0.00005	0.00474	0.00474	0.00474	0.00474	50000	0		0		
P1349	Nitrite (NO ₂ ⁻)			1	1	5	30	30	30	30	500	0		0		
14808-79-8	Sulfate (SO ₄ ²⁻)			1	1	45	36200	36200	36200	36200	250000	0		0		
P1134	pH (min.) (su)			1	1	0	7.1	7.1	7.1	7.1	6.5	0		0		
P1134	pH (max.) (su)			1	1	10	700	700	700	700	9.5	0		0		
P1287	Electrical conductivity (µS/cm)			1	1	10	700	700	700	700	2500	0		0		
120-12-7	Anthracene	PH	H	1	0	1	<1	<1	<1	<1	n/a					
50-32-8	Benzo(a)pyrene	PH	H	1	0	1	<1	<1	<1	<1	0.01	1		0		
206-44-0	Fluoranthene	P	H	1	0	1	<1	<1	<1	<1	n/a					
91-20-3	Naphthalene	P	NP	1	0	1	<1	<1	<1	<1	n/a					
GRP01	PAHs = sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene	P	H	1	0	0.04	<0.04	<0.04	<0.04	<0.04	0.1	0		0		
P1877	Phenol	SP	NP	1	1	1	2.6	2.6	2.6	2.6	n/a					
P1407	Al EC5-EC6			1	0	1	<1	<1	<1	<1	15000	0		0		
P1408	Al EC6-EC8			1	0	1	<1	<1	<1	<1	15000	0		0		
P1409	Al EC8-EC10			1	0	1	<1	<1	<1	<1	300	0		0		
P1410	Al EC10-EC12			1	0	10	<10	<10	<10	<10	300	0		0		
P1411	Al EC12-EC16			1	0	10	<10	<10	<10	<10	300	0		0		
P1938	Al EC16-EC35			1	0	10	<10	<10	<10	<10	n/a					
P1415	Al EC35-EC44			1	0	10	<10	<10	<10	<10	n/a					
P1441	Aro EC5-EC7			1	0	1	<1	<1	<1	<1	1	0		0		
P1355	Aro EC7-EC8			1	0	1	<1	<1	<1	<1	700	0		0		
P1356	Aro EC8-EC10			1	0	1	<1	<1	<1	<1	300	0		0		
P1357	Aro EC10-EC12			1	0	10	<10	<10	<10	<10	90	0		0		
P1358	Aro EC12-EC16			1	0	10	<10	<10	<10	<10	90	0		0		
P1359	Aro EC16-EC21			1	0	10	<10	<10	<10	<10	90	0		0		
P1360	Aro EC21-EC35			1	0	10	<10	<10	<10	<10	90	0		0		
P1362	Aro EC35-EC44			1	0	10	<10	<10	<10	<10	n/a					
71-43-2	Benzene	P	H	1	0	3	<3	<3	<3	<3	1	1		0		
108-88-3	Toluene	SP	H	1	0	3	<3	<3	<3	<3	700	0		0		
100-41-4	Ethylbenzene		H	1	0	3	<3	<3	<3	<3	300	0		0		
95-47-6	m-Xylene		H	1	0	3	<3	<3	<3	<3	500	0		0		DWS for total xylene

Summary of Remedial Targets Methodology Screening



RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples Water body receptor(s): Groundwater and surface water Secondary receptor(s): Human health (abstraction) Data set: Groundwater Client: Ark Data Site: Spring Park Job no: 24639 Test Certificates(s): 23-29271-1 Dataset ALL ZONES											PNEC calculated (inland EQS)					P = priority substance PH = priority hazardous substances. WFD Designation (2015 Directions) OP = Other substance identical to previous legislation SP = Specific Pollutant JAGDAG Hazardous Substances Determination (UK) H Hazardous substance NP Non-hazardous pollutant (blank) Not included in assessment	
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water		Notes
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS		DWS		DWS		
P1374	m,p-Xylene		H	1	0	3	<3	<3	<3	<3	500		0		0		DWS for total xylene
1634-04-04	Methyl tertiary butyl ether (MTBE)		NP	1	0	3	<3	<3	<3	<3	15		0		0		Non health based value - WHO odour threshold

Appendix F Waste assessment

Waste Classification Report

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

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



T5QNX-ABYGF-T9ZC4

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

Job name

23-25938_HWOL_Results

Description/Comments

i2 lab certs: 23-25938-2

Project

24639

Site

Spring Park Data Centre Expansion, Corsham

Classified by

Name:

Alison Holland

Date:

27 Apr 2023 16:34 GMT

Telephone:

Company:

Hydrock Consultants Ltd

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

HazWasteOnline™ Certification:

CERTIFIED

Course

Hazardous Waste Classification

Date

08 Sep 2020

Next 3 year Refresher due by Sep 2023

Purpose of classification

2 - Material Characterisation

Address of the waste

Rowan Lane, Corsham

Post Code SN13 9RD

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Site is a derelict scrubland, that historically was a military site.

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

Removal of surface Made Ground and excavation for foundations, drainage etc.

Description of the waste

The ground conditions comprise Topsoil, underlain by Made Ground comprising brick concrete and limestone, underlain by natural limestone and clay. Asbestos was detected and quantified in some of the Made Ground and stockpile samples.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01--22032023-0.20		Non Hazardous		3
2	SA02--20032023-0.50		Non Hazardous		5
3	TP01--21032023-0.20		Non Hazardous		8
4	TP03--20032023-0.50		Non Hazardous		10
5	TP04--21032023-0.20		Non Hazardous		12
6	TP05--21032023-0.50		Non Hazardous		15
7	TP06--21032023-1.00		Non Hazardous		17
8	TP08--23032023-0.10		Non Hazardous		19
9	TP08--23032023-0.40		Non Hazardous		22
10	TP09--23032023-1.00		Non Hazardous		24
11	TP10--23032023-0.30		Non Hazardous		26
12	TP11--22032023-0.50		Non Hazardous		28
13	TP12--22032023-0.20		Non Hazardous		30
14	TP12--22032023-1.20		Non Hazardous		32
15	TP13--21032023-0.10		Non Hazardous		34
16	TP14--22032023-0.10		Non Hazardous		36
17	TP14--22032023-0.50		Non Hazardous		38
18	TP15--22032023-0.30		Non Hazardous		40
19	TP15--22032023-0.80		Non Hazardous		42
20	SP01--23032023-		Non Hazardous		44
21	SP02--23032023-		Non Hazardous		47
22	SP03--23032023-		Non Hazardous		50
23	SP04--23032023-		Non Hazardous		52
24	WS02--22032023-0.50		Non Hazardous		55

Related documents

#	Name	Description
1	23-25938_HWOL_Results.HWOL	i2 Analytical .hwol file used to populate the Job
2	Hydrock Standard plus Cresol (ammended Lead)	waste stream template used to create this Job

Report

Created by: Alison Holland

Created date: 27 Apr 2023 16:34 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	58
Appendix B: Rationale for selection of metal species	60
Appendix C: Version	60

Classification of sample: WS01--22032023-0.20

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

Sample details

Sample name:	LoW Code:
WS01--22032023-0.20	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
29%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

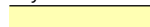
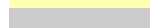
Determinands

Moisture content: 29% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		0.05 mg/kg		0.0355 mg/kg	0.0000355 %	✓	
3	anthracene	204-371-1	120-12-7		0.1 mg/kg		0.071 mg/kg	0.0000071 %	✓	
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		24 mg/kg	1.32	22.498 mg/kg	0.00225 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6		1.1 mg/kg		0.781 mg/kg	0.0000781 %	✓	
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		1.1 mg/kg		0.781 mg/kg	0.0000781 %	✓	
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		1.3 mg/kg		0.923 mg/kg	0.0000923 %	✓	
8	benzo[ghi]perylene	205-883-8	191-24-2		0.69 mg/kg		0.49 mg/kg	0.000049 %	✓	
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.7 mg/kg		0.497 mg/kg	0.0000497 %	✓	
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		1.3 mg/kg	2.775	2.562 mg/kg	0.000256 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1.5 mg/kg	13.43	14.303 mg/kg	0.00143 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8		<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		26 mg/kg	1.462	38 mg/kg	0.0038 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4		1.2 mg/kg		0.852 mg/kg	0.0000852 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		copper {  dicopper oxide; copper (I) oxide }			1	35	mg/kg	1.126	27.978	mg/kg	0.0028 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				0.21	mg/kg		0.149	mg/kg	0.0000149 %	✓	
		601-041-00-2	200-181-8	53-70-3									
19		fluoranthene				1.5	mg/kg		1.065	mg/kg	0.000107 %	✓	
			205-912-4	206-44-0									
20		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
21		indeno[123-cd]pyrene				0.69	mg/kg		0.49	mg/kg	0.000049 %	✓	
			205-893-2	193-39-5									
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	93	mg/kg		66.03	mg/kg	0.0066 %	✓	
		082-001-00-6											
23		mercury {  mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
24		naphthalene				0.06	mg/kg		0.0426	mg/kg	0.00000426 %	✓	
		601-052-00-2	202-049-5	91-20-3									
25		nickel {  nickel dihydroxide }				32	mg/kg	1.579	35.886	mg/kg	0.00359 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
26		pH				7.8	pH		7.8	pH	7.8 pH		
				PH									
27		phenanthrene				0.49	mg/kg		0.348	mg/kg	0.0000348 %	✓	
			201-581-5	85-01-8									
28		pyrene				1.5	mg/kg		1.065	mg/kg	0.000107 %	✓	
			204-927-3	129-00-0									
29		selenium {  selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
30		zinc {  zinc oxide }				250	mg/kg	1.245	220.937	mg/kg	0.0221 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
31		monohydric phenols				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
				P1186									
32		vanadium {  divanadium pentaoxide; vanadium pentoxide }				47	mg/kg	1.785	59.572	mg/kg	0.00596 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
Total:											0.0504 %		

Key

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

Classification of sample: SA02--20032023-0.50

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

Sample details

Sample name:	LoW Code:
SA02--20032023-0.50	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
22%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	Entry:

Hazard properties

None identified

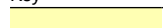
Determinands

Moisture content: 22% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	19 mg/kg	1.32	19.567	mg/kg	0.00196 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2	<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.06 mg/kg		0.0468	mg/kg	0.00000468 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.06 mg/kg		0.0468	mg/kg	0.00000468 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.07 mg/kg		0.0546	mg/kg	0.00000546 %	✓	
9	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.05 mg/kg		0.039	mg/kg	0.0000039 %	✓	
11	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.2 mg/kg	2.775	2.598	mg/kg	0.00026 %	✓	
12	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.5 mg/kg	13.43	5.238	mg/kg	0.000524 %	✓	
13	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		25 mg/kg	1.462	36.539	mg/kg	0.00365 %		
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	chrysene 601-048-00-0	205-923-4	218-01-9		0.07 mg/kg		0.0546 mg/kg	0.00000546 %	✓	
17	copper { dicopper oxide; copper (I) oxide } 029-002-00-X	215-270-7	1317-39-1		9.1 mg/kg	1.126	7.992 mg/kg	0.000799 %	✓	
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
19	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
21	fluoranthene 205-912-4	206-44-0			0.12 mg/kg		0.0936 mg/kg	0.00000936 %	✓	
22	fluorene 201-695-5	86-73-7			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
24	lead { lead compounds with the exception of those specified elsewhere in this Annex } 082-001-00-6			1	28 mg/kg		21.84 mg/kg	0.00218 %	✓	
25	mercury { mercury dichloride } 080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
26	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
27	nickel { nickel dihydroxide } 028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		23 mg/kg	1.579	28.336 mg/kg	0.00283 %	✓	
28	pH PH				7.9 pH		7.9 pH	7.9 pH		
29	phenanthrene 201-581-5	85-01-8			0.06 mg/kg		0.0468 mg/kg	0.00000468 %	✓	
30	pyrene 204-927-3	129-00-0			0.1 mg/kg		0.078 mg/kg	0.0000078 %	✓	
31	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
32	toluene 601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	TPH (C6 to C40) petroleum group TPH				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
34	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35	zinc { zinc oxide } 030-013-00-7	215-222-5	1314-13-2		69 mg/kg	1.245	66.991 mg/kg	0.0067 %	✓	
36	monohydric phenols P1186				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
37	vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8	215-239-8	1314-62-1		47 mg/kg	1.785	65.445 mg/kg	0.00654 %	✓	
38	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane 603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
Total:								0.0274 %		

Key

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

Classification of sample: TP01--21032023-0.20

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

Sample details

Sample name:	LoW Code:
TP01--21032023-0.20	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
25% (wet weight correction)	

Hazard properties

None identified

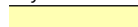
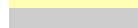
Determinands

Moisture content: 25% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		acenaphthene				0.12	mg/kg		0.09	mg/kg	0.000009 %	✓	
			201-469-6	83-32-9									
2		acenaphthylene				0.13	mg/kg		0.0975	mg/kg	0.00000975 %	✓	
			205-917-1	208-96-8									
3		anthracene				0.73	mg/kg		0.548	mg/kg	0.0000548 %	✓	
			204-371-1	120-12-7									
4		arsenic { arsenic trioxide }				19	mg/kg	1.32	18.815	mg/kg	0.00188 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
5		benzo[a]anthracene				3.3	mg/kg		2.475	mg/kg	0.000248 %	✓	
		601-033-00-9	200-280-6	56-55-3									
6		benzo[a]pyrene; benzo[def]chrysene				3.2	mg/kg		2.4	mg/kg	0.00024 %	✓	
		601-032-00-3	200-028-5	50-32-8									
7		benzo[b]fluoranthene				3.5	mg/kg		2.625	mg/kg	0.000262 %	✓	
		601-034-00-4	205-911-9	205-99-2									
8		benzo[ghi]perylene				1.8	mg/kg		1.35	mg/kg	0.000135 %	✓	
			205-883-8	191-24-2									
9		benzo[k]fluoranthene				2	mg/kg		1.5	mg/kg	0.00015 %	✓	
		601-036-00-5	205-916-6	207-08-9									
10		beryllium { beryllium oxide }				1.1	mg/kg	2.775	2.29	mg/kg	0.000229 %	✓	
		004-003-00-8	215-133-1	1304-56-9									
11		boron {  boron tribromide/trichloride/trifluoride (combined) }				0.4	mg/kg	13.43	4.029	mg/kg	0.000403 %	✓	
				10294-33-4, 10294-34-5, 7637-07-2									
12		cadmium { cadmium sulfide }			1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				24	mg/kg	1.462	35.077	mg/kg	0.00351 %		
			215-160-9	1308-38-9									
14		chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD
		024-001-00-0	215-607-8	1333-82-0									
15		chrysene				3.4	mg/kg		2.55	mg/kg	0.000255 %	✓	
		601-048-00-0	205-923-4	218-01-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		copper { dicopper oxide; copper (I) oxide }			1	32	mg/kg	1.126	27.021	mg/kg	0.0027 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				0.48	mg/kg		0.36	mg/kg	0.000036 %	✓	
		601-041-00-2	200-181-8	53-70-3									
19		fluoranthene				7.8	mg/kg		5.85	mg/kg	0.000585 %	✓	
			205-912-4	206-44-0									
20		fluorene				0.16	mg/kg		0.12	mg/kg	0.000012 %	✓	
			201-695-5	86-73-7									
21		indeno[123-cd]pyrene				1.8	mg/kg		1.35	mg/kg	0.000135 %	✓	
			205-893-2	193-39-5									
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	240	mg/kg		180	mg/kg	0.018 %	✓	
		082-001-00-6											
23		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
24		naphthalene				0.06	mg/kg		0.045	mg/kg	0.0000045 %	✓	
		601-052-00-2	202-049-5	91-20-3									
25		nickel { nickel dihydroxide }				24	mg/kg	1.579	28.431	mg/kg	0.00284 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
26		pH				7.6	pH		7.6	pH	7.6 pH		
				PH									
27		phenanthrene				3.3	mg/kg		2.475	mg/kg	0.000248 %	✓	
			201-581-5	85-01-8									
28		pyrene				6.4	mg/kg		4.8	mg/kg	0.00048 %	✓	
			204-927-3	129-00-0									
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
30		zinc { zinc oxide }				290	mg/kg	1.245	270.725	mg/kg	0.0271 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
31		monohydric phenols				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
				P1186									
32		vanadium {  divanadium pentaoxide; vanadium pentoxide }				45	mg/kg	1.785	60.25	mg/kg	0.00602 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
Total:									0.0664 %				

Key

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

Classification of sample: TP03--20032023-0.50

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

Sample details

Sample name:	LoW Code:
TP03--20032023-0.50	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
20%	Entry:
(wet weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

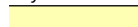
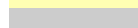
Determinands

Moisture content: 20% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	 acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	 acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	 anthracene	204-371-1	120-12-7		0.05 mg/kg		0.04	mg/kg	0.000004 %	✓	
4	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	16 mg/kg	1.32	16.9	mg/kg	0.00169 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.42 mg/kg		0.336	mg/kg	0.0000336 %	✓	
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.46 mg/kg		0.368	mg/kg	0.0000368 %	✓	
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.57 mg/kg		0.456	mg/kg	0.0000456 %	✓	
8	 benzo[ghi]perylene	205-883-8	191-24-2		0.35 mg/kg		0.28	mg/kg	0.000028 %	✓	
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.26 mg/kg		0.208	mg/kg	0.0000208 %	✓	
10	 beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1 mg/kg	2.775	2.22	mg/kg	0.000222 %	✓	
11	 boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2 mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	 cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	 chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		20 mg/kg	1.462	29.231	mg/kg	0.00292 %		
14	 chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	0.52 mg/kg		0.416	mg/kg	0.0000416 %	✓	

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used	
		EU CLP index number	EC Number	CAS Number									
16		copper { dicopper oxide; copper (I) oxide }			1	20	mg/kg	1.126	18.014	mg/kg	0.0018 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }			1	<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene			1	0.09	mg/kg		0.072	mg/kg	0.0000072 %	✓	
		601-041-00-2	200-181-8	53-70-3									
19		fluoranthene			1	0.79	mg/kg		0.632	mg/kg	0.0000632 %	✓	
			205-912-4	206-44-0									
20		fluorene			1	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
21		indeno[123-cd]pyrene			1	0.34	mg/kg		0.272	mg/kg	0.0000272 %	✓	
			205-893-2	193-39-5									
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	25	mg/kg		20	mg/kg	0.002 %	✓	
		082-001-00-6											
23		mercury { mercury dichloride }			1	<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
24		naphthalene			1	0.05	mg/kg		0.04	mg/kg	0.000004 %	✓	
		601-052-00-2	202-049-5	91-20-3									
25		nickel { nickel dihydroxide }			1	21	mg/kg	1.579	26.536	mg/kg	0.00265 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
26		pH			1	7.8	pH		7.8	pH	7.8 pH		
				PH									
27		phenanthrene			1	0.25	mg/kg		0.2	mg/kg	0.00002 %	✓	
			201-581-5	85-01-8									
28		pyrene			1	0.73	mg/kg		0.584	mg/kg	0.0000584 %	✓	
			204-927-3	129-00-0									
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }			1	<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
30		zinc { zinc oxide }			1	60	mg/kg	1.245	59.746	mg/kg	0.00597 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
31		monohydric phenols			1	<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
				P1186									
32		vanadium {  divanadium pentaoxide; vanadium pentoxide }			1	36	mg/kg	1.785	51.413	mg/kg	0.00514 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
Total:									0.0239 %				

Key

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

Classification of sample: TP04--21032023-0.20

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

Sample details

Sample name:	LoW Code:
TP04--21032023-0.20	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
18% (wet weight correction)	

Hazard properties

None identified

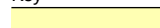
Determinands

Moisture content: 18% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1	●	acenaphthene				0.11	mg/kg		0.0902	mg/kg	0.00000902 %	✓	
		201-469-6	83-32-9										
2	●	acenaphthylene				0.06	mg/kg		0.0492	mg/kg	0.00000492 %	✓	
		205-917-1	208-96-8										
3	●	anthracene				0.44	mg/kg		0.361	mg/kg	0.0000361 %	✓	
		204-371-1	120-12-7										
4	🧫	arsenic { arsenic trioxide }				13	mg/kg	1.32	14.075	mg/kg	0.00141 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
5		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
6		benzo[a]anthracene				1	mg/kg		0.82	mg/kg	0.000082 %	✓	
		601-033-00-9	200-280-6	56-55-3									
7		benzo[a]pyrene; benzo[def]chrysene				0.8	mg/kg		0.656	mg/kg	0.0000656 %	✓	
		601-032-00-3	200-028-5	50-32-8									
8		benzo[b]fluoranthene				1	mg/kg		0.82	mg/kg	0.000082 %	✓	
		601-034-00-4	205-911-9	205-99-2									
9	●	benzo[ghi]perylene				0.53	mg/kg		0.435	mg/kg	0.0000435 %	✓	
		205-883-8	191-24-2										
10		benzo[k]fluoranthene				0.52	mg/kg		0.426	mg/kg	0.0000426 %	✓	
		601-036-00-5	205-916-6	207-08-9									
11	🧫	beryllium { beryllium oxide }				0.54	mg/kg	2.775	1.229	mg/kg	0.000123 %	✓	
		004-003-00-8	215-133-1	1304-56-9									
12	🧫	boron { ● boron tribromide/trichloride/trifluoride (combined) }				0.5	mg/kg	13.43	5.506	mg/kg	0.000551 %	✓	
				10294-33-4, 10294-34-5, 7637-07-2									
13	🧫	cadmium { cadmium sulfide }			1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
		048-010-00-4	215-147-8	1306-23-6									
14	🧫	chromium in chromium(III) compounds { ● chromium(III) oxide (worst case) }				8.9	mg/kg	1.462	13.008	mg/kg	0.0013 %		
		215-160-9	1308-38-9										
15	🧫	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD
		024-001-00-0	215-607-8	1333-82-0									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	chrysene				1.2 mg/kg		0.984 mg/kg	0.0000984 %	✓	
	601-048-00-0	205-923-4	218-01-9							
17	copper { dicopper oxide; copper (I) oxide }				12 mg/kg	1.126	11.079 mg/kg	0.00111 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
19	dibenz[a,h]anthracene				0.12 mg/kg		0.0984 mg/kg	0.00000984 %	✓	
	601-041-00-2	200-181-8	53-70-3							
20	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
21	fluoranthene				2.9 mg/kg		2.378 mg/kg	0.000238 %	✓	
		205-912-4	206-44-0							
22	fluorene				0.18 mg/kg		0.148 mg/kg	0.0000148 %	✓	
		201-695-5	86-73-7							
23	indeno[123-cd]pyrene				0.49 mg/kg		0.402 mg/kg	0.0000402 %	✓	
		205-893-2	193-39-5							
24	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	19 mg/kg		15.58 mg/kg	0.00156 %	✓	
	082-001-00-6									
25	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
26	naphthalene				0.09 mg/kg		0.0738 mg/kg	0.00000738 %	✓	
	601-052-00-2	202-049-5	91-20-3							
27	nickel { nickel dihydroxide }				16 mg/kg	1.579	20.723 mg/kg	0.00207 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
28	pH		PH		8.4 pH		8.4 pH	8.4 pH		
29	phenanthrene				2.3 mg/kg		1.886 mg/kg	0.000189 %	✓	
		201-581-5	85-01-8							
30	pyrene				2.3 mg/kg		1.886 mg/kg	0.000189 %	✓	
		204-927-3	129-00-0							
31	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
32	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
33	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
34	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
35	zinc { zinc oxide }				51 mg/kg	1.245	52.054 mg/kg	0.00521 %	✓	
	030-013-00-7	215-222-5	1314-13-2							
36	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
37	vanadium { divanadium pentaoxide; vanadium pentoxide }				23 mg/kg	1.785	33.669 mg/kg	0.00337 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
38	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
Total:								0.0197 %		

Key

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

Classification of sample: TP05--21032023-0.50

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

Sample details

Sample name:	LoW Code:
TP05--21032023-0.50	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
14%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

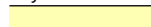
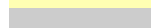
Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used	
		EU CLP index number	EC Number	CAS Number									
1		acenaphthene				2	mg/kg		1.72	mg/kg	0.000172 %	✓	
			201-469-6	83-32-9									
2		acenaphthylene				1	mg/kg		0.86	mg/kg	0.000086 %	✓	
			205-917-1	208-96-8									
3		anthracene				9.8	mg/kg		8.428	mg/kg	0.000843 %	✓	
			204-371-1	120-12-7									
4		arsenic { arsenic trioxide }				15	mg/kg	1.32	17.032	mg/kg	0.0017 %	✓	
			033-003-00-0	215-481-4									
5		benzo[a]anthracene				20	mg/kg		17.2	mg/kg	0.00172 %	✓	
			601-033-00-9	200-280-6									
6		benzo[a]pyrene; benzo[def]chrysene				17	mg/kg		14.62	mg/kg	0.00146 %	✓	
			601-032-00-3	200-028-5									
7		benzo[b]fluoranthene				19	mg/kg		16.34	mg/kg	0.00163 %	✓	
			601-034-00-4	205-911-9									
8		benzo[ghi]perylene				8.2	mg/kg		7.052	mg/kg	0.000705 %	✓	
			205-883-8	191-24-2									
9		benzo[k]fluoranthene				8.3	mg/kg		7.138	mg/kg	0.000714 %	✓	
			601-036-00-5	205-916-6									
10		beryllium { beryllium oxide }				0.78	mg/kg	2.775	1.862	mg/kg	0.000186 %	✓	
			004-003-00-8	215-133-1									
11		boron {  boron tribromide/trichloride/trifluoride (combined) }				<0.2	mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
				10294-33-4, 10294-34-5, 7637-07-2									
12		cadmium { cadmium sulfide }			1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
			048-010-00-4	215-147-8									
13		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				16	mg/kg	1.462	23.385	mg/kg	0.00234 %		
				215-160-9									
14		chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD
			024-001-00-0	215-607-8									
15		chrysene				16	mg/kg		13.76	mg/kg	0.00138 %	✓	
			601-048-00-0	205-923-4									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used		
		EU CLP index number	EC Number	CAS Number									
16		copper {  dicopper oxide; copper (I) oxide }			1	19	mg/kg	1.126	18.397	mg/kg	0.00184 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				2.3	mg/kg		1.978	mg/kg	0.000198 %	✓	
		601-041-00-2	200-181-8	53-70-3									
19		fluoranthene				48	mg/kg		41.28	mg/kg	0.00413 %	✓	
			205-912-4	206-44-0									
20		fluorene				4	mg/kg		3.44	mg/kg	0.000344 %	✓	
			201-695-5	86-73-7									
21		indeno[123-cd]pyrene				8.8	mg/kg		7.568	mg/kg	0.000757 %	✓	
			205-893-2	193-39-5									
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	39	mg/kg		33.54	mg/kg	0.00335 %	✓	
		082-001-00-6											
23		mercury {  mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
24		naphthalene				0.35	mg/kg		0.301	mg/kg	0.0000301 %	✓	
		601-052-00-2	202-049-5	91-20-3									
25		nickel {  nickel dihydroxide }				19	mg/kg	1.579	25.809	mg/kg	0.00258 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
26		pH				8.1	pH		8.1	pH	8.1 pH		
				PH									
27		phenanthrene				41	mg/kg		35.26	mg/kg	0.00353 %	✓	
			201-581-5	85-01-8									
28		pyrene				39	mg/kg		33.54	mg/kg	0.00335 %	✓	
			204-927-3	129-00-0									
29		selenium {  selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
30		zinc {  zinc oxide }				93	mg/kg	1.245	99.552	mg/kg	0.00996 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
31		monohydric phenols				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
				P1186									
32		vanadium {  divanadium pentaoxide; vanadium pentoxide }				32	mg/kg	1.785	49.128	mg/kg	0.00491 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
Total:									0.049 %				

Key

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

Classification of sample: TP06--21032023-1.00

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

Sample details

Sample name:	LoW Code:
TP06--21032023-1.00	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
15%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	Entry:

Hazard properties

None identified

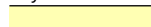
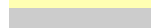
Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		0.05	mg/kg		0.0425	mg/kg	0.00000425 %	✓	
3	anthracene	204-371-1	120-12-7		0.05	mg/kg		0.0425	mg/kg	0.00000425 %	✓	
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	22	mg/kg	1.32	24.69	mg/kg	0.00247 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.13	mg/kg		0.111	mg/kg	0.0000111 %	✓	
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.12	mg/kg		0.102	mg/kg	0.0000102 %	✓	
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.15	mg/kg		0.128	mg/kg	0.0000128 %	✓	
8	benzo[ghi]perylene	205-883-8	191-24-2		0.08	mg/kg		0.068	mg/kg	0.0000068 %	✓	
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.07	mg/kg		0.0595	mg/kg	0.00000595 %	✓	
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.95	mg/kg	2.775	2.241	mg/kg	0.000224 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.7	mg/kg	13.43	7.991	mg/kg	0.000799 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		20	mg/kg	1.462	29.231	mg/kg	0.00292 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	0.14	mg/kg		0.119	mg/kg	0.0000119 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		copper { dicopper oxide ; copper (I) oxide }			1	7.6	mg/kg	1.126	7.273	mg/kg	0.000727 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
19		fluoranthene				0.28	mg/kg		0.238	mg/kg	0.0000238 %	✓	
			205-912-4	206-44-0									
20		fluorene				0.05	mg/kg		0.0425	mg/kg	0.00000425 %	✓	
			201-695-5	86-73-7									
21		indeno[123-cd]pyrene				0.08	mg/kg		0.068	mg/kg	0.0000068 %	✓	
			205-893-2	193-39-5									
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	23	mg/kg		19.55	mg/kg	0.00196 %	✓	
		082-001-00-6											
23		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
24		naphthalene				0.06	mg/kg		0.051	mg/kg	0.0000051 %	✓	
		601-052-00-2	202-049-5	91-20-3									
25		nickel { nickel dihydroxide }				20	mg/kg	1.579	26.851	mg/kg	0.00269 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
26		pH				8.3	pH		8.3	pH	8.3 pH		
				PH									
27		phenanthrene				0.25	mg/kg		0.213	mg/kg	0.0000212 %	✓	
			201-581-5	85-01-8									
28		pyrene				0.23	mg/kg		0.196	mg/kg	0.0000196 %	✓	
			204-927-3	129-00-0									
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
30		zinc { zinc oxide }				56	mg/kg	1.245	59.248	mg/kg	0.00592 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
31		monohydric phenols				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
				P1186									
32		vanadium {  divanadium pentaoxide; vanadium pentoxide }				44	mg/kg	1.785	66.766	mg/kg	0.00668 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
Total:											0.0254 %		

Key

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

Classification of sample: TP08--23032023-0.10

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

Sample details

Sample name:	LoW Code:
TP08--23032023-0.10	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
26%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

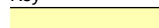
Determinands

Moisture content: 26% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	18 mg/kg	1.32	17.587	mg/kg	0.00176 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2	<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.19 mg/kg		0.141	mg/kg	0.0000141 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.23 mg/kg		0.17	mg/kg	0.000017 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.29 mg/kg		0.215	mg/kg	0.0000215 %	✓	
9	benzo[ghi]perylene	205-883-8	191-24-2		0.17 mg/kg		0.126	mg/kg	0.0000126 %	✓	
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.12 mg/kg		0.0888	mg/kg	0.00000888 %	✓	
11	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.2 mg/kg	2.775	2.465	mg/kg	0.000246 %	✓	
12	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4 mg/kg	13.43	3.975	mg/kg	0.000398 %	✓	
13	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		21 mg/kg	1.462	30.693	mg/kg	0.00307 %		
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	chrysene 601-048-00-0	205-923-4	218-01-9		0.24 mg/kg		0.178 mg/kg	0.0000178 %	✓	
17	copper { dicopper oxide; copper (I) oxide } 029-002-00-X	215-270-7	1317-39-1		39 mg/kg	1.126	32.493 mg/kg	0.00325 %	✓	
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
19	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
21	fluoranthene 205-912-4	206-44-0			0.38 mg/kg		0.281 mg/kg	0.0000281 %	✓	
22	fluorene 201-695-5	86-73-7			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	indeno[123-cd]pyrene 205-893-2	193-39-5			0.16 mg/kg		0.118 mg/kg	0.0000118 %	✓	
24	lead { lead compounds with the exception of those specified elsewhere in this Annex } 082-001-00-6			1	65 mg/kg		48.1 mg/kg	0.00481 %	✓	
25	mercury { mercury dichloride } 080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
26	naphthalene 601-052-00-2	202-049-5	91-20-3		0.05 mg/kg		0.037 mg/kg	0.0000037 %	✓	
27	nickel { nickel dihydroxide } 028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		24 mg/kg	1.579	28.052 mg/kg	0.00281 %	✓	
28	pH PH				7.6 pH		7.6 pH	7.6 pH		
29	phenanthrene 201-581-5	85-01-8			0.13 mg/kg		0.0962 mg/kg	0.00000962 %	✓	
30	pyrene 204-927-3	129-00-0			0.33 mg/kg		0.244 mg/kg	0.0000244 %	✓	
31	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
32	toluene 601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	TPH (C6 to C40) petroleum group TPH				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
34	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35	zinc { zinc oxide } 030-013-00-7	215-222-5	1314-13-2		190 mg/kg	1.245	175.007 mg/kg	0.0175 %	✓	
36	monohydric phenols P1186				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
37	vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8	215-239-8	1314-62-1		44 mg/kg	1.785	58.126 mg/kg	0.00581 %	✓	
38	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane 603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
Total:								0.0417 %		

Key

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

Classification of sample: TP08--23032023-0.40

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

Sample details

Sample name:	LoW Code:
TP08--23032023-0.40	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
19% (wet weight correction)	

Hazard properties

None identified

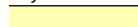
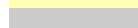
Determinands

Moisture content: 19% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	17 mg/kg	1.32	18.181 mg/kg		0.00182 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.09 mg/kg		0.0729 mg/kg		0.00000729 %	✓	
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.12 mg/kg		0.0972 mg/kg		0.00000972 %	✓	
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.12 mg/kg		0.0972 mg/kg		0.00000972 %	✓	
8	benzo[ghi]perylene	205-883-8	191-24-2		0.09 mg/kg		0.0729 mg/kg		0.00000729 %	✓	
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.07 mg/kg		0.0567 mg/kg		0.00000567 %	✓	
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.1 mg/kg	2.775	2.473 mg/kg		0.000247 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.3 mg/kg	13.43	3.263 mg/kg		0.000326 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		21 mg/kg	1.462	30.693 mg/kg		0.00307 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg		<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	0.11 mg/kg		0.0891 mg/kg		0.00000891 %	✓	

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used	
		EU CLP index number	EC Number	CAS Number									
16		copper { dicopper oxide ; copper (I) oxide }			1	14	mg/kg	1.126	12.768	mg/kg	0.00128 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
			006-007-00-5										
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			601-041-00-2	200-181-8	53-70-3								
19		fluoranthene				0.18	mg/kg		0.146	mg/kg	0.0000146 %	✓	
				205-912-4	206-44-0								
20		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
				201-695-5	86-73-7								
21		indeno[123-cd]pyrene				0.07	mg/kg		0.0567	mg/kg	0.00000567 %	✓	
				205-893-2	193-39-5								
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	29	mg/kg		23.49	mg/kg	0.00235 %	✓	
			082-001-00-6										
23		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
			080-010-00-X	231-299-8	7487-94-7								
24		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			601-052-00-2	202-049-5	91-20-3								
25		nickel { nickel dihydroxide }				20	mg/kg	1.579	25.588	mg/kg	0.00256 %	✓	
			028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26		pH				7.9	pH		7.9	pH	7.9 pH		
					PH								
27		phenanthrene				0.06	mg/kg		0.0486	mg/kg	0.00000486 %	✓	
				201-581-5	85-01-8								
28		pyrene				0.15	mg/kg		0.122	mg/kg	0.0000121 %	✓	
				204-927-3	129-00-0								
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
			034-002-00-8										
30		zinc { zinc oxide }				130	mg/kg	1.245	131.068	mg/kg	0.0131 %	✓	
			030-013-00-7	215-222-5	1314-13-2								
31		monohydric phenols				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
					P1186								
32		vanadium {  divanadium pentaoxide ; vanadium pentoxide }				43	mg/kg	1.785	62.178	mg/kg	0.00622 %	✓	
			023-001-00-8	215-239-8	1314-62-1								
Total:									0.0319 %				

Key

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

Classification of sample: TP09--23032023-1.00

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

Sample details

Sample name:	LoW Code:
TP09--23032023-1.00	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
24%	Entry:
(wet weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

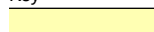
Determinands

Moisture content: 24% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	28 mg/kg	1.32	28.097 mg/kg		0.00281 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.1 mg/kg	2.775	2.32 mg/kg		0.000232 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.2 mg/kg	13.43	2.041 mg/kg		0.000204 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		24 mg/kg	1.462	35.077 mg/kg		0.00351 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg		<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16	 copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.6 mg/kg	1.126	8.214 mg/kg	0.000821 %	✓	
17	 cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
18	 dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	 fluoranthene		205-912-4	206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	 fluorene		201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
21	 indeno[123-cd]pyrene		205-893-2	193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	 lead {  lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	16 mg/kg		12.16 mg/kg	0.00122 %	✓	
23	 mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
24	 naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
25	 nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		25 mg/kg	1.579	30.01 mg/kg	0.003 %	✓	
26	 pH			PH		8.1 pH		8.1 pH	8.1 pH		
27	 phenanthrene		201-581-5	85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	 pyrene		204-927-3	129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
29	 selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
30	 zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		53 mg/kg	1.245	50.137 mg/kg	0.00501 %	✓	
31	 monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
32	 vanadium {  divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		63 mg/kg	1.785	85.475 mg/kg	0.00855 %	✓	
33	 magnesium { magnesium phosphide; trimagnesium diphosphide }	015-005-00-3	235-023-7	12057-74-8		7.4 mg/kg	1.85	10.402 mg/kg	0.00104 %	✓	
Total:									0.0273 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
	This determinand is defined in the EU CLP Table 3
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP10--23032023-0.30

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

Sample details

Sample name:	LoW Code:
TP10--23032023-0.30	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
25% (wet weight correction)	

Hazard properties

None identified

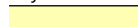
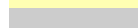
Determinands

Moisture content: 25% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	26 mg/kg	1.32	25.746 mg/kg	0.00257 %		✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.5 mg/kg	2.775	3.122 mg/kg	0.000312 %		✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1.1 mg/kg	13.43	11.08 mg/kg	0.00111 %		✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		32 mg/kg	1.462	46.77 mg/kg	0.00468 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16		copper { dicopper oxide; copper (I) oxide }				16 mg/kg	1.126	13.511 mg/kg	0.00135 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
		006-007-00-5									
18		dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3							
19		fluoranthene				0.12 mg/kg		0.09 mg/kg	0.000009 %	✓	
			205-912-4	206-44-0							
20		fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7							
21		indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5							
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	49 mg/kg		36.75 mg/kg	0.00368 %	✓	
		082-001-00-6									
23		mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7							
24		naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
25		nickel { nickel dihydroxide }				29 mg/kg	1.579	34.354 mg/kg	0.00344 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26		pH				7 pH		7 pH	7pH		
				PH							
27		phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8							
28		pyrene				0.11 mg/kg		0.0825 mg/kg	0.00000825 %	✓	
			204-927-3	129-00-0							
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
		034-002-00-8									
30		zinc { zinc oxide }				87 mg/kg	1.245	81.218 mg/kg	0.00812 %	✓	
		030-013-00-7	215-222-5	1314-13-2							
31		monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
				P1186							
32		vanadium {  divanadium pentaoxide; vanadium pentoxide }				64 mg/kg	1.785	85.689 mg/kg	0.00857 %	✓	
		023-001-00-8	215-239-8	1314-62-1							
Total:									0.0347 %		

Key

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

Classification of sample: TP11--22032023-0.50

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

Sample details

Sample name:	LoW Code:
TP11--22032023-0.50	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
24% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 24% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	 acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	 acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	 anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	29 mg/kg	1.32	29.1 mg/kg	0.00291 %		✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	 benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	 beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	2.2 mg/kg	2.775	4.64 mg/kg	0.000464 %		✓	
11	 boron {  boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.9 mg/kg	13.43	9.186 mg/kg	0.000919 %		✓	
12	 cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	 chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }	215-160-9	1308-38-9		46 mg/kg	1.462	67.232 mg/kg	0.00672 %			
14	 chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16		copper { dicopper oxide; copper (I) oxide }				14 mg/kg	1.126	11.979 mg/kg	0.0012 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
		006-007-00-5									
18		dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3							
19		fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-912-4	206-44-0							
20		fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7							
21		indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5							
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	25 mg/kg		19 mg/kg	0.0019 %	✓	
		082-001-00-6									
23		mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7							
24		naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
25		nickel { nickel dihydroxide }				50 mg/kg	1.579	60.021 mg/kg	0.006 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26		pH				7.8 pH		7.8 pH	7.8 pH		
				PH							
27		phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8							
28		pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0							
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
		034-002-00-8									
30		zinc { zinc oxide }				79 mg/kg	1.245	74.733 mg/kg	0.00747 %	✓	
		030-013-00-7	215-222-5	1314-13-2							
31		monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
				P1186							
32		vanadium {  divanadium pentaoxide; vanadium pentoxide }				89 mg/kg	1.785	120.75 mg/kg	0.0121 %	✓	
		023-001-00-8	215-239-8	1314-62-1							
Total:									0.0406 %		

Key

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

Classification of sample: TP12--22032023-0.20

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

Sample details

Sample name:	LoW Code:
TP12--22032023-0.20	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
18% (wet weight correction)	

Hazard properties

None identified

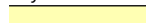
Determinands

Moisture content: 18% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		0.05 mg/kg		0.041 mg/kg		0.0000041 %	✓	
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		18 mg/kg	1.32	19.488 mg/kg		0.00195 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6		0.46 mg/kg		0.377 mg/kg		0.0000377 %	✓	
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.42 mg/kg		0.344 mg/kg		0.0000344 %	✓	
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.6 mg/kg		0.492 mg/kg		0.0000492 %	✓	
8	benzo[ghi]perylene	205-883-8	191-24-2		0.26 mg/kg		0.213 mg/kg		0.0000213 %	✓	
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.23 mg/kg		0.189 mg/kg		0.0000189 %	✓	
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.93 mg/kg	2.775	2.116 mg/kg		0.000212 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.3 mg/kg	13.43	3.304 mg/kg		0.00033 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		17 mg/kg	1.462	24.846 mg/kg		0.00248 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.8 mg/kg	1.923	<3.462 mg/kg		<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4		0.51 mg/kg		0.418 mg/kg		0.0000418 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		copper { dicopper oxide ; copper (I) oxide }			1	12	mg/kg	1.126	11.079	mg/kg	0.00111 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
19		fluoranthene				0.81	mg/kg		0.664	mg/kg	0.0000664 %	✓	
			205-912-4	206-44-0									
20		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
21		indeno[123-cd]pyrene				0.26	mg/kg		0.213	mg/kg	0.0000213 %	✓	
			205-893-2	193-39-5									
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	24	mg/kg		19.68	mg/kg	0.00197 %	✓	
		082-001-00-6											
23		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
24		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
25		nickel { nickel dihydroxide }				20	mg/kg	1.579	25.904	mg/kg	0.00259 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
26		pH				7.9	pH		7.9	pH	7.9 pH		
				PH									
27		phenanthrene				0.24	mg/kg		0.197	mg/kg	0.0000197 %	✓	
			201-581-5	85-01-8									
28		pyrene				0.7	mg/kg		0.574	mg/kg	0.0000574 %	✓	
			204-927-3	129-00-0									
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
30		zinc { zinc oxide }				54	mg/kg	1.245	55.116	mg/kg	0.00551 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
31		monohydric phenols				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
				P1186									
32		vanadium {  divanadium pentaoxide ; vanadium pentoxide }				38	mg/kg	1.785	55.626	mg/kg	0.00556 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
Total:											0.0229 %		

Key

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

Classification of sample: TP12--22032023-1.20

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

Sample details

Sample name:	LoW Code:
TP12--22032023-1.20	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
16% (wet weight correction)	

Hazard properties

None identified

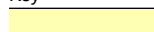
Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	12 mg/kg	1.32	13.309 mg/kg	0.00133 %		✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.2 mg/kg	2.775	2.798 mg/kg	0.00028 %		✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.2 mg/kg	13.43	2.256 mg/kg	0.000226 %		✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		26 mg/kg	1.462	38 mg/kg	0.0038 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16		copper { dicopper oxide; copper (I) oxide }				6.5 mg/kg	1.126	6.147 mg/kg	0.000615 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
		006-007-00-5									
18		dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3							
19		fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-912-4	206-44-0							
20		fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7							
21		indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5							
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	11 mg/kg		9.24 mg/kg	0.000924 %	✓	
		082-001-00-6									
23		mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7							
24		naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
25		nickel { nickel dihydroxide }				23 mg/kg	1.579	30.516 mg/kg	0.00305 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26		pH				8 pH		8 pH	8pH		
				PH							
27		phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8							
28		pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0							
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
		034-002-00-8									
30		zinc { zinc oxide }				52 mg/kg	1.245	54.369 mg/kg	0.00544 %	✓	
		030-013-00-7	215-222-5	1314-13-2							
31		monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
				P1186							
32		vanadium {  divanadium pentaoxide; vanadium pentoxide }				31 mg/kg	1.785	46.486 mg/kg	0.00465 %	✓	
		023-001-00-8	215-239-8	1314-62-1							
33		magnesium { magnesium phosphide; trimagnesium diphosphide }				<5 mg/kg	1.85	<9.248 mg/kg	<0.000925 %		<LOD
		015-005-00-3	235-023-7	12057-74-8							
Total:									0.0222 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
	This determinand is defined in the EU CLP Table 3
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP13--21032023-0.10

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

Sample details

Sample name:	LoW Code:
TP13--21032023-0.10	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
21%	Entry:
(wet weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 21% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		0.06 mg/kg		0.0474 mg/kg		0.00000474 %	✓	
2	acenaphthylene	205-917-1	208-96-8		0.11 mg/kg		0.0869 mg/kg		0.00000869 %	✓	
3	anthracene	204-371-1	120-12-7		0.25 mg/kg		0.198 mg/kg		0.0000198 %	✓	
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		19 mg/kg	1.32	19.818 mg/kg		0.00198 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6		1.8 mg/kg		1.422 mg/kg		0.000142 %	✓	
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		2.2 mg/kg		1.738 mg/kg		0.000174 %	✓	
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		2.8 mg/kg		2.212 mg/kg		0.000221 %	✓	
8	benzo[ghi]perylene	205-883-8	191-24-2		1.5 mg/kg		1.185 mg/kg		0.000119 %	✓	
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.98 mg/kg		0.774 mg/kg		0.0000774 %	✓	
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.72 mg/kg	2.775	1.579 mg/kg		0.000158 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1.8 mg/kg	13.43	19.097 mg/kg		0.00191 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	1.1 mg/kg	1.285	1.117 mg/kg		0.0000869 %	✓	
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		25 mg/kg	1.462	36.539 mg/kg		0.00365 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.8 mg/kg	1.923	<3.462 mg/kg		<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4		1.9 mg/kg		1.501 mg/kg		0.00015 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
16	copper { dicopper oxide; copper (I) oxide }				33 mg/kg	1.126	29.352	mg/kg	0.00294 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				0.23 mg/kg		0.182	mg/kg	0.0000182 %	✓	
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				3.1 mg/kg		2.449	mg/kg	0.000245 %	✓	
		205-912-4	206-44-0								
20	fluorene				0.06 mg/kg		0.0474	mg/kg	0.00000474 %	✓	
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				1.4 mg/kg		1.106	mg/kg	0.000111 %	✓	
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	65 mg/kg		51.35	mg/kg	0.00514 %	✓	
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				29 mg/kg	1.579	36.186	mg/kg	0.00362 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				7.9 pH		7.9	pH	7.9 pH		
			PH								
27	phenanthrene				0.93 mg/kg		0.735	mg/kg	0.0000735 %	✓	
		201-581-5	85-01-8								
28	pyrene				2.9 mg/kg		2.291	mg/kg	0.000229 %	✓	
		204-927-3	129-00-0								
29	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8										
30	zinc { zinc oxide }				230 mg/kg	1.245	226.165	mg/kg	0.0226 %	✓	
	030-013-00-7	215-222-5	1314-13-2								
31	monohydric phenols				<1 mg/kg		<1	mg/kg	<0.0001 %		<LOD
			P1186								
32	vanadium { divanadium pentaoxide; vanadium pentoxide }				32 mg/kg	1.785	45.129	mg/kg	0.00451 %	✓	
	023-001-00-8	215-239-8	1314-62-1								
Total:									0.049 %		

Key

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

Classification of sample: TP14--22032023-0.10

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

Sample details

Sample name:	LoW Code:
TP14--22032023-0.10	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
23% (wet weight correction)	

Hazard properties

None identified

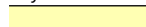
Determinands

Moisture content: 23% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	19 mg/kg	1.32	19.316 mg/kg		0.00193 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.1 mg/kg		0.077 mg/kg		0.0000077 %	✓	
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.12 mg/kg		0.0924 mg/kg		0.00000924 %	✓	
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.17 mg/kg		0.131 mg/kg		0.0000131 %	✓	
8	benzo[ghi]perylene	205-883-8	191-24-2		0.09 mg/kg		0.0693 mg/kg		0.00000693 %	✓	
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.06 mg/kg		0.0462 mg/kg		0.00000462 %	✓	
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.1 mg/kg	2.775	2.351 mg/kg		0.000235 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1.5 mg/kg	13.43	15.512 mg/kg		0.00155 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		19 mg/kg	1.462	27.77 mg/kg		0.00278 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg		<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	0.13 mg/kg		0.1 mg/kg		0.00001 %	✓	

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16		copper { dicopper oxide; copper (I) oxide }				18 mg/kg	1.126	15.605 mg/kg	0.00156 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
		006-007-00-5									
18		dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3							
19		fluoranthene				0.15 mg/kg		0.115 mg/kg	0.0000115 %	✓	
			205-912-4	206-44-0							
20		fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7							
21		indeno[123-cd]pyrene				0.07 mg/kg		0.0539 mg/kg	0.00000539 %	✓	
			205-893-2	193-39-5							
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	44 mg/kg		33.88 mg/kg	0.00339 %	✓	
		082-001-00-6									
23		mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7							
24		naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
25		nickel { nickel dihydroxide }				22 mg/kg	1.579	26.757 mg/kg	0.00268 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26		pH				7.7 pH		7.7 pH	7.7 pH		
				PH							
27		phenanthrene				0.09 mg/kg		0.0693 mg/kg	0.00000693 %	✓	
			201-581-5	85-01-8							
28		pyrene				0.13 mg/kg		0.1 mg/kg	0.00001 %	✓	
			204-927-3	129-00-0							
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
		034-002-00-8									
30		zinc { zinc oxide }				99 mg/kg	1.245	94.885 mg/kg	0.00949 %	✓	
		030-013-00-7	215-222-5	1314-13-2							
31		monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
				P1186							
32		vanadium {  divanadium pentaoxide; vanadium pentoxide }				40 mg/kg	1.785	54.984 mg/kg	0.0055 %	✓	
		023-001-00-8	215-239-8	1314-62-1							
Total:									0.0301 %		

Key

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

Classification of sample: TP14--22032023-0.50

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

Sample details

Sample name:	LoW Code:
TP14--22032023-0.50	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
23% (wet weight correction)	

Hazard properties

None identified

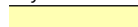
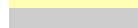
Determinands

Moisture content: 23% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	25 mg/kg	1.32	25.416 mg/kg		0.00254 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.6 mg/kg	2.775	3.419 mg/kg		0.000342 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1.4 mg/kg	13.43	14.478 mg/kg		0.00145 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		35 mg/kg	1.462	51.154 mg/kg		0.00512 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg		<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
16		copper { dicopper oxide; copper (I) oxide }			1	11 mg/kg	1.126	9.536 mg/kg	0.000954 %	✓		
		029-002-00-X	215-270-7	1317-39-1								
17		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD	
		006-007-00-5										
18		dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		601-041-00-2	200-181-8	53-70-3								
19		fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
			205-912-4	206-44-0								
20		fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
			201-695-5	86-73-7								
21		indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
			205-893-2	193-39-5								
22		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	25 mg/kg		19.25 mg/kg	0.00193 %	✓		
		082-001-00-6										
23		mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD	
		080-010-00-X	231-299-8	7487-94-7								
24		naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		601-052-00-2	202-049-5	91-20-3								
25		nickel { nickel dihydroxide }				32 mg/kg	1.579	38.919 mg/kg	0.00389 %	✓		
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26		pH				7.9 pH		7.9 pH	7.9 pH			
				PH								
27		phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
			201-581-5	85-01-8								
28		pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
			204-927-3	129-00-0								
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD	
		034-002-00-8										
30		zinc { zinc oxide }				74 mg/kg	1.245	70.924 mg/kg	0.00709 %	✓		
		030-013-00-7	215-222-5	1314-13-2								
31		monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD	
				P1186								
32		vanadium { divanadium pentaoxide; vanadium pentoxide }				66 mg/kg	1.785	90.723 mg/kg	0.00907 %	✓		
		023-001-00-8	215-239-8	1314-62-1								
Total:									0.0333 %			

Key

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

Classification of sample: TP15--22032023-0.30

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

Sample details

Sample name:	LoW Code:
TP15--22032023-0.30	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
24%	Entry:
(wet weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

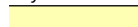
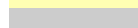
Determinands

Moisture content: 24% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	20 mg/kg	1.32	20.069 mg/kg	0.00201 %	✓		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.4 mg/kg	2.775	2.953 mg/kg	0.000295 %	✓		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.6 mg/kg	13.43	6.124 mg/kg	0.000612 %	✓		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		30 mg/kg	1.462	43.847 mg/kg	0.00438 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16		copper { dicopper oxide; copper (I) oxide }				12 mg/kg	1.126	10.268 mg/kg	0.00103 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
		006-007-00-5									
18		dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3							
19		fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-912-4	206-44-0							
20		fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7							
21		indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5							
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	37 mg/kg		28.12 mg/kg	0.00281 %	✓	
		082-001-00-6									
23		mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7							
24		naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
25		nickel { nickel dihydroxide }				30 mg/kg	1.579	36.013 mg/kg	0.0036 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26		pH				7.6 pH		7.6 pH	7.6 pH		
				PH							
27		phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8							
28		pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0							
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
		034-002-00-8									
30		zinc { zinc oxide }				77 mg/kg	1.245	72.841 mg/kg	0.00728 %	✓	
		030-013-00-7	215-222-5	1314-13-2							
31		monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
				P1186							
32		vanadium {  divanadium pentaoxide; vanadium pentoxide }				52 mg/kg	1.785	70.551 mg/kg	0.00706 %	✓	
		023-001-00-8	215-239-8	1314-62-1							
Total:									0.03 %		

Key

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

Classification of sample: TP15--22032023-0.80

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

Sample details

Sample name:	LoW Code:
TP15--22032023-0.80	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13% (wet weight correction)	

Hazard properties

None identified

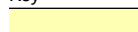
Determinands

Moisture content: 13% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	15 mg/kg	1.32	17.23 mg/kg		0.00172 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.73 mg/kg	2.775	1.763 mg/kg		0.000176 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.6 mg/kg	13.43	7.01 mg/kg		0.000701 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		15 mg/kg	1.462	21.923 mg/kg		0.00219 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg		<0.000346 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16	 copper { dicopper oxide ; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5.3 mg/kg	1.126	5.191 mg/kg	0.000519 %	✓	
17	 cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
18	 dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	 fluoranthene		205-912-4	206-44-0		0.13 mg/kg		0.113 mg/kg	0.0000113 %	✓	
20	 fluorene		201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
21	 indeno[123-cd]pyrene		205-893-2	193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	 lead {  lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	11 mg/kg		9.57 mg/kg	0.000957 %	✓	
23	 mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
24	 naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
25	 nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		14 mg/kg	1.579	19.238 mg/kg	0.00192 %	✓	
26	 pH			PH		8.1 pH		8.1 pH	8.1 pH		
27	 phenanthrene		201-581-5	85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	 pyrene		204-927-3	129-00-0		0.1 mg/kg		0.087 mg/kg	0.0000087 %	✓	
29	 selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
30	 zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		35 mg/kg	1.245	37.902 mg/kg	0.00379 %	✓	
31	 monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
32	 vanadium {  divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		36 mg/kg	1.785	55.912 mg/kg	0.00559 %	✓	
33	 magnesium { magnesium phosphide ; trimagnesium diphosphide }	015-005-00-3	235-023-7	12057-74-8		<5 mg/kg	1.85	<9.248 mg/kg	<0.000925 %		<LOD
Total:									0.0194 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
	This determinand is defined in the EU CLP Table 3
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: SP01--23032023-

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

Sample details

Sample name:	LoW Code:
SP01--23032023-	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
31% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 31% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		acenaphthene				0.13	mg/kg		0.0897	mg/kg	0.00000897 %	✓	
			201-469-6	83-32-9									
2		acenaphthylene				0.2	mg/kg		0.138	mg/kg	0.0000138 %	✓	
			205-917-1	208-96-8									
3		anthracene				0.79	mg/kg		0.545	mg/kg	0.0000545 %	✓	
			204-371-1	120-12-7									
4		arsenic { arsenic trioxide }				10	mg/kg	1.32	9.11	mg/kg	0.000911 %	✓	
	033-003-00-0	215-481-4	1327-53-3										
5		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2										
6		benzo[a]anthracene				4	mg/kg		2.76	mg/kg	0.000276 %	✓	
	601-033-00-9	200-280-6	56-55-3										
7		benzo[a]pyrene; benzo[def]chrysene				4.6	mg/kg		3.174	mg/kg	0.000317 %	✓	
	601-032-00-3	200-028-5	50-32-8										
8		benzo[b]fluoranthene				5.8	mg/kg		4.002	mg/kg	0.0004 %	✓	
	601-034-00-4	205-911-9	205-99-2										
9		benzo[ghi]perylene				3.1	mg/kg		2.139	mg/kg	0.000214 %	✓	
		205-883-8	191-24-2										
10		benzo[k]fluoranthene				2.1	mg/kg		1.449	mg/kg	0.000145 %	✓	
	601-036-00-5	205-916-6	207-08-9										
11		beryllium { beryllium oxide }				0.63	mg/kg	2.775	1.206	mg/kg	0.000121 %	✓	
	004-003-00-8	215-133-1	1304-56-9										
12		boron {  boron tribromide/trichloride/trifluoride (combined) }				4.3	mg/kg	13.43	39.847	mg/kg	0.00398 %	✓	
				10294-33-4, 10294-34-5, 7637-07-2									
13		cadmium { cadmium sulfide }			1	0.5	mg/kg	1.285	0.443	mg/kg	0.0000345 %	✓	
	048-010-00-4	215-147-8	1306-23-6										
14		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				9.6	mg/kg	1.462	14.031	mg/kg	0.0014 %		
			215-160-9	1308-38-9									
15		chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD
			024-001-00-0	215-607-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	chrysene				4 mg/kg		2.76 mg/kg	0.000276 %	✓	
	601-048-00-0	205-923-4	218-01-9							
17	copper { dicopper oxide; copper (I) oxide }				24 mg/kg	1.126	18.645 mg/kg	0.00186 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
19	dibenz[a,h]anthracene				0.58 mg/kg		0.4 mg/kg	0.00004 %	✓	
	601-041-00-2	200-181-8	53-70-3							
20	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
21	fluoranthene				7.8 mg/kg		5.382 mg/kg	0.000538 %	✓	
		205-912-4	206-44-0							
22	fluorene				0.16 mg/kg		0.11 mg/kg	0.000011 %	✓	
		201-695-5	86-73-7							
23	indeno[123-cd]pyrene				2.6 mg/kg		1.794 mg/kg	0.000179 %	✓	
		205-893-2	193-39-5							
24	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	220 mg/kg		151.8 mg/kg	0.0152 %	✓	
	082-001-00-6									
25	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
26	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
27	nickel { nickel dihydroxide }				13 mg/kg	1.579	14.168 mg/kg	0.00142 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
28	pH		PH		7.9 pH		7.9 pH	7.9 pH		
29	phenanthrene				2.8 mg/kg		1.932 mg/kg	0.000193 %	✓	
		201-581-5	85-01-8							
30	pyrene				7.1 mg/kg		4.899 mg/kg	0.00049 %	✓	
		204-927-3	129-00-0							
31	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
32	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
33	TPH (C6 to C40) petroleum group		TPH		82 mg/kg		56.58 mg/kg	0.00566 %	✓	
34	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
35	zinc { zinc oxide }				180 mg/kg	1.245	154.593 mg/kg	0.0155 %	✓	
	030-013-00-7	215-222-5	1314-13-2							
36	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
37	vanadium { divanadium pentaoxide; vanadium pentoxide }				19 mg/kg	1.785	23.404 mg/kg	0.00234 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
38	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
Total:								0.0524 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Flammability of soils due to TPH is likely to be in the region of 10,000mg/kg. Anything below 1000mg/kg is unlikely to be flammable and is therefore, non-hazardous.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00566%)

Classification of sample: SP02--23032023-

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

Sample details

Sample name:	LoW Code:
SP02--23032023-	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
21%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	Entry:

Hazard properties

None identified

Determinands

Moisture content: 21% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		0.16 mg/kg		0.126 mg/kg	0.0000126 %		✓	
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	30 mg/kg	1.32	31.292 mg/kg	0.00313 %		✓	
5	benzene	601-020-00-8	200-753-7	71-43-2	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.64 mg/kg		0.506 mg/kg	0.0000506 %		✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.66 mg/kg		0.521 mg/kg	0.0000521 %		✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.84 mg/kg		0.664 mg/kg	0.0000664 %		✓	
9	benzo[ghi]perylene	205-883-8	191-24-2		0.46 mg/kg		0.363 mg/kg	0.0000363 %		✓	
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.35 mg/kg		0.276 mg/kg	0.0000276 %		✓	
11	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	2.6 mg/kg	2.775	5.701 mg/kg	0.00057 %		✓	
12	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1.9 mg/kg	13.43	20.158 mg/kg	0.00202 %		✓	
13	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1.1 mg/kg	1.285	1.117 mg/kg	0.0000869 %		✓	
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		35 mg/kg	1.462	51.154 mg/kg	0.00512 %			
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	chrysene 601-048-00-0	205-923-4	218-01-9		0.68 mg/kg		0.537 mg/kg	0.0000537 %	✓	
17	copper { dicopper oxide; copper (I) oxide } 029-002-00-X	215-270-7	1317-39-1		63 mg/kg	1.126	56.035 mg/kg	0.0056 %	✓	
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
19	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		0.12 mg/kg		0.0948 mg/kg	0.00000948 %	✓	
20	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
21	fluoranthene 205-912-4	206-44-0			1.5 mg/kg		1.185 mg/kg	0.000119 %	✓	
22	fluorene 201-695-5	86-73-7			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	indeno[123-cd]pyrene 205-893-2	193-39-5			0.42 mg/kg		0.332 mg/kg	0.0000332 %	✓	
24	lead { lead compounds with the exception of those specified elsewhere in this Annex } 082-001-00-6			1	150 mg/kg		118.5 mg/kg	0.0119 %	✓	
25	mercury { mercury dichloride } 080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
26	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
27	nickel { nickel dihydroxide } 028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		38 mg/kg	1.579	47.417 mg/kg	0.00474 %	✓	
28	pH PH				8.9 pH		8.9 pH	8.9 pH		
29	phenanthrene 201-581-5	85-01-8			0.67 mg/kg		0.529 mg/kg	0.0000529 %	✓	
30	pyrene 204-927-3	129-00-0			1.3 mg/kg		1.027 mg/kg	0.000103 %	✓	
31	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
32	toluene 601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	TPH (C6 to C40) petroleum group TPH				13 mg/kg		10.27 mg/kg	0.00103 %	✓	
34	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35	zinc { zinc oxide } 030-013-00-7	215-222-5	1314-13-2		250 mg/kg	1.245	245.831 mg/kg	0.0246 %	✓	
36	monohydric phenols P1186				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
37	vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8	215-239-8	1314-62-1		70 mg/kg	1.785	98.721 mg/kg	0.00987 %	✓	
38	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane 603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
Total:								0.07 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Flammability of soils due to TPH is likely to be in the region of 10,000mg/kg. Anything below 1000mg/kg is unlikely to be flammable and is therefore, non-hazardous.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00103%)

Classification of sample: SP03--23032023-

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

Sample details

Sample name:	LoW Code:
SP03--23032023-	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
21%	Entry:
(wet weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 21% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		acenaphthene				0.31 mg/kg		0.245 mg/kg	0.0000245 %	✓		
			201-469-6	83-32-9								
2		acenaphthylene				0.3 mg/kg		0.237 mg/kg	0.0000237 %	✓		
			205-917-1	208-96-8								
3		anthracene				1.5 mg/kg		1.185 mg/kg	0.000119 %	✓		
			204-371-1	120-12-7								
4		arsenic { arsenic trioxide }				14 mg/kg	1.32	14.603 mg/kg	0.00146 %	✓		
		033-003-00-0	215-481-4	1327-53-3								
5		benzo[a]anthracene				7.1 mg/kg		5.609 mg/kg	0.000561 %	✓		
		601-033-00-9	200-280-6	56-55-3								
6		benzo[a]pyrene; benzo[def]chrysene				7.4 mg/kg		5.846 mg/kg	0.000585 %	✓		
		601-032-00-3	200-028-5	50-32-8								
7		benzo[b]fluoranthene				10 mg/kg		7.9 mg/kg	0.00079 %	✓		
		601-034-00-4	205-911-9	205-99-2								
8		benzo[ghi]perylene				5.5 mg/kg		4.345 mg/kg	0.000435 %	✓		
			205-883-8	191-24-2								
9		benzo[k]fluoranthene				3.6 mg/kg		2.844 mg/kg	0.000284 %	✓		
		601-036-00-5	205-916-6	207-08-9								
10		beryllium { beryllium oxide }				0.91 mg/kg	2.775	1.995 mg/kg	0.0002 %	✓		
		004-003-00-8	215-133-1	1304-56-9								
11		boron {  boron tribromide/trichloride/trifluoride (combined) }				1.6 mg/kg	13.43	16.976 mg/kg	0.0017 %	✓		
				10294-33-4, 10294-34-5, 7637-07-2								
12		cadmium { cadmium sulfide }			1	1 mg/kg	1.285	1.015 mg/kg	0.000079 %	✓		
13		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				17 mg/kg	1.462	24.846 mg/kg	0.00248 %			
			215-160-9	1308-38-9								
14		chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD	
		024-001-00-0	215-607-8	1333-82-0								
15		chrysene				7.6 mg/kg		6.004 mg/kg	0.0006 %	✓		
		601-048-00-0	205-923-4	218-01-9								

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16		copper { dicopper oxide; copper (I) oxide }				38 mg/kg	1.126	33.799 mg/kg	0.00338 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
		006-007-00-5									
18		dibenz[a,h]anthracene				1.4 mg/kg		1.106 mg/kg	0.000111 %	✓	
		601-041-00-2	200-181-8	53-70-3							
19		fluoranthene				15 mg/kg		11.85 mg/kg	0.00119 %	✓	
			205-912-4	206-44-0							
20		fluorene				0.29 mg/kg		0.229 mg/kg	0.0000229 %	✓	
			201-695-5	86-73-7							
21		indeno[123-cd]pyrene				4.6 mg/kg		3.634 mg/kg	0.000363 %	✓	
			205-893-2	193-39-5							
22		lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	120 mg/kg		94.8 mg/kg	0.00948 %	✓	
		082-001-00-6									
23		mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7							
24		naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
25		nickel { nickel dihydroxide }				19 mg/kg	1.579	23.708 mg/kg	0.00237 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26		pH				8.1 pH		8.1 pH	8.1 pH		
				PH							
27		phenanthrene				5.8 mg/kg		4.582 mg/kg	0.000458 %	✓	
			201-581-5	85-01-8							
28		pyrene				13 mg/kg		10.27 mg/kg	0.00103 %	✓	
			204-927-3	129-00-0							
29		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
		034-002-00-8									
30		zinc { zinc oxide }				210 mg/kg	1.245	206.498 mg/kg	0.0206 %	✓	
		030-013-00-7	215-222-5	1314-13-2							
31		asbestos				130 mg/kg		102.7 mg/kg	0.0103 %	✓	
		650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5							
32		monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
				P1186							
33		vanadium {  divanadium pentaoxide; vanadium pentoxide }				32 mg/kg	1.785	45.129 mg/kg	0.00451 %	✓	
		023-001-00-8	215-239-8	1314-62-1							
Total:									0.064 %		

Key

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

Classification of sample: SP04--23032023-

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

Sample details

Sample name:	LoW Code:
SP04--23032023-	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
9.3%	Entry:
(wet weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.3% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		acenaphthene				6.1	mg/kg		5.533	mg/kg	0.000553 %	✓	
			201-469-6	83-32-9									
2		acenaphthylene				5.1	mg/kg		4.626	mg/kg	0.000463 %	✓	
			205-917-1	208-96-8									
3		anthracene				31	mg/kg		28.117	mg/kg	0.00281 %	✓	
			204-371-1	120-12-7									
4		arsenic { arsenic trioxide }				17	mg/kg	1.32	20.358	mg/kg	0.00204 %	✓	
	033-003-00-0	215-481-4	1327-53-3										
5		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2										
6		benzo[a]anthracene				54	mg/kg		48.978	mg/kg	0.0049 %	✓	
	601-033-00-9	200-280-6	56-55-3										
7		benzo[a]pyrene; benzo[def]chrysene				43	mg/kg		39.001	mg/kg	0.0039 %	✓	
	601-032-00-3	200-028-5	50-32-8										
8		benzo[b]fluoranthene				53	mg/kg		48.071	mg/kg	0.00481 %	✓	
	601-034-00-4	205-911-9	205-99-2										
9		benzo[ghi]perylene				26	mg/kg		23.582	mg/kg	0.00236 %	✓	
		205-883-8	191-24-2										
10		benzo[k]fluoranthene				21	mg/kg		19.047	mg/kg	0.0019 %	✓	
	601-036-00-5	205-916-6	207-08-9										
11		beryllium { beryllium oxide }				0.42	mg/kg	2.775	1.057	mg/kg	0.000106 %	✓	
	004-003-00-8	215-133-1	1304-56-9										
12		boron {  boron tribromide/trichloride/trifluoride (combined) }				0.3	mg/kg	13.43	3.654	mg/kg	0.000365 %	✓	
				10294-33-4, 10294-34-5, 7637-07-2									
13		cadmium { cadmium sulfide }			1	1.8	mg/kg	1.285	2.098	mg/kg	0.000163 %	✓	
	048-010-00-4	215-147-8	1306-23-6										
14		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				9.7	mg/kg	1.462	14.177	mg/kg	0.00142 %		
			215-160-9	1308-38-9									
15		chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD
		024-001-00-0	215-607-8	1333-82-0									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	chrysene				49 mg/kg		44.443 mg/kg	0.00444 %	✓	
	601-048-00-0	205-923-4	218-01-9							
17	copper { dicopper oxide; copper (I) oxide }				18 mg/kg	1.126	18.381 mg/kg	0.00184 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
19	dibenz[a,h]anthracene				6.3 mg/kg		5.714 mg/kg	0.000571 %	✓	
	601-041-00-2	200-181-8	53-70-3							
20	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
21	fluoranthene				130 mg/kg		117.91 mg/kg	0.0118 %	✓	
		205-912-4	206-44-0							
22	fluorene				10 mg/kg		9.07 mg/kg	0.000907 %	✓	
		201-695-5	86-73-7							
23	indeno[123-cd]pyrene				23 mg/kg		20.861 mg/kg	0.00209 %	✓	
		205-893-2	193-39-5							
24	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	44 mg/kg		39.908 mg/kg	0.00399 %	✓	
	082-001-00-6									
25	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
26	naphthalene				0.76 mg/kg		0.689 mg/kg	0.0000689 %	✓	
	601-052-00-2	202-049-5	91-20-3							
27	nickel { nickel dihydroxide }				13 mg/kg	1.579	18.624 mg/kg	0.00186 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
28	pH		PH		8.2 pH		8.2 pH	8.2 pH		
29	phenanthrene				100 mg/kg		90.7 mg/kg	0.00907 %	✓	
		201-581-5	85-01-8							
30	pyrene				110 mg/kg		99.77 mg/kg	0.00998 %	✓	
		204-927-3	129-00-0							
31	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
32	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
33	TPH (C6 to C40) petroleum group		TPH		440 mg/kg		399.08 mg/kg	0.0399 %	✓	
34	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
35	zinc { zinc oxide }				540 mg/kg	1.245	609.636 mg/kg	0.061 %	✓	
	030-013-00-7	215-222-5	1314-13-2							
36	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
37	vanadium { divanadium pentaoxide; vanadium pentoxide }				18 mg/kg	1.785	29.145 mg/kg	0.00291 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
38	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
Total:								0.177 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Flammability of soils due to TPH is likely to be in the region of 10,000mg/kg. Anything below 1000mg/kg is unlikely to be flammable and is therefore, non-hazardous.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0399%)

Classification of sample: WS02--22032023-0.50

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

Sample details

Sample name:	LoW Code:
WS02--22032023-0.50	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
23%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	Entry:

Hazard properties

None identified

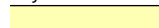
Determinands

Moisture content: 23% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	27 mg/kg	1.32	27.45	mg/kg	0.00274 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2	<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.17 mg/kg		0.131	mg/kg	0.0000131 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.2 mg/kg		0.154	mg/kg	0.0000154 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.28 mg/kg		0.216	mg/kg	0.0000216 %	✓	
9	benzo[ghi]perylene	205-883-8	191-24-2		0.17 mg/kg		0.131	mg/kg	0.0000131 %	✓	
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.13 mg/kg		0.1	mg/kg	0.00001 %	✓	
11	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.6 mg/kg	2.775	3.419	mg/kg	0.000342 %	✓	
12	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		2.1 mg/kg	13.43	21.716	mg/kg	0.00217 %	✓	
13	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		30 mg/kg	1.462	43.847	mg/kg	0.00438 %		
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	chrysene 601-048-00-0	205-923-4	218-01-9		0.2 mg/kg		0.154 mg/kg	0.0000154 %	✓	
17	copper { dicopper oxide; copper (I) oxide } 029-002-00-X	215-270-7	1317-39-1		21 mg/kg	1.126	18.206 mg/kg	0.00182 %	✓	
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
19	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
21	fluoranthene 205-912-4	206-44-0			0.36 mg/kg		0.277 mg/kg	0.0000277 %	✓	
22	fluorene 201-695-5	86-73-7			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	indeno[123-cd]pyrene 205-893-2	193-39-5			0.14 mg/kg		0.108 mg/kg	0.0000108 %	✓	
24	lead { lead compounds with the exception of those specified elsewhere in this Annex } 082-001-00-6			1	37 mg/kg		28.49 mg/kg	0.00285 %	✓	
25	mercury { mercury dichloride } 080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
26	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
27	nickel { nickel dihydroxide } 028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		31 mg/kg	1.579	37.703 mg/kg	0.00377 %	✓	
28	pH PH				7.6 pH		7.6 pH	7.6 pH		
29	phenanthrene 201-581-5	85-01-8			0.14 mg/kg		0.108 mg/kg	0.0000108 %	✓	
30	pyrene 204-927-3	129-00-0			0.33 mg/kg		0.254 mg/kg	0.0000254 %	✓	
31	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
32	toluene 601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
33	TPH (C6 to C40) petroleum group TPH				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
34	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35	zinc { zinc oxide } 030-013-00-7	215-222-5	1314-13-2		130 mg/kg	1.245	124.596 mg/kg	0.0125 %	✓	
36	monohydric phenols P1186				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
37	vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8	215-239-8	1314-62-1		64 mg/kg	1.785	87.974 mg/kg	0.0088 %	✓	
38	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane 603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
Total:								0.0414 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ **boron tribromide/trichloride/trifluoride (combined)** (CAS Number: 10294-33-4, 10294-34-5, 7637-07-2)

Description/Comments: Combines the hazard statements and the average of the conversion factors for boron tribromide, boron trichloride and boron trifluoride

Data source: N/A

Data source date: 06 Aug 2015

Hazard Statements: EUH014, Acute Tox. 2; H330, Acute Tox. 2; H300, Skin Corr. 1A; H314, Skin Corr. 1B; H314

■ **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

GB MCL index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazard Statement(s):

20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

• **lead compounds with the exception of those specified elsewhere in this Annex**

GB MCL index number: 082-001-00-6

Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers many simple lead compounds to be Carcinogenic category 2

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

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

• **pH (CAS Number: PH)**

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **monohydric phenols (CAS Number: P1186)**

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)

Data source: CLP combined data

Data source date: 26 Mar 2019

Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 £ conc. < 3 % , Eye Irrit. 2; H319 1 £ conc. < 3 % , Aquatic Chronic 2; H411

• **divanadium pentaoxide; vanadium pentoxide (EC Number: 215-239-8, CAS Number: 1314-62-1)**

GB MCL index number: 023-001-00-8

Description/Comments:

Additional Hazard Statement(s): Carc. 1B; H350 , Acute Tox. 3; H301 , Acute Tox. 2; H330

Reason for additional Hazards Statement(s):

20 Sep 2022 - Carc. 1B; H350 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].

Substance has therefore been self-classified.

28 Sep 2022 - Acute Tox. 3; H301 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 3; H301". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].

Substance has therefore been self-classified.

28 Sep 2022 - Acute Tox. 2; H330 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 2; H330". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].

Substance has therefore been self-classified.

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

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

Description/Comments:

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

Reason for additional Hazards Statement(s):

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

• **TPH (C6 to C40) petroleum group (CAS Number: TPH)**

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

■ magnesium phosphide; trimagnesium diphosphide (EC Number: 235-023-7, CAS Number: 12057-74-8)

EU CLP index number: 015-005-00-3

Description/Comments:

Data source: Commission Regulation (EU) No 944/2013 - 5th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP5)

)

Hazard Statements: Water-react. 1; H260 , Acute Tox. 2; H300 , Acute Tox. 3; H311 , Acute Tox. 1; H330 , Aquatic Acute 1; H400 (M=100) , EUH029 , EUH032 , Water-react. 1; H260 >= 0.3 % , EUH032 >= 0.3 % , EUH029 >= 0.3 %

Reason for additional Hazards Statement(s):

14 Dec 2015 - Water-react. 1; H260 >= 0.3 % hazard statement sourced from: WM3, Table C3.2

14 Dec 2015 - EUH032 >= 0.3 % hazard statement sourced from: WM3, Table C12.2

14 Dec 2015 - EUH029 >= 0.3 % hazard statement sourced from: WM3, Table C12.2

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on hazard statements

beryllium {beryllium oxide}

Worst case species based on hazard statements

boron {boron tribromide/trichloride/trifluoride (combined)}

Worst case species based on hazard statements

cadmium {cadmium sulfide}

Worst case species based on hazard statements

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Worst case species based on hazard statements

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

Worst case species based on hazard statements

copper {dicopper oxide; copper (I) oxide}

Most likely common species

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Worst case species

lead {lead compounds with the exception of those specified elsewhere in this Annex}

Worst case species based on hazard statements

mercury {mercury dichloride}

Worst case species based on hazard statements

nickel {nickel dihydroxide}

Worst case species based on hazard statements

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

Worst case species based on hazard statements

zinc {zinc oxide}

Worst case species based on hazard statements

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case species based on hazard statements.

magnesium {magnesium phosphide; trimagnesium diphosphide}

Worst case species based on hazard statements.

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2023.111.5569.10274 (22 Apr 2023)

HazWasteOnline Database: 2023.111.5569.10274 (22 Apr 2023)

This classification utilises the following guidance and legislation:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK:

2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

Waste Classification Report

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

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



DJ0TG-H6CIM-Q7EDY

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

Job name

23-26459_HWOL_Results

Description/Comments

i2 lab cert: 23-26459

Project

24639

Site

Spring Park Data Centre Expansion, Corsham

Classified by

Name:

Alison Holland

Date:

27 Apr 2023 16:18 GMT

Telephone:

Company:

Hydrock Consultants Ltd

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

HazWasteOnline™ Certification:

CERTIFIED

Course

Hazardous Waste Classification

Date

08 Sep 2020

Next 3 year Refresher due by Sep 2023

Purpose of classification

2 - Material Characterisation

Address of the waste

Rowan Lane, Corsham

Post Code SN13 9RD

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Site is a derelict scrubland, that historically was a military site.

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

Removal of surface Made Ground and excavation for foundations and drainage etc.

Description of the waste

The ground conditions comprise Topsoil, underlain by Made Ground comprising brick concrete and limestone, underlain by natural limestone and clay. Asbestos was detected and quantified in some of the Made Ground and stockpile samples.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01--22032023-0.50		Non Hazardous		3
2	WS05--22032023-0.20		Non Hazardous		6

Related documents

#	Name	Description
1	23-26459_HWOL_Results.hwol	i2 Analytical .hwol file used to populate the Job
2	Hydrock Standard plus Cresol (ammended Lead)	waste stream template used to create this Job

Report

Created by: Alison Holland

Created date: 27 Apr 2023 16:18 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	9
Appendix B: Rationale for selection of metal species	10
Appendix C: Version	11

Classification of sample: WS01--22032023-0.50

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

Sample details

Sample name:	LoW Code:
WS01--22032023-0.50	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
12% (wet weight correction)	

Hazard properties

None identified

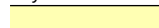
Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	12 mg/kg	1.32	13.943	mg/kg	0.00139 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2	<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.36 mg/kg		0.317	mg/kg	0.0000317 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.37 mg/kg		0.326	mg/kg	0.0000326 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.44 mg/kg		0.387	mg/kg	0.0000387 %	✓	
9	benzo[ghi]perylene	205-883-8	191-24-2		0.25 mg/kg		0.22	mg/kg	0.000022 %	✓	
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.2 mg/kg		0.176	mg/kg	0.0000176 %	✓	
11	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.65 mg/kg	2.775	1.587	mg/kg	0.000159 %	✓	
12	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4 mg/kg	13.43	4.727	mg/kg	0.000473 %	✓	
13	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		14 mg/kg	1.462	20.462	mg/kg	0.00205 %		
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
16		chrysene 601-048-00-0205-923-4218-01-9				0.4mg/kg		0.352mg/kg	0.0000352 %	✓		
17		copper { dicopper oxide; copper (I) oxide } 029-002-00-X215-270-71317-39-1				12mg/kg	1.126	11.889mg/kg	0.00119 %	✓		
18		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1mg/kg	1.884	<1.884mg/kg	<0.000188 %		<LOD	
19		dibenz[a,h]anthracene 601-041-00-2200-181-853-70-3				<0.05mg/kg		<0.05mg/kg	<0.000005 %		<LOD	
20		ethylbenzene 601-023-00-4202-849-4100-41-4				<0.005mg/kg		<0.005mg/kg	<0.0000005 %		<LOD	
21		fluoranthene 205-912-4206-44-0				0.67mg/kg		0.59mg/kg	0.000059 %	✓		
22		fluorene 201-695-586-73-7				<0.05mg/kg		<0.05mg/kg	<0.000005 %		<LOD	
23		indeno[123-cd]pyrene 205-893-2193-39-5				0.21mg/kg		0.185mg/kg	0.0000185 %	✓		
24		lead { lead compounds with the exception of those specified elsewhere in this Annex } 082-001-00-6			1	12mg/kg		10.56mg/kg	0.00106 %	✓		
25		mercury { mercury dichloride } 080-010-00-X231-299-87487-94-7				<0.3mg/kg	1.353	<0.406mg/kg	<0.0000406 %		<LOD	
26		naphthalene 601-052-00-2202-049-591-20-3				<0.05mg/kg		<0.05mg/kg	<0.000005 %		<LOD	
27		nickel { nickel dihydroxide } 028-008-00-X235-008-5 [1]234-348-1 [2]12054-48-7 [1]11113-74-9 [2]				18mg/kg	1.579	25.019mg/kg	0.0025 %	✓		
28		pH PH				8pH		8pH	8pH			
29		phenanthrene 201-581-585-01-8				0.16mg/kg		0.141mg/kg	0.0000141 %	✓		
30		pyrene 204-927-3129-00-0				0.63mg/kg		0.554mg/kg	0.0000554 %	✓		
31		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				<1mg/kg	1.405	<1.405mg/kg	<0.000141 %		<LOD	
32		toluene 601-021-00-3203-625-9108-88-3				<0.005mg/kg		<0.005mg/kg	<0.0000005 %		<LOD	
33		TPH (C6 to C40) petroleum group TPH				<10mg/kg		<10mg/kg	<0.001 %		<LOD	
34		xylene 601-022-00-9202-422-2 [1]95-47-6 [1]203-396-5 [2]106-42-3 [2]203-576-3 [3]108-38-3 [3]215-535-7 [4]1330-20-7 [4]				<0.01mg/kg		<0.01mg/kg	<0.000001 %		<LOD	
35		zinc { zinc oxide } 030-013-00-7215-222-51314-13-2				36mg/kg	1.245	39.433mg/kg	0.00394 %	✓		
36		monohydric phenols P1186				<1mg/kg		<1mg/kg	<0.0001 %		<LOD	
37		vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8215-239-81314-62-1				21mg/kg	1.785	32.99mg/kg	0.0033 %	✓		
38		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane 603-181-00-X216-653-11634-04-4				<0.005mg/kg		<0.005mg/kg	<0.0000005 %		<LOD	
Total:									0.0183 %			

Key

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

Classification of sample: WS05--22032023-0.20

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

Sample details

Sample name:	LoW Code:
WS05--22032023-0.20	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
19% (wet weight correction)	

Hazard properties

None identified

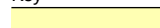
Determinands

Moisture content: 19% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		0.07 mg/kg		0.0567	mg/kg	0.00000567 %	✓	
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		11 mg/kg	1.32	11.764	mg/kg	0.00118 %	✓	
5	benzene	601-020-00-8	200-753-7		<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6		0.34 mg/kg		0.275	mg/kg	0.0000275 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.3 mg/kg		0.243	mg/kg	0.0000243 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.45 mg/kg		0.365	mg/kg	0.0000365 %	✓	
9	benzo[ghi]perylene	205-883-8	191-24-2		0.23 mg/kg		0.186	mg/kg	0.0000186 %	✓	
10	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.17 mg/kg		0.138	mg/kg	0.0000138 %	✓	
11	beryllium { beryllium oxide }	004-003-00-8	215-133-1		1 mg/kg	2.775	2.248	mg/kg	0.000225 %	✓	
12	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4 mg/kg	13.43	4.351	mg/kg	0.000435 %	✓	
13	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		8.4 mg/kg	1.462	12.277	mg/kg	0.00123 %		
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.8 mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	chrysene				0.47 mg/kg		0.381 mg/kg	0.0000381 %	✓	
	601-048-00-0	205-923-4	218-01-9							
17	copper { dicopper oxide; copper (I) oxide }				34 mg/kg	1.126	31.007 mg/kg	0.0031 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
19	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
20	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
21	fluoranthene				0.45 mg/kg		0.365 mg/kg	0.0000365 %	✓	
		205-912-4	206-44-0							
22	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
23	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
24	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	27 mg/kg		21.87 mg/kg	0.00219 %	✓	
	082-001-00-6									
25	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
26	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
27	nickel { nickel dihydroxide }				19 mg/kg	1.579	24.308 mg/kg	0.00243 %	✓	
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
28	pH		PH		7.7 pH		7.7 pH	7.7 pH		
29	phenanthrene				0.3 mg/kg		0.243 mg/kg	0.0000243 %	✓	
		201-581-5	85-01-8							
30	pyrene				0.46 mg/kg		0.373 mg/kg	0.0000373 %	✓	
		204-927-3	129-00-0							
31	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
32	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
33	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
34	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
35	zinc { zinc oxide }				71 mg/kg	1.245	71.584 mg/kg	0.00716 %	✓	
	030-013-00-7	215-222-5	1314-13-2							
36	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
37	vanadium { divanadium pentaoxide; vanadium pentoxide }				26 mg/kg	1.785	37.596 mg/kg	0.00376 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
38	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
Total:								0.0238 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **boron tribromide/trichloride/trifluoride (combined)** (CAS Number: 10294-33-4, 10294-34-5, 7637-07-2)

Description/Comments: Combines the hazard statements and the average of the conversion factors for boron tribromide, boron trichloride and boron trifluoride

Data source: N/A

Data source date: 06 Aug 2015

Hazard Statements: EUH014, Acute Tox. 2; H330, Acute Tox. 2; H300, Skin Corr. 1A; H314, Skin Corr. 1B; H314

• **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

GB MCL index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

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

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

Description/Comments:

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

Reason for additional Hazards Statement(s):

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

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

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

■ **lead compounds with the exception of those specified elsewhere in this Annex**

GB MCL index number: 082-001-00-6
Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers many simple lead compounds to be Carcinogenic category 2
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium
www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

■ **pH** (CAS Number: PH)

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

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

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

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

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

■ **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226, Asp. Tox. 1; H304, STOT RE 2; H373, Muta. 1B; H340, Carc. 1B; H350, Repr. 2; H361d, Aquatic Chronic 2; H411

■ **monohydric phenols** (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341, Acute Tox. 3; H331, Acute Tox. 3; H311, Acute Tox. 3; H301, STOT RE 2; H373, Skin Corr. 1B; H314, Skin Corr. 1B; H314 >= 3 %, Skin Irrit. 2; H315 1 £ conc. < 3 %, Eye Irrit. 2; H319 1 £ conc. < 3 %, Aquatic Chronic 2; H411

■ **divanadium pentaoxide; vanadium pentoxide** (EC Number: 215-239-8, CAS Number: 1314-62-1)

GB MCL index number: 023-001-00-8
Description/Comments:
Additional Hazard Statement(s): Carc. 1B; H350, Acute Tox. 3; H301, Acute Tox. 2; H330
Reason for additional Hazards Statement(s):
20 Sep 2022 - Carc. 1B; H350 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].
Substance has therefore been self-classified.
28 Sep 2022 - Acute Tox. 3; H301 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 3; H301". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].
Substance has therefore been self-classified.
28 Sep 2022 - Acute Tox. 2; H330 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 2; H330". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].
Substance has therefore been self-classified.

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on hazard statements

beryllium {beryllium oxide}

Worst case species based on hazard statements

boron {boron tribromide/trichloride/trifluoride (combined)}

Worst case species based on hazard statements

cadmium {cadmium sulfide}

Worst case species based on hazard statements

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Worst case species based on hazard statements

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

Worst case species based on hazard statements

copper {dicopper oxide; copper (I) oxide}

Most likely common species

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Worst case species

lead {lead compounds with the exception of those specified elsewhere in this Annex}

Worst case species based on hazard statements

mercury {mercury dichloride}

Worst case species based on hazard statements

nickel {nickel dihydroxide}

Worst case species based on hazard statements

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

Worst case species based on hazard statements

zinc {zinc oxide}

Worst case species based on hazard statements

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case species based on hazard statements.

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2023.111.5569.10274 (22 Apr 2023)

HazWasteOnline Database: 2023.111.5569.10274 (22 Apr 2023)

This classification utilises the following guidance and legislation:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GB MCL List - version 1.1 of 09 June 2021

Appendix G Preliminary geotechnical risk register

Geotechnical hazard identification – desk study stage

Potential geotechnical hazards have been assessed in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HD 41/15 and CD 622. The following pages set out the identified geotechnical risks and hazards which are associated with the proposed development and establish the approach which is to be taken to manage the risks including the geotechnical input and analysis.

Table G.1 is a preliminary assessment of possible geotechnical hazards at the site at Desk Study stage. This information is used to assist with ground investigation design.

Table G.1: Possible geotechnical hazards

Hazard	Comment	Hazard status based on desk study	
		Could be present and / or affect site (i.e. Plausible)	Unlikely to be present and/or affect site
Uncontrolled Made Ground (variable strength and compressibility).	Historical use of the site for mining/quarrying and by the MoD has resulted in a plausible risk from uncontrolled Made Ground on the site.	✓	-
Soft / loose compressible ground (low strength and high settlement potential).	No superficial deposits recorded onsite. Therefor there is unlikely to be a risk from compressible ground.		✓
High sulfates present in soils	As the formation below the site consists of the Forest Marble Formation (mudstone) there is a risk that there could be high sulphates present in soils	✓	
Shrink swell of the clay fraction of soils under the influence of vegetation.	Material below site is recorded as Forest Marble Formation (Mudstone). Potential for shrink and swell of clays	✓	

Variable lateral and vertical changes in ground conditions.	A previous GI identified varying topsoil, general Made Ground and Forest Marble Formation across the site.	✓	-
Obstructions.	Historical use of the site has resulted in a number of visible obstructions across the site.	✓	-
Existing below ground structures to remain (on or off-site tunnels, foundations, basements, and adjacent sub-structures).	Below ground quarrying has occurred and the mines were then utilised by the military. Tunnels and structures likely to be present.	✓	-
Changing groundwater conditions.	Expected low groundwater level means there is a low risk to the development from changing conditions. Potential for perched groundwater	✓	-
Slope stability issues – general slopes.	Extensive mining in the area has resulted in a number of slopes and small cliffs across the site. The slope shaft seems to be supported by cross beams and retained sections of wall.	✓	-
Slope stability issues – retaining walls.		✓	-
Earthworks – settlement (due to placement of fill on soft / loose ground).	Earthworks are required to develop the development platform; this is considered to be approximately 1.0m of cut / fill. Made Ground is anticipated to be present on site in significant thickness due to the backfilled surface quarries. These materials may not be suitable for re use on site and may be subject to excessive settlement.	✓	-
Earthworks – poor bearing capacity of new fill.		✓	-
Earthworks – unsuitability of site won material to be reused as fill.		✓	-

Mining.	Extensive limestone mining/quarrying in the area has resulted in a number of surface and below ground features across the site.	✓	-
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Geotechnical Hazard Identification – Following Ground Investigation

The preliminary Geotechnical Risk Register following Ground Investigation is set out in Table G.3.

The probability and impact of a hazard have been judged on a qualitative scale as set out in Table G.2. The degree of risk (R) is determined by combining an assessment of the probability (P) of the hazard occurring with an assessment of the impact (I) of the hazard and associated mitigation it will require if it occurs ($R = P \times I$).

Table G.2: Qualitative assessment of hazards and risks

P = Probability		I = Impact		R = Risk Rating (P x I)	
1	Very unlikely (VU)	1	Very Low	1 – 4	None / negligible
2	Unlikely (U)	2	Low	5 – 9	Minor
3	Plausible (P)	3	Medium	10 – 14	Moderate
4	Likely (Lk)	4	High	15 – 19	Substantial
5	Very Likely (VLk)	5	Very High	20 – 25	Severe

Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
Uncontrolled Made Ground (variable strength and compressibility).	There is Made Ground due to historical construction/quarrying activity at the site. Made Ground is identified as being up to 2.0m bgl.	Proposed development	Bearing capacity failure, settlement (total and differential).	4	4	16	Design foundations to found below Made Ground or on Made Ground which has been improved.
			Floor slab failure.	4	4	16	Design floor slabs as suspended or use a piled raft
		Roads and Pavements.	Settlement (total and differential) of roads and pavements.	4	2	8	Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate.
		Services.	Settlement (differential), causing damage to services.	4	2	8	Anticipated settlements are significant with regard to services. There is a requirement to improve the Made Ground prior to installation of services. It is also advisable to steepen falls in drainage to prevent back fall and use rocker boxes and flexible couplings.
		POS.	Settlement (differential), in POS.	4	2	8	It is unlikely that settlements will be significant with regard to POS.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	4	3	12	Where soft spots encountered, over-excavation and replacement with suitable fill. Outline design of working platform to include geo-grid. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Shrinkage / swelling of the clay fraction of soils under the influence of vegetation.	The clays of the Forest Marble Formation are low to high heave potential.	Foundations.	Shrinkage or heave of soils and associated damage to foundations.	4	3	12	Design foundations in accordance with NHBC standards. Deepen foundations due to trees as appropriate.
		Floor slabs.	Floor slab failure.	4	4	16	Design floor slabs in accordance with NHBC standards. Design floor slab as suspended with a void, or use a piled raft.
Variable lateral and vertical	The Made Ground soils vary laterally and		Foundation bearing capacity failure,	3	4	12	Design foundations to found below Made Ground & any soft clay.

changes in ground conditions.	vertically, both in composition and strength. The shallow soils comprise Forest Marble Formation, which vary laterally and vertically between clays and limestones.	Proposed development	settlement (total and differential).				
			Floor slab failure.	3	4	12	Design floor slab as suspended. or use a piled raft.
		Roads and Pavements.	Settlement (total and differential), of roads and pavements.	3	3	9	Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate. If anticipated settlements are significant, and cannot be mitigated by design, over-excavate and replace unsuitable soils.
		Services.	Settlement (differential), causing damage to services.	3	3	9	Settlements are not anticipated to be significant with regard to services. No additional design requirements envisaged.
		POS.	Settlement (differential), in gardens.	3	3	9	It is unlikely that settlements will be significant with respect to POS.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	3	3	9	Where soft spots encountered, over-excavate and replace with suitable fill. Design working platform to suit the ground conditions. Outline design of working platform to include geo-grid if necessary. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Sulfates present in the soils.	There is not the potential for expansive sulfate bearing soils to be present on site.	Attack of buried concrete.	Damage to concrete and reduction in strength.	2	4	8	Classify concrete in accordance with BRE SD1 and design concrete accordingly. Laboratory results show that AC-1/DS-1 conditions to apply however should ground undergo significant disturbance and oxidation this may change. It is important that the designers take this into consideration when proposing foundations and level changes.
Obstructions & Existing below ground structures to remain (on, or	Obstructions have been proven by the investigation and there is a potential for	Construction staff, vehicles and plant operators.	Risk of collapse of excavation as obstructions are pulled out.	4	3	12	Undertake Enablement Works and remove all obstructions.

off-site tunnels, foundations, basements, and adjacent sub-structures).	additional obstructions to be present due to historical construction activity, or unknown fill in Made Ground.	Roads and Pavements.	Hard spots in externals and roads / pavements.	4	2	8	
		Proposed development	Impact on piling / CMC, resulting in additional piles / columns and re-design of foundations.	4	3	12	
Shallow groundwater.	Monitoring during the ground investigations has proven there may be limited perched groundwater water on the eastern part of site.	Construction staff, vehicles and plant operators.	Difficulty with excavation. Limit state failure, excessive deformation, trafficking of site plant, inability to place and compact fill.	2	2	4	No additional design requirements envisaged. Any water that collects at the base of excavations to be removed as soon as practicable.
		Slopes and Retaining structures.	Serviceability issues.	2	2	4	No additional design requirements envisaged. The shallow groundwater is to be taken into account during geotechnical design of the permanent works.
Changing groundwater conditions.	Monitoring during the ground investigations has proven that the groundwater table has not been established in the deeper BOMCLF. It is considered a perched horizon between 1.63m – 2.01m bgl is present within the Forest Marble Formation.	Construction staff, vehicles and plant operators.	Difficulty with excavation. Limit state failure, excessive deformation, trafficking of site plant, inability to place and compact fill.	3	2	6	Contractor to appoint competent Temporary Works Designer to design temporary works as required, in accordance with BS 5975:2008+A1:2011. Temporary Works Designer to consider in their analysis the impact of a variable water table.
		Slopes and Retaining structures.	Serviceability issues.	3	2	6	Contractor to appoint competent Temporary Works Designer to design temporary works, as required in accordance with BS 5975:2008+A1:2011. Design drainage for retaining walls to account for fluctuating groundwater levels. The shallow groundwater is to be taken into account during geotechnical design of the permanent works.

Loose Made Ground, leading to difficulty with excavation and collapse of side walls.	The ground investigation has proven that there is Made Ground at the site.	Construction staff, vehicles and plant operators.	Ground failure, instability of plant and machinery.	4	4	16	As instability has been noted in all pits from surface, foundation options should be reviewed to ensure minimal excavation (e.g. piles). Contractor to appoint competent Temporary Works Designer to design temporary works, in accordance with BS 5975:2008+A1:2011. Temporary Works Design to include recommendations for inspection of excavations. No person entry to unsupported excavations.
			Risk of collapse of excavation.	4	3	12	
Slope stability issues – General Slopes.	During the siteworks it was noted that the site does not contain any significant/abrupt change in level.	Proposed development .	Serviceability issues.	2	4	8	Safe slope angles to be assessed during design. Engineered fill requirements to be defined at outline design stage. Drainage requirements to be assessed during design. Slopes to be constructed at a safe angle.
		Roads and Pavements.	Serviceability issues.	2	3	6	
		POS.	Serviceability issues.	2	2	4	
Slope stability issues – retaining walls.	The proposed development may require retaining walls to be constructed.	Proposed development .	Serviceability issues.	3	4	12	Design of the retaining to be undertaken in accordance with EC7. Adequate drainage to be designed behind the structure, or for water seepage through the face of the wall. Lateral earth pressure parameters to be characterised during investigation and design. Engineered fill requirements to be defined at outline design stage.
		Pavement construction and long-term durability highways and external areas.	Serviceability issues.	3	3	6	
		POS.	Serviceability issues.	3	2	6	
Earthworks – Settlement (due to placement of fill on soft / loose	The ground conditions at the site include up to 2.0m of made ground.	Proposed development	Foundation bearing capacity failure, settlement (total and differential).	3	4		Design foundations to found below the made ground, piled foundations recommended

ground / Deep Made Ground).	Levels are increasing across parts of the site to allow the construction of the development platform.		Floor slab failure.	3	4	12	Design floor slab as suspended, or a separate detailed ground bearing floor slab design to be undertaken to assess a piled / CMC solution.
		Roads and Pavements.	Settlement (total and differential), of roads and pavements.	3	3	9	Settlements are anticipated to be significant with regard to roads and pavements. Undertake ground improvement (/ rolling dynamic compaction / dynamic) to reduce settlements. Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate.
		Services.	Settlement (differential), causing damage to services.	3	3	9	Settlements are anticipated to be significant with regard to services. Detailed design works are required to assess the impact and design mitigation measures.
		POS.	Settlement (differential), in POS.	2	3	6	No additional design requirements envisaged.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	3	3	9	Where soft spots encountered, over-excavate and replace with suitable fill. Design working platform to suit the ground conditions. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Earthworks – poor bearing capacity and / or settlement of new fill.	There is a requirement for cut to fill to create the development platform. This will require reuse of soils excavated from the site.	Proposed development	Foundation bearing capacity failure, settlement (total and differential).	3	4	12	Design foundations to found below the made ground / new fill, piled foundations are recommended
			Floor slab failure.	3	4	12	Design floor slab as suspended, or a separate detailed ground bearing floor slab design to be undertaken to assess a piled / CMC solution.
		Roads and Pavements.	Settlement (total and differential).	3	3	9	Minimum engineering performance to be defined in an Earthworks Specification.
		Services.	Settlement (differential), causing damage to services.	3	3	9	Earthworks to be designed in accordance with 1) Manual of Contract Documents for Highway Works (MCHW), Volume 1;

		POS. .	Settlement (differential), in POS.	2	3	6	2) Specification for Highway Works (SHW) Series 600; 3) 6031:2009, Code of practice for earthworks; and 4) BS 8000-1, workmanship on building sites. Site testing to be undertaken to confirm the works are in accordance with the design. A suitable watching brief and independent verification.	
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	3	3	9		
Earthworks – Unsuitability of site won material to be reused as fill.	There is a requirement for cut to fill to create the development platform and filling of remediation excavations. This will require reuse of soils excavated from the site.	Earthworks control, inability to place and compact fill.	Service limit state failure, excessive and intolerable total and differential settlement.	3	3	9	The design is to describe the processes required to produce suitable fill for reuse. Contractor to design site control measures, plant, equipment and arrangement to comply with processing requirements. Site testing to be undertaken to confirm the works are in accordance with the design. A suitable watching brief and independent verification. Adequate investigation required of soil types and characterisation of the soils to be undertaken during investigation. Some fill may be unsuitable for use.	
		Project Budgets - Insufficient fill to complete earthworks.	Additional Costs, due to importation of fill or having to modify designs.	3	2	6		
Mining.	The site has been proven to be within the zone of influence of underground limestone workings.	Proposed development .	Reduction of lateral support potentially affecting stability of the structure.	5	5	25	Further investigation will be required to fully define the extent of the mine workings and rock cover. If stabilisation works (grouting) is required, this will need to be designed and undertaken by a specialist.	Notwithstanding stabilisation works, foundations to be designed in accordance with CIRIA publication C758D, 'Abandoned Mine Workings Manual' and 'Structural Foundations Manual for Low Rise Buildings' (Atkinson) or the NCB publication, 'Subsidence Engineers Handbook'.
			Floor slab failure.	5	5	25		Design floor slab as suspended If required.
		Roads and Pavements.	Serviceability affected.	5	3	15		-
		Services.	Damage to services. Leaking drainage	5	3	15		No soakaway drainage within influencing distance of structures and roads. Infiltration if used is to be installed in POS.

			causing inundation and further collapse.					Use rocker boxes and flexible couplings.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	5	3	15		Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Unforeseen ground conditions - risk associated with limited data.	Ground investigation has been undertaken. However, additional information will be obtained during construction. Ground conditions are only defined at exploratory hole locations.	All aspects of the development		3	4	12	Designers to be contacted if conditions encountered are different to those identified during investigation. Regular inspections of excavations and earthworks for evidence of stability. Adequate investigation required to characterise the site and understand the potential risks.	

Whilst the probability and impact of the hazard occurring can be reduced to a minimum by geotechnical design, the impact cannot be reduced below very low. The risk register will need to be up-dated, as necessary, to reflect design, additional information, data and experience as it is gained through the construction process.

Impacts of the design with regard to health and Safety considerations will need to be included by the designer at design stage.

Appendix H Plausible source-pathway-receptor contaminant linkages

Summary of potential contaminant linkages

Table H.2 lists the plausible contaminant linkages which have been identified. These are considered as potentially unacceptable risks in line with guidelines published in LCRM (2019) and additional risk assessment is required.

Source – Pathway – Receptor Linkages have been assessed in general accordance with guidance in CIRIA Report C552 (Rudland *et al* 2001) but modified to add a 'no linkage' category and to remove low/moderate risk (See Table H.1).

It should be noted that whilst the risk assessment process undertaken in this report may identify potential risks to site demolition and redevelopment workers, consideration of occupational health and safety issues is beyond the scope of this report and need to be considered separately in the Construction Phase Health and Safety Plan.

Table H.1: Consequence versus probability assessment.

		Consequence			
Probability		Severe	Medium	Mild	Minor
	High Likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Very low risk
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Very low risk	Very low risk	Very low risk
	No Linkage	No risk			

Table H.2: Exposure model – final source-pathway-receptor contaminant linkages

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments	
Made Ground, associated with historical mining activities and imported fill, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S01).	Ingestion, skin contact, inhalation of dust and outdoor air by people (P01).	Site users/ Neighbours (R01)	Likely	Medium	Moderate	There is Made Ground below the majority of site and in stockpiles. There are PAH at levels in excess of the GAC. Asbestos fibres and materials are also confirmed as being present on site.	Contact with these materials is likely in areas of Public Open Space. Mitigation measures will be required to break the SPR linkage. The risk of significant generation of dust is likely only during site development process and can therefore be controlled.
	Petroleum hydrocarbon vapour ingress via permeable soils and/or construction gaps (P02).	Site users/ Neighbours (R01)	Low likelihood	Medium	Low	No Visual or Olfactory evidence of Petroleum Hydrocarbons. Laboratory testing also shows that levels are either below limit of detection or the relevant GAC. Therefore, the risk is low.	
	Root uptake by plants (P03).	Plant life (R02)	Likely	Medium	Moderate	There is Made Ground below the majority of site and in stockpiles. There are levels of zinc in excess of the GAC.	The mitigation measures for Human Health will also serve to mitigate risk to plant life.
	Migration of contaminant via leachate migration through the	Groundwater (R03)	Low likelihood	Medium	Low	The proposed development will decrease the area of soft landscaping but create an attenuation	Significant exceedances of magnesium have been recorded in groundwater samples. It is considered that in the absence of an onsite source

	unsaturated zone in the Forest Marble Formation (P04).					pond. Therefore, infiltration and the risk of leaching into the sensitive aquifers below the site could still potentially occur.	that this is either naturally occurring or migrating from off site. Therefore, this risk is considered low.
	Direct contact (P01)	Water supply pipes.	Likely	Medium	Moderate	Detections of VOCs and Petroleum Hydrocarbons whilst not above the GACs are above guidance for water supply pipelines within the Stockpiled materials.	Removal of impacted stockpiles from site will serve to mitigate this risk or where stockpiles are proven geotechnically suitable for filling, water supply pipe materials to be upgraded to 'barrier pipe' if sited within raised ground
Made Ground, associated with former MoD activity possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S02).	Ingestion, skin contact, inhalation of dust and outdoor air by people (P01).	Site users/ Neighbours (R01)	Likely	Medium	Moderate	There is Made Ground below the majority of site and in stockpiles. There are PAH at levels in excess of the GAC. Asbestos fibres and materials are also confirmed as being present on site.	Contact with these materials is likely in areas of Public Open Space. Mitigation measures will be required to break the SPR linkage. The risk of significant generation of dust is likely only during site development process and can therefore be controlled.
	Petroleum hydrocarbon vapour ingress via permeable soils and/or construction gaps (P02).	Site users/ Neighbours (R01)	Low likelihood	Medium	Low	No Visual or Olfactory evidence of Petroleum Hydrocarbons. Laboratory testing also shows that levels are either below limit of detection or the relevant GAC. Therefore, the risk is low.	

	Root uptake by plants (P03).	Development (R02)	Likely	Medium	Moderate	There is Made Ground below the majority of site and in stockpiles. There are levels of zinc in excess of the GAC.	The mitigation measures for Human Health will also serve to mitigate risk to plant life.
	Migration of contaminant via leachate migration through the unsaturated zone in the Forest Marble Formation (P04).	Groundwater (R03)	Low likelihood	Medium	Low	The proposed development will decrease the area of soft landscaping but create an attenuation pond. Therefore, infiltration and the risk of leaching into the sensitive aquifers below the site could still potentially occur.	Significant exceedances of magnesium have been recorded in groundwater samples. It is considered that in the absence of an onsite source that this is either naturally occurring or migrating from off site. Therefore, this risk is considered low.
	Direct contact (P01)	Water supply pipes.	Likely	Medium	Moderate	Detections of VOCs and Petroleum Hydrocarbons whilst not above the GACs are above guidance for water supply pipelines within the Stockpiled materials.	Removal of impacted stockpiles from site will serve to mitigate this risk or where stockpiles are proven geotechnically suitable for filling, water supply pipe materials to be upgraded to 'barrier pipe' if sited within raised ground
Ground gases (carbon dioxide and methane) from organic materials in the Made Ground or potential build up in the	Gas ingress via permeable soils and/or construction gaps (P05).	Site users/ Neighbours (R01)	Likely	Severe	High	It is considered that the Made Ground soils on site have negligible gas generation potential, wells have been installed to capture any gases migrating from the below ground mineworkings. Confirmatory monitoring has been undertaken to prove conditions and shows that CS1 conditions apply. (No protection measures required).	
		Development (R02)					

underground mineworkings. (S04)						
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