



Geo-Environmental Assessment

Brunel Retail Park, Reading

Presented to Mayfair Capital C/O Westmount Real Estate

Issued: January 2021

Delta-Simons Project No. 18-0642.03



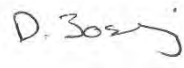
Delta-Simons Environmental Consultants Limited
Head Office: 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR
Tel: 01522 882555 | www.deltasimons.com



Report Details

Client	Mayfair Capital C/O Westmount Real Estate
Report Title	Geo-Environmental Assessment
Site Address	Brunel Retail Park, Reading
Project No.	18-0642.03
Report Date	January 2021
Delta-Simons Contact	David. Josling (David.Josling@deltasimons.com)

Quality Assurance

Issue No.	Status	Issue Date	Comments	Author	Technical Review	Authorised
1	Final	11/01/2021	Report			
				Robert Stafford Senior	John Rhoades Principal	David Josling Principal

About us

Delta-Simons is a trusted, multidisciplinary environmental consultancy, focused on delivering the best possible project outcomes for customers.

Specialising in Environment, Health & Safety and Sustainability, Delta-Simons provide support and advice within the property development, asset management, corporate and industrial markets. Operating from ten locations - Lincoln, Birmingham, Bristol, Dublin, Leeds, London, Manchester, Newcastle, Norwich and Nottingham - we employ over 100 environmental professionals, bringing experience from across the private consultancy and public sector markets.

Delta-Simons is proud to be a founder member of the Inogen® Environmental Alliance, a global corporation providing multinational organisations with consistent, high quality and cost effective environmental, health, safety, energy and sustainability solutions. Inogen assists multinational clients by resolving liabilities from the past, addressing today's requirements and delivering solutions for the future. With more than 200 offices located on every continent, more than 6,430 staff worldwide, and projects completed in more than 120 countries, Inogen provides a single point of contact for diverse markets as Automotive, Chemical, Consumer Products & Retail, Financial, Food & Beverage, Healthcare, Insurance, Manufacturing, Non Profit Organisations, Oil & Gas, Real Estate, Services Firms, Technology and Transportation, among others.

Executive Summary

Brief	Delta-Simons Environmental Consultants Limited ("Delta-Simons") was instructed by Mayfair Capital C/O Westmount Real Estate (the "Client") to prepare a Geo-Environmental Assessment for Brunel Retail Park, Reading RG2 0HB (the "Site") for proposed redevelopment. The proposed development comprises demolition of existing on-Site buildings and construction of two warehouse buildings.
Site Setting	The Site is currently occupied by a retail park, comprising 13 retail units, arranged in an L-shaped layout across the western and southern parts of the Site with associated service yard in the south and carparking in the north. The Site was previously utilised for clay extraction for local brick works with the excavation later being backfilled.
Ground Conditions	The ground investigation recorded a variable thickness of Made Ground across the Site. In the west of the Site, Made Ground was proven to a maximum depth off 11.5 m below ground level (bgl) and was found to be shallow, between 1.0 m and 3.8 m bgl in the east of the Site. The underlying natural deposits of the Lambeth Group comprised cohesive (stiff clay) and granular (dense sand). Although interbedded, typically cohesive soils were encountered in the north west of the Site and granular in the south east of the Site. Monitoring within newly installed standpipes indicates that groundwater can be found both, perched sporadically within Made Ground between 1.3 and 9.8 m bgl and continually within the Lambeth Group at between 10.8 and 11.5 m bgl associated with a general fall in levels towards the south the Site.
Land Contamination Assessment	<u>Human Health</u> The Site has been assessed against guidance values for a commercial end use. Asbestos was identified in four out of thirty-two samples, predominately identified in the west of the Site with materials visibly identifiable on the surface soils in the west of the Site. Elevated lead and PAH concentrations have been recorded in the Made Ground above guidance values in the south west and north of the Site. The proposed commercial development will be predominately covered by hardstanding and localised areas of soft landscaping which is anticipated to mitigate risks to future Site users. <u>Controlled Waters</u> Marginally elevated heavy metals, PAH's, TPH fractions and sulphate have been identified in shallow perched ground water in DS108a and DS109, with similar marginally elevated contaminants also identified in the deeper Secondary A Aquifer. Detectable concentrations of VOCs were also identified in CP101 but were considered to be adopted screening criteria. Elevated concentrations of ammoniacal nitrogen were identified with groundwater across the Site. The groundwater concentrations are considered to be representative of the wider industrial area and former brick pit. <u>Built Environment</u> Elevated concentrations of PAHs in the soils and TPH in groundwater have been identified and given the historical uses of the Site it is considered that upgraded water

	supply pipes will be required. Consideration should be made for the use of clean service corridors to further reduce risk to future Site workers. Given the depth of Made Ground and potential to mobilise contaminants, soakaways are not considered suitable at the Site. <u>Ground Gas</u> Ground gas monitoring indicates the Site can be classified as a CS2.
Geotechnical Assessment	Based on the identified ground conditions, two different development options have been provided. The depth of made ground in the centre and west will preclude the use of traditional spread foundations and ground bearing floor slabs for both proposed commercial units. It is likely that a combination of vibro replacement stone columns and piles would be the most suitable solutions to transfer load to the dense sand and stiff clay of the underlying Lambeth Group. It is recommended that a conservative CBR value of <2% should be adopted for the shallow soils, for preliminary pavement design for external areas. It is recommended that plate CBR tests are undertaken at formation level after demolition, prior to finalising piling mat and pavement design. Buried concrete may be designed in accordance with DS-3 and AC-3.
Recommendations	Based on the findings of this report, the following recommendations are made; ▲ Limited supplementary post demolition site investigation in the areas beneath the existing building footprints to assess potential contamination risks and to further inform foundation design; ▲ It is recommended that a slope assessment of the western slope should be undertaken to ensure no negative impacts to slope stability are caused by any future Site development; ▲ It is recommended that a specialist contractor be contacted to identify and remove localised areas of asbestos currently visible as part of good management; ▲ Implementation of asbestos picking may be required where visible ACM fragments are identified during development works; ▲ Specialist piling contractors should consider sleeving piles to minimise the potential for negative skin friction; ▲ It is recommended that plate CBR tests are undertaken at formation level after demolition prior to finalising piling mat and pavement design; ▲ Upon completion of the supplementary investigation works, preparation of a Remediation Strategy, to mitigate any unacceptable risks to human health/controlled waters receptors; and ▲ Specific additional investigations may be needed to classify the materials in accordance with current regulatory requirements for waste disposal purposes.
This is intended as a summary only. Further detail and the limitations of the assessment are provided within the main body of the Report.	

Table of Contents

1.0 INTRODUCTION	1
1.1 Appointment.....	1
1.2 Context & Purpose	1
1.3 Scope of Works	1
1.4 Existing Information	1
1.5 Limitations.....	1
2.0 SITE DETAILS	3
2.1 Site Setting	3
2.2 Preliminary Conceptual Site Model	4
3.0 SITE INVESTIGATION	7
3.1 Intrusive Investigation	7
3.1.1 Health & Safety Considerations	7
3.2 Scope of Ground Investigation and Rationale	7
3.2.1 Scope	7
3.2.2 Rationale	7
3.3 Ground Investigation Factual Data	7
3.4 In-Situ Testing and Sampling	8
3.5 Geotechnical Laboratory Testing.....	8
3.6 Environmental Sampling, In-Situ Testing and Laboratory Analysis	8
3.7 Monitoring Programme	9
4.0 GROUND SUMMARY	10
4.1 Introduction	10
4.2 Ground Model.....	10
4.3 Visual and Olfactory Evidence of Contamination – Soils	10
4.4 Groundwater	11
4.4.1 Strikes During Investigations	11
4.4.2 Levels During Monitoring Programme	11
4.5 Visual and Olfactory Evidence of Contamination – Groundwater	12
4.6 Material Properties	12
4.7 Geochemical Testing.....	13
4.8 Ground Gas Data.....	13
5.0 GEOTECHNICAL ASSESSMENT	15
5.1 Summary of Development Proposals	15
5.2 Foundations	15
5.2.1 Spread Foundations	15
5.2.2 Volume Change Potential	15
5.2.3 Ground Improvement Techniques	15
5.2.4 Piling	16
5.2.5 Floor Slabs	17
5.3 Roads and Pavements	17
5.4 Drainage and Soakage Tests	17
5.5 Excavations & Obstructions.....	17
5.6 Groundwater	17
5.7 Slopes & Retaining Features	17
5.8 Earthworks	17
5.9 Chemical Attack on Buried Concrete	18
6.0 GENERIC QUANTITATIVE RISK ASSESSMENT	19
6.1 Introduction	19
6.2 Human Health GQRA	19
6.2.1 Risks from Soil Sources.....	19
6.2.2 Soil Analysis Summary	23
6.2.3 Risks from Groundwater Sources.....	23
6.2.4 Risks from Non-Aqueous Phase Liquids (NAPL)	23
6.3 Controlled Waters/Water Environment GQRA	24
6.3.1 Groundwater Results	24

6.3.2	Groundwater Analysis Summary	28
6.3.3	Light Non Aqueous Phase Liquid (LNAPL)	28
6.4	Built Environment.....	28
6.4.1	Potable Water Supply Pipes	28
6.4.2	Building Materials	28
6.5	Waste Classification	28
7.0	BULK GROUND GAS RISK ASSESSMENT	30
7.1	Ground Gas Conceptual Site Model.....	30
7.1.1	Sources.....	30
7.1.2	Receptors.....	30
7.1.3	Pathways	30
7.2	Duration & Extent of Monitoring.....	30
7.3	Ground Gas Risk Assessment	31
7.3.1	Background.....	31
7.3.2	Gas Screening Value (GSV).....	31
7.4	Ground Gas Risk Mitigation.....	32
7.5	Radon	32
7.6	Organic Vapours.....	32
8.0	REVISED CONCEPTUAL SITE MODEL.....	33
9.0	CONCLUSIONS & RECOMMENDATIONS	36
9.1	Geotechnical Summary	36
9.2	Contamination Issues	36
9.2.1	Human Health.....	36
9.2.2	Controlled Waters	37
9.2.3	Ground Gas	37
9.3	Recommendations for Supplementary Work.....	37

Figures

Figure 1	Site Location Plan
Figure 2	Exploratory Hole Location Plan
Figure 3	Corrected SPT Results
Figure 4a, 4b	Geological Cross Sections
Figure 5a, 5b	Interpolated Groundwater Plots
Figure 6a,	Interpolated Made Ground Contour Plots

Drawings

Drawing 1	Proposed development plan
-----------	---------------------------

Appendices

Appendix A	Limitations
Appendix B	Risk Definitions
Appendix C	Borehole Logs, SPT Calibrations Certificate, CBR Logs
Appendix D	Geotechnical Analysis Results
Appendix E	Soil Chemical Analysis Results
Appendix F	Groundwater Chemical Analysis Results
Appendix G	Field Monitoring Data/Gas Monitoring Data

1.0 Introduction

1.1 Appointment

Delta-Simons Environmental Consultants Limited (“Delta-Simons”) was instructed by Mayfair Capital C/O Westmount Real Estate (the “Client”) to prepare a Geo-Environmental Assessment for Brunel Retail Park, Reading RG2 0HB (the “Site”) in the context of a proposed redevelopment to a commercial / light industrial end use.

1.2 Context & Purpose

The aim of the study was to complete a geo-environmental assessment of the proposed development area. The investigation has obtained information regarding ground conditions, from which risks to end-users, the environment and structures have been assessed, with mitigation measures suggested where necessary.

The investigation has also gathered geotechnical information to inform comment on the preliminary design of foundations and infrastructure. The report provides recommendations for further work (where appropriate) based on the findings of the investigation.

It is understood that the Site is to be redeveloped, which comprises the demolition of the existing retail buildings and the construction of two new commercial / light industrial warehouse units with integral offices. External areas will comprise car parking, service yards and limited soft landscaped areas at the perimeter of the Site.

1.3 Scope of Works

The scope of the investigation and layout of this report has been designed with consideration of guidance on Land Contamination: Risk Management pages of the [GOV.UK](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf) web pages, the relevant requirements of the National Planning Policy Framework 2019 (NPPF) (paragraphs 170 & 178-180)¹ and the Planning Practice Guidance (Land Affected by Contamination)².

The project was carried out to an agreed brief as set out in Delta-Simons’ proposal dated 22nd October 2020 (ref.18-0642.03 V2). The scope of works is outlined in Section 3.2.1.

Specific sections of this report may generally follow guidance set out in Eurocode 7 for a Ground Investigation Report (GIR), as defined in BS EN 1997-1:2004 and BS EN 1997-2:2007. Eurocode 7 includes specific guidance on the number and spacing of investigation positions, methods of investigation and sample quality to be achieved which may not have been met by this investigation. The report also includes information which may support a Geotechnical Design Report (GDR) as defined in BS EN 1997-1:2004; however, unless otherwise explicitly stated, the investigation has not been undertaken in accordance with Eurocode 7 and the preliminary geotechnical interpretation, assessments, risk register and recommendations presented within this report may not meet the full requirements of a GDR.

1.4 Existing Information

Delta Simons has previously undertaken a Preliminary Risk Assessment Dated 19th October 2020 (ref 18-0642.02) for the Site which should be read in conjunction with this report. In addition, the following information has subsequently been made available to Delta-Simons for review:

- ▲ Ground investigation Report, by Paragon dated 27 February 2020 (19.1247/CB/LC)

1.5 Limitations

The assessment is limited to the issues agreed within the proposal for the works. Notes on limitations associated with this assessment are provided in Appendix A. In addition, there are the following specific limitations that apply to this assessment:

¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

² <https://www.gov.uk/guidance/land-affected-by-contamination>

- ▲ Presence of existing buildings within the footprint of proposed buildings
- ▲ No proposed loadings provided by the Client/engineer
- ▲ No proposed ground levels

2.0 Site Details

2.1 Site Setting

A summary of the current Site status, environmental setting and key historical features is presented below. This has been summarised from the existing report(s) listed in Section 1.4 which should be consulted for further detail.

Co-ordinates	Centred approximately at National Grid Reference 471420, 171210.	Elevation	46-49 m AOD
		Area	3.5 Ha
Site Location	The Site is located on the southern side of Rose Kiln Lane, approximately 150 m to the east of the A33 and approximately 2 km to the south of Reading town centre.		
Current Site Use	The Site is occupied by a retail park, comprising 13 retail units, arranged in an L-shaped layout across the western and southern parts of the Site, with a customer car parking facility located across the central, northern and eastern parts of the Site. The main entrance to the Site is located on Rose Kiln Lane, at the northern Site boundary. Service yards, accessed via an entrance on Gillette Road to the east of the Site, are located to the rear of the retail units, along the southern boundary and in the far western area of the Site. The external areas of the Site are predominantly covered by tarmac and concrete hardstanding and paving. Small areas of soft landscaping are present within the car park and along Site boundaries with an area of trees in the west. Electricity substations are understood to be present in the east and west of the Site, which are likely to be the responsibility of service providers. <i>No significant potential sources of contamination are considered to be associated with the current Site use or were observed during a Site visit.</i>		
Proposed Development	The proposed redevelopment for the Site comprises the demolition of the existing retail buildings and the construction of two new commercial / light industrial warehouse units with integral offices. External areas will comprise car parking, service yards and limited soft landscaped areas at the perimeter of the Site.		
Environmental Setting	The Site is considered to be of moderate environmental sensitivity given the presence of a Secondary A Aquifer beneath the Site, the presence of an adjacent surface watercourse along the south west boundary, and the commercial/ industrial use of the surrounding area. The Site is anticipated to comprise Made Ground over the Lambeth Group comprising sand and clay deposits. It is anticipated that extensive Made Ground may be present in areas previous clay excavations associated with on-Site brick works.		
Key Historical Features	The Site has previously experienced clay extraction as part of the production of bricks and tiles, shown on Site in 1879 mapping with a tramway indicated on 1912 mapping. By 1932 the tramway had been dismantled and the majority of the Site shown to have been infilled. At some time between 1966 and 1980, the western part of the Site changed use to a scrap yard. The Site was redeveloped as the Brunel Retail Park in the mid-1990s, in a layout consistent with the existing Site, except for small extensions to the building in the eastern part of the Site circa 2005 and 2014.		

Summary of Previous Reports	Ground investigation Report, by Paragon dated 27 February 2020 (19.1247/CB/LC). The Site investigation report covered the western units and service yard of the current Site. As part of proposed divestment, a due diligence walkover identified potential ground movement and settlement adjacent to the current on-Site building and within the service yard. Site investigation works comprising three boreholes, hand pits and foundation inspection pits were undertaken by Paragon to assess the ground conditions. Findings within the borehole identified infilled material to a maximum depth of 10.10 m bgl comprising of low strength clay and granular sand and gravel of brick, wood, glass, shale, ceramic, rubber and an organic odour. SPT N values within Made ground varied between 3 and 15. Made Ground was identified in all borehole locations and chemical testing identified contaminants below GAC values for a continued commercial Site use. Asbestos was also identified within Made Ground. Additional chemical testing was undertaken to establish if the Site was underlain by fill materials with results identifying concentrations indicative of anthropogenic impact. Ground gas monitoring was undertaken on the 17th January 2020 and reported methane at 0.0 to 6.4 %v/v, carbon dioxide 1.5 to 14.9 %v/v and oxygen 0.0 to 14.2 %v/v. Based on the findings, and inability to directly undertaken CBR testing through plate loads or similar, a CBR value of <0.5% was anticipated for the Site. Recommendations were made for the repair and mitigation of the service yard, building infrastructure/ drainage and gas monitoring for the Sites continued uses.
---	---

2.2 Preliminary Conceptual Site Model

A summary of the preliminary Conceptual Site Model is presented below.

Pollutant Linkage Assessment				
Source(s)	Pathway(s)	Receptor(s)	Risk Rating	Justification & Mitigation (if required)
Potentially contaminated soils and/or groundwater located beneath the Site.	Direct contact/ ingestion and inhalation of dust and vapours.	Site users.	Low Risk	The potential for contamination to be present beneath the Site, associated with the historical presence of a landfill and a scrapyards in the west of the Site, cannot be discounted. However, given the proposed commercial / light industrial warehouse use of the Site, predominantly covered by the buildings and hardstanding, the risk to Site users is considered to be low. Intrusive investigation is recommended to confirm the potential risks, including an assessment of potential vapour risks.
	Direct contact, ingestion and inhalation of dust and vapours.	Maintenance workers during any future sub-surface works at the Site.	Low to Moderate Risk	Site workers may become exposed to localised contaminated soils and shallow groundwater during intrusive groundworks undertaken at the Site. Use of safe working practices and implementation of appropriate Personal Protective Equipment (PPE) should reduce the risk to low. Consideration should be made for the use of clean service corridors.
	Leaching of contaminants and vertical migration.	Groundwater beneath the Site.	Low to Moderate Risk	Whilst the presence of contamination beneath the Site associated with historical use cannot be discounted, some clay is indicated to be present, underlying the Made Ground in the east of the Site. In addition, the proposed buildings and hardstanding present across the Site and in the surrounding area will limit the infiltration of rainfall and, therefore, reduce the potential for leaching and migration of any contamination. A water abstraction well for general industrial use is indicated to be on Site, however, its positions accuracy is within 100m and its exact location has not been determined. Overall, the risk is considered to be low to moderate.
	Permeation of hydrocarbons through plastic pipe work.	Water supply pipes.	Low to Moderate Risk	Hydrocarbons, especially aromatics and chlorinated solvents are known to permeate plastic pipes, particularly when encountered at high concentrations. Whilst it is considered unlikely that significant hydrocarbon contamination will be present, given the historical uses of the Site it is considered that upgraded water supply pipes will be required.
	Lateral migration through any groundwater beneath the Site.	Off-Site receptors (neighbouring properties/ users and nearby surface water).	Low/ Low to Moderate Risk	Given the risk to groundwater is considered to be low to moderate, the risk to surface waters is also low to moderate, however, the risk to surrounding users is considered to be low.

Pollutant Linkage Assessment				
Source(s)	Pathway(s)	Receptor(s)	Risk Rating	Justification & Mitigation (if required)
Ground gas.	Vertical and lateral migration of ground gases.	Site users & the building on-Site.	Low Risk	Whilst ground gases could be present associated with the Made Ground and former landfill beneath the Site, gas monitoring undertaken in 2014 in the eastern area did not record significantly elevated concentrations of methane and carbon dioxide. Further investigation and ground gas monitoring will be required to confirm the risks and gas protection measures in accordance with current guidance.
Potentially contaminated soil and groundwater from off-Site sources.	Lateral migration and subsequent inhalation.	Groundwater beneath the Site and future Site users.	Low Risk	Whilst potential off-Site sources of contamination have been identified, including petrol filling stations and an adjacent landfill, the Site is in a built-up area with large amounts of hardstanding, resulting in restricted infiltration of rainwater and limited leaching of contaminants. Also, given the proposed current commercial use of the Site, the risk to Site users is considered to be low.

Risk ratings are based on the classifications given in Appendix B.

3.0 Site Investigation

3.1 Intrusive Investigation

Delta-Simons carried out intrusive investigation work from 9th to 20th November 2020 to assess the potential linkages identified in the outline conceptual model (see Section 2.2 above) and to provide geotechnical information.

3.1.1 Health & Safety Considerations

Service plans for the Site were provided by the Client; and a utilities clearance specialist attended the Site on 9th November 2020 to trace services on and around the Site prior to excavation of exploratory hole locations. As a further precaution for the avoidance of buried services, each position was scanned with a CAT (cable avoidance tool) by the supervising engineer.

An initial assessment of the Site identified a low risk in relation to Unexploded Ordnance (UXO) and so no specific precautionary measures were required for the works.

Future Contractors should undertake their own assessment of UXO risk in relation to their specific proposed scope of works.

3.2 Scope of Ground Investigation and Rationale

3.2.1 Scope

The ground investigation comprised the following items:

- ▲ Initial service avoidance exercise;
- ▲ Supervision of all works by a Delta-Simons Geo-Environmental engineer. All intrusive locations were logged to BS 5930:2015+A1:2020 Code of Practice for Site Investigations;
- ▲ Drilling of nine Dynamic Sampler Boreholes (DS101 to DS109) to a maximum depth of 5.0 m bgl with SPT's;
- ▲ Drilling of five Cable Percussive Boreholes (CP101 to CP105) to a maximum depth of 20 m bgl with U100 sampling and SPT's,
- ▲ Eleven Mexe probe tests (Indicative CBR);
- ▲ One hand pit (HP101) to 0.4m bgl.
- ▲ Two surface samples (SS101-SS102) taken of suspected asbestos containing materials; and
- ▲ Ground gas and ground water monitoring visits (3 completed with additional 3 proposed).

3.2.2 Rationale

Location	Rationale	Key Contaminants of Concern
CP101 -CP105	Targeting locations below proposed buildings and in areas of potential deep Made Ground as a result of historic excavation and infilling.	ACM, Metals, Hydrocarbons, PAH, SVOC's, VOC's, Cyanide and Phenols.
DS101-DS105	Targeting locations below proposed buildings and areas of hardstanding.	ACM, Metals, Hydrocarbons, PAH, SVOC's, VOC's, Cyanide and Phenols.
SS01 and SS02	Possible ACM's fragments were identified at surface during Site investigation.	ACM

3.3 Ground Investigation Factual Data

The investigation locations were surveyed in by the appointed surveying contractor to an accuracy of approximately +/- 0.1m. An intrusive exploratory hole location plan is presented as Figure 2.

Delta-Simons engineer verified borehole logs are presented as Appendix C, the SPT Calibration Certificates, in accordance with *BS EN ISO 22476-3:2005 (incorporating corrigendum No. 1 2007)*, *Geotechnical investigation and testing – Field testing – Part 3: Standard penetration test for SPT trip hammers* are provided in Appendix C.

3.4 In-Situ Testing and Sampling

SPT tests were undertaken in all boreholes at 1.0 m intervals until 5.0 m bgl, then every 1.5 m bgl thereafter. U100 were undertaken within cohesive soils. The results of these tests are presented in the borehole logs included as Appendix C. Corrected SPT values are shown in Figure 3.

Indicative California bearing ratio (CBR) was measured using a handheld Mexe probe within 11 borehole handpits. Test results are presented in Appendix C.

Sampling comprised disturbed tub and jar samples as detailed on the borehole logs.

3.5 Geotechnical Laboratory Testing

A selection of soil samples were submitted to the UKAS accredited laboratory for a range of geotechnical testing, the results of which are included in Appendix D.

The programme of geotechnical testing undertaken on samples obtained from the natural soils is presented within the table below. The purpose of the laboratory testing was to assess the classification properties of the soils encountered in order to inform the outline geotechnical design advice.

Analysis	No. Tested	Rationale
Moisture content	15	To enable geotechnical assessment of cohesive soils
Plastic and liquid limits	15	
Quick undrained triaxial (Multi Stage)	3	
Particle size distribution	11	To enable geotechnical assessment of granular soils

3.6 Environmental Sampling, In-Situ Testing and Laboratory Analysis

Soils collected for laboratory analysis were placed in a variety of containers appropriate to the anticipated testing suite. Samples were stored in accordance with Delta-Simons' quality procedures to maintain sample integrity and preservation and to minimise the chance of cross contamination. Records of the samples taken as part of the site investigation works, including their depths and location, are included within the exploratory hole records in Appendix C.

Groundwater samples were collected from eight newly installed standpipes on the 25th November 2020. The groundwater samples were collected using a dedicated disposable bailer.

Samples analysed for environmental purposes were placed in chilled cool boxes on Site and transported to the laboratory for analysis on completion of the site investigation works/groundwater sampling visit.

The rationale for chemical analysis is presented in the table below and the results of the chemical laboratory testing are included in Appendix E and F.

Analytes	No. of Samples Tested		Rationale
	Soil	Ground-water	
Asbestos	32	-	Common potential contaminant – Analysed in all samples of Made Ground.
pH, As, Cd, Cu, Cr, Hg, Pb, Ni, Zn, speciated Polycyclic Aromatic Hydrocarbons (PAH)	30	8	Potential contaminants of concern, common to many sites.
Total Petroleum Hydrocarbons, Criteria Working Group Method (TPHCWG), Benzene, Toluene, Ethylbenzene and Xylene (BTEX)	30	8	Specific analysis to target potential hydrocarbon contamination.
Volatile and Semi-Volatile Organic Compounds (VOC and SVOC)	15	8	Potential contaminants of concern, given deep Made Ground with an unknown source of the fill material.
Phenols	13	8	
Cyanide	13	8	
pH, sulphate	52	8	To assess potential for chemical attack on buried concrete.
Sulphur total, total acid soluble sulphate	22	-	
Total Organic Carbon (TOC)	8	-	To assess the organic carbon within soils to determine their potential ground gas risk.
Organic content	4	-	

3.7 Monitoring Programme

Six rounds of groundwater level and ground gas monitoring have been undertaken to date on both newly installed wells (DS101-DS109 and CP101-CP105) and pre-existing boreholes (DS1A, BH2BH3 and BH5) between 25th of November 2020 and 6th of January 2021. Measurements of the depth to groundwater within the monitoring wells were taken using an electronic dip meter.

To characterise the ground gas regime at the Site, an infrared gas meter was used to measure gas flow, concentrations of carbon dioxide (CO₂), methane (CH₄) and oxygen (O₂) in percentage by volume. Initial and steady state concentrations were recorded. The atmospheric pressure before and during monitoring, together with the weather conditions, was recorded.

All monitoring results obtained to date together with the temporal conditions are contained within Appendix G.

4.0 Ground Summary

4.1 Introduction

The sections below summarise the ground and groundwater conditions encountered during the site investigation.

4.2 Ground Model

A summary of the observed ground conditions at the Site is provided below.

Summary of Observed Ground Conditions				
Strata	Typical Strata Description	Depth Range of Strata Base (m)	Maximum Proven Thickness (m)	Comments
Made Ground (Hard Standing)	Asphalt in the main customer carpark and brick paving within the service yard.	0.08-0.10	0.10	
Made Ground (Gravel /Subbase)	Grey coarse gravel	0.40-0.65	0.55	
Made Ground	Made Ground was found to be varied across the Site comprising of black and grey, in parts clayey (with organic odor) fine to coarse sand and gravel of brick, concrete, ceramic, coal, clinker and glass with wood, plastic and metal also identified across the Site.	1.00-11.50	11.10	Typically Made Ground was encountered between 1 m to 3.8 m bgl in the east of the Site deepening in central and western areas of the site to a proven thickness of 11.5 m bgl in CP102
Lambeth Group	The Lambeth group is made up of Clay and fine to medium Sand units.	20.00	14.2	At depth greater thicknesses of clay were typically encountered in the north of the Site in CP105 and CP102 with more granular soils encountered in the south.
Chalk	White structureless clayey putty Chalk.	20.45	0.45	Encountered in final SPT of CP102 only at 20 – 20.45m bgl.

Inferred geological sections are presented as Figures 4a & 4b (the lines of which are shown on Figure 2) and Interpolated Made Ground Contour Plots are included as Figures 6a & 6b.

4.3 Visual and Olfactory Evidence of Contamination – Soils

Visual or olfactory evidence of potential gross contamination was observed during the investigation and listed in the table below.

Location	Depth (m bgl)	Description
SS101	0.00	Possible ACM fragment
SS102	0.00	Possible ACM fragment
CP102	7.00-11.50	Slight hydrocarbon odour

4.4 Groundwater

4.4.1 Strikes During Investigations

Groundwater strikes recorded within boreholes during the site investigation range from 1.5 to 13.2m bgl (33.78 to 47.39 m AOD). The groundwater strikes during drilling are summarised below.

Exploratory Hole	Water strike during drilling (m bgl)	Water strike during drilling (m AOD)	Stratum	Comment
CP101	11	37.99	Made Ground	Rose up to 10.1 after 20 minutes.
CP102	13	35.39	Lambeth Group	Rose up to 12.1 after 30 minutes.
CP103	12	36.63	Lambeth Group	Rose up to 9.6 after 20 minutes.
CP104	13.2	35.80	Lambeth Group	Rose up to 11.2 after 20 minutes.
CP105	15	33.78	Lambeth Group	Rose up to 11.4 after 20 minutes.
DS109	1.5	47.39	Made Ground/Lambeth Group	Groundwater encountered within Made Ground above cohesive soils of the Lambeth Group.

4.4.2 Levels During Monitoring Programme

Groundwater levels were monitored on a total of six occasions between 25th November 2020 and 6th January 2021. The monitoring data is included in full in Appendix G and summarised in the table below.

Exploratory Hole	Response Zone		Water level during monitoring Max to Min Range		LNAPL Y/N	Stratum
	m bgl	m AOD	m bgl	m AOD.		
CP101-S	1.0 – 4.0	44.99 - 47.99	Dry	-	N	Made Ground
CP101-D	8.5 – 17.0	31.99 - 40.49	11.14 - 11.29	37.85 - 37.70	N	Lambeth Group
CP102-S	1.0 – 5.0	43.39 - 47.39	9.60 - 9.76	38.79 - 38.63	N	Made Ground
CP102-D	13.5 – 16.0	32.39 - 34.89	10.81 - 11.20	37.58 - 37.19	N	Lambeth Group
CP103-S	1.0 – 9.0	39.63 - 47.63	Dry	-	N	Made Ground
CP103-D	11.0 – 16.0	32.63 - 37.63	11.10 - 11.50	37.53 - 37.13	N	Lambeth Group
CP104-S	1.0 – 3.0	46.00 – 48.00	2.69 - 2.76	46.31 - 46.24	N	Made Ground
CP104-D	6.0 – 15.0	34.00 – 43.00	11.38 - 11.46	37.62 - 37.54	N	Lambeth Group
CP105-S	1.0 – 9.0	39.78 - 47.78	Dry	-	N	Made Ground
CP105-D	11.0 – 16.0	32.78 - 37.78	8.67 - 10.92	40.11 - 37.86	N	Lambeth Group
DS101	1.0 – 5.0	43.44 -47.44	Dry	-	N	Made Ground
DS102	1.0 – 5.0	43.86 - 47.86	Dry	-	N	Made Ground
DS103	1.0 – 5.0	43.94 - 47.94	Dry	-	N	Made Ground
DS104	1.0 – 5.0	44.10 - 48.10	Dry	-	N	Made Ground
DS105	1.0 – 5.0	43.96 - 47.96	Dry	-	N	Made Ground
DS106	1.5 – 3.0	46.34 - 47.84	Dry	-	N	Made Ground / Lambeth
DS107	2.0 – 5.0	44.05 - 47.05	Dry	-	N	Lambeth Group
DS108A	1.0 – 3	46.09 - 48.09	1.28 - 1.31	47.81 - 47.78	N	Made Ground / Lambeth

Exploratory Hole	Response Zone		Water level during monitoring Max to Min Range		LNAPL Y/N	Stratum
	m bgl	m AOD	m bgl	m AOD.		
DS109	1.0 – 3	45.89 - 47.89	1.18 - 1.5	47.71 - 47.39	N	Made Ground / Lambeth
Pre-existing Borehole Locations						
DS1A	UN - 1.95	47.39 - 49.34	1.54 - 1.57	47.80 - 47.77	N	unknown
BH2	1.0 - 4.06	44.69 - 48.75	4.04 - 4.05	44.71 - 44.70	N	Made ground
BH3	2.0 - 7.92	40.85 - 48.77	Dry	-	N	Made Ground
BH5	UN - 9.48	39.27 - 48.75	7.9 - 11.3	40.85 - 37.45	N	unknown

Groundwater levels during monitoring varied between 1.28 and 9.60 m bgl (47.81 to 38.79 m AOD) within the perched groundwater trapped in the Made Ground deposits.

Within the Lambeth Group, groundwater levels ranged between 8.67 and 11.50 m bgl (40.11 to 37.19 m AOD) and generally falls towards the south.

4.5 Visual and Olfactory Evidence of Contamination – Groundwater

No visual or olfactory evidence of potential gross contamination was observed during the investigation.

4.6 Material Properties

The table below summarises the factual material properties based upon the results of in-situ and laboratory test data and where appropriate provides derived geotechnical parameters.

Parameter	Made Ground	Lambeth Group	Chalk
Moisture Content – w	-	16% - 36%	26%
Liquid Limit – LL	-	18% - 81%	28%
Plastic Limit – PL	-	16% - 30%	18%
Plasticity Index – IP	-	10% - 51%	10%
Uncorrected SPT N Value	0 – 27	0 – 50	16
Corrected ¹ SPT (N60)	0 – 24	0 – 61	17
Undrained Shear Strength ^{2,3} – cu	-	26 – 246 kPa	-

4.7 Geochemical Testing

Geochemical analysis was undertaken on 52 soil samples of Made Ground and Lambeth Group clay and sand, tested for selective contaminants (BRE Special Digest 1:2005 (3rd Edition), Concrete in Aggressive Ground, the results of which are summarised in the table below.

Tests	No. of Tests	Minimum	Maximum
Soil – pH	52	7.4	10.1
Soil – Total Sulphur	22	0.006%	2.32%
Soil – Acid Soluble Sulphate	22	0.02%	3.1%
Soil – Water Soluble Sulphate	52	0.015 mg/L	2.3 mg/L
Water – pH	8	6.8	7.7
Water – Sulphate	8	53.6 mg/L	563 mg/L

4.8 Ground Gas Data

Gas monitoring results are presented in Appendix G and are summarised in the table below, a total of six rounds of gas monitoring was undertaken over a period of 6 weeks.

Barometric pressures ranged from 1016mB (visit 6) to 991mB (visit 3).

Location	Steady Gas Concentration (%v/v)						Steady Flow Rate (l/hr)		Response Zone (m bgl)		Stratum	Flooded
	Methane		Carbon Dioxide		Oxygen							
	Min	Max	Min	Max	Min	Max	Min	Max	From	To		
CP101-S	<0.1	0.2	2.8	6.8	14.1	19.9	<0.1	0.1	1.0	4	MG	N
CP101-D	<0.1	0.1	<0.1	6.8	14.2	21.1	<0.1	3.2	8.5	17	Lambeth	N
CP102-S	<0.1	<0.1	<0.1	14.5	4.0	21.3	<0.1	<0.1	1.0	5	MG	N
CP102-D	<0.1	0.1	0.1	3.6	15.7	21.4	<0.1	<0.1	13.5	16	Lambeth	6/6
CP103-S	<0.1	0.3	10.2	14.5	1.7	7.8	<0.1	<0.1	1.0	9	MG	N
CP103-D	<0.1	0.6	0.2	17.4	0.4	20.2	<0.1	<0.1	11	16	Lambeth	N
CP104-S	<0.1	0.1	0.8	2.5	11.6	16.2	<0.1	0.1	1.0	3	MG	N
CP104-D	<0.1	0.1	4.8	18.5	3.6	14.4	<0.1	0.6	6.0	15	Lambeth	N
CP105-S	<0.1	6.2	<0.1	17.9	-0.1	21.3	<0.1	0.1	1.0	9	MG	N
CP105-D	<0.1	4.1	0.1	11.2	8.3	21.2	<0.1	<0.1	11	16	Lambeth	6/6
DS101	<0.1	<0.1	0.9	4.9	14.4	19	<0.1	<0.1	1.0	5	MG	N
DS102	<0.1	0.2	<0.1	3.8	16.5	21.8	<0.1	0.1	1.0	5	MG	N

DS103	<0.1	2	3.5	18.1	0.3	17.3	<0.1	<0.1	1.0	5.0	MG	N
DS104	<0.1	0.1	0.5	18.8	0.2	20.7	<0.1	<0.1	1.0	5.0	MG	N
DS105	1.8	5.2	13.5	20.2	0.2	10.4	<0.1	<0.1	1.0	5.0	MG	N
DS106	<0.1	0.1	0.3	7.6	14.5	21.3	<0.1	<0.1	1.5	3.0	MG/ Lambeth	N
DS107	<0.1	0.1	4.1	7.2	13.1	17	<0.1	1.2	2.0	5.0	Lambeth	N
DS108A	<0.1	0.1	<0.1	0.2	18.7	20.9	<0.1	0.1	1.0	3.0	Lambeth	N
DA109	<0.1	0.1	0.3	0.7	10.6	17.5	<0.1	0.4	1.0	3.0	MG/ Lambeth	N
Pre-existing Boreholes												
DS1A	<0.1	1.4	9.6	13.6	0.5	9.5	<0.1	0.5	0	1.95	Unknown	N
BH2	<0.1	0.1	0.3	9.6	8.3	20.3	<0.1	0.2	1.0	4.06	MG	N
BH3	<0.1	0.5	0.1	19	-0.1	21.4	<0.1	2.1	2.0	7.92	MG	N

5.0 Geotechnical Assessment

5.1 Summary of Development Proposals

It is understood that the Site is to be redeveloped with the demolition of existing on-Site buildings and construction of two warehouse type buildings (Unit 1 and Unit 2). A proposed development plan is provided as Drawing 1.

It is anticipated that a retaining structure be considered for the southern and western boundary of the Site.

The information provided below should be treated as preliminary and will be subject to review once development and levels have been finalised.

5.2 Foundations

5.2.1 Spread Foundations

Where Made Ground has been encountered it is considered to be too unpredictable, variable, weak and compressible in its existing condition for conventional shallow foundations. Shallower Made Ground has been identified in the east of the Site. Made Ground depths across the Site and their relation to the proposed commercial design scheme are shown on Made Ground Plots 6a and 6b.

Consequently, shallow pad foundations are not considered to be suitable for the proposed Unit 1 warehouse building in the west of the Site due to the anticipated loads and thickness of Made Ground (CP102 at 11.5m).

The areas to the east of the Site in the location of proposed Unit 2 warehouse encountered Made Ground to depths between 1.0 m and 3.8 m bgl, however, additional areas of deeper Made Ground in this area cannot be discounted. To allow for shallow foundations within this area it is anticipated that ground improvement would be required, and deep excavations may be required in the north west and southeast of the proposed building footprint.

To prevent the effects of differential settlement it is recommended that foundations are cited wholly on one strata type.

5.2.2 Volume Change Potential

The volume change potential should be considered in any foundation schedule for structures and services located within the influence zone of trees or bushes (proposed, existing or to be removed) and appropriate precautions and/or founding depths should be designed accordingly.

The liquid limit and plasticity index results suggest that the shallow natural cohesive soils at the Site have a potential swell classification of medium to high and volume change is possible.

5.2.3 Ground Improvement Techniques

Vibro Replacement

Vibro replacement involves the use of a long and heavy vibrating poker to form stone columns over the depth of soil requiring treatment (likely to the full depth of the Made Ground). Structural loads may then be supported, on shallow, nominally reinforced pad and strip footings. The placement of columns under the slabs may allow a traditional ground bearing construction to be adopted. Such a programme may be more economical than a piled scheme.

Excavation and Replacement

For areas to the east of the Site in the proposed footprint of warehouse 2 an alternative solution could be to excavate and screen the Made Ground and replace it to a specification suitable to support foundation and floor slab loadings. Such works would be undertaken in accordance with a detailed earthworks specification.

5.2.4 Piling

A piled foundation solution using traditional bored or continuous flight auger (CFA) piles transferring loads to competent geology may be suitable for the expected design loads, utilising both skin friction and end bearing capacity.

The precise method of pile installation and applicability of proprietary systems, diameters and depths required would need to be informed based on the results of this investigation, by discussions with a piling contractor with suitable experience.

For preliminary design purposes, the following allowable CFA pile loads have been assessed based on commonly accepted methods and in accordance with CIRIA C574 [Ref. 4] for determining pile base resistance and skin friction/adhesion (utilising a bulk Factor of Safety of 2.5, or 3.5 for the base and 1.5 for the skin); any negative skin friction effects associated with Made Ground strata has been ignored. Pile groups are assumed to be free standing with a spacing no less than three pile diameters. Commercial pile designers may use different parameters, design factors or safety factors than published methods. The values in the table below are likely to be significantly lower where loose soils are encountered.

Based on the findings of the ground investigation soils within the Lambeth Group were found to comprise predominantly granular bands in the south east (CP101 and CP104) whereas predominantly cohesive soils with a band of sand at the base were encountered in the north west of the Site (CP102, CP103 and CP105). Furthermore, given the variation in ground conditions at the Site following removal of the gravel deposits and backfilling with Made Ground, the Site has separated in to east and west.

For the purposes of a conservative pile assessment, ground conditions in the west of the Site have been taken to comprise Made Ground to 11m bgl bearing onto stiff clay with dense sand at the base of the Lambeth Group with white structureless chalk encountered at 20m bgl (at one location - CP102). The eastern side of the Site has been taken to comprise Made Ground to 3.0m bgl bearing onto very dense sand of the Lambeth Group with base of deposit proven to in excess of 20m bgl.

Low value SPT's have been encountered at the base of the Lambeth Group and are likely the result of blowing sands which have been disturbed by the process of drilling and SPTs at this depth may not be representative of their insitu densities. Significantly lower SPTs were also recorded within the upper part of the chalk strata.

Estimated Allowable Pile Capacities (Bored Piles)			
Typical Pile Size/Depth		Single Pile West	Single Pile East
0.3m diameter	15 m	90 kN	425 kN
	20 m	475 kN	850 kN
0.45m diameter	15 m	150 kN	825 kN
	20 m	800 kN	1,600 kN
0.6 m diameter	15 m	225 kN	1,350 kN
	20 m	1,150 kN	2,550 kN

Individual pile/pile group loads will be a function of the surface area of the piles to be employed at the Site and their method of construction.

It is recommended that during demolition of the building, all relic foundations, piles caps and other obstructions are removed and the locations of existing piles (if present) recorded to avoid in-ground obstructions during piling.

Normal static and dynamic load testing (including uplift tests) should be considered to achieve satisfactory quality control/assurance in accordance with good practice.

It should be noted that extensive Made Ground is present in the west of the Site and that no allowance has been made for negative skin friction loads due to self weigh settlement of the Made Ground. Evidence of surface movement has been identified by third parties and specialist piling contractors should consider sleeving piles to minimise the potential for negative skin friction.

There will be a requirement for the placement of a suitably engineered piling mat, which should be designed and validated by a suitably qualified and experienced engineer.

5.2.5 Floor Slabs

Made Ground was encountered across the Site between 1.0 m and 11.5 m. Floor slabs are therefore recommended to be suspended. Ground bearing floor slabs may be suitable for the east of the Site if adequate and warranted ground improvement is undertaken on any unsuitable soils.

5.3 Roads and Pavements

Handheld Mexe Probe field tests were undertaken in eleven locations across the Site. within granular soils (subbase) recorded >14 % however, within cohesive clay recorded 2.8 %. Differential settlement was observed across the Site, most notable in the service yard at the rear of the buildings.

It is recommended that a conservative CBR value of <2% should be adopted for the shallow soils, for preliminary pavement design for external areas. It is recommended that plate CBR tests are undertaken at formation level after demolition prior to finalising pavement design.

Differential settlement was clearly evident in the service yard at the rear of the Site and sporadically within areas of the front carpark. To prevent differential settlement of external areas, it is recommended that a suitable geotextile membrane is used in conjunctions with ground improvement / surcharging of the Site.

5.4 Drainage and Soakage Tests

Infiltration testing was not undertaken as part of this assessment however due to deep Made Ground, potential for mobilising contaminants and cohesive nature of shallow natural deposits soakaways are not considered to be suitable for the Site. Alternatives such as connection to existing services should be considered.

5.5 Excavations & Obstructions

It is expected that conventional mechanical excavators will readily remove the Made Ground and clays/ sand of the Lambeth Group likely to be encountered in shallow excavations although a breaker may be required to remove any existing hardstanding.

All shallow foundation or services excavations at the Site should be considered unstable, therefore, temporary support of all excavations should be considered when excavating on-Site.

5.6 Groundwater

Significant groundwater would not be anticipated during shallow excavations required as part of the proposed development. Should any perched groundwater be encountered, then local dewatering via sump and pump should be suitable, however, treatment prior to disposal to sewer may be required.

Within the natural deposits, groundwater was encountered during Site works between 11 and 15m bgl and during return monitoring between approximately 8.7 and 11.5m bgl.

5.7 Slopes & Retaining Features

A gabion retaining wall of between 0.5 -1.5m was identified adjacent to the southern and western boundaries. It is understood a retaining feature will be incorporated into the final design of the Site.

A steep slope exists along the western boundary of the Site and should be assessed for slope stability as part of any re-development at the Site.

5.8 Earthworks

The Site is predominately flat and significant ground level changes are not anticipated with the current proposed commercial development. A significant cut and fill operation is therefore not anticipated.

Shallow earthworks on the Site will likely encounter Made ground across the Site with predominantly deep Made Ground encounter in the western and central areas with the Lambeth Group sand and clay encountered in the eastern area of the Site.

Any materials used as fill will need to be placed to a suitable engineering specification with the degree of compaction required will be dependent on end usage and serviceability criteria. For example, a lesser degree of compaction may be suitable for paved areas than for building platforms supporting foundations and ground bearing slabs.

Earthworks testing will be required prior to completion of a suitably detailed earthworks specification for the works.

5.9 Chemical Attack on Buried Concrete

In accordance with the recommendations of BRE Special Digest 1, 'Concrete in Aggressive Ground' 2005, the conditions of the soils at the Site have been provisionally classified as Design Sulphate Class DS-3 and ACEC Class AC-3 for soils and groundwater, when considering the most appropriate type of concrete to be used at the Site in order to resist chemical attack from elevated sulphate present in the soils.

6.0 Generic Quantitative Risk Assessment

6.1 Introduction

The presence of hazardous substances in or on a site is generally only of concern if an actual or potential unacceptable risk exists. Legislation and guidance on the assessment of contaminated sites, consistent with UK best practice, acknowledges the need for a tiered risk-based approach. A Preliminary Risk Assessment is presented in Section 2.2. This section represents a Generic Quantitative Risk Assessment (GQRA) being a comparison of site contaminant levels against Generic Assessment Criteria.

6.2 Human Health GQRA

The assessment of risks in relation to human health has been undertaken using Generic Assessment Criteria (GAC) as detailed within the appropriate tables. Risks from soil, groundwater and Non-Aqueous Phase Liquids (NAPL) have been considered. The GAC are predominantly based on long term (chronic) risk to health. However, in the limited circumstances where short-term (acute) risks are more pronounced, these GAC have been utilised to ensure a thorough and conservative initial assessment is undertaken.

This Site has been assessed on a commercial basis.

6.2.1 Risks from Soil Sources

Based on the proposed development and the potential for it to be amended the Site has been compared against commercial/industrial end use GAC for 1% soil organic matter (SOM) content.

The laboratory results for contaminants exceeding detection limit compared to their respective GAC are presented in the table below.

The primary exposure pathways considered in the risk assessment are as follows:

- ▲ Ingestion of soil and indoor dust and/or oral background exposure;
- ▲ Inhalation of dust (background and indoor);
- ▲ Direct dermal contact; and

Contaminant	No. Samples	Max Conc. (mg/kg)	GAC (mg/kg) Commercial	GAC Source	No. Exceed GAC Commercial	Volatile	Location of Exceedances (depth) = Concentration (mg/kg)	Area of Site of Exceedance
Asbestos	32	Detected	Detected	DS	4	N	DS101 (0.80m) – Chrysotile fibres, Debris SS101 (0.00) Chrysotile Hard/Cement SS102 (0.00) Chrysotile Hard/Cement CP102 (1.2) Chrysotile Loose fibres.	West
Metals and metalloids								
Arsenic	30	100	640	LQM	0	N		
Cadmium	30	20	190	LQM	0	N		
Chromium III	30	96	8600	LQM	0	N		
Chromium VI	30	1.2	33	LQM	0	N		
Copper	30	950	68000	LQM	0	N		
Lead	30	10000	2300	C4SL	1	N	DS102 (1.5-1.6) =10000	South west
Mercury	30	13	1100	LQM	0	Y		
Nickel	30	210	980	LQM	0	N		
Zinc	30	16000	730000	LQM	0	N		
Polyaromatic Hydrocarbons								
Naphthalene	15	4.8	190	LQM	0	Y		
Acenaphthylene	15	7.8	83000	LQM	0	Y		
Acenaphthene	15	5.2	84000	LQM	0	Y		
Fluorene	15	11	63000	LQM	0	Y		
Phenanthrene	15	98	22000	LQM	0	N		
Anthracene	15	24	520000	LQM	0	N		
Fluoranthene	15	130	23000	LQM	0	N		
Pyrene	15	110	54000	LQM	0	N		
Benzo[a]anthracene	30	76	170	LQM	0	N		
Chrysene	30	57	350	LQM	0	N		

Contaminant	No. Samples	Max Conc. (mg/kg)	GAC (mg/kg) Commercial	GAC Source	No. Exceed GAC Commercial	Volatile	Location of Exceedances (depth) = Concentration (mg/kg)	Area of Site of Exceedance
Benzo[b]fluoranthene	30	83	44	LQM	2	N	CP105 (1.4) = 83 CP105 (2.2) = 63	North
Benzo[k]fluoranthene	30	35	1200	LQM	0	N		
Benzo[a]pyrene	30	80	35	LQM	2	N	CP105 (1.4) = 80 CP105 (2.2) = 67	North
Indeno(1,2,3-c,d)pyrene	30	42	500	LQM	0	N		
Dibenz(a,h)anthracene	30	10	3.5	LQM	2	N	CP105 (1.4) = 10 CP105 (2.2) = 10	North
Benzo[g,h,i]perylene		50	3900	LQM	0	N		
Petroleum Hydrocarbons								
Benzene	30	<0.001	27	C4SL	0	Y		
Toluene	30	<0.001	56000	LQM	0	Y		
Ethylbenzene	30	<0.001	5700	LQM	0	Y		
o-Xylene	30	<0.001	6600	LQM	0	Y		
m/p-Xylene	30	<0.001	5900	LQM	0	Y		
Aliphatic TPH >C5-C6	30	0.001	3200	LQM	0	Y		
Aliphatic TPH >C6-C8	30	0.001	7800	LQM	0	Y		
Aliphatic TPH >C8-C10	30	0.3	2000	LQM	0	Y		
Aliphatic TPH >C10-C12	30	7.4	9700	LQM	0	Y		
Aliphatic TPH >C12-C16	30	300	59000	LQM	0	N		
Aliphatic TPH >C16-C21	30	630	1600000	LQM	0	N		
Aliphatic TPH >C21-C35	30	370	1600000	LQM	0	N		
Aliphatic TPH >C35-C44	30	140	1600000	LQM	0	N		
Aromatic TPH >C5-C7	30	<0.001	26000	LQM	0	Y		
Aromatic TPH >C7-C8	30	<0.001	56000	LQM	0	Y		

Contaminant	No. Samples	Max Conc. (mg/kg)	GAC (mg/kg) Commercial	GAC Source	No. Exceed GAC Commercial	Volatile	Location of Exceedances (depth) = Concentration (mg/kg)	Area of Site of Exceedance
Aromatic TPH >C8-C10	30	<0.001	3500	LQM	0	Y		
Aromatic TPH >C10-C12	30	16	16000	LQM	0	Y		
Aromatic TPH >C12-C16	30	220	36000	LQM	0	Y		
Aromatic TPH >C16-C21	30	650	28000	LQM	0	N		
Aromatic TPH >C21-C35	30	1200	28000	LQM	0	N		
Aromatic TPH >C35-C44	30	140	28000	LQM	0	N		
Total Petroleum Hydrocarbons	30	3205.4	5000	DS	0	Y		
Other Organic Contamination (including VOC and SVOC results)								
2-Methylnaphthalene	15	3.3	No GAC	-	0	N	No GACs available, identified compounds associated with PAHs.	
Dibenzofuran	15	2.6	No GAC	-	0	N		
Cabazole	15	2.1	No GAC	-	0	N		
Notes: Orange = Maximum concentration exceeds Commercial GAC C4SL = Category 4 Screening Levels (C4SLs) published by DEFRA. DS = In-house GAC derived by Delta-Simons Environmental Consultants Ltd, 2018. LQM = Land Quality Management/CIEH S4UIs for Human Health Risk Assessment, 2014. No GAC = No Generic Assessment Criteria value available for compound.								

6.2.2 Soil Analysis Summary

Elevated lead, benzo(b)Fluoranthene, benzo(a)pyrene and dibenz(a,h)anthracene concentrations have been recorded in the Made Ground above guidance values in the south west and north of the Site with respect to commercial end use.

Asbestos was identified in four samples taken from the west of the Site. Two samples (SS101 and SS102) of fragments from the Site surface were positively identified as Chrysotile hard cement.

The soil analysis results are considered further in the Conceptual Site Model (CSM) presented in Section 8.0 with regard to potential contaminant linkages.

6.2.3 Risks from Groundwater Sources

Based on the proposed use of the Site for light industrial, the soil and groundwater chemical data has been compared against a commercial/industrial end use GAC to assess risks from groundwater sources to indoor air and subsequent vapour inhalation indoors.

Several potentially volatile contaminants were detected within the groundwater samples in excess of detection limits and a comparison of the concentrations above detection limits to relevant human health criteria is provided in the table below.

Contaminant	No. Samples	GAC (µg/l) Commercial	GAC (µg/l)	GAC Source	No. Exceed GAC	Location of Exceedances
Aromatic >C10 - C12	8	6800	660,000	SoBRA	0	
Aromatic >C12 - C16	8	39000	3,700,000	SoBRA	0	
Acenaphthylene	8	220,000	15,000,000	SoBRA	0	
Acenaphthene	8	170,000	20,000,000	SoBRA	0	
Fluorene	8	210,000	18,000,000	SoBRA	0	
1,1-Dichloroethene	8	2,700	16,000	SoBRA	0	
1,1,1-Trichloroethane	8	3,000	290,000	SoBRA	0	
Trichloroethene	8	5.7	530	SoBRA	0	
Tetrachloroethene	8	34	4,600	SoBRA	0	
Notes: Shaded = Maximum concentration exceeds relevant GAC SoBRA = Society of Brownfield Risk Assessment "Development of Generic Assessment Criteria for Assessing Vapour Risks to Human Health from Volatile Contaminants in Groundwater", dated February 2017 (Version 1.0).						

Concentrations have been identified above laboratory detection values, however, none of the site-specific contaminants of concern were recorded at concentrations in excess of their respective GAC.

The water analysis results are considered further in the Conceptual Site Model (CSM) presented in Section 8.0 with regard to potential contaminant linkages.

6.2.4 Risks from Non-Aqueous Phase Liquids (NAPL)

Soil and groundwater exposure models used in generating Generic Assessment Criteria do not account for the potential for NAPL to represent a source of risk to human health, principally due to the production of vapours. Whilst it is possible to calculate theoretical soil saturation limits, in reality, due to co-solubility effects, these are not an appropriate indicator of the presence of NAPL. In order to assess the presence of NAPL, for petroleum hydrocarbons, an assessment criterion of 5,000 mg/kg has been applied based on professional experience.

The following has been identified in relation to NAPL at the Site:

- ▲ No observations of NAPL were made within the soils observed during drilling;

▲ No concentrations of Total Petroleum Hydrocarbons in excess of 5,000 mg/kg were recorded;

On this basis, there is no evidence of NAPL being present on the Site.

6.3 Controlled Waters/Water Environment GQRA

6.3.1 Groundwater Results

The approach adopted to assessing risks to Controlled Waters/Water Environment is based principally on considering the concentrations of contaminants identified within the groundwater samples obtained in comparison to relevant GAC.

Given the 'prevent and limit' approach of the Water Framework Directive (2000/60/EC) and the identified receptors, a range of Water Quality Standards (WQS) have been applied as Generic Assessment Criteria (GAC), these include Water Framework Directive standards and thresholds (WFD), the Freshwater Environmental Quality Standards (EQS), the UK Drinking Water Quality Standards (DWQS), WHO Guidelines for Drinking Water Quality or SEPA resource protection values which have been used as initial conservative GAC to assess whether groundwater contamination requires further assessment or discussion in terms of the risks to controlled waters. Where specific water quality standards are not available, Delta-Simons has adopted surrogate values based on professional judgement (DS GAC).

Groundwater contaminant concentrations that exceed the applied GAC are then considered in the context of the Site's environmental setting as to whether further qualitative or quantitative assessment is required as described in subsequent sections. Laboratory results above relevant detection limits are summarised in the table below with a comparison to the GAC applied.

Contaminant	No. Samples	Max Conc. (µg/l)	GAC (µg/l)	GAC Source	No. Exceed GAC	Location of Exceedances (depth)	Area of Site of Exceedance
Metals and Metalloids							
Arsenic	8	7.08	10	DWQS	0		
Cadmium	8	1.6	5	DWQS	0		
Chromium III	8	5.5	50	DWQS	0		
Copper	8	140	2000	DWQS	0		
Lead	8	190	10	DWQS	1	DS109 (190 µg/l)	East of the Site
Nickel	8	56	20	DWQS	2	DS109 (56 µg/l) CP101 (D) (36 µg/l)	East and south east of the Site
Zinc	8	1800	50	DWQS	2	DS109 (1800 µg/l) CP102 (D) (55 µg/l)	East and west of the Site
Sulphate as SO ₄	8	563000	250000	DWQS	2	CP103 (D) (331000 µg/l) CP102 (S) (563000 µg/l)	East
Inorganics							
Ammoniacal Nitrogen (NH ₄)	8	290,000	500	DWQS	5	CP102 (S) (290,000 µg/l) CP103 (D) (80,000 µg/l) CP102 (D) (14,000 µg/l) CP105 (D) (13,000 µg/l)	Site wide
Polyaromatic Hydrocarbons							
Acenaphthylene	8	1	GAC	-	0		
Acenaphthene	8	0.12	GAC	-	0		
Anthracene	8	0.51	0.1	EQS	2	DS108 (0.45 µg/l) DS109 (0.51 µg/l)	East of the Site
Fluoranthene	8	5.2	0.1	EQS	2	DS108 (4.4 µg/l) DS109 (5.2 µg/l)	East of the Site
Fluorene	8	0.14	GAC	-	0		
Benzo(a)pyrene	8	5	0.01	DWQS	2	DS108 (3.2 µg/l) DS109 (5.0 µg/l)	East of the Site

Contaminant	No. Samples	Max Conc. (µg/l)	GAC (µg/l)	GAC Source	No. Exceed GAC	Location of Exceedances (depth)	Area of Site of Exceedance
Benzo(b)fluoranthene	8	5.6	0.01	DWQS	2	DS108 (3.8 µg/l) DS109 (5.6 µg/l)	East of the Site
Benzo(k)fluoranthene	8	2.1	0.1	DWQS	2	DS108 (1.4 µg/l) DS109 (2.1 µg/l)	East of the Site
Indeno(1,2,3-cd)Pyrene	8	3.3	0.1	DWQS	2	DS108 (2.1 µg/l) DS109 (3.3 µg/l)	East of the Site
Benzo(ghi)perylene	8	4	0.1	DWQS	2	DS108 (2.3 µg/l) DS109 (4.0 µg/l)	East of the Site
Petroleum Hydrocarbons							
Aliphatic TPH >C12-C16	8	22	300	WHO	0		
Aliphatic TPH >C16-C21	8	83	300	WHO	0		
Aliphatic TPH >C21-C35	8	740	300	WHO	1	DS109 (740 µg/l)	East of the Site
Aromatic TPH >C10-C12	8	45	90	WHO	0		
Aromatic TPH >C12-C16	8	77	90	WHO	0		
Aromatic TPH >C16-C21	8	230	90	WHO	3	DS109 (230 µg/l) DS108a (160 µg/l) CP105 (D) (91 µg/l)	North and east of the Site
Aromatic TPH >C21-C35	8	2200	90	WHO	3	DS109 (2,200 µg/l) DS108a (490 µg/l) CP105 (D) (240 µg/l)	North and east of the Site
Total Petroleum Hydrocarbons	8	3,310	300	WHO	3	DS109 (3,310 µg/l) DS108a (990 µg/l) CP105 (D) (580 µg/l)	North and east of the Site
Other Organic Contamination (including VOC and SVOC results)							
1,1-Dichloroethene	8	18.6	GAC	-	-	Low concentrations identified in CP101(D) only	East of the Site
1,1,1-Trichloroethane	8	9.1	200	SEPA	0		
Trichloroethene	8	6.4	10	DWQS	0		
Tetrachloroethene	8	5.3	10	DWQS	0		

Contaminant	No. Samples	Max Conc. (µg/l)	GAC (µg/l)	GAC Source	No. Exceed GAC	Location of Exceedances (depth)	Area of Site of Exceedance
Notes: Shaded = Maximum concentration exceeds GAC. GAC = No GAC available for individual compounds DWQS 2016 = The Water Supply (Water Quality) Regulations 2016 [UK Drinking Water Standards] WHO 2003 = WHO background documents to Guidelines for Drinking Water Quality, 2003. WHO 2003* = The WHO guidance states that the use of the lowest guidance value for aliphatic hydrocarbons (300 µg/l) for comparison to the total TPH concentration in groundwater will provide a conservative level of protection. WHO 2017 = WHO Guidelines for Drinking Water Quality (4 th Edition), 2017. SEPA 2014 - SEPA Assigning Groundwater Assessment Criteria for Pollutant Inputs (Aug 2014, v3) Resource Protection Value (Non-hazardous substances and Significant pollution)							

6.3.2 Groundwater Analysis Summary

Elevated concentrations of lead, nickel, zinc, ammoniacal nitrogen (NH₄), aliphatic TPH >C21-C35 aromatic TPH >C16-C21, aromatic TPH >C21-C35 and total petroleum hydrocarbons have been identified above GAC values in both shallow and deep groundwater, considered to be associated with the historical on-Site and off-Site landfill sites.

The highest ammoniacal nitrogen (NH₄) was recorded in shallow well CP102(S) at 290,000 µg/l with deep well recording between 13,000 and 80,000 µg/l. In addition, concentrations between 2,500 and 290,000 of Ammoniacal Nitrogen (NH₄) have been identified across the Site in CP102(S)(D), CP102(D) CP105(D) and CP104(D).

Lead, aliphatic TPH >C21-C35 have been identified in DS109 only and concentrations of aromatic TPH >C16-C21, aromatic TPH >C21-C35 and total petroleum hydrocarbons within DS109, DS108a and CP105(D) in the north and east of the Site.

VOCs were identified above laboratory detection limits in CP101(D) only, however, the concentrations are below the conservative GAC.

The groundwater analysis results are considered further in the CSM presented in Section 8.0 with regard to potential contaminant linkages.

6.3.3 Light Non Aqueous Phase Liquid (LNAPL)

Significant concentrations of long chain aliphatic and aromatic hydrocarbons have not been detected in groundwater. In addition, no LNAPL was detected during the monitoring of newly installed boreholes.

6.4 Built Environment

6.4.1 Potable Water Supply Pipes

The investigation requirements for the selection of potable water pipe material are set out in UKWIR Report 10/WM/03/21. Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites (UKWIR, 2010). This report has very specific and onerous investigation requirements and as such the detailed investigation of each utility route was not within the scope of this investigation.

However, given the historical use of the Site, including landfill, and the presence of organic contaminants of PAHs and TPH at the Site, it is considered that barrier pipe materials will be required. In addition, consideration should be made for the use of clean service corridors to reduce risk to future maintenance workers.

It should be noted that at the time of this investigation the future routes of water supply pipes had not been established, hence the investigation and sampling strategy is not likely to be considered fully compliant with UKWIR recommendations. Consequently, a targeted investigation and specific sampling/analytical strategy may be required at a later date once the route(s) of the supply pipe(s) 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.

6.4.2 Building Materials

Risks to building materials associated with aggressive ground conditions is addressed in Section 5.9.

6.5 Waste Classification

This investigation was not undertaken to classify materials in terms of waste disposal. Where waste disposal is proposed then a specific and detailed investigation in accordance with Environment Agency Guidance WM3 would typically be required.

Should soils be required to be disposed of from Site, the results of the chemical analysis should be forwarded to the proposed receiving facility who will determine whether they will accept the waste from Site. Further investigation in addition to specific waste acceptance criteria (WAC) analysis may be required.

Considering the nature of the materials encountered, more cost efficient and sustainable methods of removing the material should be considered prior to disposal at landfill (e.g. registering with the CL:AIRE Register of Materials) in an attempt to find a site with a requirement for import of materials.

7.0 Bulk Ground Gas Risk Assessment

7.1 Ground Gas Conceptual Site Model

7.1.1 Sources

Historically the Site has been subjected to excavation relating to brick works with the excavated part of the Site later being infilled with records of the landfill 'Rose Kiln Lane South' (EA reference: EAHLD13306). The landfill is indicated to have been in the north-western part of the Site (however, Local Authority Recorded Landfill information illustrates this in the east) and is indicated to have been licensed to accept commercial, household and liquid sludge wastes prior to 1994. This has led to significant thicknesses of Made Ground across the Site, proven to a maximum thickness of 11.5 m in the west shallowing to between 1 to 3.8 m in the east.

The Made Ground was found to be varied across the Site comprising of black and grey fine to coarse sand and gravel of brick, concrete, ceramic, coal, clinker and glass with wood, plastic and metal also identified across the Site. The Made Ground is therefore considered to represent a potential source of ground gas, although the volume of putrescible material appears to be low.

TOC (total organic carbon) testing was undertaken within Made Ground at the Site and identified an organic content of between 0.4 to 7.2 %

Surrounding historical land uses, which include many former industrial facilities including sludge beds, associated with a sewage works, located adjacent to the south-west of the Site, from circa 1932 until circa 2006 may represent localised off-Site sources of ground gases.

Two historical landfills are located within close proximity to the Site. One known as Gillette Warehouse, located adjacent to the south of the Site, was licensed to accept commercial, household and liquid sludge wastes between 1930 and 1939. The other known as Island Road, located approximately 90 m to the west of the Site, was licensed to accept inert waste between 1977 and 1985;

7.1.2 Receptors

The principal receptors under consideration are future Site users for a commercial development. Other receptors include adjacent Site occupiers and future maintenance/construction workers.

7.1.3 Pathways

The underlying geology is likely to be of variable permeability in both Made Ground and natural deposits with respect to ground gases. The Made Ground is typically granular and likely to allow preferential migration locally.

In addition, the underlying Lambeth Group comprises both cohesive and granular units across the Site which may also allow for migration of ground gas both laterally and vertically across the Site as the cohesive layers vary in thickness, depth and are not considered to extend continually across the Site.

The most significant pathways with respect to future Site users relate to the potential for gases to enter future on-Site buildings. Gas protection measures are likely to be required for any future development at the Site.

Future maintenance/construction workers may come into contact with hazardous ground gases via entry into below ground confined spaces such as excavations or service entries/inspection points.

7.2 Duration & Extent of Monitoring

Tables 5.5a and 5.5b within CIRIA C665 detail current recommended monitoring duration and frequency for sites in the UK. Based on the identification of potential sources in the preceding section, the gas generation potential is considered to be moderate, whilst the sensitivity of the proposed development is low for a commercial end use. On this basis, CIRIA C665 recommends 6 visits over a minimum period of 3 months for a commercial end uses.

Gas monitoring has been carried out on six occasions over a period of 6 weeks as part of this investigation and depending on the Local Authority requirements further monitoring may be required.

During the six monitoring periods, gas concentrations have been recorded in a total of 19 newly installed monitoring positions and 3 pre-existing borehole locations. The locations of the monitoring wells are highlighted on Figure 2 and indicate representative coverage across the whole study area. Monitoring wells have been positioned in both Made Ground and natural deposits beneath and adjacent to proposed buildings.

Barometric pressures during the gas monitoring period ranged from 991 mBar to 1016 mBar. Three of the six visits undertaken were completed during periods of falling pressure and hence are considered to have captured worst case conditions at the Site.

7.3 Ground Gas Risk Assessment

7.3.1 Background

Based on the proposed commercial end use, the following documents have been consulted when assessing the gas regime at the Site:

- ▲ British Standards Institute (BSI, 2015): Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings, BS:8485.

The presence of a source of hazardous gas within the ground does not necessarily indicate a risk will be present. Consideration of recorded gas flows together with source concentrations can allow an initial assessment to be made of the potential both for generation and subsequent migration of gas. A Characteristic Situation (CS) is derived from an assessment of the ground gas data and forms the basis of determining mitigation measures.

7.3.2 Gas Screening Value (GSV)

The Gas Screening Value (gas concentration as a fraction x maximum recorded flow) is used to provide an initial assessment of risks to future Site users. The GSVs calculated for the monitoring wells are presented in the following table.

Location	Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)	Maximum Flow Rate (l/hr)	GSV/Characteristic Situation			
				Methane		Carbon Dioxide	
				GSV	CS	GSV	CS
CP101-S	0.2	6.8	0.1	0.0002	CS1	0.0068	CS1
CP101-D	0.1	6.8	3.2	0.0032	CS1	0.2176	CS2
CP102-S	<0.1	14.5	<0.1	0.0001	CS1	0.0145	CS1+
CP102-D	0.1	3.6	<0.1	0.0001	CS1	0.0036	CS1
CP103-S	0.3	14.5	<0.1	0.0003	CS1	0.0145	CS1+
CP103-D	0.6	17.4	<0.1	0.0006	CS1	0.0174	CS1+
CP104-S	0.1	2.5	0.1	0.0001	CS1	0.0025	CS1
CP104-D	0.1	18.5	0.6	0.0006	CS1	0.111	CS2
CP105-S	6.2	17.9	0.1	0.0062	CS1+	0.0179	CS1+
CP105-D	3.7	11.2	<0.1	0.0037	CS1+	0.0112	CS1+
DS101	<0.1	4.9	<0.1	0.0001	CS1	0.0049	CS1
DS102	0.2	3.8	0.1	0.0002	CS1	0.0038	CS1
DS103	2	18.1	<0.1	0.002	CS1+	0.0181	CS1+
DS104	0.1	18.8	<0.1	0.0001	CS1	0.0188	CS1+
DS105	5.2	20.2	<0.1	0.0052	CS1+	0.0202	CS1+
DS106	0.1	7.6	<0.1	0.0001	CS1	0.0076	CS1+
DS107	0.1	7.2	1.2	0.0012	CS1	0.0864	CS2

Location	Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)	Maximum Flow Rate (l/hr)	GSV/Characteristic Situation			
				Methane		Carbon Dioxide	
				GSV	CS	GSV	CS
DS108A	0.1	0.2	0.1	0.0001	CS1	0.0002	CS1
DA109	0.1	0.7	0.4	0.0004	CS1	0.0028	CS1
Historic Borehole Locations							
DS1A	1.4	13.6	0.5	0.007	CS1	0.068	CS1
BH2	0.1	9.6	0.2	0.0002	CS1	0.0192	CS1
BH3	0.5	19	2.1	0.0105	CS1	0.399	CS2

The data indicates that the Site can be classified as CS2 (ground gas mitigation required) in accordance with BS 8485:2015 Table 2.

7.4 Ground Gas Risk Mitigation

BS:8485 provides a scoring system to determine the appropriate protection measures for a proposed development in accordance with the identified ground gas regime. Table 3 of BS:8485 summarises typical UK building types, which for this development will comprise Type D for commercial (consideration for Type B/C for small rooms). Table 4 details the points required for the Characteristic Situation, which for CS2, Type A-B small rooms is 3.5 and for larger commercial Type C and D buildings is 2.5 and 1.5 respectively. This can be achieved by a combination of the following:

- ▲ Structural barriers (Table 5)
- ▲ Ventilation (Table 6)
- ▲ Gas Membrane (Table 7)

The above should be considered in conjunction with the proposed foundation/floor slab design to achieve the score required within BS:8485.

Entry to excavations/confined spaces should be restricted to personnel with relevant Confined Spaces training and with prior confirmation of atmospheric conditions.

7.5 Radon

The Site is not located within an area where radon protective measures are required.

7.6 Organic Vapours

As described in Section 6 significant contamination has not been identified at the Site. In addition, PID readings were undertaken on Made Ground samples during the site investigation and within newly installed boreholes across the Site and recorded low values of <0.1 and 5.5 ppm.

8.0 Revised Conceptual Site Model

A revised CSM is presented in the table below, and has been formulated taking into account all of the available data from the Delta-Simons intrusive investigation, suitable for a Site with a proposed commercial end use.

Revised Conceptual Site Model				
Source(s)	Pathway(s)	Receptor(s)	Risk Rating	Justification & Mitigation (if required)
Significant thicknesses of Made Ground (former landfill) – asbestos, arsenic, lead, nickel, cadmium benzo(a)pyrene, chrysene benzo(b)fluoranthene and dibenzo(a,h)anthracene. ACM's identified in the west of the Site Metals, and ammoniacal nitrogen within the groundwater along with localised elevated TPH concentrations	Direct contact/ ingestion and inhalation of dust and vapours.	Future Site users Maintenance workers during any future sub-surface works at the Site	Low to Moderate Risk	Elevated lead, ACM's, benzo(b)fluoranthene, benzo(a)pyrene and dibenz(a,h)anthracene concentrations have been recorded in the Made Ground above guidance values in the west and north of the Site with respect to a commercial end use. The proposed commercial development indicates the Site will be predominantly covered by hardstanding which will break potential pathways of contamination, however, a suitable thickness of clean capping/ growing media will need to be placed in areas of soft landscaping to prevent direct exposure to the underlying Made Ground. Further intrusive investigation is recommended below existing building footprints post demolition to confirm the potential risks, including an assessment of potential vapour risks. Significant risks associated with volatile contaminants have not been identified. Groundworkers and sub-surface maintenance workers should be made aware of the possibility of encountering contaminated soils and asbestos through toolbox talks. Safe working procedures should be implemented, good standards of personal hygiene should be observed and appropriate levels of personal protective equipment (PPE) provided and utilised. Unidentified contamination within Made Ground deposits within areas not yet investigated cannot be ruled out. As such, a hotspot protocol should be in place. This recommendation should be captured in Site health and safety documentation and in maintenance plans. A "hotspot protocol" should also be in place for the duration of the developments works to help address any suspected contamination identified during groundworks.
	Leaching of contaminants and vertical migration.	Groundwater beneath the Site	Low Risk	Exceedances of metals, TPH and ammoniacal nitrogen have been identified within groundwater across the Site. However, no evidence of NAPL was observed

Revised Conceptual Site Model				
Source(s)	Pathway(s)	Receptor(s)	Risk Rating	Justification & Mitigation (if required)
				in soils or groundwater during the Site works or subsequent monitoring. As such, the risks to groundwater is considered low. The proposed commercial development is indicated to be predominately covered by hardstanding which will reduce infiltration of water and mitigate possible migration of contaminant within the Made Ground. The underlying Lambeth Group is classified as a Secondary A Aquifer comprising of both granular and cohesive units and will provide only limited mitigation to the vertical migration of contaminants. The deeper chalk deposits encountered in CP102 at 20m bgl, are a Principal Aquifer with an extraction well shown to be located on Site. The groundwater quality is considered to reflect the local area as a result of infilled material both on and off Site. On this basis no specific measure are considered necessary.
	Lateral migration through any groundwater beneath the Site.	Off-Site receptors (neighbouring properties/users and nearby surface water)	Low Risk	The nature of the identified elevated groundwater concentrations are considered to be representative of the wider groundwater quality of the local area as a result of infilled material both on and off Site. From ground water data, groundwater is indicated to flow in a southerly direction contrary to an expectation of a westerly flow towards the River Kennet. This may in part be due to the effects of water extraction within the underlying chalk deposits however the exact location of the extraction well for industrial use is not fully known. On this basis no remedial works are considered necessary.
	Permeation of hydrocarbons through plastic pipe work.	Water supply pipes.	Low to Moderate Risk	Hydrocarbons, especially aromatics and chlorinated solvents are known to permeate plastic pipes, particularly when encountered at high concentrations. Elevated concentrations of hydrocarbon contamination have been identified at the Site and given the historical uses of the Site it is considered that upgraded water supply pipes within may be required. The local water authority should be contacted at an early stage in order that any abnormal costs can be calculated, if required.
Hazardous ground gas.	Vertical and lateral migration of ground	Future Site users & the buildings on-Site	Low to Moderate Risk	The Site has been infilled for approximately 90 years and the Site has been occupied for the past 20 years.

Revised Conceptual Site Model				
Source(s)	Pathway(s)	Receptor(s)	Risk Rating	Justification & Mitigation (if required)
	gases (excluding radon).			From ground gas monitoring, the Site has been classified as a CS2 for a commercial end use and ground has protection will need to be included within all developments at the Site.
Contaminated soil and groundwater from off-Site sources.	Lateral migration and subsequent inhalation.	Groundwater beneath the Site and future Site users.	Low Risk	Natural groundwater within the Lambeth group has been identified at depth bellow 10 m and its therefore likely to pose a low risk to future Site users.

9.0 Conclusions & Recommendations

9.1 Geotechnical Summary

Made Ground has been encountered across the site and is considered to be too unpredictable, variable, weak and compressible in its existing condition for conventional shallow foundations. Shallower Made Ground has been identified in the east of the Site.

Consequently, shallow pad foundations are not considered to be suitable for the proposed Unit 1 in the west of the Site and to allow for shallow foundations for unit 2 it is anticipated that ground improvement would be required,

A piled foundation solution using traditional bored or continuous flight auger (CFA) piles transferring loads to competent geology may be suitable for the expected design loads, utilising both skin friction and end bearing capacity.

It is recommended that during demolition of the building, all relic foundations, piles caps and other obstructions are removed and the locations of existing piles (if present) recorded to avoid in-ground obstructions during piling.

All shallow foundation or services excavations at the Site should be considered unstable, therefore, temporary support of all excavations should be considered when excavating on-Site.

Ground bearing floor slabs may be suitable for the east of the Site if adequate and warranted ground improvement is undertaken on any unsuitable soils alternatively suspended floors would be required.

It is recommended that a conservative CBR value of <2% should be adopted for the shallow soils, for preliminary pavement design for external areas.

9.2 Contamination Issues

The investigation has been carried out in order to provide information on the quality of the soil and groundwater beneath the Site in the context of land contamination and provide information on the ground gas regime beneath the Site for a commercial end use. The assessment is being completed prior to the proposed redevelopment of the Site.

9.2.1 Human Health

Elevated lead, ACM's and PAH concentrations have been recorded in the Made Ground deposits above guidance values in the west and north of the Site with respect to a commercial end use. A commercial end use will mitigate risk associated with the identified non-volatile contaminants as the Site will predominately be covered by hardstanding breaking the potential pathways.

No significant risks associated with volatile contaminants has been identified associated with soil or groundwater contaminants.

Asbestos containing materials (ACM) were identified both as fragments at surface and fibres within soils in the western area of the Site. An asbestos picking exercise may need to be undertaken to remove visible ACM fragments from soils should additional fragments be identified during development works;

Groundworkers and sub-surface maintenance workers should be made aware of the possibility of encountering contaminated soils through toolbox talks and in particular the potential presence of asbestos and an appropriate protocol to mitigate exposure of the workforce and general public should be in place. The Contractor will need to prepare a risk assessment which identifies a safe system of work to handle the asbestos containing soils which is likely to include asbestos awareness training, a protocol for unexpected finds (should gross asbestos material be identified) as well as safe working procedures such as damping down of excavations and stockpiles in line with general dust generation mitigation. The risk assessment will need to identify the appropriate levels of PPE and/or RPE required. This recommendation should be captured in Site health and safety documentation and in maintenance plans.

9.2.2 Controlled Waters

Metals, localised elevated TPH, PAH's, sulphates and ammoniacal nitrogen has been identified within the groundwater at Site and are linked to historic infilling of the Site and the wider surrounding area. The groundwater concentrations are considered to be reflective of the wider groundwater quality of the area and as the Site is currently proposed to be covered predominately by hardstanding which will mitigate leachate generation and migration of contaminants within Made Ground at the Site. Therefore, it is considered that no further action is required.

9.2.3 Ground Gas

Ground gas monitoring indicates the Site can be classified as CS2.

9.3 Recommendations for Supplementary Work

Based on the findings of this report, the following recommendations for supplementary works are made;

- ▲ Limited supplementary post demolition site investigation in the areas beneath the existing building footprints to assess potential contamination risks and to further inform foundation design;
- ▲ As part of any redevelopment, an assessment of the western slope should be undertaken to ensure no negative impacts are caused as a result of proposed works;
- ▲ Specialist piling contractors should consider sleeving piles to minimise the potential for negative skin friction;
- ▲ ACMs have been locally identified at the surface and should be removed by a specialist asbestos contractor;
- ▲ Implementation of asbestos picking may be required where visible ACM fragments are identified during works;
- ▲ It is recommended that plate CBR tests are undertaken at formation level after demolition prior to finalising piling mat and pavement design; and
- ▲ Upon completion of the supplementary investigation works, preparation of a Remediation Strategy, to mitigate any unacceptable risks to human health/controlled waters receptors.

Waste classification has not been undertaken as part of the scope of works, should it be proposed to dispose of materials from the Site then specific additional investigations may be needed to classify the materials in accordance with current regulatory requirements.

Figure 1 – Site Location Plan



Bing maps

Figure 2 – Exploratory Hole Location Plan



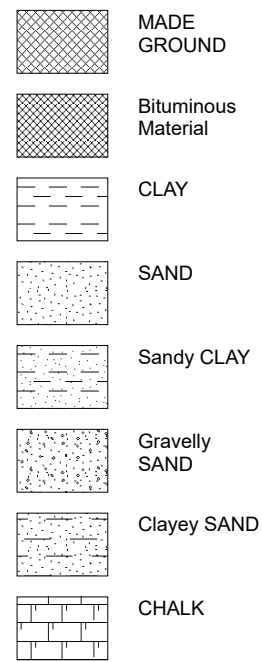
LEGEND

- Site Boundary
- DSx Dynamic Sampler
- CPx Cable Percussion
- HPx Hand Dug Pit
- SSx Surface Sample
- DSx Historic Dynamic Sampler
- BHx Historic Borehole
- A - A' Geological Cross Sections

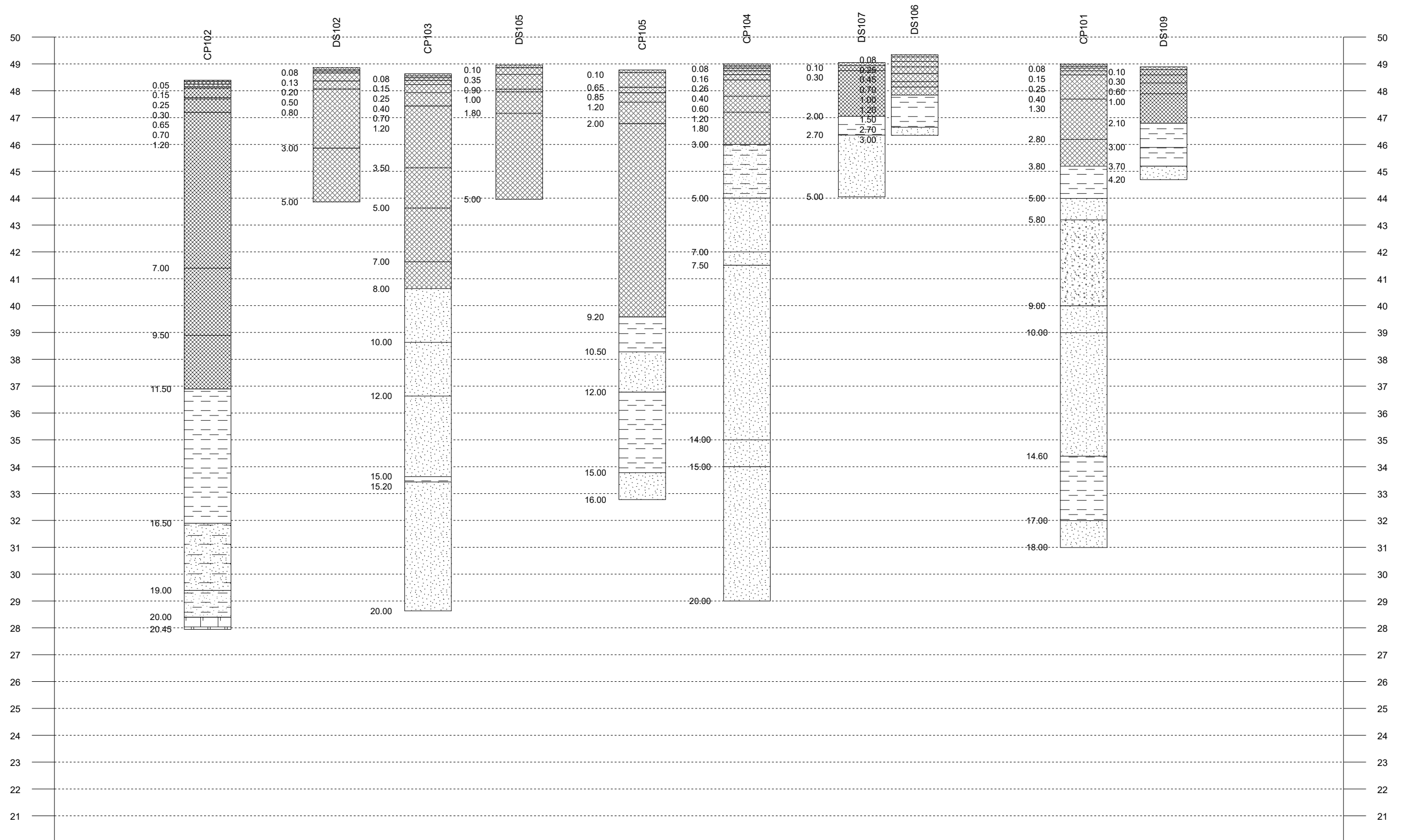
Figure 3 – Corrected SPT Results

Figure 4 – Geological Cross Sections

Legend Key



20.00



Chainage (m)	0.00	14.84	19.47	46.84	69.55	92.19	96.48	122.73	146.04	148.72	177.22	190.37	225.11	232.33	252.16	283.42
Offset (m)		7.68	18.17	46.53	63.97	14.38	11.94	45.44	7.25	63.91	3.01	53.73	11.58	46.51	6.13	
Elevation (mAOD)		48.39	48.44	48.86	48.63	48.96	48.94	48.78	49.10	49.00	49.05	49.34	49.09	48.99	48.89	

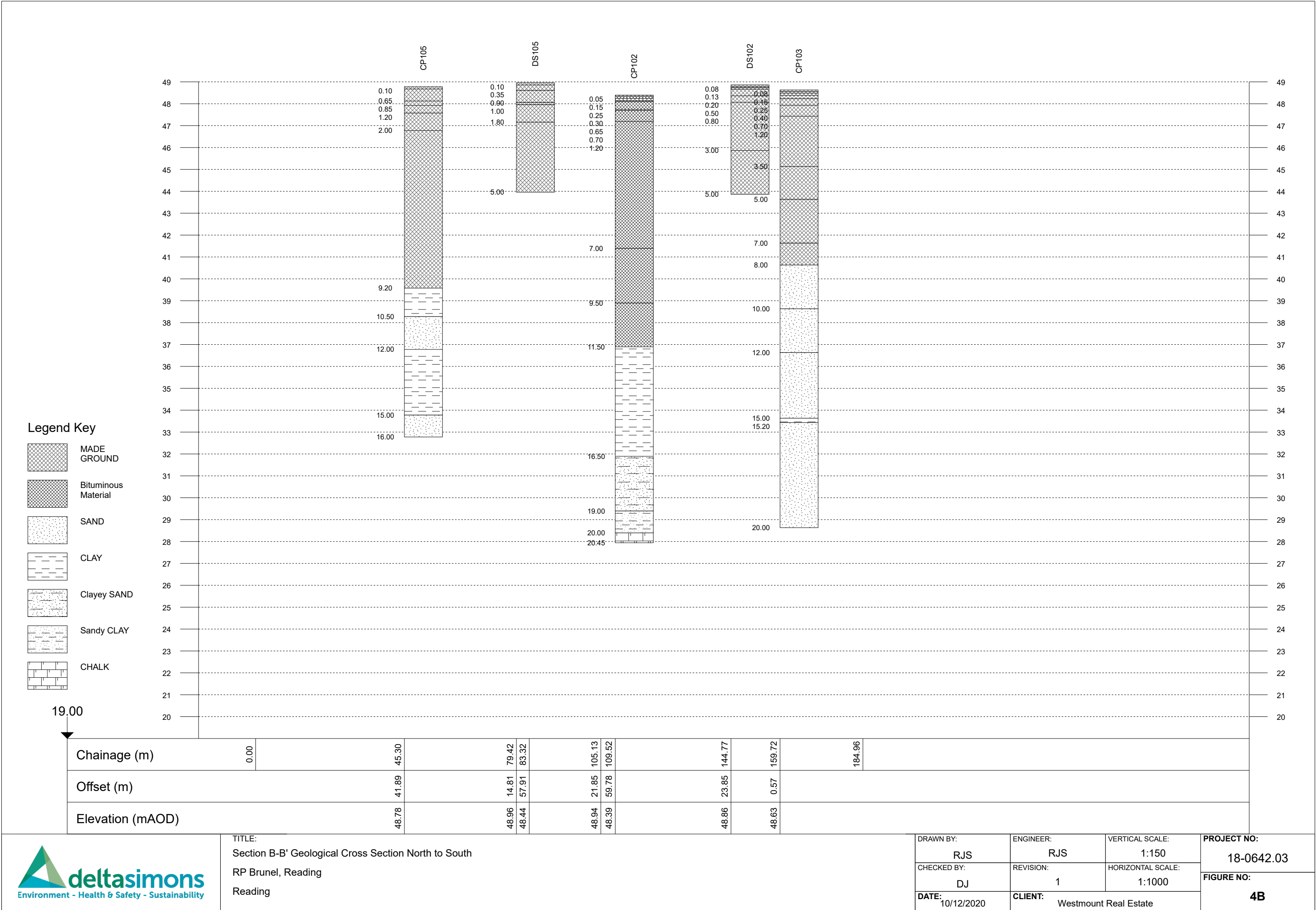
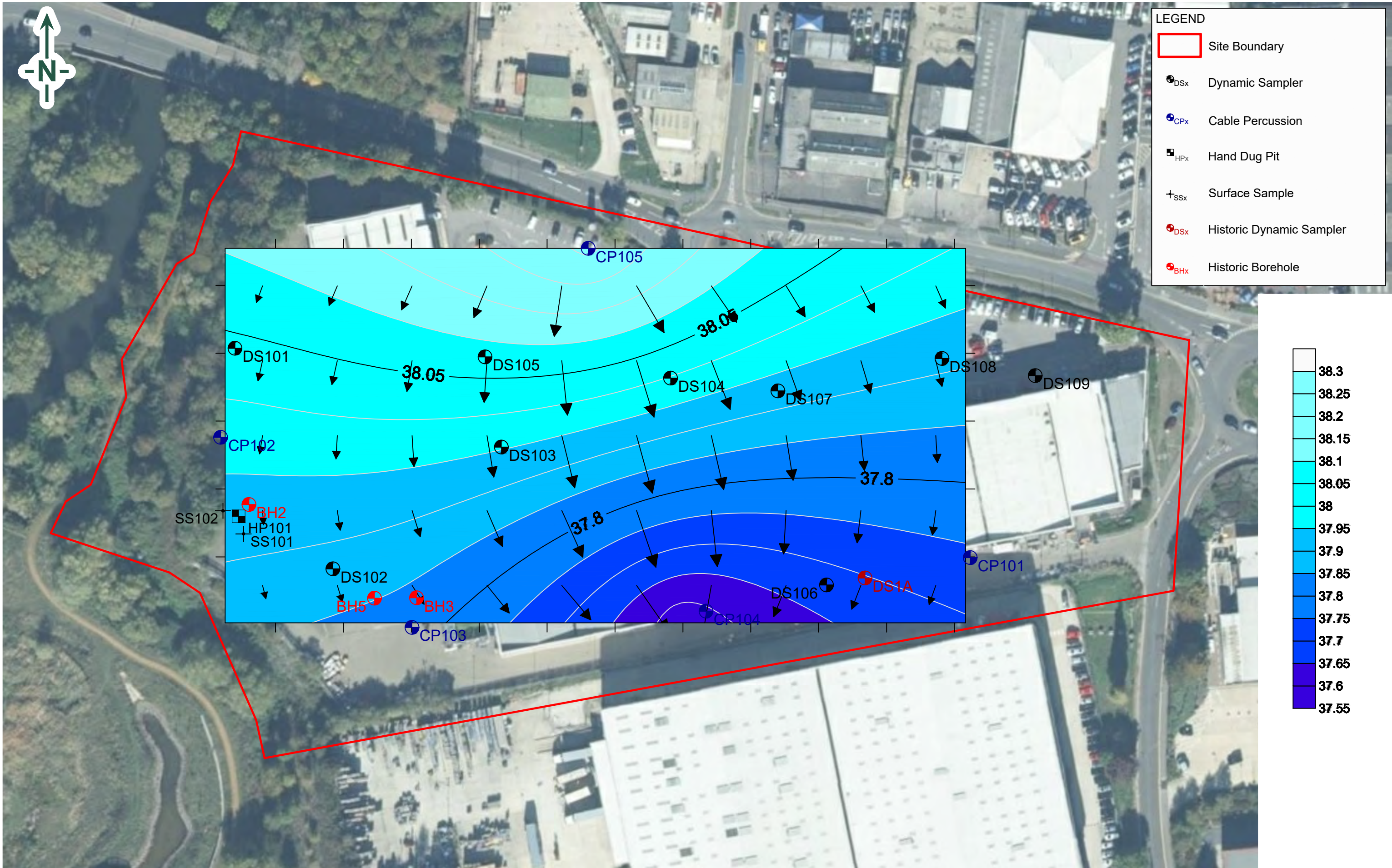
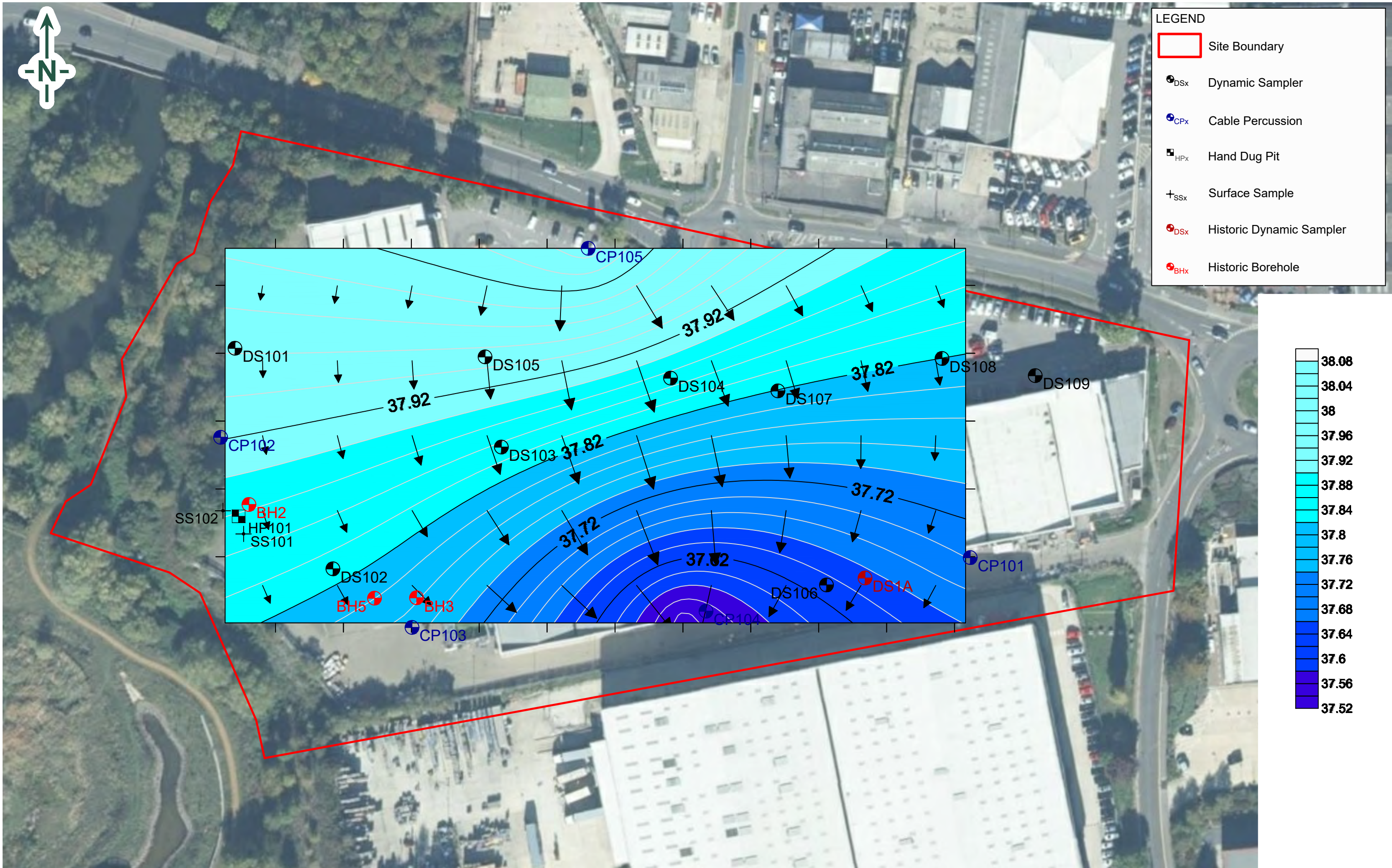


Figure 5 – Interpolated Groundwater Plots

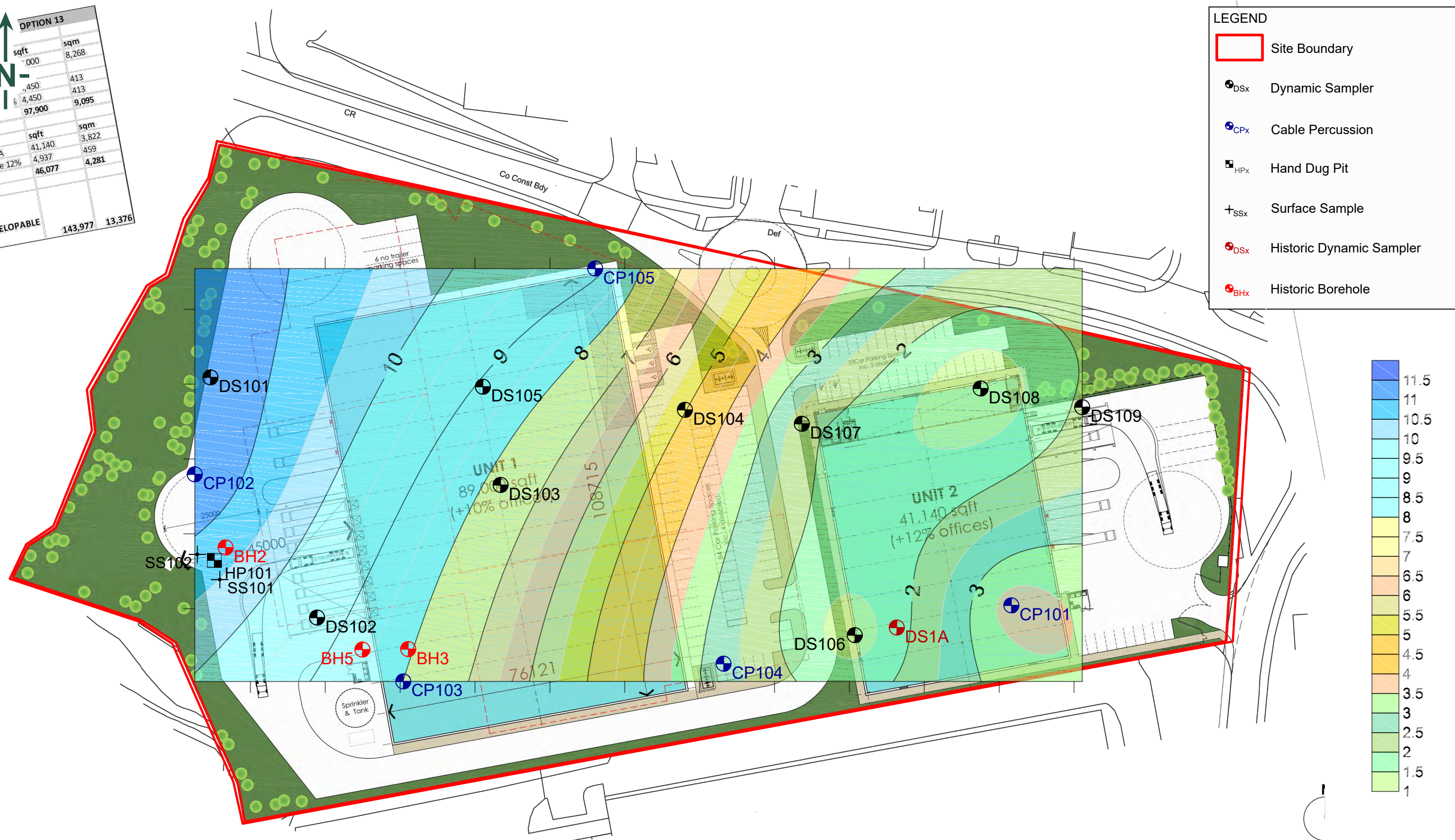


Bing maps



Bing maps

Figure 6 – Interpolated Made Ground Contour Plots

[illegible]

Drawing 1 – Proposed Development Plan

AREA SCHEDULE: OPTION 13		
Unit 1	sqft	sqm
Ground Floor GIA	89,000	8,268
Offices 10%		
First Floor Office 5%	4,450	413
Second Floor Office 5%	4,450	413
Total	97,900	9,095
Unit 2	sqft	sqm
Ground Floor GIA	41,140	3,822
First Floor Office 12%	4,937	459
Total	46,077	4,281
TOTAL DEVELOPABLE AREA	143,977	13,376



General Notes

All site dimensions shall be verified by the Contractor on site prior to commencing any works.

Do not scale from this drawing.

Only work to written dimensions.

This drawing is the property of Fletcher-Rae (UK) Limited (t/a Fletcher-Rae) and copyright is reserved by them. The drawing is not to be copied or disclosed by or to any unauthorised persons without the prior written consent of Fletcher-Rae (UK) Limited.

LEGEND

Site Boundary

Existing to be demolished

Revision	D	Site Plan Updated	12.08.2020	NP
	C	Area Schedule Updated	11.08.2020	NP
	B	Area Schedule Updated	23.07.2020	AE
	A	Building footprint increased	17.07.2020	NP

Scale 1:200@A1
Status SK
Drawn by NP
Date 02.07.20
Client
Westmount Real Estate

Project
Brunel Retail Park, Reading

Drawing Description
Proposed Site Plan Option 13

Drawing No. 19032 - SK25 Rev. D

fletcher|rae
Architects | Master Planners | Designers

Hill Quays, 5 Jordan Street, Manchester, M15 4PY

t +44 (0)161 242 1140
f +44 (0)161 242 1141
w www.fletcher-rae.com
e info@fletcher-rae.com

Appendix A – Limitations

Limitations

The recommendations contained in this Report represent Delta-Simons professional opinions, based upon the information listed in the Report, exercising the duty of care required of an experienced Environmental Consultant. Delta-Simons does not warrant or guarantee that the Site is free of hazardous or potentially hazardous materials or conditions.

Due to the evolving regulatory climate specific to Per Fluoro Alkyl Substances (PFAS), the scope of works is not intended to be conclusive as it relates to the identification of any PFAS related issues. While Delta-Simons may advise its Client if Delta-Simons becomes aware of the use of PFAS at the subject property, Delta-Simons makes no representation nor accepts any liability that any or all PFAS issues have been identified and/or revealed to its client through its scope of work, as presented herein.

Delta-Simons obtained, reviewed and evaluated information in preparing this Report from the Client and others. Delta-Simons conclusions, opinions and recommendations has been determined using this information. Delta-Simons does not warrant the accuracy of the information provided to it and will not be responsible for any opinions which Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

This Report was prepared by Delta-Simons for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed. Nothing contained in this Report shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. In particular, Delta-Simons does not intend, without its written consent, for this Report to be disseminated to anyone other than the Client or to be used or relied upon by anyone other than the Client. Use of the Report by any other person is unauthorised and such use is at the sole risk of the user. Anyone using or relying upon this Report, other than the Client, agrees by virtue of its use to indemnify and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by the Consultant.

Appendix B – Risk Definitions

Risk Definitions

The following methodology is based on the methodology presented in CIRIA C552 Contaminated Land Risk Assessment: A Guide to Good Practice 2001. It requires the classification of the:

- ▲ Magnitude of the potential consequence (severity) of the Risk occurring; and
- ▲ Magnitude of the Probability (likelihood) of the Risk occurring.

The classifications are then compared to indicate the risk presented by each pollutant linkage.

Consequence to Receptor Definition Matrix

	Human Health	Controlled Waters	Buildings/Services
Severe Consequence	Acute or chronic permanent impact on human health.	Sensitive controlled water pollution ongoing, or just about to occur.	Catastrophic collapse
Medium Consequence	Chronic permanent impact on human health	Gradual pollution of sensitive controlled water	Degradation of materials
Mild Consequence	Chronic temporary impact on human health	Gradual pollution of non-sensitive controlled water	Damage to building rendering it unsafe to occupy (eg foundation damage resulting in instability).
Minor Consequence	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc).	Slight discoloration of water	Easily repairable effects of damage to buildings, structures and services, i.e discoloration of concrete

Probability Definitions

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

Standard Risk Matrix

		Consequence/ Magnitude of impact			
		Severe	Medium	Mild	Minor
Probability	High	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/low	Low
	Low Likelihood	Moderate	Moderate/low	Low	Very Low
	Unlikely	Moderate/low	Low	Very Low	Very Low

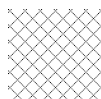
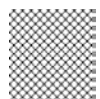
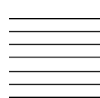
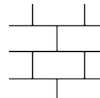
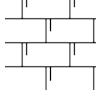
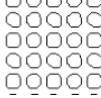
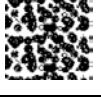
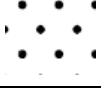
Classified risks and likely action

Significance Level	Definition/Comments
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required. Demonstrable contaminated land situation, highest threat & liability level, urgent action recommended.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term. Likely contaminated land situation, risk assessment and action recommended.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, if is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term. Plausible contaminated land situation, risk assessment and possible action recommended.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild. Unlikely contaminated land situation, possible risk assessment and possible action.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe. Negligible risk, no action recommended except vigilance for changes in conditions.

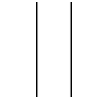
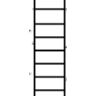
Appendix C – Borehole Logs, SPT Calibrations Certificate, DCP CBR Logs

KEY TO BOREHOLE AND TRIAL PIT LOGS

MATERIAL LEGENDS

	Topsoil		Made Ground		Bituminous Material
	Concrete		Clay		Silt
	Sand		Gravel		Peat
	Cobbles		Boulders		Mudstone
	Siltstone		Sandstone		Limestone
	Chalk		Coal		Breccia
	Conglomerate		Igneous		Metamorphic
	Pyroclastic (volcanic ash)		Gypsum		Shale
	Ironstone		Bedrock (Unidentified)		Void

INSTALLATION/BACKFILL LEGENDS

	Sand		Gravel		Bentonite/Grout
	Arisings		Concrete		Plain Pipe
	Slotted Pipe				

Legend symbols in general accordance with BS 5930:1999+A2:2010 and standard industry practice.

KEY TO BOREHOLE AND TRIAL PIT LOGS

SAMPLE TYPES

ACM	Asbestos Containing Material Sample
B	Bulk Disturbed Sample
BLK	Block Sample
C	Core Sample
CBR	Undisturbed Sample for California Bearing Ratio Test – 154mm diameter
D	Disturbed Sample - Tub
ES	Soil Sample for Environmental Testing
EW	Water Sample for Environmental Testing
G	Gas Sample
U	Undisturbed Driven Tube Sample – 70/102mm diameter, 450mm long
W	Water Sample

TEST TYPES

CPT	Cone Penetrometer Test (kN/m ²)
FID	Flame Ionisation Detector Test (ppm)
HV	In-Situ Hand Sheer Vane Test (kN/m ²)
PID	Photoionisation Detector Test (ppm)
SPT (S)	Standard Penetration Test – Split Spoon Sampler
SPT (C)	Standard Penetration Test – Solid 60 Degree Cone

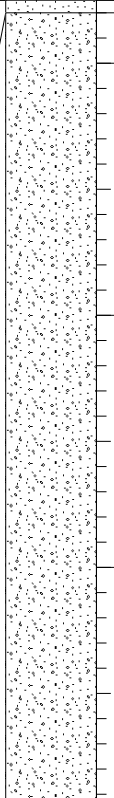
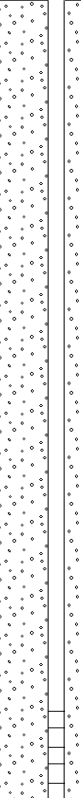
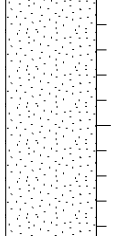
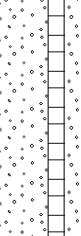
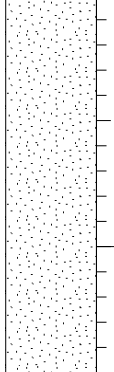
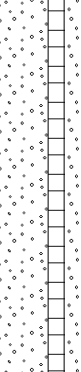
CORE DETAILS

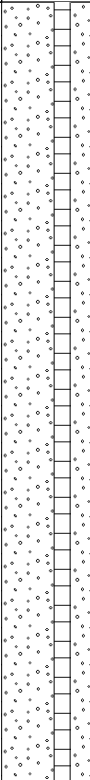
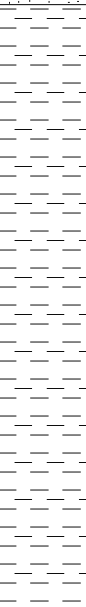
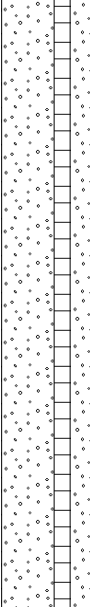
If	Fracture Spacing (mm) – Minimum, Average, Maximum
NI	Non-Intact where >25 fracture spacings per metre
TCR	Total Core Recovery (%)
SCR	Solid Core Recovery (%)
RQD	Rock Quality Designation (%)
AF	Air Flush Return (%)
WF	Water Flush Return (%)

WATER COLUMN DETAILS

	Water Strike
	Water Level

 Environment - Health & Safety - Sustainability Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: CP101		Page: 1 of 4			
					Project: RP Brunel, Reading							
Cable Percussive Borehole Log					Date: 18/11/2020		Client: Westmount Real Estate					
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
MADE GROUND: Brick.		0.08		48.91			0.50	BB1	1.20	SPT(C)N=6 (1,0/1,0,2,3)		
MADE GROUND: Yellow medium SAND (subbase).		0.15		48.84								
		0.25	(0.10)	48.74								
MADE GROUND: Asphalt.												
MADE GROUND: Reddish grey medium to coarse subangular GRAVEL dolomite.		0.40	(0.15)	48.59								(0.90)
MADE GROUND: Loose orange brown clayey slightly sandy GRAVEL of angular to subrounded flint.												
		1.30		47.69								
MADE GROUND: Loose black gravelly SAND with medium concrete cobbles content. Gravel is medium to coarse subangular to subrounded of brick, concrete, ash, flint, coal and glass.					(1.50)							
		2.80		46.19								
MADE GROUND: Firm grey slightly gravelly CLAY. Gravel is subrounded fine to medium of brick.					(1.00)							
		3.80		45.19								
Stiff red, grey and brown mottled CLAY. (Lambeth Group)					(1.20)							
		5.00		43.99								
Medium dense yellow fine to medium SAND. (Lambeth Group)					(0.80)							
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).					Water Strikes			Water Level		Chiselling		
					Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration	
						11.00		20 min	10.10 m			
Coordinates: E471523.29 N171180.87		Elevation (mAOD): 48.99		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: AT	Checked: TA	Approved: DJ	Scale (m): 1:30	

 Environment - Health & Safety - Sustainability Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: CP101		Page: 2 of 4			
					Project: RP Brunel, Reading							
Cable Percussive Borehole Log					Date: 18/11/2020		Client: Westmount Real Estate					
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
Medium dense yellow fine to medium SAND. (Lambeth Group) Dense orange slightly gravelly fine to medium SAND. Gravel is subrounded fine flint. (Lambeth Group)		5.80		43.19			5.80	BB6				
							6.00 - 6.22	DD6	6.00	SPT(C)50 (10,20/50 for 70mm)		
			(3.20)						7.50 - 7.87	DD7		7.50
Dense dark brown fine SAND. (Lambeth Group)		9.00		39.99			9.00 - 9.45	DD8	9.00	SPT(C)N=47 (2,4/10,11,12,14)		
			(1.00)									
Dense light brown fine SAND. (Lambeth Group)		10.00		38.99			10.00	BB7				
						10.10 						
						11.00 						
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes			Water Level		Chiselling	
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
							11.00		20 min	10.10 m		
Coordinates: E471523.29 N171180.87		Elevation (mAOD): 48.99		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: AT	Checked: TA	Approved: DJ	Scale (m): 1:30	

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com						Project No: 18-0642.03		Hole ID: CP101		Page: 3 of 4		
						Project: RP Brunel, Reading						
Cable Percussive Borehole Log						Date: 18/11/2020		Client: Westmount Real Estate				
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
Dense light brown fine SAND. (Lambeth Group)			(4.60)				12.00 - 12.21	DD10	12.00	SPT(C)50 (12,21/50 for 60mm)		
							13.50 - 13.95	DD11	13.50	SPT(C)N=36 (4,7/10,10,8,8)		
							14.60	BB8				
Stiff to very stiff grey CLAY. (Lambeth Group)			(2.40)				15.00 - 15.45	UU100	15.00			
							15.45 - 15.50	DD12				
							16.50 - 16.95	DD13	16.50	SPT(C)N=27 (2,4/4,6,8,9)		
Very dense dark grey medium to coarse SAND.												
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes		Water Level		Chiselling		
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
							11.00		20 min	10.10 m		
Coordinates: E471523.29 N171180.87		Elevation (mAOD): 48.99		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: AT	Checked: TA	Approved: DJ	Scale (m): 1:30	

Coordinates: E471523.29 N171180.87	Elevation (mAOD): 48.99	Drilled By: Borehole Surveys	Plant Used: Dando 150	Logged: AT	Checked: TA	Approved: DJ	Scale (m): 1:30
--	-----------------------------------	--	---------------------------------	----------------------	-----------------------	------------------------	---------------------------

Cable Percussive Borehole Log

Date: **17/11/2020 - 18/11/2020**

Client: **Westmount Real Estate**

Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill
							Depth (m)	Type & Ref	Depth (m)	Results	
MADE GROUND: Red Bricks.		0.05		48.34							
MADE GROUND: Orangish yellow medium to coarse SAND.		0.15	(0.10)	48.24							
		0.25	(0.10)	48.14							
MADE GROUND: Black asphalt.		0.30		48.09			0.25 - 0.30	D1			
MADE GROUND: Grey slightly sandy slightly silty GRAVEL of subangular to sub-rounded fine to coarse concrete, asphalt and quartzite. Sand is fine to coarse.			(0.35)				0.30 - 0.65	D2			
		0.65		47.74							
		0.70		47.69			0.70 - 1.20	D3			
MADE GROUND: Brownish grey slightly sandy slightly clayey GRAVEL of subangular to sub-rounded fine to coarse quartzite, asphalt and flint. Sand is medium to coarse.			(0.50)								
MADE GROUND: Black asphalt.		1.20		47.19			1.20	D4	1.20	SPT(C)N=7 (2,2/2,2,2,1)	
MADE GROUND: Dark grey slightly sandy slightly clayey GRAVEL of subangular to sub-rounded fine to coarse concrete, asphalt and quartzite. Sand is medium to coarse.									2.00	SPT(C)N=6 (1,2/1,2,2,1)	
MADE GROUND: Loose brown gravelly slightly clayey fine to coarse SAND. Gravel of angular to sub-rounded fine to coarse brick, quartzite, glass, clinker, tile and plastic.									3.00	SPT(C)N=4 (1,1/2,1,0,1)	
			(5.80)						4.00	SPT(C)N=8 (0,1/3,3,1,1)	
									5.00	SPT(C)N=9 (2,3/2,2,3,2)	

Remarks:
1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).

Water Strikes			Water Level		Chiselling	
Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
09/11/2020	13.00		30 min	12.10 m		

Coordinates: E471305.16 N171215.88	Elevation (mAOD): 48.39	Drilled By: Borehole Surveys	Plant Used: Dando 150	Logged: RS	Checked: TA	Approved: DJ	Scale (m): 1:30
--	-----------------------------------	--	---------------------------------	----------------------	-----------------------	------------------------	---------------------------

Cable Percussive Borehole Log

 Date: **17/11/2020 - 18/11/2020**

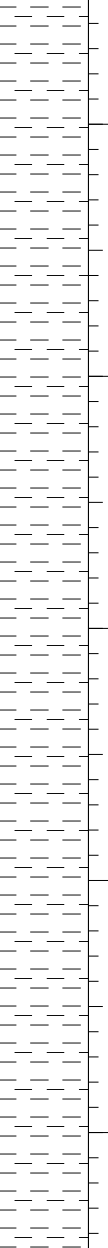
 Client: **Westmount Real Estate**

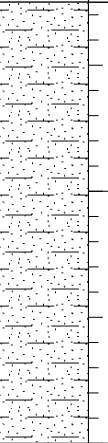
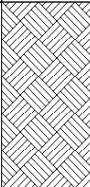
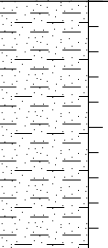
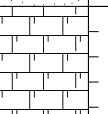
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill
							Depth (m)	Type & Ref	Depth (m)	Results	
MADE GROUND: Loose brown gravelly slightly clayey fine to coarse SAND. Gravel of angular to sub-rounded fine to coarse brick, quartzite, glass, clinker, tile and plastic.		7.00		41.39					6.00	SPT(C)N=6 (1,3/2,2,1,1)	
MADE GROUND: Loose to medium dense bluish grey slightly clayey gravelly Fine to coarse SAND with hydrocarbon odour. Gravel is angular to sub-rounded fine to coarse slate, timber and metal wire.		9.50	(2.50)	38.89					7.50	SPT(S)N=5 (1,2/1,2,1,1)	
									9.00	SPT(S)N=13 (0,1/4,3,3,3)	
MADE GROUND: Soft bluish grey slightly gravelly CLAY with hydrocarbon odour and occasional pockets of sand upto 50mm size. Gravel is subangular to sub-rounded fine to coarse brick and quartzite.		11.50	(2.00)	36.89					10.50	SPT(S)N=5 (1,0/1,2,1,1)	

Remarks:
 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover. 5. SPT Hammer ID AR2154 (Er=62%).

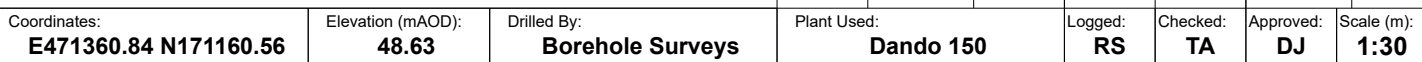
Water Strikes			Water Level		Chiselling	
Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
09/11/2020	13.00		30 min	12.10 m		

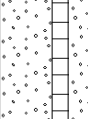
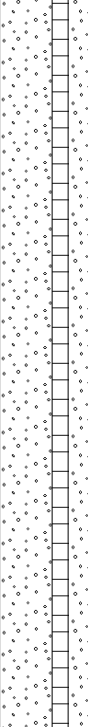
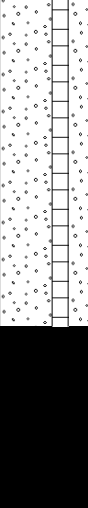
Coordinates: E471305.16 N171215.88	Elevation (mAOD): 48.39	Drilled By: Borehole Surveys	Plant Used: Dando 150	Logged: RS	Checked: TA	Approved: DJ	Scale (m): 1:30
--	-----------------------------------	--	---------------------------------	----------------------	-----------------------	------------------------	---------------------------

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com						Project No: 18-0642.03		Hole ID: CP102		Page: 3 of 4		
						Project: RP Brunel, Reading						
Cable Percussive Borehole Log						Date: 17/11/2020 - 18/11/2020		Client: Westmount Real Estate				
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
Firm grey slightly gravelly slightly sandy CLAY. Gravel is subangular to sub-rounded fine to coarse quartzite. Sand is fine to coarse. (Lambeth Group)												
						12.10			12.00	SPT(S)N=10 (0,1/1,3,3,3)		
						13.00						
			(5.00)						13.50	SPT(S)N=24 (2,3/5,5,6,8)		
									15.00	SPT(S)N=19 (2,2/3,4,4,8)		
		16.50		31.89					16.50	SPT(S)50 (3,8/50 for 135mm)		
Very dense yellowish brown slightly clayey fine to coarse SAND. (Lambeth Group)												
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes			Water Level		Chiselling	
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
						09/11/2020	13.00		30 min	12.10 m		
Coordinates: E471305.16 N171215.88		Elevation (mAOD): 48.39		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: RS	Checked: TA	Approved: DJ	Scale (m): 1:30	

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com						Project No: 18-0642.03		Hole ID: CP102		Page: 4 of 4		
						Project: RP Brunel, Reading						
Cable Percussive Borehole Log						Date: 17/11/2020 - 18/11/2020		Client: Westmount Real Estate				
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
Very dense yellowish brown slightly clayey fine to coarse SAND. (Lambeth Group)			(2.50)						18.00	SPT(S)50 (5,8/50 for 145mm)		
Firm brownish grey sandy CLAY. Sand is medium to coarse. (Lambeth Group)		19.00		29.39								
White structureless CHALK. (Seaford Chalk)		20.00	(1.00)	28.39					20.00	SPT(S)N=16 (3,3/3,4,4,5)		
		20.45	(0.45)	27.94								
Borehole complete at 20.45 m bgl.												
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes		Water Level		Chiselling		
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
						09/11/2020	13.00		30 min	12.10 m		
Coordinates: E471305.16 N171215.88						Elevation (mAOD): 48.39		Drilled By: Borehole Surveys		Plant Used: Dando 150		
						Logged: RS		Checked: TA		Approved: DJ		
						Scale (m): 1:30						

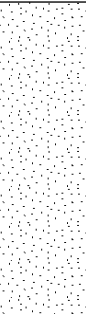
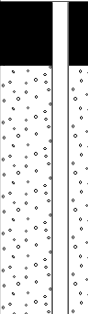
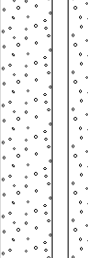
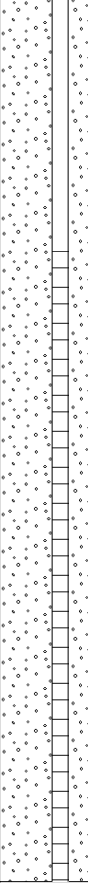
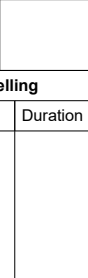
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: CP103		Page: 1 of 4		
					Project: RP Brunel, Reading						
Cable Percussive Borehole Log					Date: 11/11/2020 - 12/11/2020		Client: Westmount Real Estate				
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill
							Depth (m)	Type & Ref	Depth (m)	Results	
MADE GROUND: Brick.		0.08		48.55							
MADE GROUND: Yellow medium SAND (subase).		0.15		48.48							
		0.25	(0.10)	48.38							
MADE GROUND: Asphalt.		0.40	(0.15)	48.23							
MADE GROUND: Grey slightly sandy subangular to subrounded medium to coarse GRAVEL of dolomite, concrete and asphalt.		0.70	(0.30)	47.93			0.50	B4			
MADE GROUND: Orange brown slightly clayey slightly sandy subangular fine to coarse GRAVEL of flint.							0.70	B4			
MADE GROUND: Black slightly clayey sandy fine to medium angular to subrounded GRAVEL of brick, coal, ash, chalk, concrete, flint and slate with rare glass, metal and clinker.		1.20	(0.50)	47.43			0.80	B4			
MADE GROUND: Loose brown and grey slightly clayey fine to coarse SAND and subangular to subrounded GRAVEL of brick, concrete and sandstone with rare clinker and metal.							1.20 - 1.65	D4	1.20	SPT(C)N=6 (0,1/1,2,2,1)	
							2.00 - 2.45	D4	2.00	SPT(C)N=4 (1,2/1,0,1,2)	
			(2.30)				3.00 - 3.45	D4	3.00	SPT(C)N=5 (1,1/1,1,1,2)	
		3.50		45.13			4.00 - 4.45	D4	4.00	SPT(C)N=4 (1,1/2,0,1,1)	
MADE GROUND: Loose reddish brown and grey sandy fine to coarse subangular GRAVEL of brick, coal, concrete and slate with abundant metal and ceramic.		5.00	(1.50)	43.63			5.00	B4	5.00	SPT(C)N=5 (0,1/1,1,1,2)	
MADE GROUND: Very loose to loose black slightly clayey subangular to subrounded fine to medium GRAVEL of brick, coal and ash with occasional wood and glass.							5.00 - 5.45	D4			
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).					Water Strikes		Water Level		Chiselling		
					Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
					12/11/2020	12.00		20 min	9.60 m		
Coordinates: E471360.84 N171160.56		Elevation (mAOD): 48.63		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: RS	Checked: TA	Approved: DJ	Scale (m): 1:30

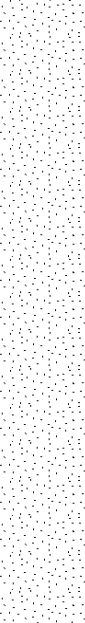
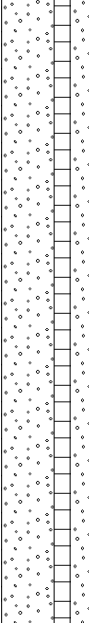
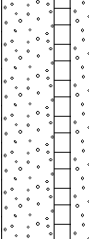
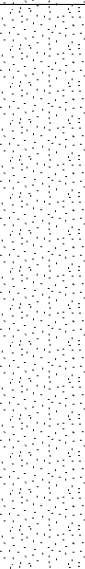


 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com						Project No: 18-0642.03		Hole ID: CP103		Page: 3 of 4		
						Project: RP Brunel, Reading						
Cable Percussive Borehole Log						Date: 11/11/2020 - 12/11/2020		Client: Westmount Real Estate				
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
Dense yellow slightly clayey fine to medium SAND. (Lambeth Group)		12.00		36.63			12.00 - 12.45	D4	12.00	SPT(C)N=26 (4,7/6,6,6,8)		
Medium dense yellow grey fine to medium SAND. (Lambeth Group)			(3.00)				13.50 13.50 - 13.95	B4 D4	13.50	SPT(C)N=23 (1,2/3,6,7,7)		
Stiff light brown and grey very sandy CLAY. (Lambeth Group)		15.00		33.63			15.00 15.00 - 15.45	B4 D4	15.00	SPT(C)N=16 (1,1/2,4,5,5)		
Medium dense yellow and grey medium SAND. (Lambeth Group)		15.20	(0.20)	33.43			16.00 - 16.95	D4	16.50	SPT(C)N=18 (1,1/3,3,5,7)		
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes		Water Level		Chiselling		
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
						12/11/2020	12.00		20 min	9.60 m		
Coordinates: E471360.84 N171160.56						Elevation (mAOD): 48.63		Drilled By: Borehole Surveys		Plant Used: Dando 150		
						Logged: RS		Checked: TA		Approved: DJ		
										Scale (m): 1:30		

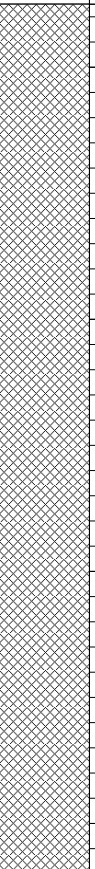
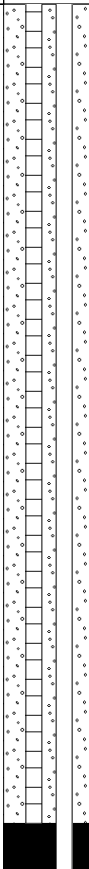
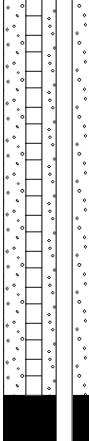
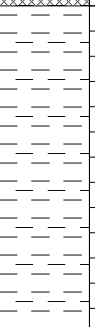
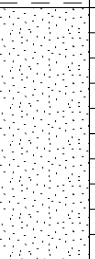
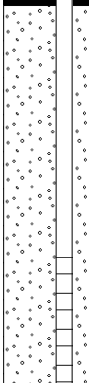
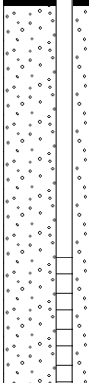
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com						Project No: 18-0642.03		Hole ID: CP103		Page: 4 of 4		
						Project: RP Brunel, Reading						
Cable Percussive Borehole Log						Date: 11/11/2020 - 12/11/2020		Client: Westmount Real Estate				
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
Medium dense yellow and grey medium SAND. (Lambeth Group)									18.00	SPT(C)N=0 (1,0/0,0,0,0)		
			(4.80)				18.50	B4				
									19.50	SPT(C)N=11 (1,2/3,2,3,3)		
Borehole complete at 20.00 m bgl.		20.00		28.63			20.00	D4				
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes			Water Level		Chiselling	
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
						12/11/2020	12.00		20 min	9.60 m		
Coordinates: E471360.84 N171160.56		Elevation (mAOD): 48.63		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: RS	Checked: TA	Approved: DJ	Scale (m): 1:30	

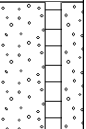
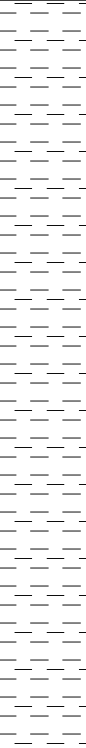
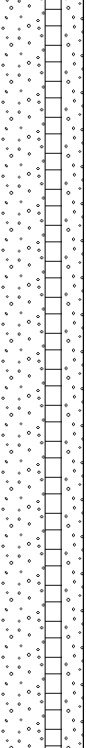
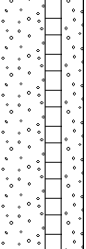
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: CP104		Page: 1 of 4									
Cable Percussive Borehole Log					Project: RP Brunel, Reading													
					Date: 13/11/2020 - 16/11/2020		Client: Westmount Real Estate											
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill							
							Depth (m)	Type & Ref	Depth (m)	Results								
MADE GROUND: Brick block paving.		0.08		48.92														
MADE GROUND: Yellow medium to coarse SAND.		0.16		48.84														
MADE GROUND: Asphalt.		0.26	(0.10)	48.74														
MADE GROUND: Reddish grey medium to coarse subangular GRAVEL dolomite.		0.40	(0.14)	48.60														
MADE GROUND: Orange brown clayey slightly sandy gravel of angular to subrounded flint.		0.60	(0.20)	48.40			0.50	ESD13										
MADE GROUND: Brown sandy slightly clayey subrounded to subangular fine to coarse GRAVEL of concrete and flint with low concrete cobble content.			(0.60)				0.80	ESD13										
							1.00	BB1										
		1.20		47.80														
MADE GROUND: Black gravelly SAND with medium concrete cobbles content. Gravel is medium to coarse subangular to subrounded of brick, concrete, ash, flint, coal and glass.			(0.60)				1.70	ESD13										
MADE GROUND: Firm grey mottled orange slightly gravelly CLAY. Gravel is subrounded to subangulr brick.			(1.20)				2.00	ESD13	2.00	SPT(C)N=27 (1,1/5,6,7,9)								
							2.00 - 2.45	DD1										
							2.60	BB2										
Medium dense grey mottled orange slightly sandy CLAY. (Lambeth Group)		3.00		46.00			3.00	BB3	3.00	SPT(C)N=9 (1,1/2,2,2,3)								
			(2.00)				3.00 - 3.45	DD2										
							4.00	ESD13	4.00									
							4.00 - 4.45	UU100										
							4.10	DD15										
							4.45	DD3										
Medium dense yellow medium SAND. (Lambeth Group)		5.00		44.00			5.00	BB4	5.00	SPT(C)N=14 (2,2/3,3,4,4)								
							5.00 - 5.45	DD4										
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).					Water Strikes			Water Level		Chiselling								
					Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration							
					16/11/2020	13.20		20 min	11.20 m									
Coordinates: E471440.00 N171162.00					Elevation (mAOD): 49.00		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: RS		Checked: TA		Approved: DJ		Scale (m): 1:30	

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com						Project No: 18-0642.03		Hole ID: CP104		Page: 2 of 4									
						Project: RP Brunel, Reading													
Cable Percussive Borehole Log						Date: 13/11/2020 - 16/11/2020		Client: Westmount Real Estate											
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill								
							Depth (m)	Type & Ref	Depth (m)	Results									
Medium dense yellow medium SAND. (Lambeth Group)			(2.00)				6.00 - 6.45	DD5	6.00	SPT(C)N=19 (1,2/3,5,5,6)									
Yellow slightly clayey medium SAND. (Lambeth Group)		7.00		42.00															
Yellow slightly clayey medium SAND. (Lambeth Group)		7.50	(0.50)	41.50			7.50 7.50 - 7.95	BB5 DD6	7.50	SPT(C)N=20 (1,2/3,4,6,7)									
Medium dense orange slightly clayey medium SAND. (Lambeth Group)																			
			(6.50)				9.00 - 9.45	DD7	9.00	SPT(C)N=13 (1,0/1,3,4,5)									
							10.50 - 10.95	DD8	10.50	SPT(C)N=22 (1,2/3,4,7,8)									
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes			Water Level		Chiselling								
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration							
						16/11/2020	13.20		20 min	11.20 m									
Coordinates: E471440.00 N171162.00						Elevation (mAOD): 49.00		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: RS		Checked: TA		Approved: DJ		Scale (m): 1:30	

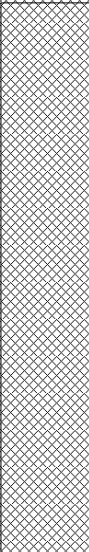
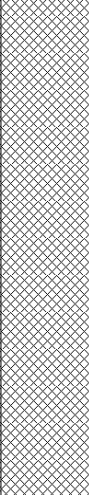
deltasimons Environment - Health & Safety - Sustainability Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com						Project No: 18-0642.03		Hole ID: CP104		Page: 3 of 4		
						Project: RP Brunel, Reading						
Cable Percussive Borehole Log						Date: 13/11/2020 - 16/11/2020		Client: Westmount Real Estate				
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
Medium dense orange slightly clayey medium SAND. (Lambeth Group)							12.00 - 12.45	DD10	12.00	SPT(C)N=18 (2,2/3,4,4,7)		
							13.50 - 13.95	DD11	13.50	SPT(C)N=22 (2,3/4,5,5,8)		
		14.00		35.00			14.00	BB6				
Grey clayey medium SAND. (Lambeth Group)			(1.00)									
		15.00		34.00			15.00	BB7	15.00	SPT(C)N=22 (2,3/4,5,5,8)		
Loose to medium dense brown medium SAND. (Lambeth Group)							16.50 - 16.95	DD12	16.50	SPT(C)N=39 (2,4/6,9,11,13)		
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes			Water Level		Chiselling	
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
						16/11/2020	13.20		20 min	11.20 m		
Coordinates: E471440.00 N171162.00		Elevation (mAOD): 49.00		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: RS	Checked: TA	Approved: DJ	Scale (m): 1:30	

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com						Project No: 18-0642.03		Hole ID: CP104		Page: 4 of 4					
						Project: RP Brunel, Reading									
Cable Percussive Borehole Log						Date: 13/11/2020 - 16/11/2020		Client: Westmount Real Estate							
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill				
							Depth (m)	Type & Ref	Depth (m)	Results					
Loose to medium dense brown medium SAND. (Lambeth Group)							18.00 - 18.45	DD13	18.00	SPT(C)N=6 (1,1/2,1,1,2)					
			(5.00)				19.50 - 19.95	DD14	19.50	SPT(C)N=7 (1,2/2,2,1,2)					
		20.00		29.00		20.00	DD15								
Borehole complete at 20.00 m bgl.															
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover. 5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes		Water Level		Chiselling					
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration			
						16/11/2020	13.20		20 min	11.20 m					
Coordinates: E471440.00 N171162.00						Elevation (mAOD): 49.00		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: RS	Checked: TA	Approved: DJ	Scale (m): 1:30

 Environment - Health & Safety - Sustainability Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com						Project No: 18-0642.03		Hole ID: CP105		Page: 2 of 3		
						Project: RP Brunel, Reading						
Cable Percussive Borehole Log						Date: 19/11/2020 - 20/11/2020		Client: Westmount Real Estate				
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
MADE GROUND: Black slightly clayey gravelly SAND with medium concrete cobbles content. Gravel is medium to coarse subangular to subrounded of brick and concrete.							6.00	ESD13 DD6 ESD13	6.00	SPT(C)N=18 (4,5/4,5,5,4)		
							6.00 - 6.45					
							6.10					
							7.50	ESD13 DD7	7.50	SPT(C)N=19 (3,3/5,5,4,5)		
							7.50 - 7.95					
7.80	ESD13											
8.20	ESD13											
Firm orange mottled grey slightly sandy CLAY. (Lambeth Group)		9.20	(1.30)	39.58			9.00	ESD13 DD8 BB3	9.00	SPT(C)N=17 (1,1/3,3,5,6)		
							9.00 - 9.45					
							9.20					
Dense grey fine to medium SAND. (Lambeth Group)		10.50	(1.50)	38.28			10.00	ESD13				
							10.50	BB4 DD9	10.50	SPT(C)N=38 (1,2/6,9,10,13)		
							10.50 - 10.95					
							11.40					
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes			Water Level		Chiselling	
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
						20/11/2020	15.00		20 min	11.40 m		
Coordinates: E471412.10 N171270.88		Elevation (mAOD): 48.78		Drilled By: Borehole Surveys		Plant Used: Dando 150		Logged: RS	Checked: TA	Approved: DJ	Scale (m): 1:30	

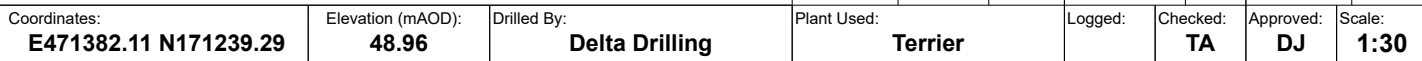
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com						Project No: 18-0642.03		Hole ID: CP105		Page: 3 of 3		
Cable Percussive Borehole Log						Project: RP Brunel, Reading						
						Date: 19/11/2020 - 20/11/2020		Client: Westmount Real Estate				
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
Dense grey fine to medium SAND. (Lambeth Group)		12.00		36.78			12.00 12.00 - 12.45	BB5 DD10	12.00	SPT(C)N=27 (1,3/6,6,6,9)		
Very stiff orange mottled grey slightly sandy CLAY. (Lambeth Group)			(3.00)				13.50 - 13.95	DD11	13.50	SPT(C)N=38 (3,6/7,9,10,12)		
Dense grey fine SAND. (Lambeth Group)		15.00		33.78		15.00	15.00 15.00 - 15.35	BB6 DD12	15.00	SPT(C)50 (2,3/50 for 200mm)		
		16.00		32.78			16.00 - 16.32	DD13	16.00	SPT(C)50 (5,10/50 for 170mm)		
Borehole complete at 16.00 m bgl.												
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=62%).						Water Strikes		Water Level		Chiselling		
						Date	Depth (m)	Remarks	Duration	Standing	Depth Top	Duration
						20/11/2020	15.00		20 min	11.40 m		
Coordinates: E471412.10 N171270.88						Elevation (mAOD): 48.78		Drilled By: Borehole Surveys		Plant Used: Dando 150		
						Logged: RS		Checked: TA		Approved: DJ		
						Scale (m): 1:30						

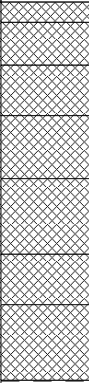
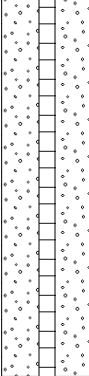
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: DS101		Page: 1 of 1			
					Project: RP Brunel, Reading							
Dynamic Sampler Log					Date: 16/11/2020		Client: Westmount Real Estate					
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
MADE GROUND: Brick block paving.		0.08		48.36			0.80	ESD1 3	1.20	SPT(S) N=3 (1,1/0,1,1,1)		
MADE GROUND: Yellow medium SAND.		0.15		48.29								
MADE GROUND: Asphalt.		0.28	(0.13)	48.16								
MADE GROUND: Grey medium to coarse subangular GRAVEL dolomite.		0.50	(0.22)	47.94								
MADE GROUND: Light reddish grey medium to coarse subangular GRAVEL dolomite.		0.70	(0.20)	47.74								
MADE GROUND: Brown very clayey fine to coarse subangular to subrounded GRAVEL of brick, flint and concrete.		1.20		47.24								
MADE GROUND: Very loose black clayey slightly sandy fine to coarse subangular GRAVEL of brick, concrete, ash, slate, glass and coal with rare metal. Sand is coarse.			(1.10)									
		2.30		46.14								
MADE GROUND: Very loose dark brown and grey very clayey very sandy fine to coarse subangular GRAVEL brick, slate and glass.			(1.30)									
		3.60		44.84								
MADE GROUND: Very loose reddish brown and grey sandy fine to coarse subangular GRAVEL of concrete coal, clinker, glass, ceramic, chalk and flint.			(1.40)		4.00	ESD1 3	4.00	SPT(S) N=4 (1,1/1,1,1,1)	5.00	SPT(S) N=4 (1,1/1,1,1,1)		
		5.00		43.44								
Borehole complete at 5.00 m bgl.												
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=73%).					Water Strike			Water Level		Borehole Diameter		
					Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter	
Coordinates: E471309.34 N171241.81		Elevation (mAOD): 48.44		Drilled By: Delta Drilling		Plant Used: Terrier		Logged: RS	Checked: TA	Approved: DJ	Scale: 1:30	

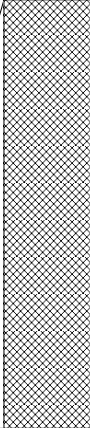
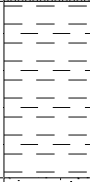
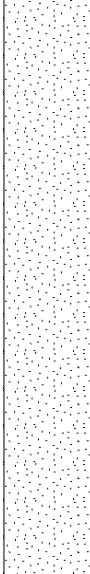
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: DS102		Page: 1 of 1			
					Project: RP Brunel, Reading							
Dynamic Sampler Log					Date: 16/11/2020		Client: Westmount Real Estate					
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
MADE GROUND: Brick block paving.		0.08		48.78								
MADE GROUND: Yellow medium SAND.		0.13		48.73								
MADE GROUND: Asphalt.		0.20		48.66								
MADE GROUND: Grey medium to coarse subangular GRAVEL dolomite.			(0.30)									
		0.50		48.36								
MADE GROUND: Yellow medium to coarse subangular GRAVEL dolomite.			(0.30)									
		0.80		48.06								
MADE GROUND: Very loose black and brown very sandy fine to medium subangular to subrounded GRAVEL of coal, glass, sandstone and chalk with rare metal.			(2.20)									
		3.00		45.86								
MADE GROUND: Very loose black very clayey sandy fine to medium GRAVEL of coal, ash, brick, ceramic, chalk and glass with metal.			(2.00)									
		5.00		43.86								
Borehole complete at 5.00 m bgl.												
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=73%).					Water Strike			Water Level		Borehole Diameter		
					Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter	
Coordinates: E471337.84 N171177.60		Elevation (mAOD): 48.86		Drilled By: Delta Drilling		Plant Used: Terrier		Logged: RS	Checked: TA	Approved: DJ	Scale: 1:30	

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: DS103		Page: 1 of 1																							
					Project: RP Brunel, Reading																											
Dynamic Sampler Log					Date: 17/11/2020		Client: Westmount Real Estate																									
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill																					
							Depth (m)	Type & Ref	Depth (m)	Results																						
MADE GROUND: Black asphalt.		0.10	(0.10)	48.84			0.50	ESD1 3	1.20	SPT(S) N=10 (3,3/3,3,2,2)																						
MADE GROUND: Grey slightly sandy GRAVEL of subangular to sub-rounded fine to coarse quartzite and concrete.		0.25	(0.15)	48.69																												
MADE GROUND: Brown gravelly slightly clayey fine to coarse SAND. Gravel of angular to sub-rounded fine to coarse brick, plastic, quartzite, clinker and pottery.		0.70	(0.45)	48.24																												
MADE GROUND: Soft brownish grey slightly gravelly slightly sandy CLAY. Gravel of subangular to sub-rounded fine to coarse brick, quartzite and clinker.		1.20	(0.50)	47.74																												
MADE GROUND: Very loose dark grey gravelly fine to coarse SAND with organic odour. Gravel is angular to sub-rounded fine to coarse quartzite, brick, timber and clinker.		(3.80)	5.00	43.94									1.50	ESD1 3	2.00 - 2.45	D1	2.00	SPT(S) N=1 (1,1/1,0,0,0)														
Borehole complete at 5.00 m bgl.																			2.80	ESD1 3	3.00 - 3.45	D2	3.00	SPT(S) N=0 (1,0/0,0,0,0)								
																									3.20	ESD1 3	4.00 - 4.50	D3	4.00	SPT(S) N=0 (1,0/0,0,0,0)		
																															5.00	SPT(S) N=1 (1,0/0,1,0,0)
		Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=73%).											Water Strike		Water Level		Borehole Diameter															
Date	Depth (m)						Remarks	Duration (min)	Depth	Depth Base	Diameter																					
										5.00	100																					
Coordinates: E471386.86 N171213.06		Elevation (mAOD): 48.94		Drilled By: Delta Drilling		Plant Used: Terrier		Logged: AT	Checked: TA	Approved: DJ	Scale: 1:30																					

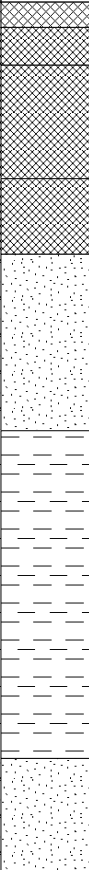
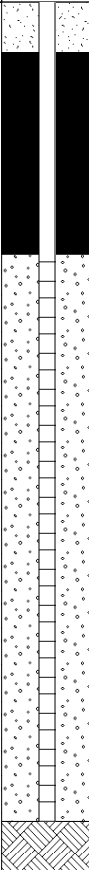
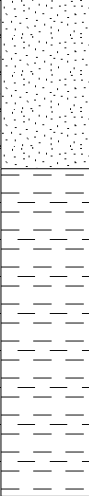
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: DS104		Page: 1 of 1						
					Project: RP Brunel, Reading										
Dynamic Sampler Log					Date: 17/11/2020		Client: Westmount Real Estate								
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill				
		Depth (m)	Type & Ref	Depth (m)			Results								
		MADE GROUND: Black asphalt.		0.10			(0.10)	49.00							
		MADE GROUND: Grey sandy GRAVEL of subangular to sub-rounded fine to coarse quartzite and concrete. Sand is medium to coarse.		0.20			(0.10)	48.90							
				0.40			(0.20)	48.70							
		MADE GROUND: Grey slightly sandy GRAVEL of angular to sub-rounded fine to coarse quartzite, brick and clinker. Sand is medium to coarse.								0.50	ESD1 3				
										1.20 - 1.65	D1	1.20	SPT(S) N=4 (1,1/1,1,1,1)		
										1.50	ESD1 3				
										2.00 - 2.45	D2	2.00	SPT(S) N=3 (1,1/0,1,1,1)		
										2.50	ESD1 3				
		MADE GROUND: Very loose brown gravelly slightly clayey fine to coarse SAND. Gravel of angular to sub-rounded fine to coarse brick, plastic, quartzite, clinker and pottery.					(4.50)					3.00	SPT(S) N=0 (1,0/0,0,0,0)		
										3.50	ESD1 3				
						4.00 - 4.45	D3	4.00	SPT(S) N=2 (1,0/1,0,1,0)						
		4.90		44.20											
MADE GROUND: Brown slightly gravelly fine to coarse SAND. Gravel of subangular to sub-rounded fine to coarse brick, quartzite and pottery. Borehole complete at 5.00 m bgl.		5.00	(0.10)	44.10			4.90	ESD1 3	5.00	SPT(S) N=0 (1,0/0,0,0,0)					
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=73%).					Water Strike			Water Level		Borehole Diameter					
					Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter				
										5.00	100				
Coordinates: E471436.08 N171233.10		Elevation (mAOD): 49.10		Drilled By: Delta Drilling		Plant Used: Terrier		Logged: AT	Checked: TA	Approved: DJ	Scale: 1:30				

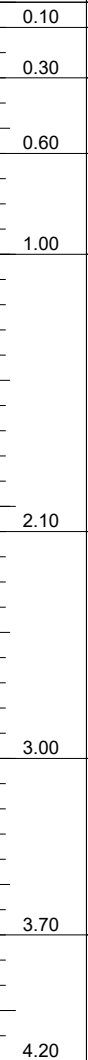
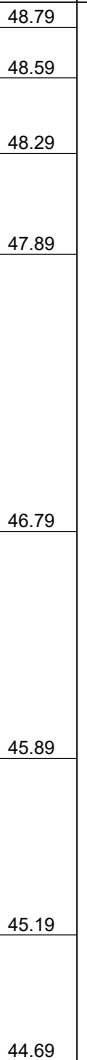
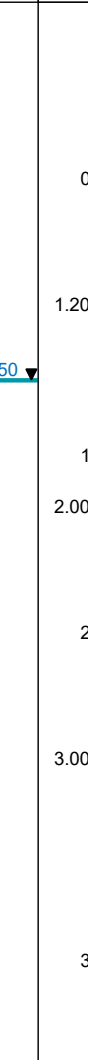
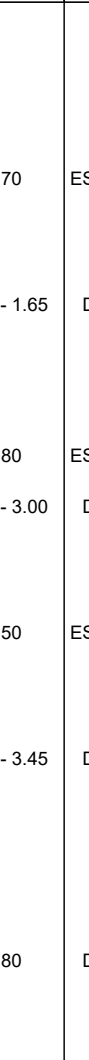
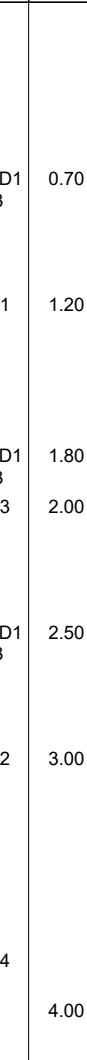
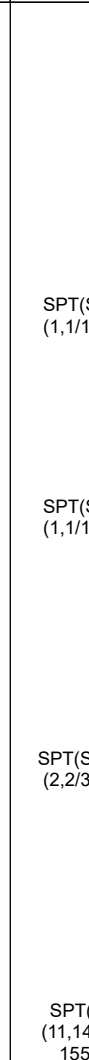


 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: DS106		Page: 1 of 1																																	
					Project: RP Brunel, Reading																																					
Dynamic Sampler Log					Date: 18/11/2020		Client: Westmount Real Estate																																			
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill																															
							Depth (m)	Type & Ref	Depth (m)	Results																																
MADE GROUND: Brick block paving.		0.08		49.26			0.60	ESD1 3	1.20	SPT(S) N=7 (1,1/1,2,2,2)																																
MADE GROUND: Yellow medium SAND.		0.25	(0.17)	49.09									0.90	ESD1 3	2.00	SPT(S) N=18 (2,3/3,4,5,6)																										
MADE GROUND: Grey medium to coarse subangular GRAVEL dolomite.		0.45	(0.20)	48.89															1.10	ESD1 3	3.00	SPT(S) N=50 (14,9/50 for 250mm)																				
MADE GROUND: Yellow slightly clayey sandy subangular medium to coarse GRAVEL of flint.		0.70	(0.25)	48.64																					2.50	DD15																
MADE GROUND: Black clayey slightly gravelly medium to coarse SAND with rare plastic. Gravel is subrounded to subangular fine to coarse of flint brick and chalk.		1.00	(0.30)	48.34																											2.90	BD15										
MADE GROUND: Soft orange brown very sandy slightly gravelly CLAY. Gravel subangular brick, coal and chalk.		1.20	(0.20)	48.14																																						
MADE GROUND: Firm to stiff orange very sandy CLAY. Sand is fine.		1.50	(0.30)	47.84																																						
Very stiff grey, red and yellow mottled CLAY. (Lambeth Group)																																										
Dense slightly clayey fine SAND. (Lambeth Group)		2.70		46.64																																						
Borehole complete at 3.00 m bgl.		3.00	(0.30)	46.34																																						
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=73%).					Water Strike			Water Level		Borehole Diameter																																
					Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter																															
Coordinates: E471481.47 N171172.91		Elevation (mAOD): 49.34		Drilled By: Delta Drilling		Plant Used: Terrier		Logged:	Checked: TA	Approved: DJ	Scale: 1:30																															

 Environment - Health & Safety - Sustainability Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: DS107		Page: 1 of 1				
					Project: RP Brunel, Reading								
Dynamic Sampler Log					Date: 17/11/2020		Client: Westmount Real Estate						
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill		
							Depth (m)	Type & Ref	Depth (m)	Results			
MADE GROUND: Black asphalt.		0.10	(0.10)	48.95			0.50	ESD1 3					
MADE GROUND: Grey slightly sandy GRAVEL of angular to sub-rounded fine to coarse quartzite and concrete. Sand is medium to coarse.		0.30	(0.20)	48.75									
MADE GROUND: Firm brownish grey gravelly slightly sandy CLAY with bitumen odour. Gravel of angular to sub-rounded fine to coarse brick, clinker, quartzite and glass. Sand is fine to coarse.													
			(1.70)				1.20 - 1.65	D1	1.20	SPT(S) N=4 (1,1/1,1,1,1)			
							1.50	ESD1 3					
		2.00		47.05			2.00 - 2.45	D2	2.00	SPT(S) N=10 (1,1/2,2,3,3)			
Stiff brownish grey slightly sandy CLAY. Sand is medium to coarse. (Lambeth Group)			(0.70)				2.50	ESD1 3					
		2.70		46.35			3.00 - 3.45 3.00 - 4.00	D3 D4	3.00	SPT(S) N=10 (2,2/2,2,3,3)			
Medium dense orangish brown fine to coarse SAND. (Lambeth Group)			(2.30)				4.00 - 5.00 4.10	D6 D5	4.00	SPT(S) N=18 (2,3/4,4,5,5)			
													
		5.00		44.05					5.00	SPT(S) N=37 (4,6/7,10,10,10)			
Borehole complete at 5.00 m bgl.													
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=73%).					Water Strike		Water Level		Borehole Diameter				
					Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter		
										5.00	100		
Coordinates: E471467.32 N171229.41		Elevation (mAOD): 49.05		Drilled By: Delta Drilling		Plant Used: Terrier		Logged: AT	Checked: TA	Approved: DJ	Scale: 1:30		

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: DS108		Page: 1 of 1				
Dynamic Sampler Log					Project: RP Brunel, Reading			Date: 17/11/2020			Client: Westmount Real Estate		
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill		
							Depth (m)	Type & Ref	Depth (m)	Results			
MADE GROUND: Black asphalt.		0.10	(0.10)	48.99			0.50	ESD1 3					
MADE GROUND: Grey slightly sandy GRAVEL of angular to sub-rounded fine to coarse concrete, quartzite and brick. Sand is medium to coarse.		0.30	(0.20)	48.79									
MADE GROUND: Brown sandy GRAVEL of angular to sub-rounded fine to coarse brick, clinker, timber, quartzite and flint. Sand is medium to coarse.		0.70	(0.40)	48.39									
MADE GROUND: Brown GRAVEL of subangular to sub-rounded fine to coarse quartzite and flint.		0.80	(0.10)	48.29									
Borehole complete at 0.80 m bgl.													
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole terminated at 0.8 m bgl due to fine flint gravel possibly indicating below-ground services.5. SPT Hammer ID AR2154 (Er=73%).					Water Strike			Water Level		Borehole Diameter			
					Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter		
										0.80	100		
Coordinates: E471515.06 N171238.82		Elevation (mAOD): 49.09		Drilled By: Delta Drilling		Plant Used: Terrier		Logged: AT	Checked: TA	Approved: DJ	Scale: 1:30		

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: DS108A		Page: 1 of 1					
					Project: RP Brunel, Reading									
Dynamic Sampler Log					Date: 18/11/2020		Client: Westmount Real Estate							
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill			
							Depth (m)	Type & Ref	Depth (m)	Results				
MADE GROUND: Black asphalt.		0.10	(0.10)	48.99			0.10 - 0.25	D1	1.20	SPT(S) N=16 (1,2/3,3,4,6)				
MADE GROUND: Dark grey sandy GRAVEL of angular to sub-rounded fine to coarse quartzite and concrete. Sand is medium to coarse.		0.25	(0.15)	48.84			0.25 - 0.70	D2						
MADE GROUND: Brown slightly clayey sandy GRAVEL of subangular to sub-rounded fine to coarse quartzite, brick and clinker. Sand is fine to coarse.		0.70	(0.45)	48.39			0.40	ESD1 3						
MADE GROUND: Greyish brown slightly gravelly fine to coarse SAND. Gravel is angular to sub-rounded fine to coarse quartzite and clinker.							0.80	ESD1 3						
Medium dense greyish brown fine to coarse SAND. (Lambeth Group)							1.20 - 1.65	D3						
Stiff brownish grey CLAY. (Lambeth Group)		1.70	(0.70)	47.39			1.40	ESD1 3					2.00	SPT(S) N=10 (2,2/1,2,3,4)
							1.80	D5						
							2.00 - 2.45 2.00 - 3.00	D4 D6						
Dense brownish grey fine to coarse SAND. (Lambeth Group) Borehole complete at 3.00 m bgl.		3.00	(0.45)	46.09			3.00 - 3.45	D7					3.00	SPT(S) N=50 (4,6/50 for 250mm)
3.45		45.64												
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=73%).					Water Strike			Water Level		Borehole Diameter				
					Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter			
										3.00	100			
Coordinates: E471515.06 N171238.82		Elevation (mAOD): 49.09		Drilled By: Delta Drilling		Plant Used: Terrier		Logged: AT	Checked: TA	Approved: DJ	Scale: 1:30			

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 18-0642.03		Hole ID: DS109		Page: 1 of 1			
					Project: RP Brunel, Reading							
Dynamic Sampler Log					Date: 17/11/2020		Client: Westmount Real Estate					
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill	
							Depth (m)	Type & Ref	Depth (m)	Results		
MADE GROUND: Black asphalt.		0.10	(0.10)	48.79								
MADE GROUND: Grey slightly sandy GRAVEL of angular to subrounded, fine to coarse concrete, flint, clinker, quartzite and brick. Sand is medium and coarse.		0.30	(0.20)	48.59								
MADE GROUND: Dark grey slightly sandy GRAVEL of angular to subrounded, fine to coarse brick, quartzite and clinker. Sand is medium and coarse.		0.60	(0.30)	48.29								
MADE GROUND: Brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is subangular to subrounded, fine to coarse, brick, quartzite and clinker.		1.00	(0.40)	47.89								
MADE GROUND: Loose soft to firm greyish brown slightly gravelly sandy CLAY with bitumen odour. Gravel is subangular to sub-rounded, fine to coarse brick, quartzite and clinker. Sand is fine to coarse.		2.10	(1.10)	46.79								
Firm brownish grey slightly sandy CLAY. Sand is medium to coarse. (Lambeth Group)	3.00	(0.90)	45.89									
Stiff brownish grey slightly sandy CLAY. Sand is medium to coarse. (Lambeth Group)	3.70	(0.70)	45.19									
Dense brown slightly silty medium to coarse SAND. (Lambeth Group)	4.20	(0.50)	44.69									
Borehole complete at 4.20 m bgl.												
Remarks: 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area cleared for services prior to drilling. 3. Borehole commenced as hand dug pit to 1.2 m bgl. 4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. SPT Hammer ID AR2154 (Er=73%).					Water Strike			Water Level		Borehole Diameter		
					Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter	
						1.50				4.20	100	
Coordinates: E471542.20 N171233.84		Elevation (mAOD): 48.89		Drilled By: Delta Drilling		Plant Used: Terrier		Logged: AT	Checked: TA	Approved: DJ	Scale: 1:30	

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref: 110.99
Test Date: 26/02/2020
Report Date: 26/02/2020
File Name: 110.99.spt
Test Operator: JL

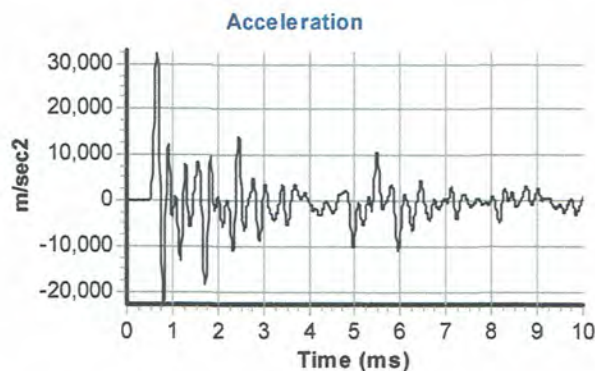
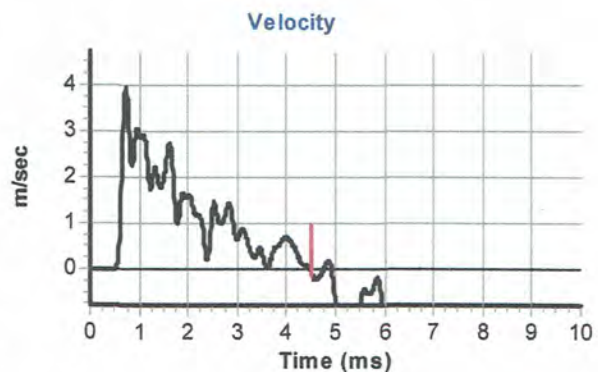
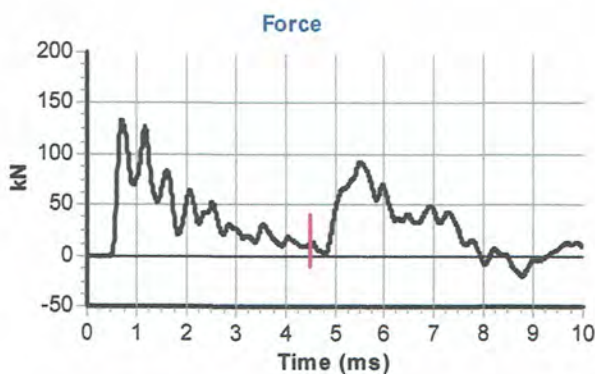
Instrumented Rod Data

Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.0
Assumed Modulus E_a (GPa): 200
Accelerometer No.1: 7080
Accelerometer No.2: 11609

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 10.0

Comments / Location



Calculations

Area of Rod A (mm²): 905
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 343

Energy Ratio E_r (%): **73**

Signed: S. HOWARTH
Title: FITTER

The recommended calibration interval is 12 months

Ryburgh House Farm
63 Fakenham road
Great Ryburgh

SPT Hammer Ref: BS01
Test Date: 23/12/2019
Report Date: 06/01/2020
File Name: BS01.spt
Test Operator: RW

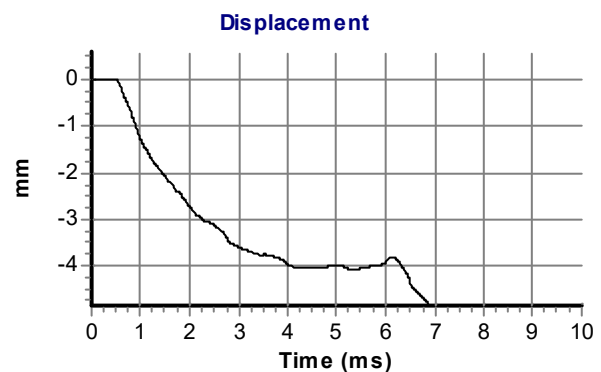
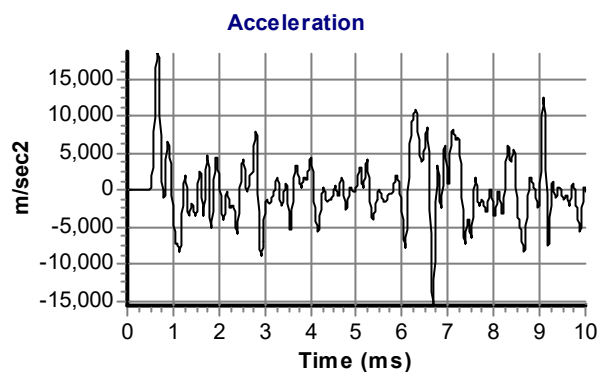
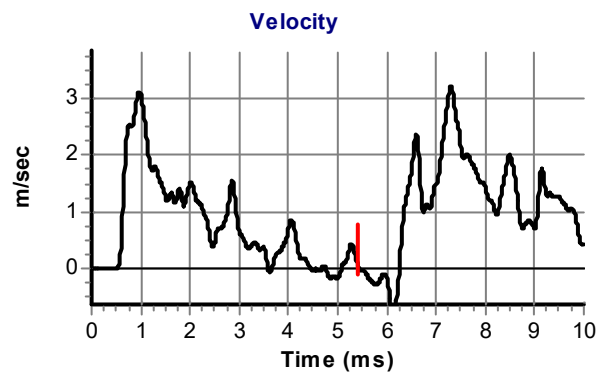
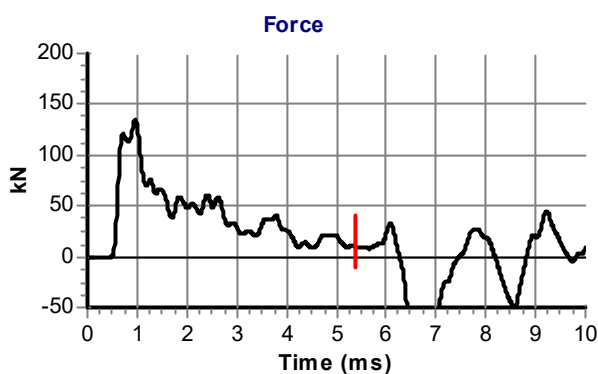
Instrumented Rod Data

Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.4
Assumed Modulus E_a (GPa): 208
Accelerometer No.1: 63177
Accelerometer No.2: 63178

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 13.6

Comments / Location



Calculations

Area of Rod A (mm^2): 957
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 293

Energy Ratio E_r (%)

62

Signed: RW
Title: Drilling Manager

TEST CERTIFICATE

Determination of CBR Value by Mexe Probe

Tested in Accordance with Manufacturers Instruction and Method Statement SS08

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



Client: Delta Simons
Client Address: 3 Henley Office Park
Doddington Road
Lincoln, LN6 3QR
Contact: Robert Stafford

Client Reference: DS57772
Job Number: 20-40361_1
Date Sampled: 16/11/2020
Date Received: 16/11/2020
Date Tested: 16/11/2020
Sampled By: SW

Site Address: Brunel Retail Park, Rose Kiln Lane, Reading

Test results

Laboratory Reference	Client Reference	Location	Soil Description	Average CBR Value (%)	Remarks
1		DS101	Brown CLAY Crushed Stone Sand Gravel	>14	-600mm
2		DS102	Brown CLAY Crushed Stone Sand Gravel	>14	-600mm
3		DS106	Sand Gravel	>14	-600mm
4		CP101	Sand Gravel	>14	-500mm
5		DS109	Crushed Brick Concrete	>14	-400mm
6		DS108	Crushed Brick Concrete Sand	>14	-400mm
7		DS107	Crushed Brick Sand	>14	-500mm
8		DS104	Crushed Rock	>14	-600mm
9		CP105	Crushed Rock	>14	-600mm
10		DS105	Crushed Brick Concrete	>14	-500mm
11		DS103	Dark Brown CLAY Brick	2.8	-500mm

Comments:

SSF134.2

Signed:

Hayden Fountain
Site Service Coordinator

Date Reported: 19/11/2020

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 are representative of the samples submitted for analysis. This report includes a statement of conformity to an industry standard specification, as such risks associated with uncertainty in relation to the decision rules applied do not need to be considered.

Appendix D – Geotechnical Analysis Results



TEST CERTIFICATE

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

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

Client Reference: 18-0642.03
Job Number: 20-42801
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 26/11/2020
Sampled By: Client

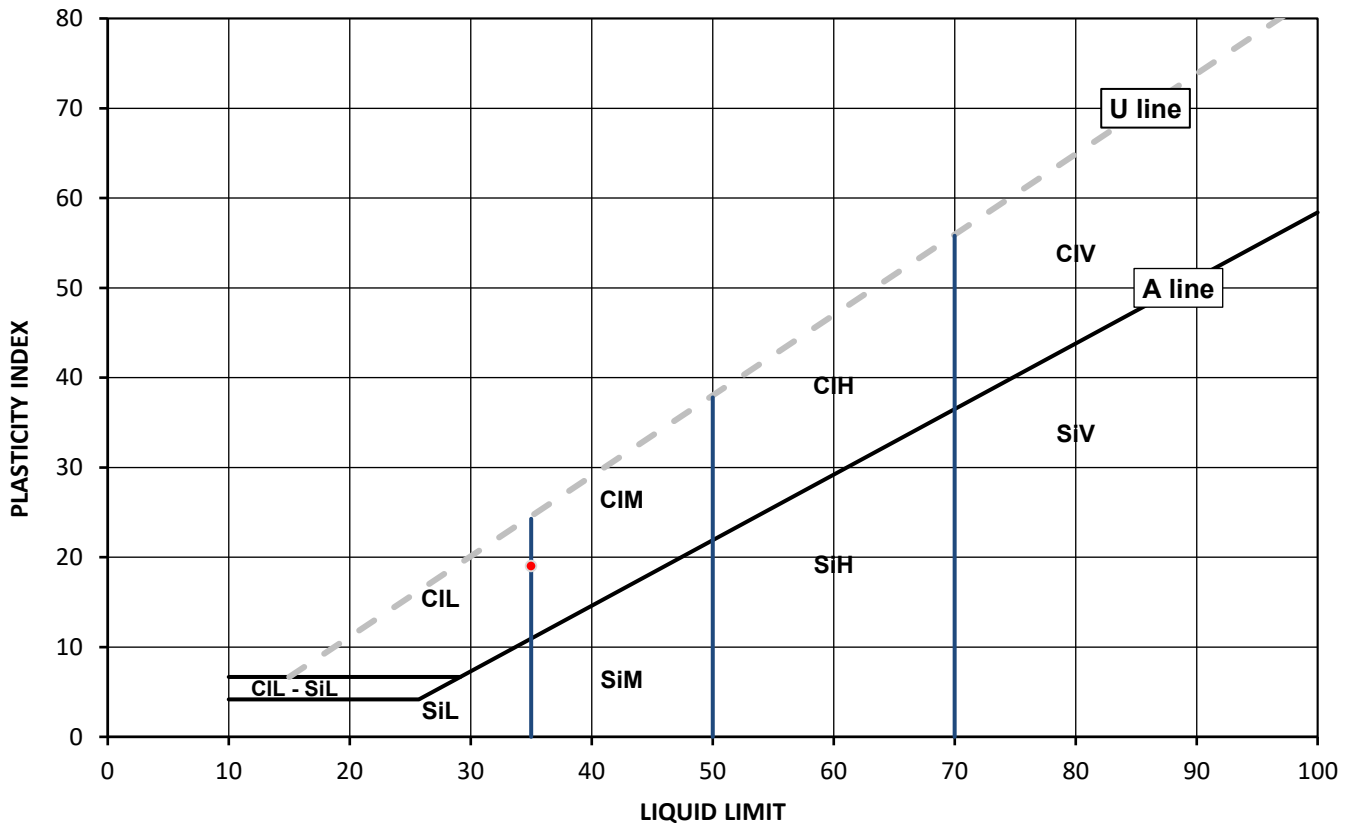
Test Results:

Laboratory Reference: 1692198
Hole No.: CP105
Sample Reference: Not Given
Soil Description: Mottled brown slightly gravelly sandy CLAY

Depth Top [m]: 9.20
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425um BS Test Sieve
25	35	16	19	97



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

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

Client Reference: 18-0642.03
Job Number: 20-42801
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 26/11/2020
Sampled By: Client

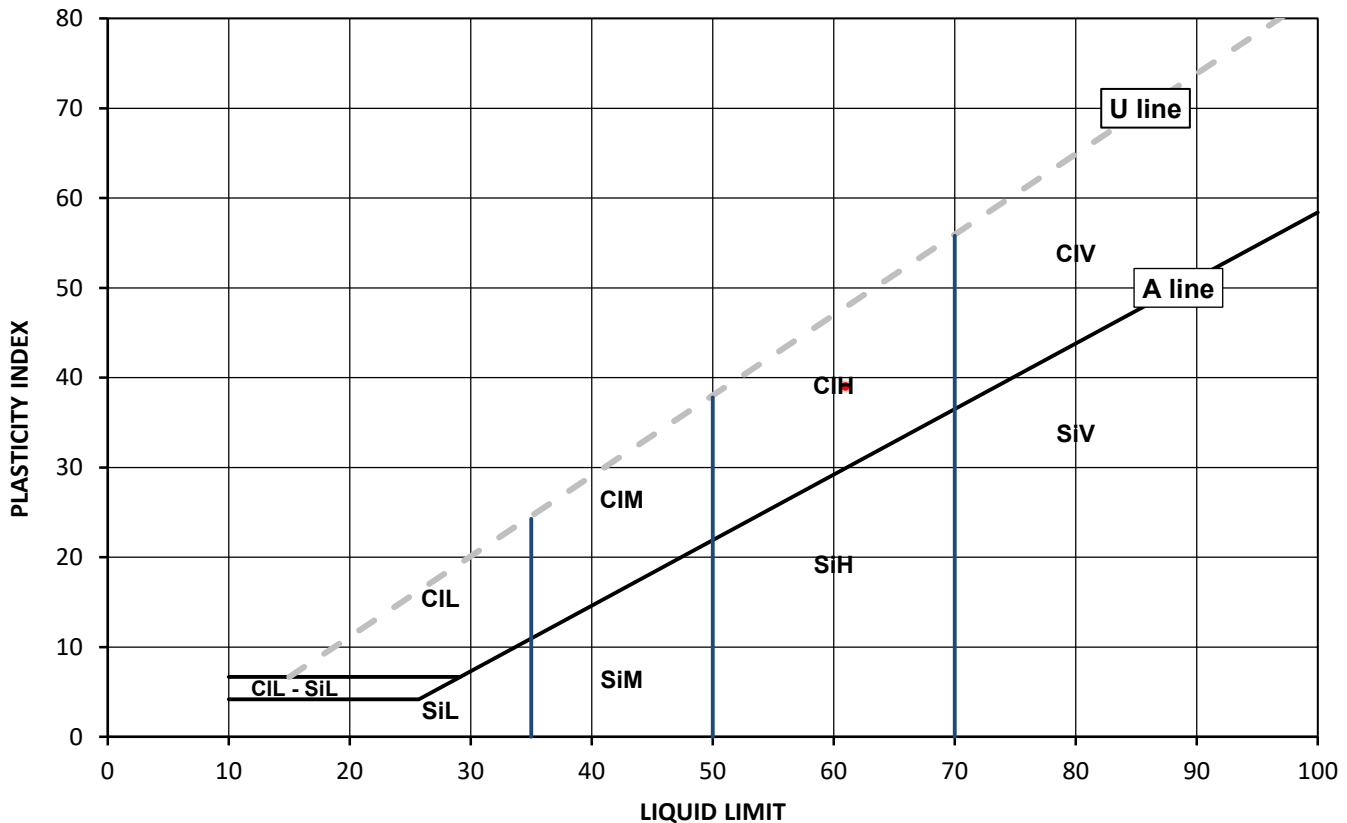
Test Results:

Laboratory Reference: 1692199
Hole No.: CP105
Sample Reference: Not Given
Soil Description: Grey CLAY

Depth Top [m]: 12.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
19	61	22	39	100



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

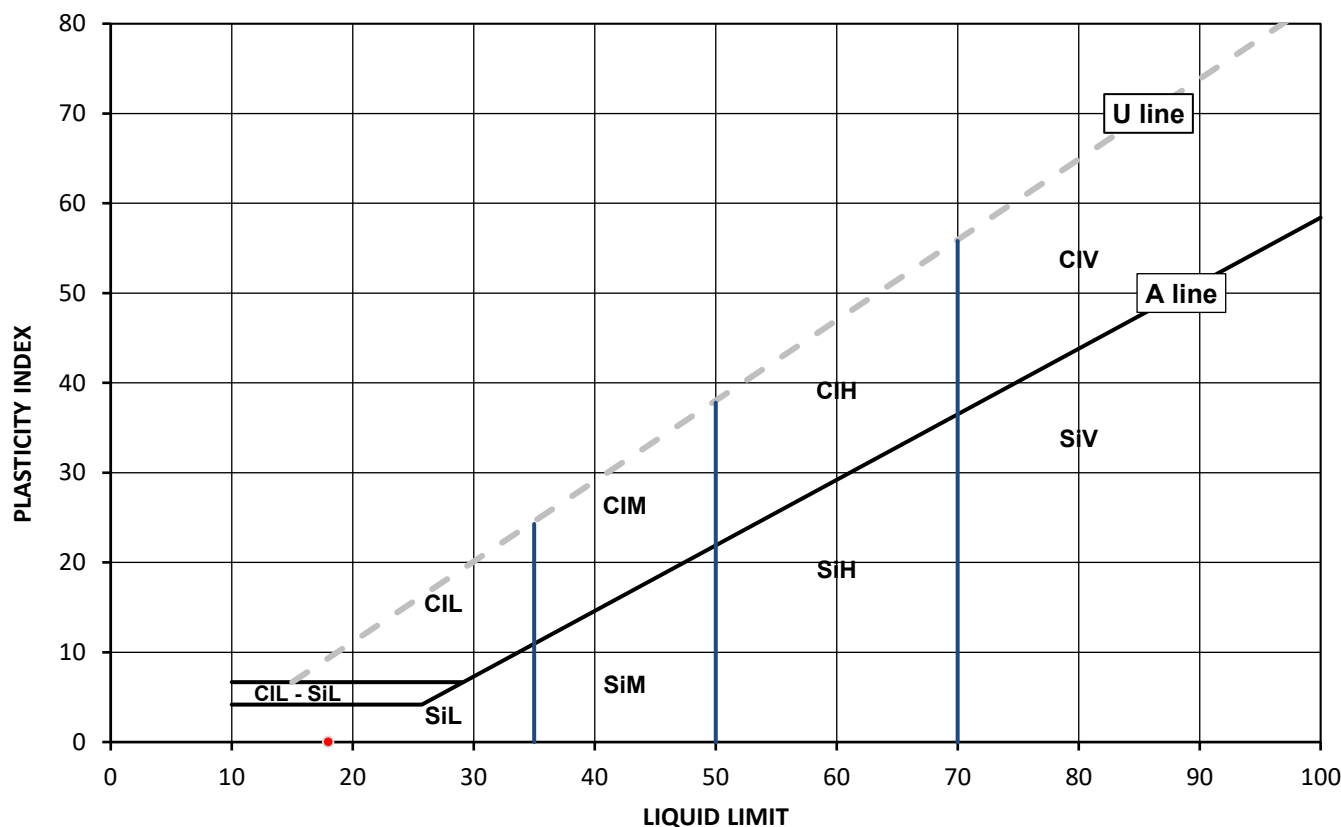
Test Results:

Laboratory Reference: 1693786
Hole No.: CP102
Sample Reference: Not Given
Soil Description: Brown mottled grey slightly clayey slightly gravelly SILT

Depth Top [m]: 11.50
Depth Base [m]: Not Given
Sample Type: B

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22	18	NP	NP	89



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: NP - non plastic

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 28/11/2020
Sampled By: Not Given

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

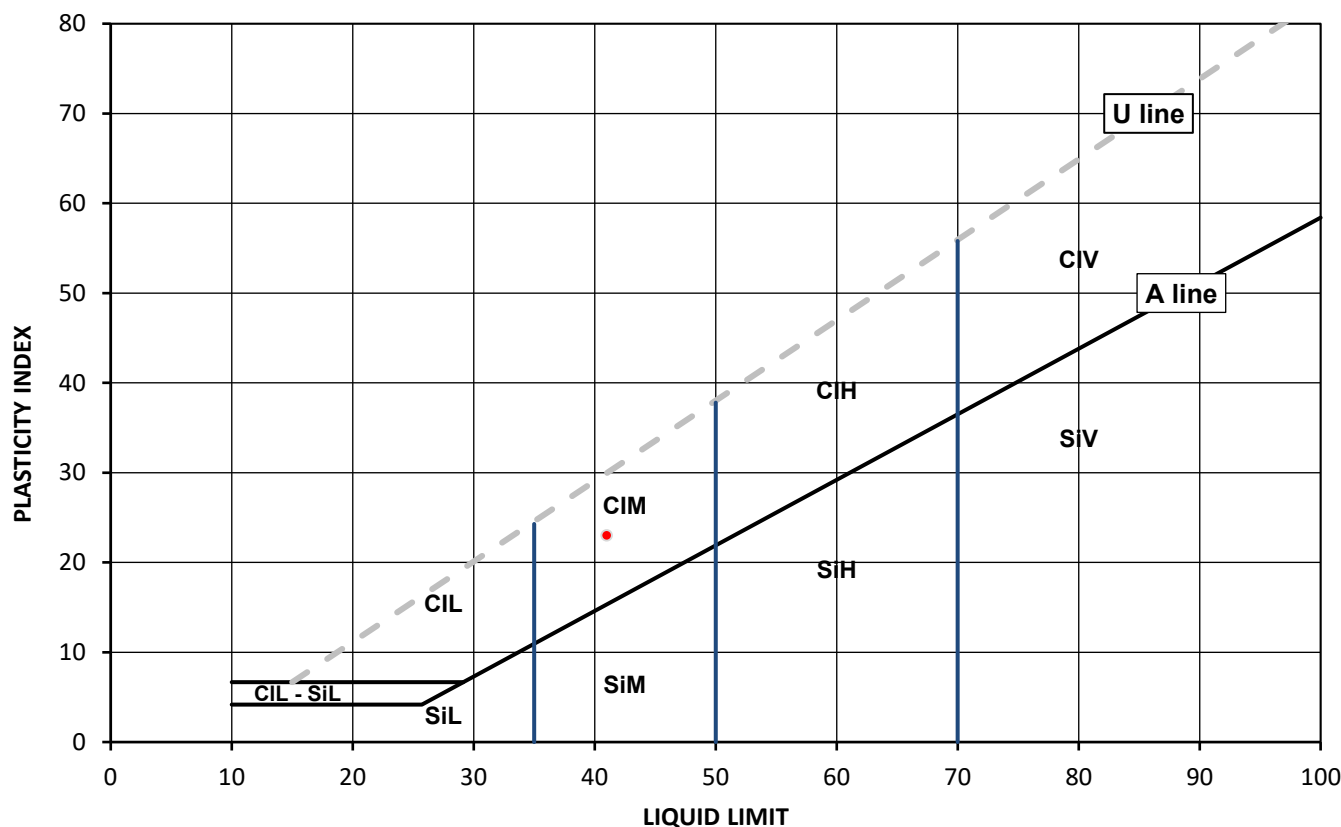
Test Results:

Laboratory Reference: 1693788
Hole No.: CP102
Sample Reference: Not Given
Soil Description: Grey slightly gravelly sandy CLAY

Depth Top [m]: 13.50
Depth Base [m]: 13.95
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	41	18	23	94



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

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

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 28/11/2020
Sampled By: Not Given

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

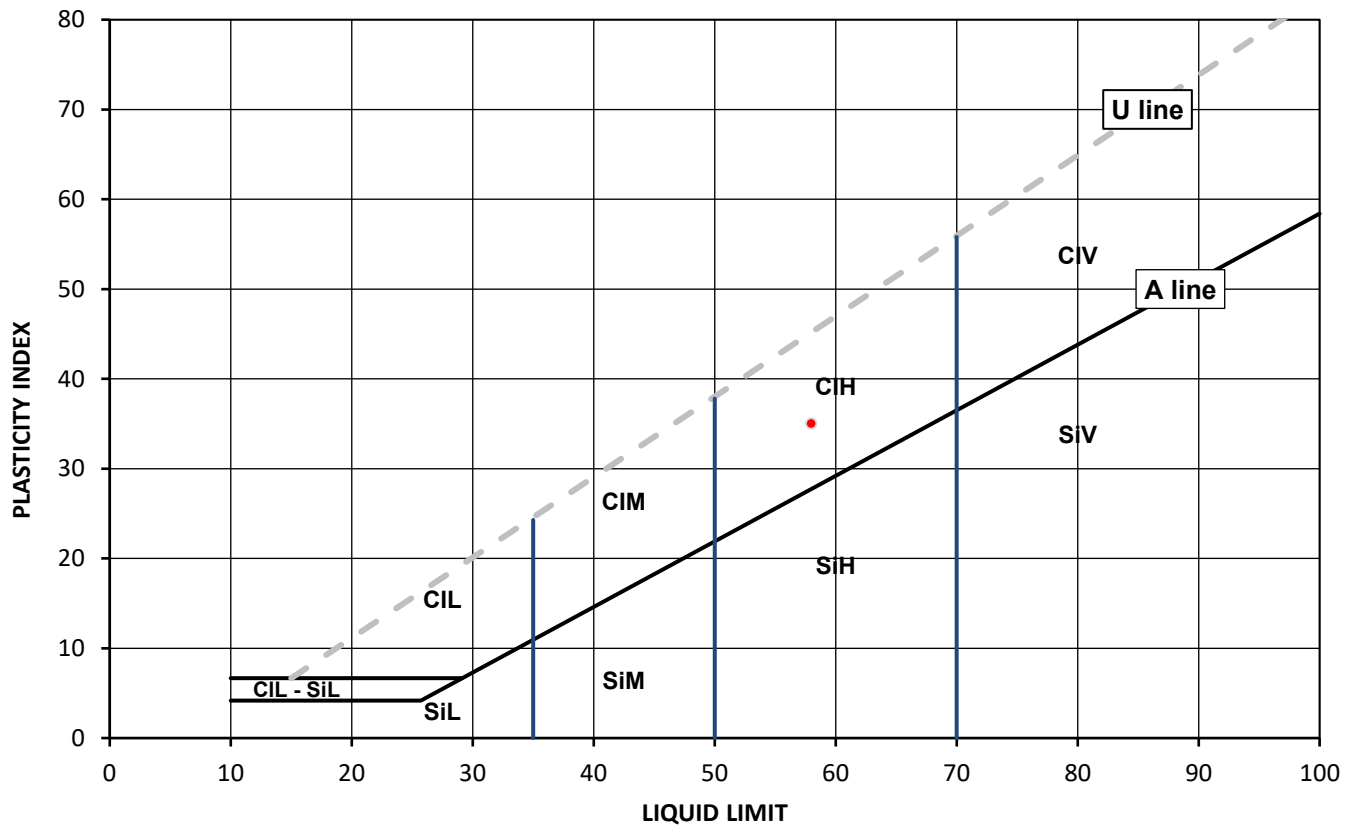
Test Results:

Laboratory Reference: 1693789
Hole No.: CP102
Sample Reference: Not Given
Soil Description: Dark brown slightly gravelly slightly sandy CLAY

Depth Top [m]: 15.00
Depth Base [m]: 15.45
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
23	58	23	35	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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 28/11/2020
Sampled By: Not Given

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

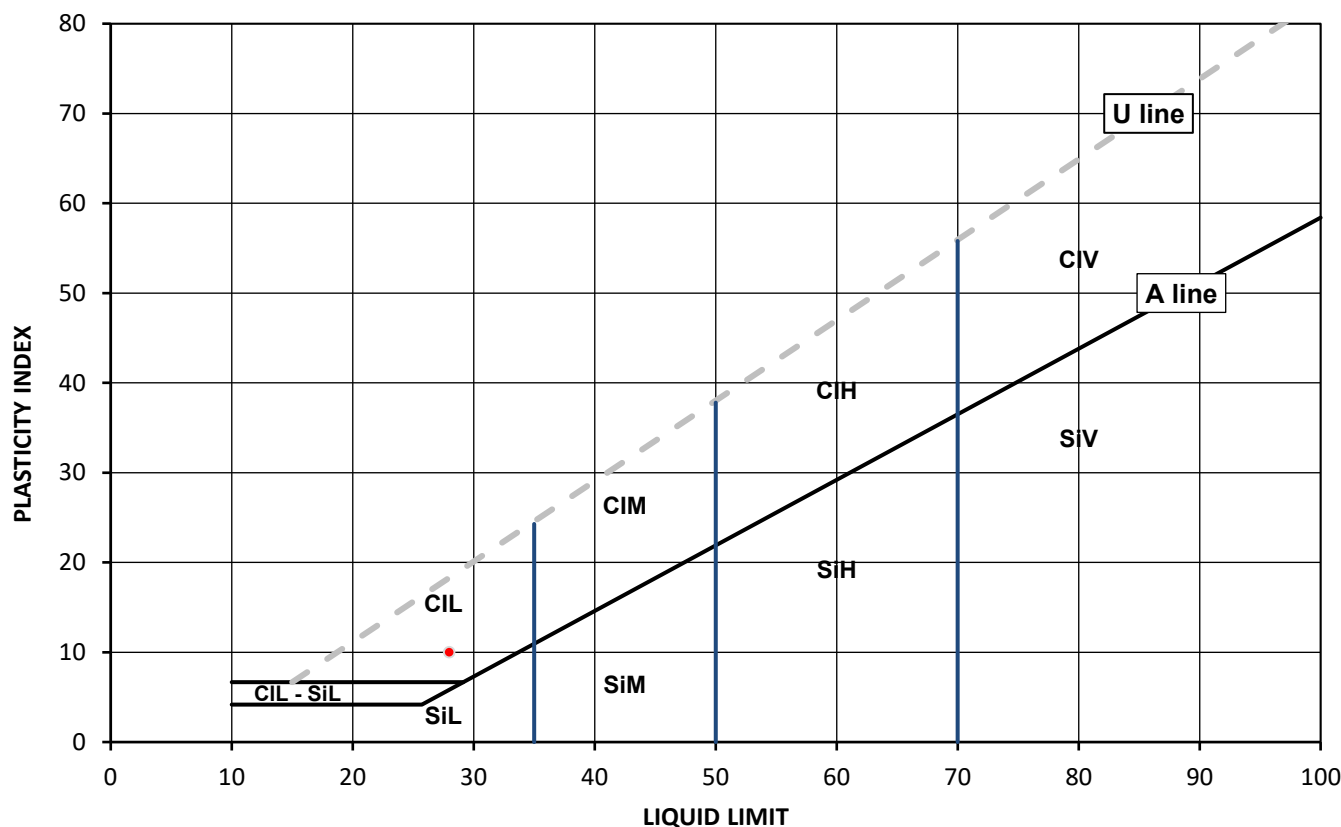
Test Results:

Laboratory Reference: 1693790
Hole No.: CP102
Sample Reference: Not Given
Soil Description: White to grey very sandy CLAY with fragments of chalk

Depth Top [m]: 20.00
Depth Base [m]: 20.45
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
26	28	18	10	100



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 01/12/2020
Sampled By: Not Given

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

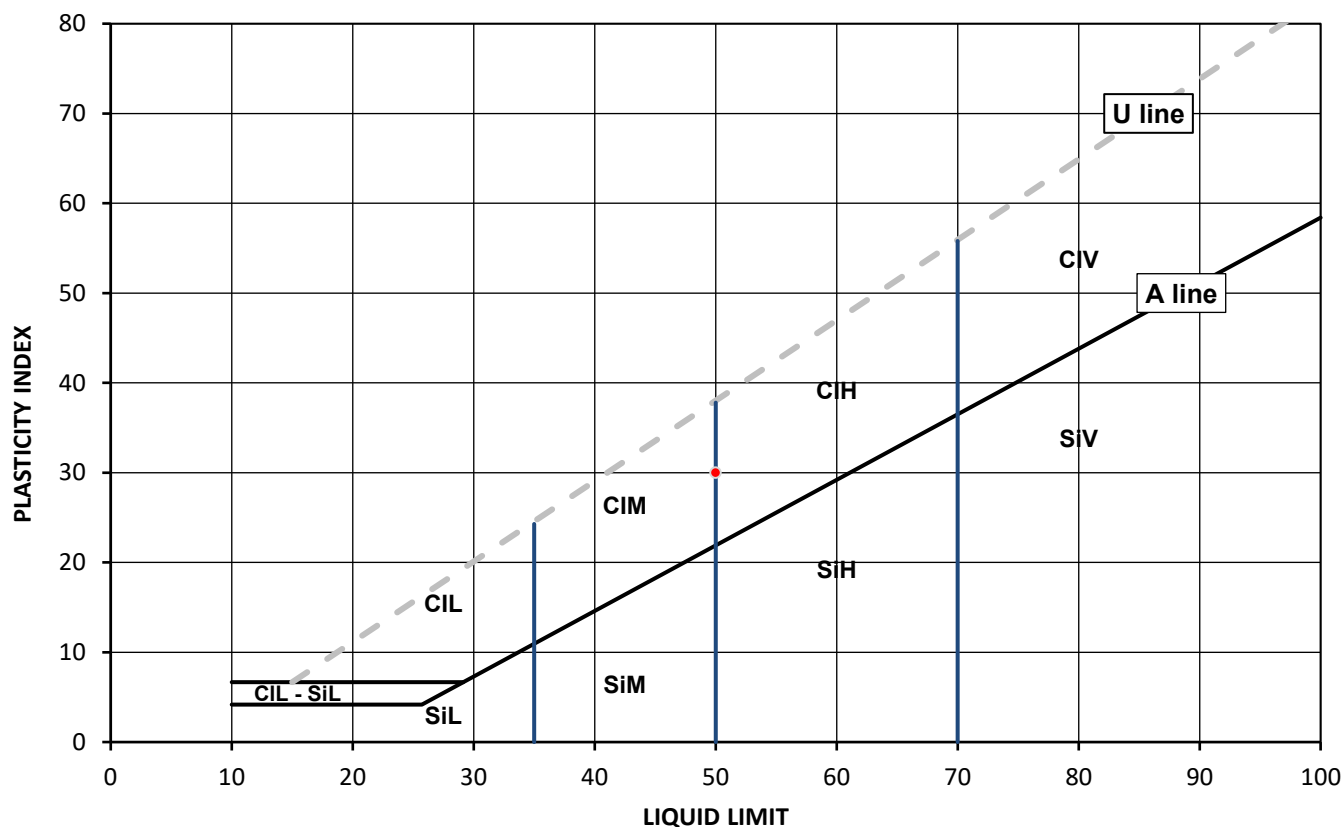
Test Results:

Laboratory Reference: 1693794
Hole No.: CP104
Sample Reference: Not Given
Soil Description: Multicolour slightly sandy CLAY

Depth Top [m]: 4.00
Depth Base [m]: 4.45
Sample Type: U

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
16	50	20	30	100



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 28/11/2020
Sampled By: Not Given

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

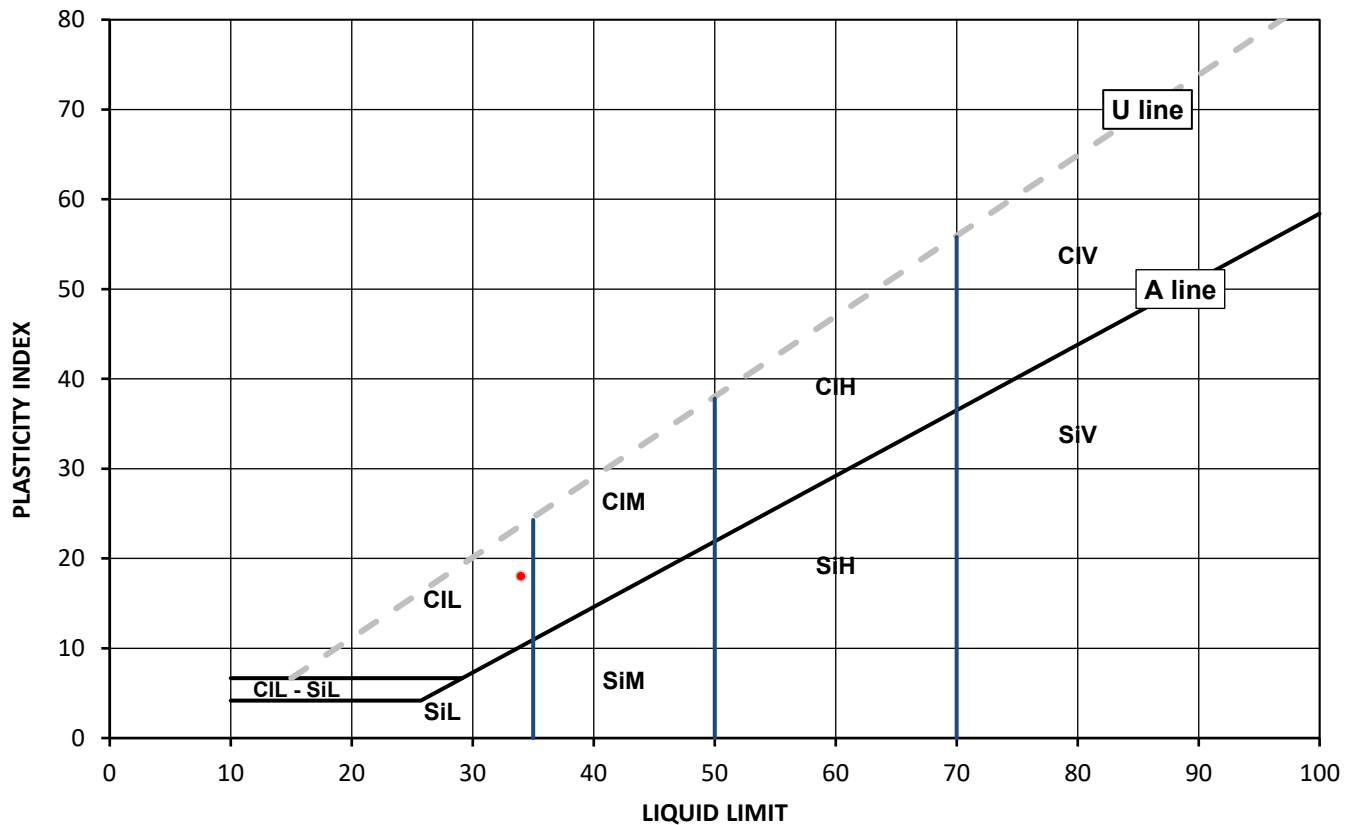
Test Results:

Laboratory Reference: 1693795
Hole No.: DS106
Sample Reference: Not Given
Soil Description: Brown slightly gravelly very sandy CLAY

Depth Top [m]: 1.40
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	34	16	18	95



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 28/11/2020
Sampled By: Not Given

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

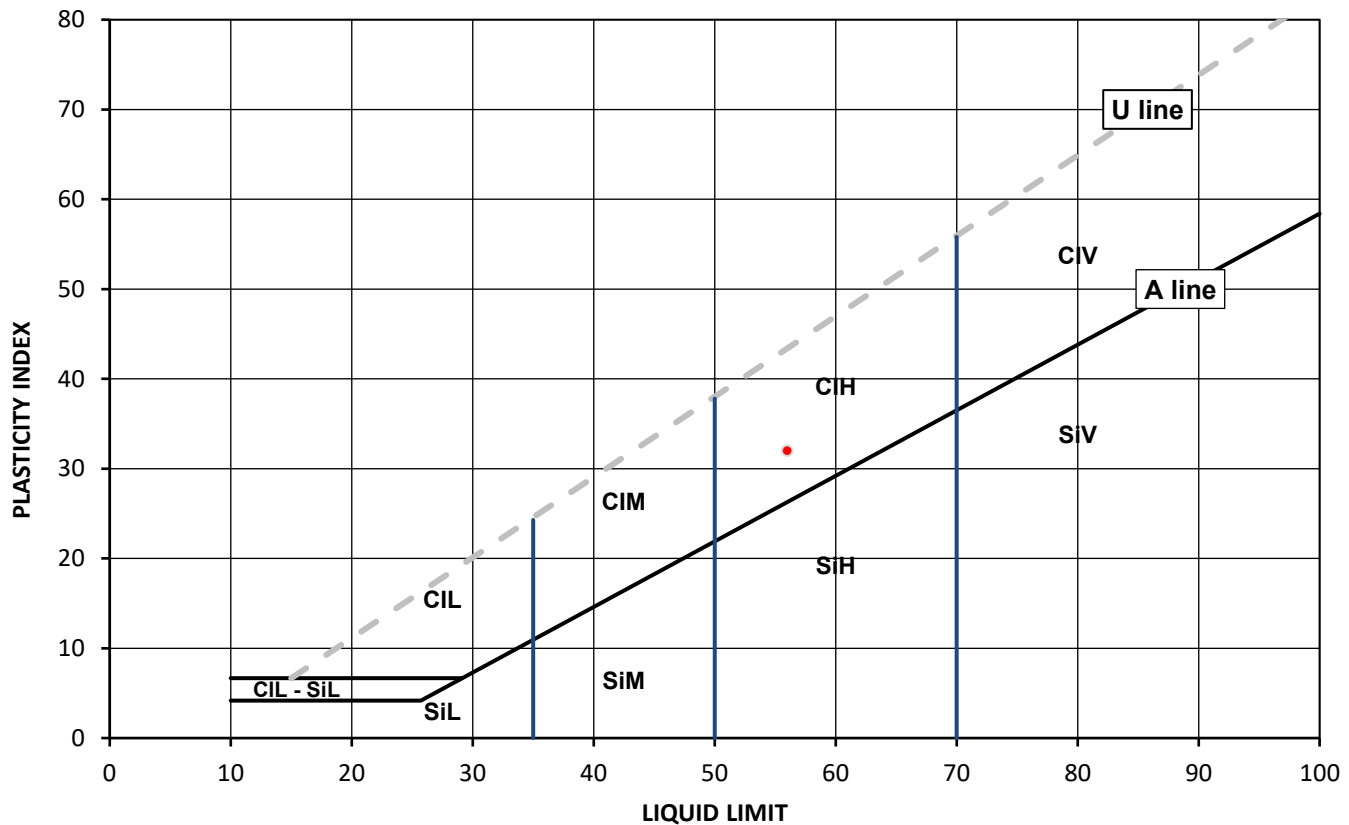
Test Results:

Laboratory Reference: 1693796
Hole No.: DS106
Sample Reference: Not Given
Soil Description: Light brown slightly sandy CLAY

Depth Top [m]: 2.50
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
16	56	24	32	100



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 28/11/2020
Sampled By: Not Given

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

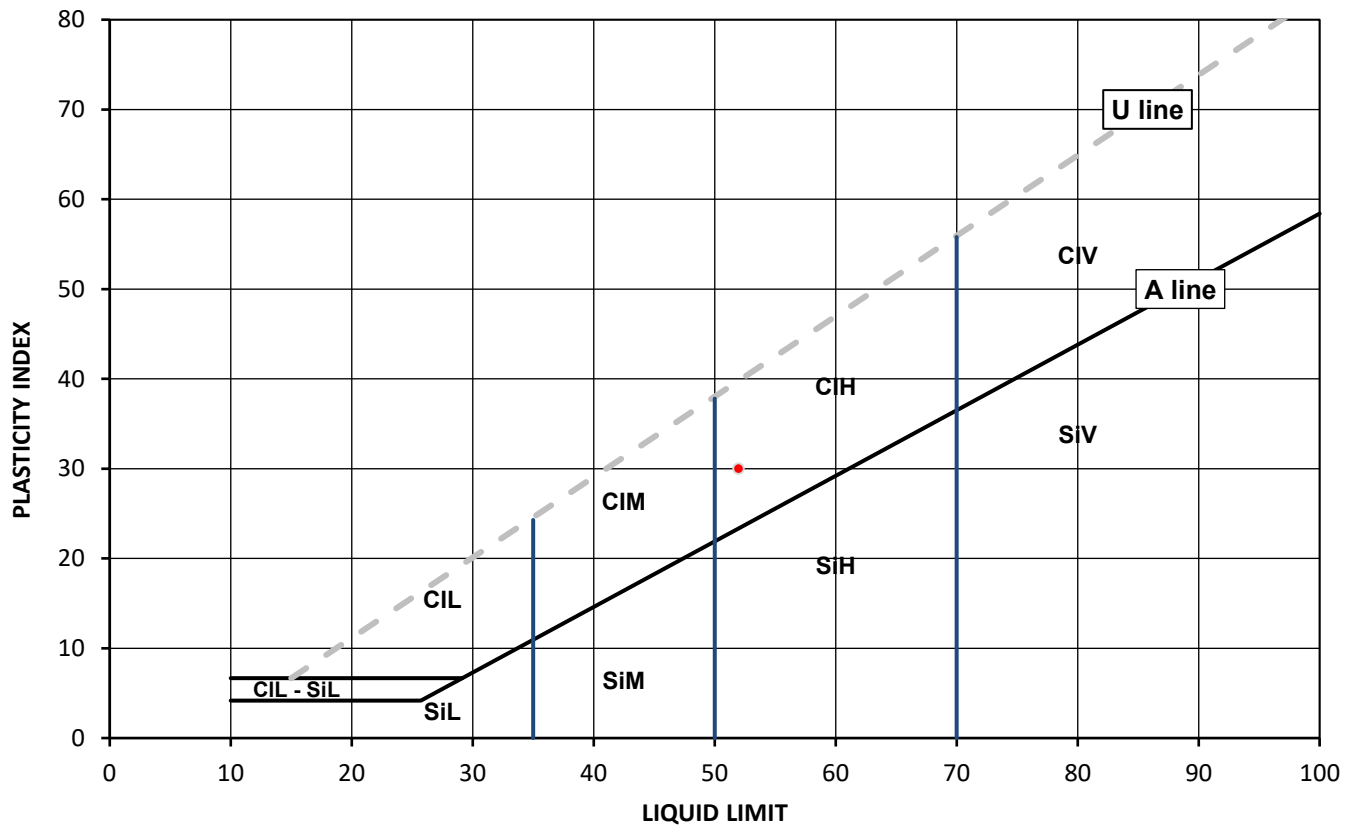
Test Results:

Laboratory Reference: 1693798
Hole No.: DS109
Sample Reference: Not Given
Soil Description: Light grey slightly sandy CLAY

Depth Top [m]: 3.00
Depth Base [m]: 3.45
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
21	52	22	30	100



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

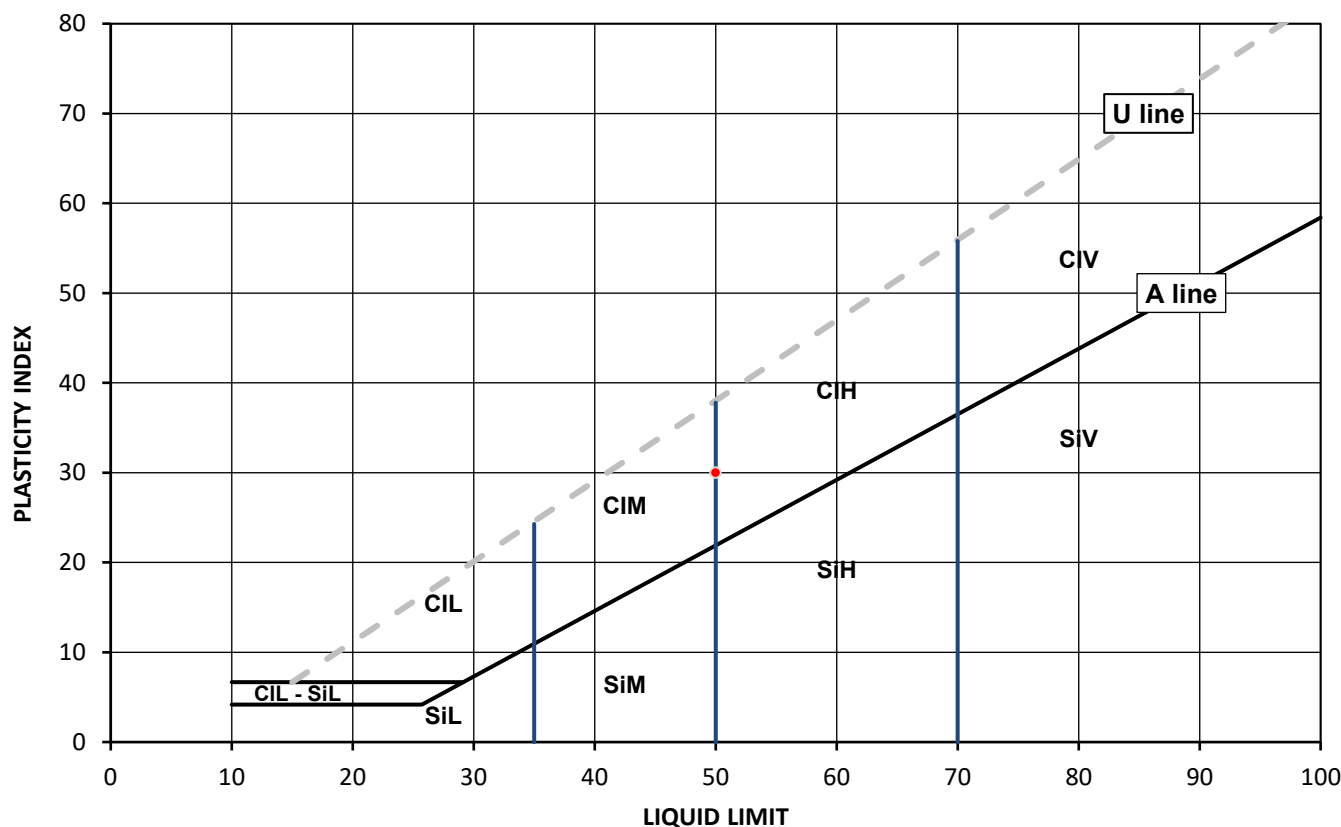
Test Results:

Laboratory Reference: 1693799
Hole No.: DS109
Sample Reference: Not Given
Soil Description: Brownish grey slightly sandy CLAY

Depth Top [m]: 2.00
Depth Base [m]: 3.00
Sample Type: B

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
19	50	20	30	100



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 28/11/2020
Sampled By: Not Given

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

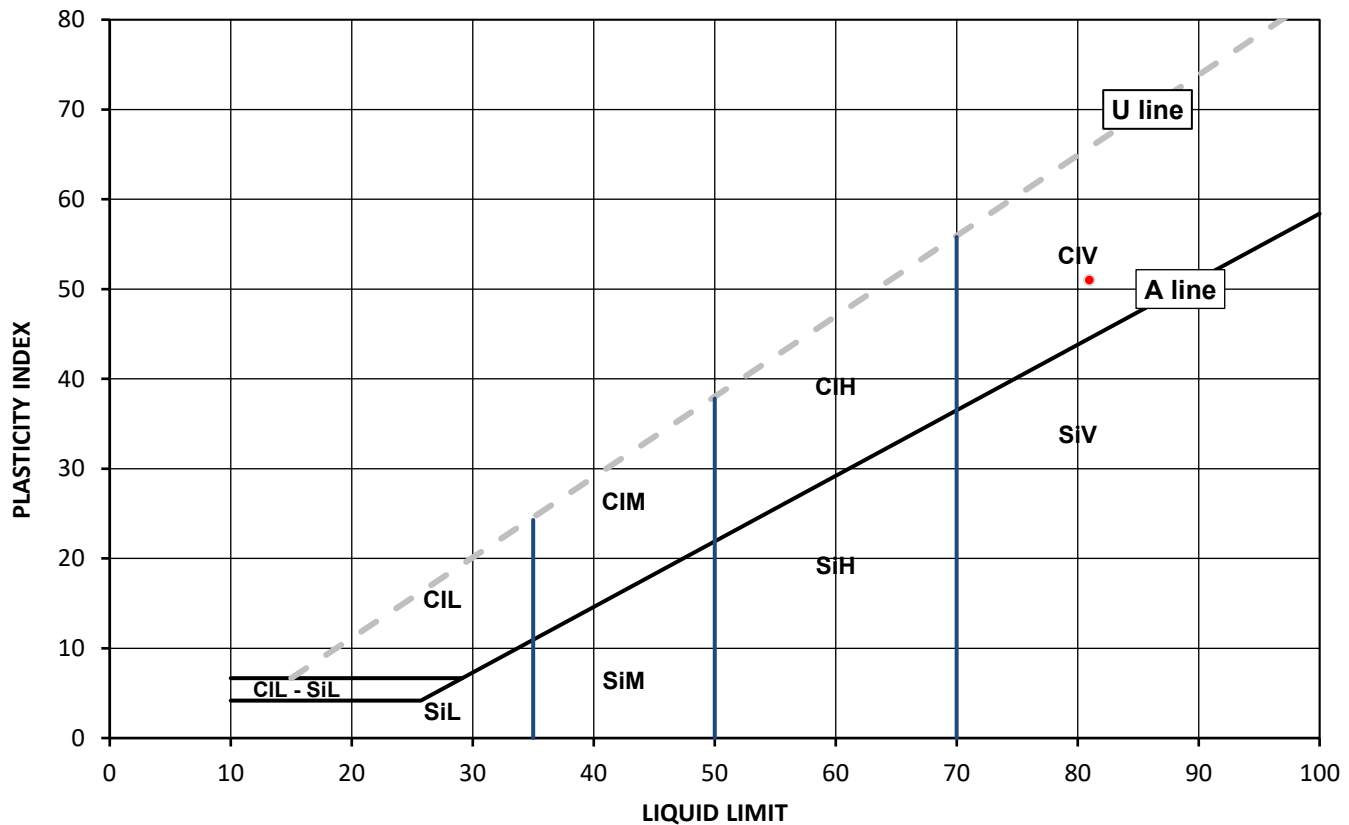
Test Results:

Laboratory Reference: 1693801
Hole No.: DS108A
Sample Reference: Not Given
Soil Description: Brown CLAY

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

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
36	81	30	51	100



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 01/12/2020
Sampled By: Not Given

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

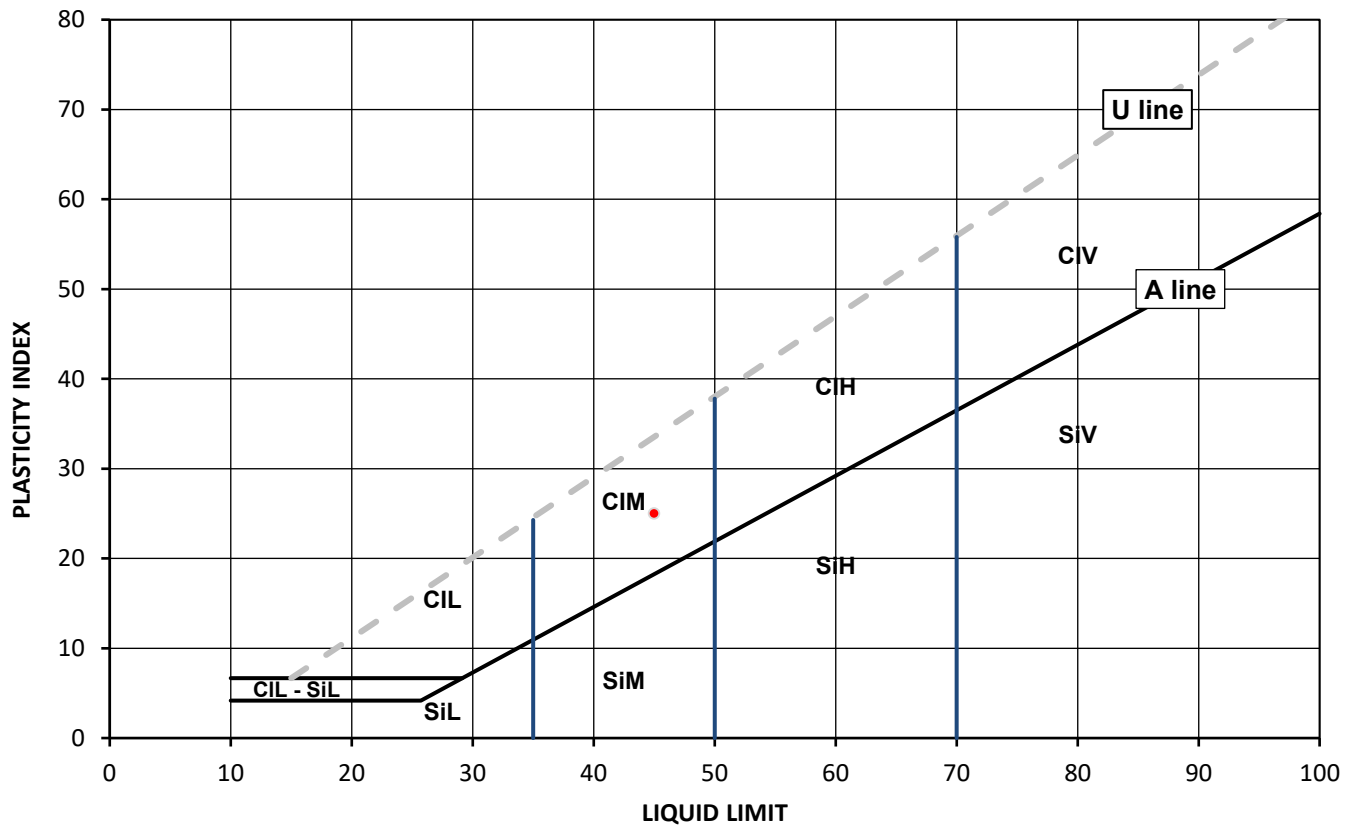
Test Results:

Laboratory Reference: 1693802
Hole No.: CP101
Sample Reference: Not Given
Soil Description: Multicolour slightly sandy CLAY

Depth Top [m]: 4.00
Depth Base [m]: 4.45
Sample Type: U

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
17	45	20	25	100



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

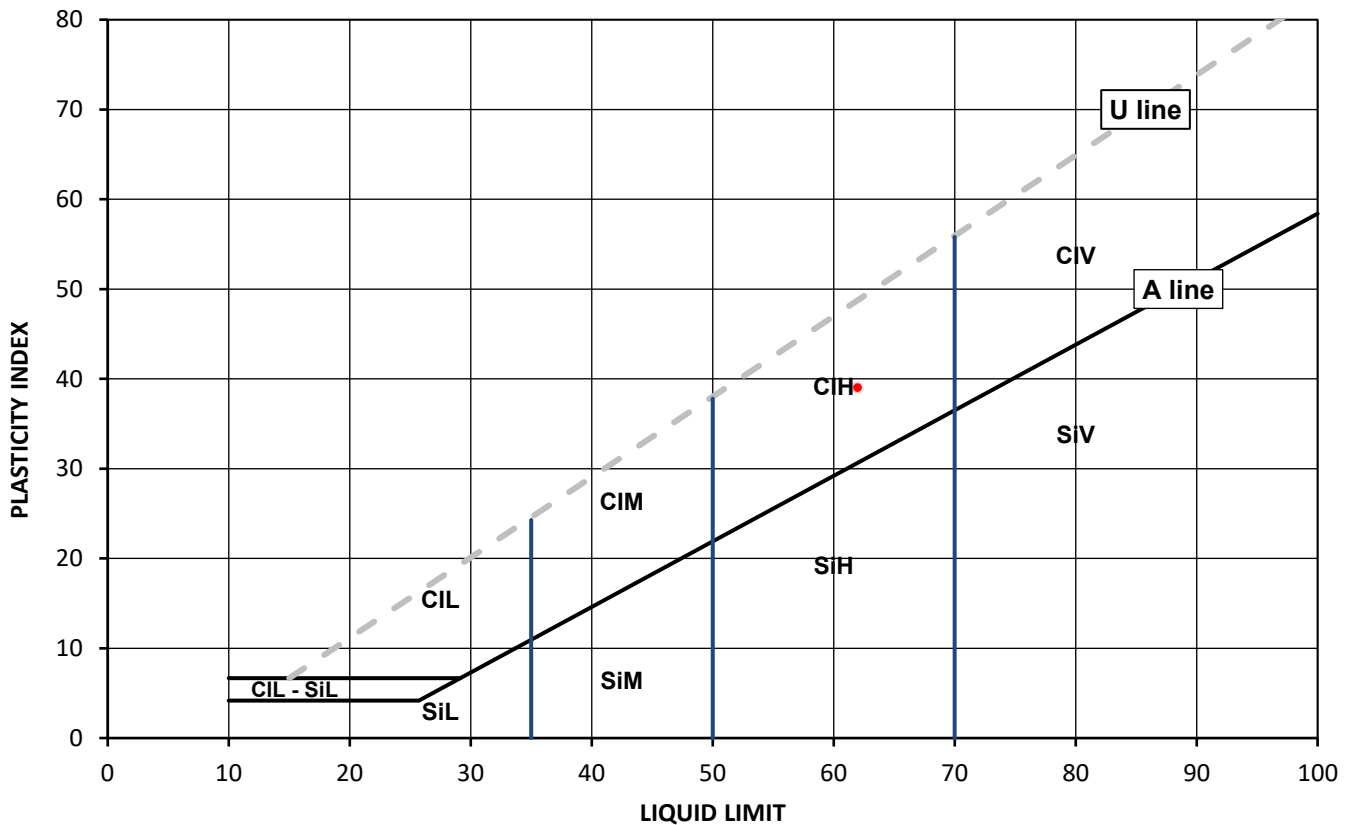
Test Results:

Laboratory Reference: 1693803
Hole No.: CP101
Sample Reference: Not Given
Soil Description: Grey slightly sandy very silty CLAY

Depth Top [m]: 14.60
Depth Base [m]: Not Given
Sample Type: B

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
27	62	23	39	100



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 01/12/2020
Sampled By: Not Given

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

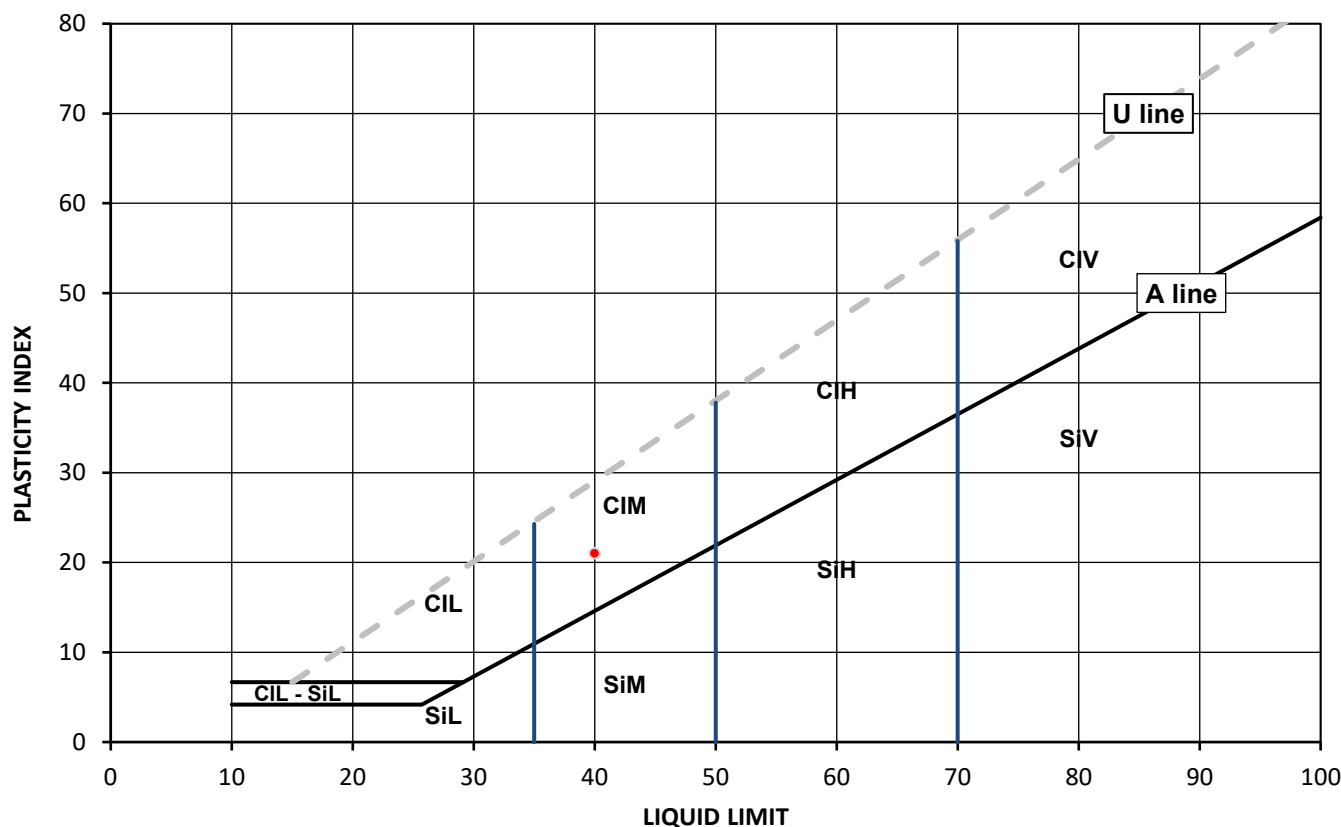
Test Results:

Laboratory Reference: 1693804
Hole No.: CP101
Sample Reference: Not Given
Soil Description: Grey mottled brown sandy CLAY

Depth Top [m]: 15.00
Depth Base [m]: 15.45
Sample Type: U

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
24	40	19	21	100



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: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Liquid and Plastic Limits

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



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

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 28/11/2020
Sampled By: Not Given

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

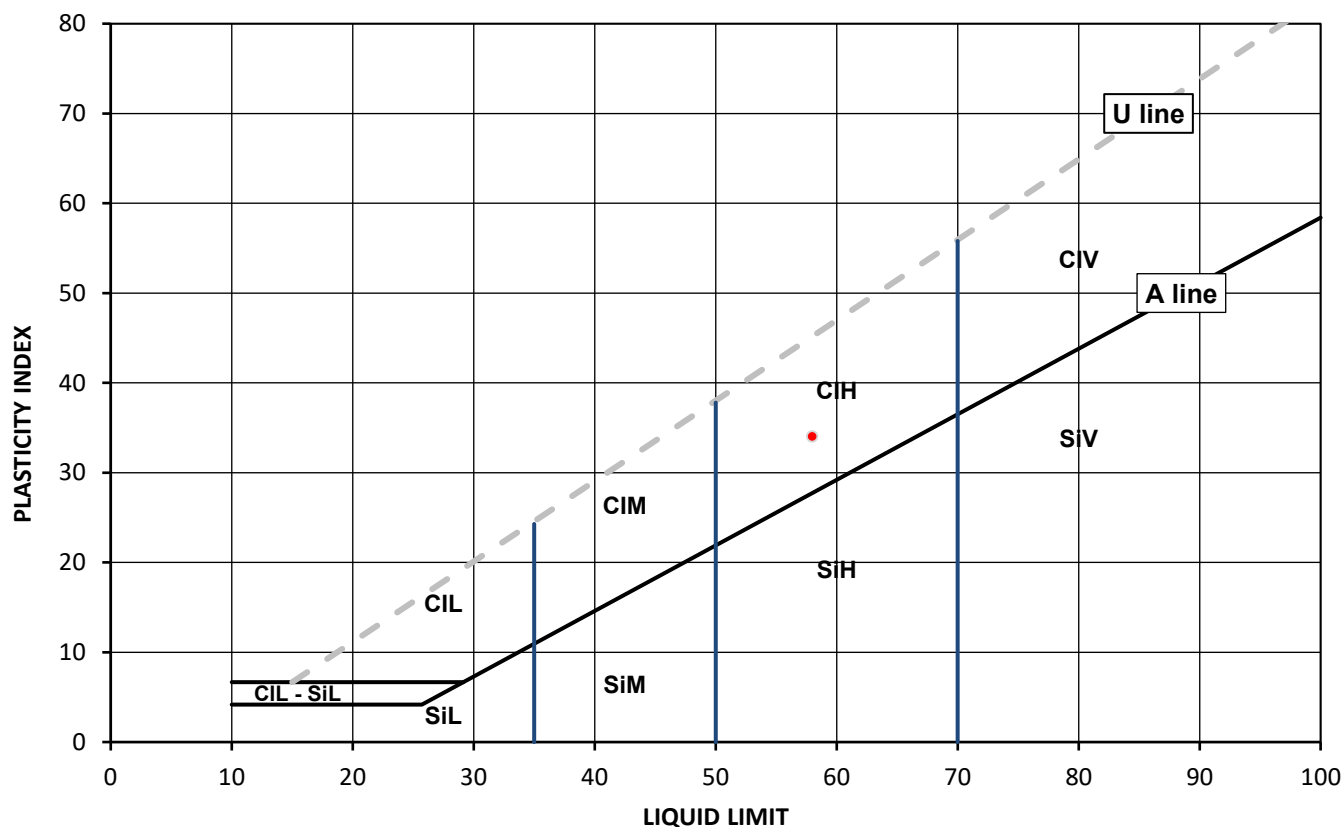
Test Results:

Laboratory Reference: 1693805
Hole No.: CP101
Sample Reference: Not Given
Soil Description: Dark brown slightly sandy CLAY

Depth Top [m]: 16.50
Depth Base [m]: 16.95
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	58	24	34	100



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)

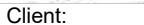
Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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.



Summary of Classification Test Results



Environmental Science

Tested in Accordance with:

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Moisture Content by BS 1377-2: 1990: Clause 3.2; Water Content by BS EN 17892-1: 2014; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

Client Reference: 18-0642.03

Job Number: 20-42801

Date Sampled: Not Given

Date Received: 23/11/2020

Date Tested: 26/11/2020

Sampled By: Client

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

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

Test results

[illegible]

Note: # Non accredited; NP - Non plastic

Comments:

Signed:

Manika
Enoch

Monika Janoszek
PL Deputy Head of Geotechnical Section
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.



SUMMARY REPORT

Summary of Classification Test Results

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



Environmental Science

Tested in Accordance with:

Moisture Content by BS 1377-2: 1990: Clause 3.2; Water Content by BS EN 17892-1: 2014; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

Client Reference: 18-0642.03

Job Number: 20-43133

Date Sampled: Not Given

Date Received: 23/11/2020

Date Tested: 28/11 - 02/12/2020

Sampled By: Not Given

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford

Site Address: Brunell Retail Park, Reading

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Moisture Content [W]	Water Content [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m										Mg/m3	Mg/m3	Mg/m3			
1693802	CP101	Not Given	4.00	4.45	U	Multicolour slightly sandy CLAY	Atterberg 4 Point	17		100	45	20	25						
1693803	CP101	Not Given	14.60	Not Given	B	Grey slightly sandy very silty CLAY	Atterberg 4 Point	27		100	62	23	39						
1693804	CP101	Not Given	15.00	15.45	U	Grey mottled brown sandy CLAY	Atterberg 4 Point	24		100	40	19	21						
1693805	CP101	Not Given	16.50	16.95	D	Dark brown slightly sandy CLAY	Atterberg 4 Point	20		100	58	24	34						
1693786	CP102	Not Given	11.50	Not Given	B	Brown mottled grey slightly clayey slightly gravelly SILT	Atterberg 4 Point	22		89	18	NP	NP						
1693788	CP102	Not Given	13.50	13.95	D	Grey slightly gravelly sandy CLAY	Atterberg 4 Point	20		94	41	18	23						
1693789	CP102	Not Given	15.00	15.45	D	Dark brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	23		99	58	23	35						
1693790	CP102	Not Given	20.00	20.45	D	White to grey very sandy CLAY with fragments of chalk	Atterberg 4 Point	26		100	28	18	10						
1693794	CP104	Not Given	4.00	4.45	U	Multicolour slightly sandy CLAY	Atterberg 4 Point	16		100	50	20	30						
1693795	DS106	Not Given	1.40	Not Given	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	18		95	34	16	18						

Note: # Non accredited; NP - Non plastic

Comments:

Signed:

Monika Janoszek

Monika Janoszek
PL Deputy Head of Geotechnical Section
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.



SUMMARY REPORT

Summary of Classification Test Results

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



Tested in Accordance with:

Moisture Content by BS 1377-2: 1990: Clause 3.2; Water Content by BS EN 17892-1: 2014; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

Client Reference: 18-0642.03

Job Number: 20-43133

Date Sampled: Not Given

Date Received: 23/11/2020

Date Tested: 28/11 - 02/12/2020

Sampled By: Not Given

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford

Site Address: Brunell Retail Park, Reading

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Moisture Content [W]	Water Content [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m															
1693795	DS106	Not Given	1.40	Not Given	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	18		95	34	16	18						
1693796	DS106	Not Given	2.50	Not Given	D	Light brown slightly sandy CLAY	Atterberg 4 Point	16		100	56	24	32						
1693801	DS108A	Not Given	1.80	Not Given	D	Brown CLAY	Atterberg 4 Point	36		100	81	30	51						
1693799	DS109	Not Given	2.00	3.00	B	Brownish grey slightly sandy CLAY	Atterberg 4 Point	19		100	50	20	30						
1693799	DS109	Not Given	2.00	3.00	B	Brownish grey slightly sandy CLAY	Atterberg 4 Point	19		100	50	20	30						

Note: # Non accredited; NP - Non plastic

Comments:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

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: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 1693783

Hole No.: CP102

Sample Reference: Not Given

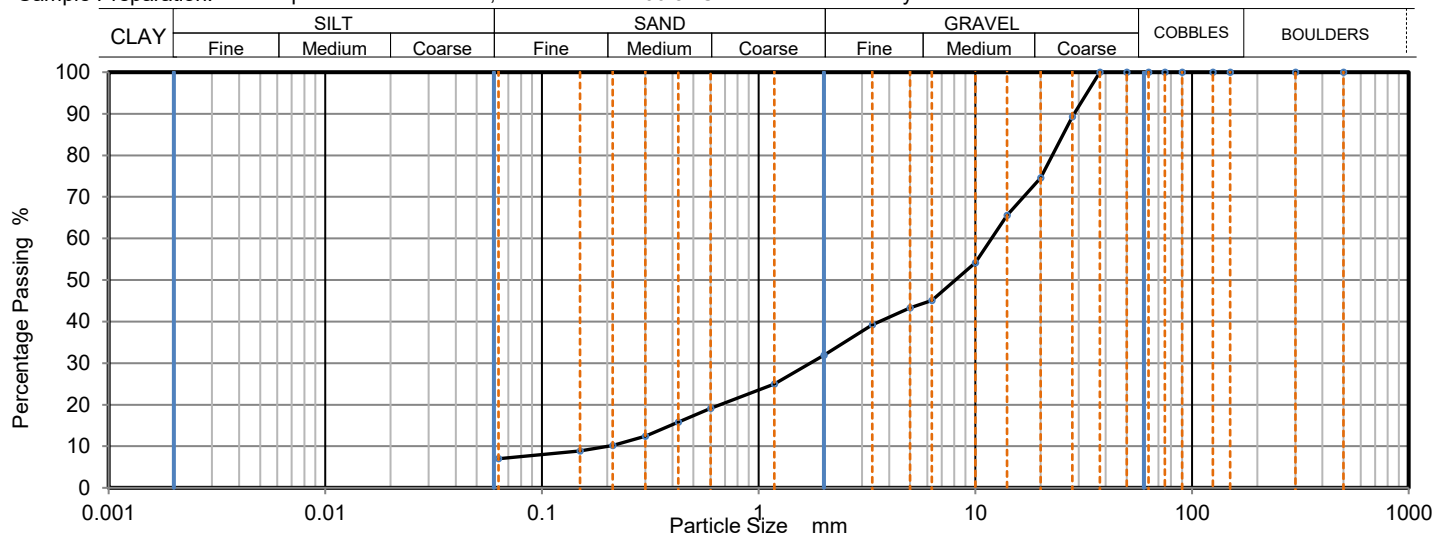
Sample Description: Brownish grey slightly clayey sandy GRAVEL

Sample Preparation: Sample was whole tested, oven dried at 106.5 °C and broken down by hand.

Depth Top [m]: 0.25

Depth Base [m]: 0.30

Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	89		
20	75		
14	66		
10	54		
6.3	45		
5	43		
3.35	39		
2	32		
1.18	25		
0.6	19		
0.425	16		
0.3	12		
0.212	10		
0.15	9		
0.063	7		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	68.10
Sand	24.60
Fines <0.063mm	7.40

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	60
Curvature Coefficient	1.3

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Particle Size Distribution

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



Tested in Accordance with: BS 1377-2: 1990

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

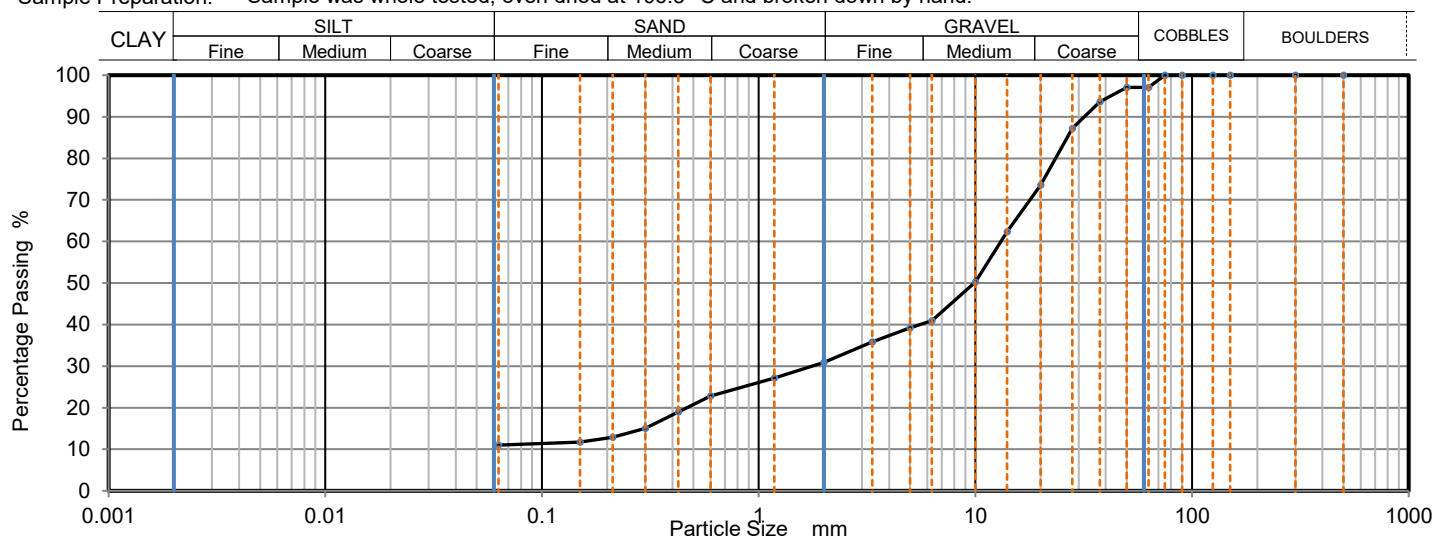
Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 1693784
Hole No.: CP102
Sample Reference: Not Given
Sample Description: Greyish brown clayey sandy GRAVEL with cobbles
Sample Preparation: Sample was whole tested, oven dried at 106.5 °C and broken down by hand.

Depth Top [m]: 0.30
Depth Base [m]: 0.65
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	97		
50	97		
37.5	94		
28	87		
20	74		
14	62		
10	50		
6.3	41		
5	39		
3.35	36		
2	31		
1.18	27		
0.6	23		
0.425	19		
0.3	15		
0.212	13		
0.15	12		
0.063	12		

Sample Proportions	% dry mass
Very coarse	2.90
Gravel	66.20
Sand	19.20
Fines <0.063mm	11.70

Grading Analysis	
D100	mm 75
D60	mm 13.1
D30	mm 1.77
D10	mm
Uniformity Coefficient	> 210
Curvature Coefficient	

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Particle Size Distribution

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



Tested in Accordance with: BS 1377-2: 1990

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 1693785

Hole No.: CP102

Sample Reference: Not Given

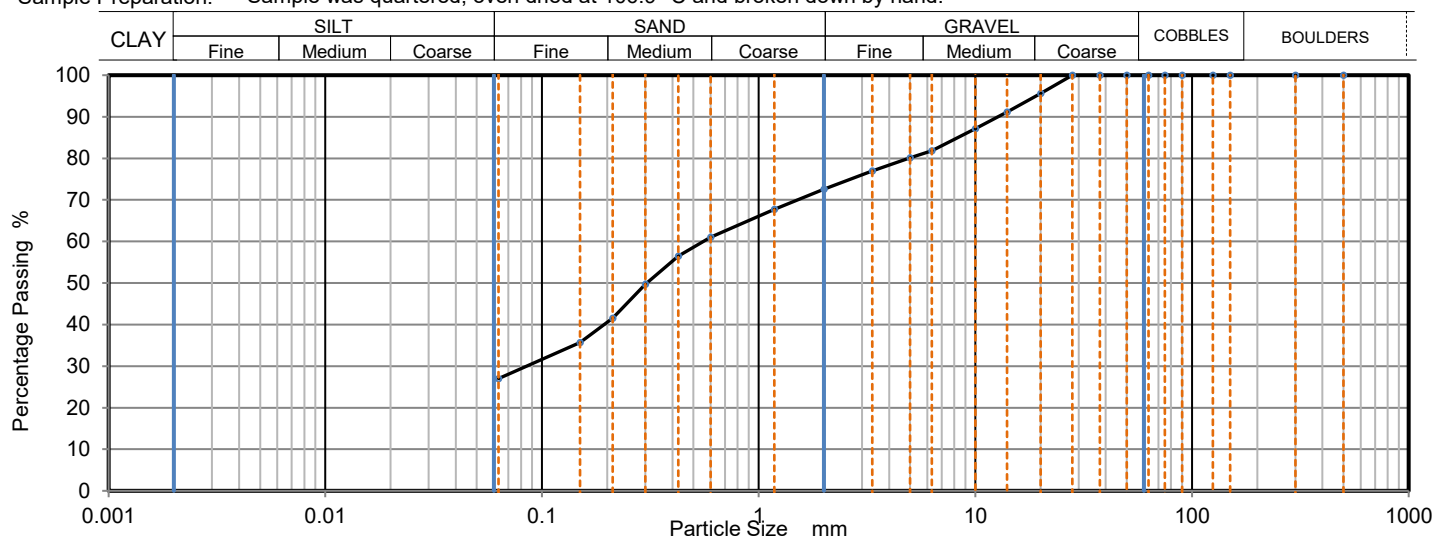
Sample Description: Dark brown silty very gravelly SAND with fragments of glass, slag, brick, wood (MADE GROUND)

Sample Preparation: Sample was quartered, oven dried at 106.9 °C and broken down by hand.

Depth Top [m]: 7.00

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	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	96		
14	91		
10	87		
6.3	82		
5	80		
3.35	77		
2	73		
1.18	68		
0.6	61		
0.425	57		
0.3	50		
0.212	42		
0.15	36		
0.063	27		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	27.40
Sand	45.60
Fines <0.063mm	27.00

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 8.8
Curvature Coefficient	

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Particle Size Distribution

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



Tested in Accordance with: BS 1377-2: 1990

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

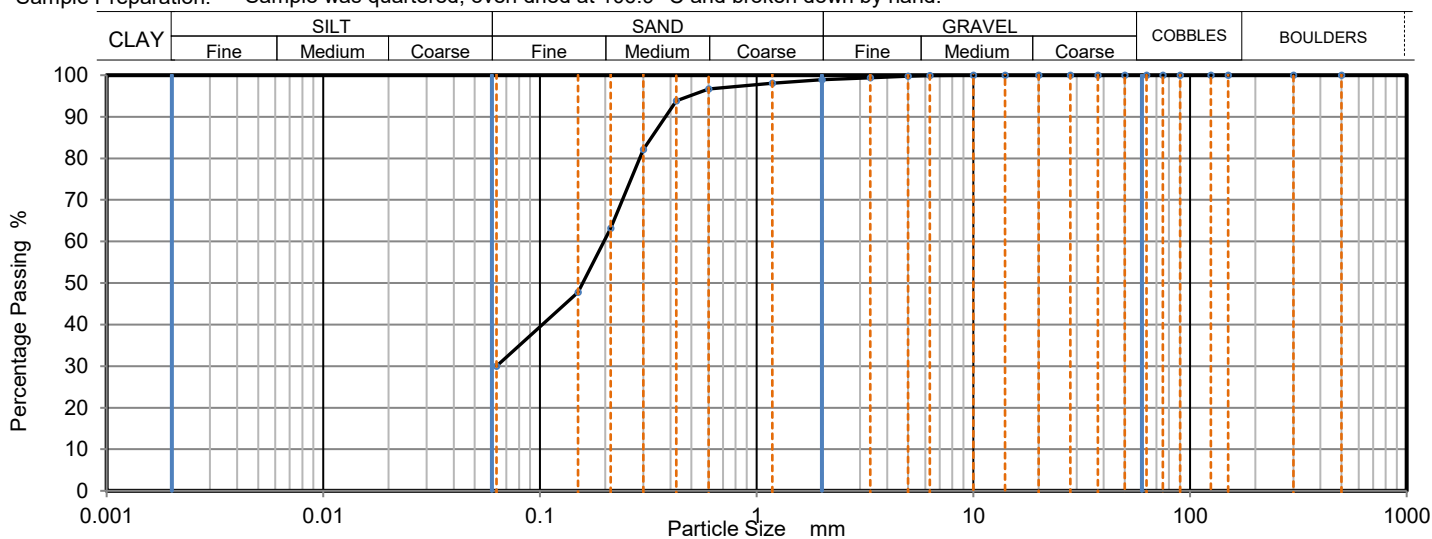
Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 1693787
Hole No.: CP102
Sample Reference: Not Given
Sample Description: Brownish grey clayey SAND
Sample Preparation: Sample was quartered, oven dried at 106.9 °C and broken down by hand.

Depth Top [m]: 12.50
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	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	98		
0.6	97		
0.425	94		
0.3	82		
0.212	63		
0.15	48		
0.063	30		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	1.10
Sand	68.70
Fines <0.063mm	30.20

Grading Analysis	
D100	mm 10
D60	mm 0.197
D30	mm
D10	mm
Uniformity Coefficient	> 3.1
Curvature Coefficient	

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Particle Size Distribution

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



Tested in Accordance with: BS 1377-2: 1990

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 1693791

Hole No.: CP103

Sample Reference: Not Given

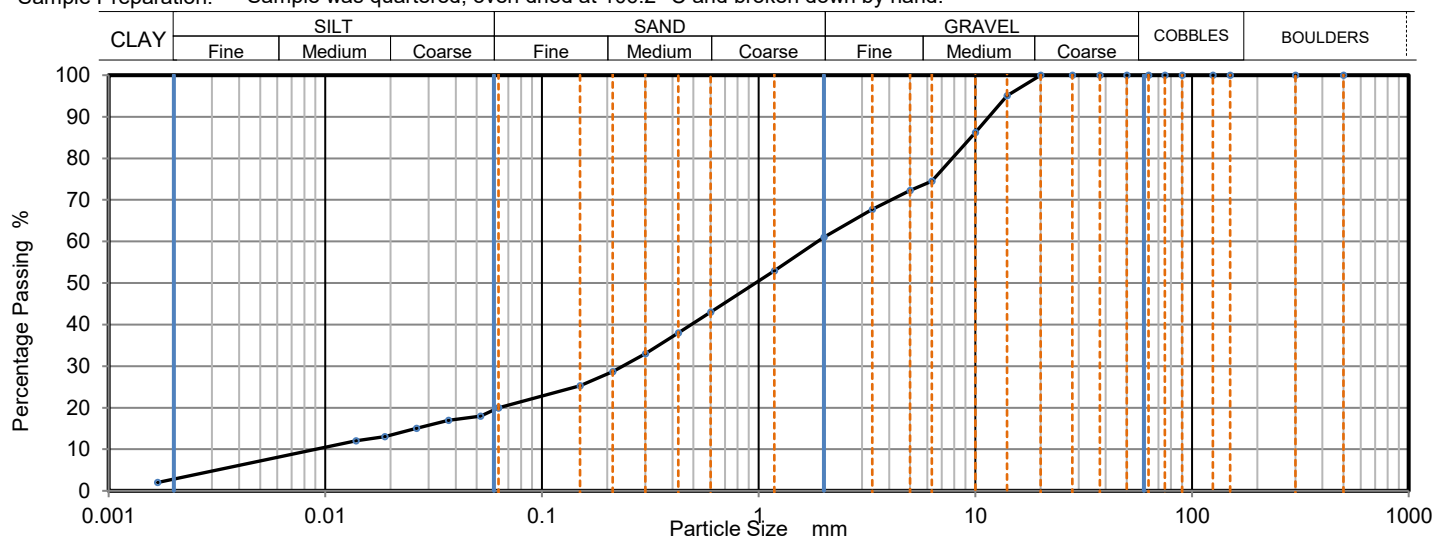
Sample Description: Dark brown SLAG

Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: 5.00

Depth Base [m]: Not Given

Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	20
300	100	0.0521	18
150	100	0.0370	17
125	100	0.0263	15
90	100	0.0188	13
75	100	0.0138	12
63	100	0.0017	2
50	100		
37.5	100		
28	100		
20	100		
14	95		
10	86		
6.3	75		
5	72		
3.35	68	Particle density (assumed) 2.65 Mg/m ³	
2	61		
1.18	53		
0.6	43		
0.425	38		
0.3	33		
0.212	29		
0.15	25		
0.063	20		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	39.00
Sand	40.90
Silt	17.00
Clay	3.10

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	200
Curvature Coefficient	3.2

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

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: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

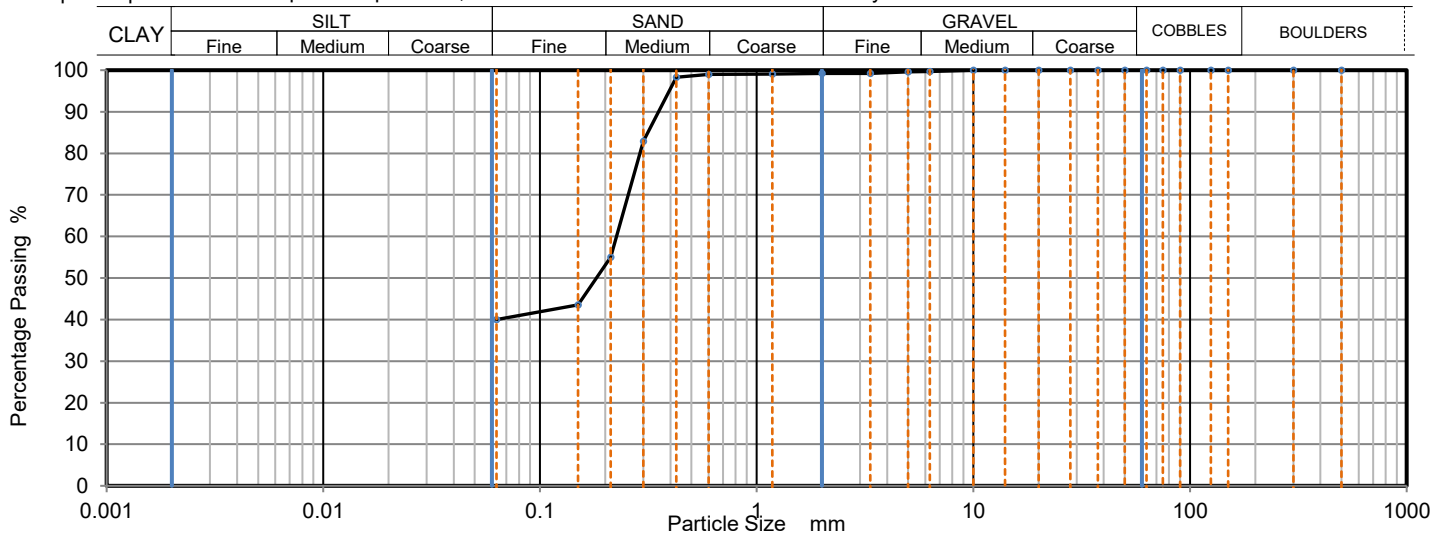
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

Test Results:

Laboratory Reference: 1693792
Hole No.: CP103
Sample Reference: Not Given
Sample Description: Brownish grey very clayey SAND
Sample Preparation: Sample was quartered, oven dried at 106.9 °C and broken down by hand.

Depth Top [m]: 10.00
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	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	99		
0.425	98		
0.3	83		
0.212	55		
0.15	44		
0.063	40		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	0.80
Sand	59.20
Fines <0.063mm	40.00

Grading Analysis	
D100	mm 10
D60	mm 0.225
D30	mm
D10	mm
Uniformity Coefficient	> 3.6
Curvature Coefficient	

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

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: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

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

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

Test Results:

Laboratory Reference: 1693793

Hole No.: CP103

Sample Reference: Not Given

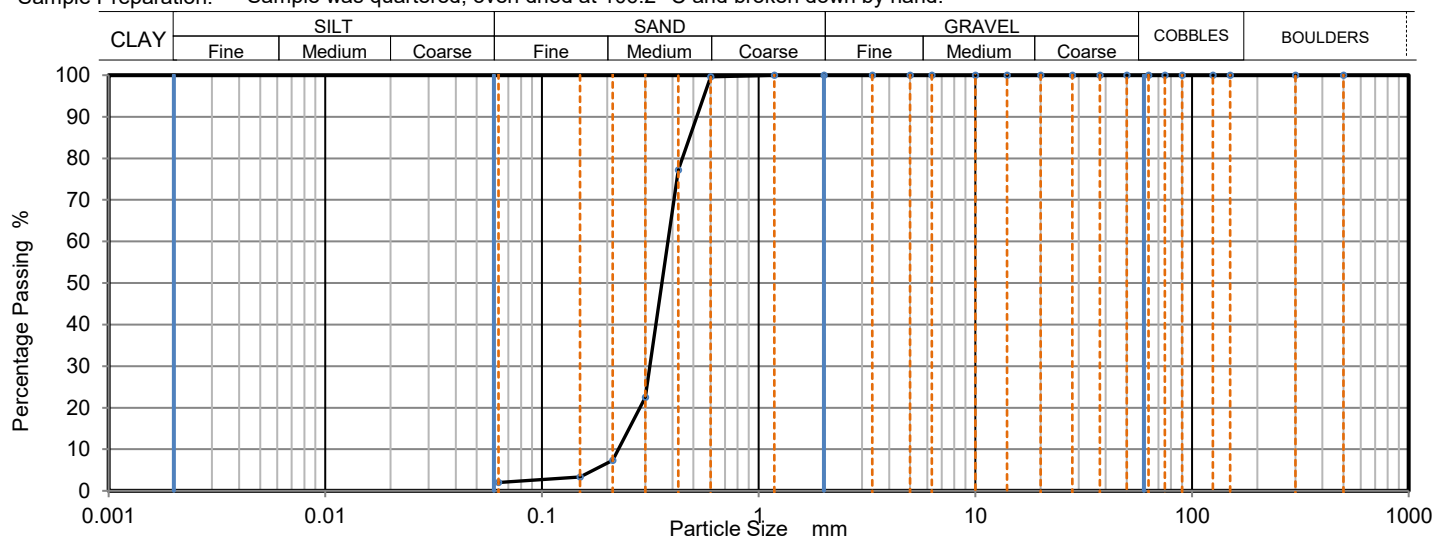
Sample Description: Yellowish brown slightly clayey SAND

Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: 18.50

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	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	77		
0.3	23		
0.212	7		
0.15	3		
0.063	2		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	0.00
Sand	97.80
Fines <0.063mm	2.20

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	1.7
Curvature Coefficient	1.2

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Particle Size Distribution

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



Tested in Accordance with: BS 1377-2: 1990

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

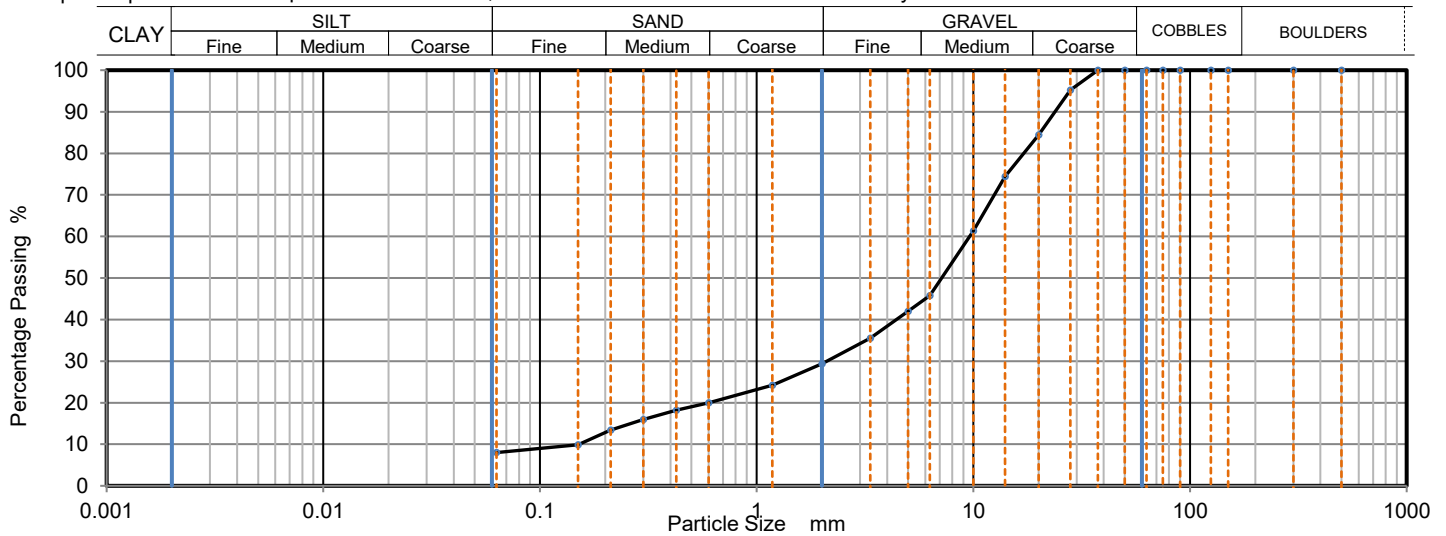
Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 1693797
Hole No.: DS105
Sample Reference: Not Given
Sample Description: Greyish brown slightly clayey sandy GRAVEL
Sample Preparation: Sample was whole tested, oven dried at 106.5 °C and broken down by hand.

Depth Top [m]: 0.20
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	100		
75	100		
63	100		
50	100		
37.5	100		
28	95		
20	84		
14	74		
10	61		
6.3	46		
5	42		
3.35	36		
2	29		
1.18	24		
0.6	20		
0.425	18		
0.3	16		
0.212	13		
0.15	10		
0.063	8		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	70.60
Sand	21.30
Fines <0.063mm	8.00

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	64
Curvature Coefficient	3.1

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Particle Size Distribution

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



Tested in Accordance with: BS 1377-2: 1990

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

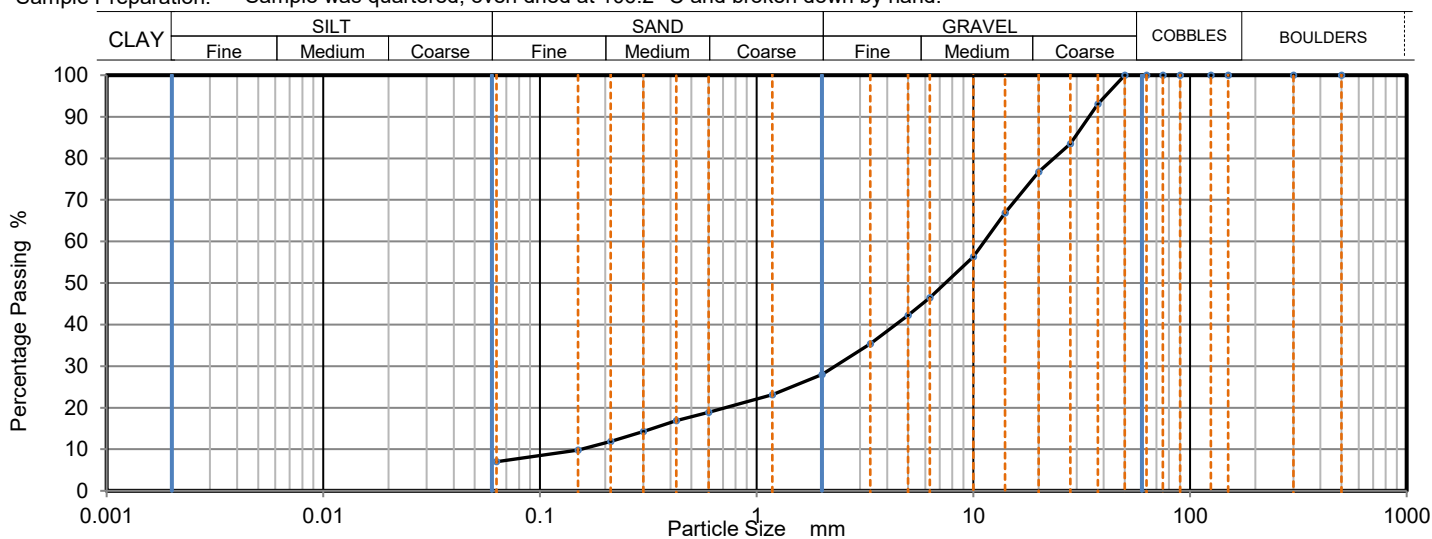
Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 1693800
Hole No.: DS108A
Sample Reference: Not Given
Sample Description: Greyish brown slightly clayey sandy GRAVEL with fragments of crushed concrete
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: 0.25
Depth Base [m]: 0.70
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	93		
28	84		
20	77		
14	67		
10	56		
6.3	47		
5	42		
3.35	35		
2	28		
1.18	23		
0.6	19		
0.425	17		
0.3	14		
0.212	12		
0.15	10		
0.063	7		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	72.00
Sand	20.70
Fines <0.063mm	7.30

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

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

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: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

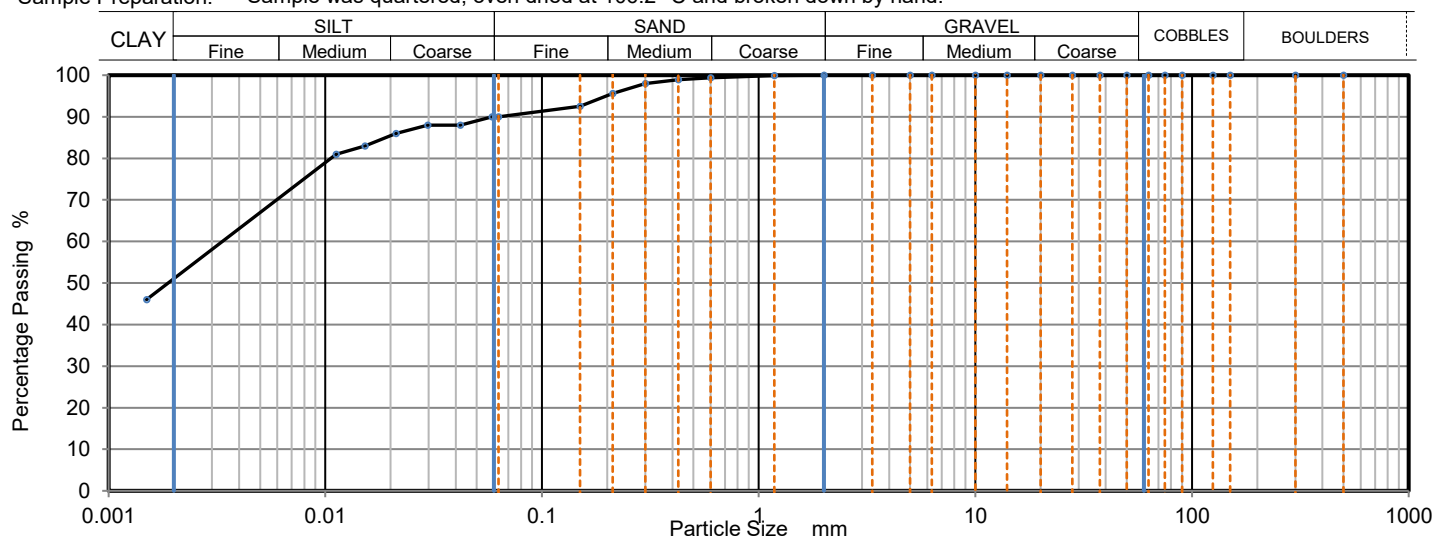
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

Test Results:

Laboratory Reference: 1693803
Hole No.: CP101
Sample Reference: Not Given
Sample Description: Grey slightly sandy very silty CLAY
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: 14.60
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0589	90
300	100	0.0420	88
150	100	0.0297	88
125	100	0.0212	86
90	100	0.0153	83
75	100	0.0112	81
63	100	0.0075	46
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100	Particle density (assumed) 2.65 Mg/m ³	
2	100		
1.18	100		
0.6	99		
0.425	99		
0.3	98		
0.212	96		
0.15	93		
0.063	90		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	0.00
Sand	9.70
Silt	39.30
Clay	51.00

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 2.3
Curvature Coefficient	

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Particle Size Distribution

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



Tested in Accordance with: BS 1377-2: 1990

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

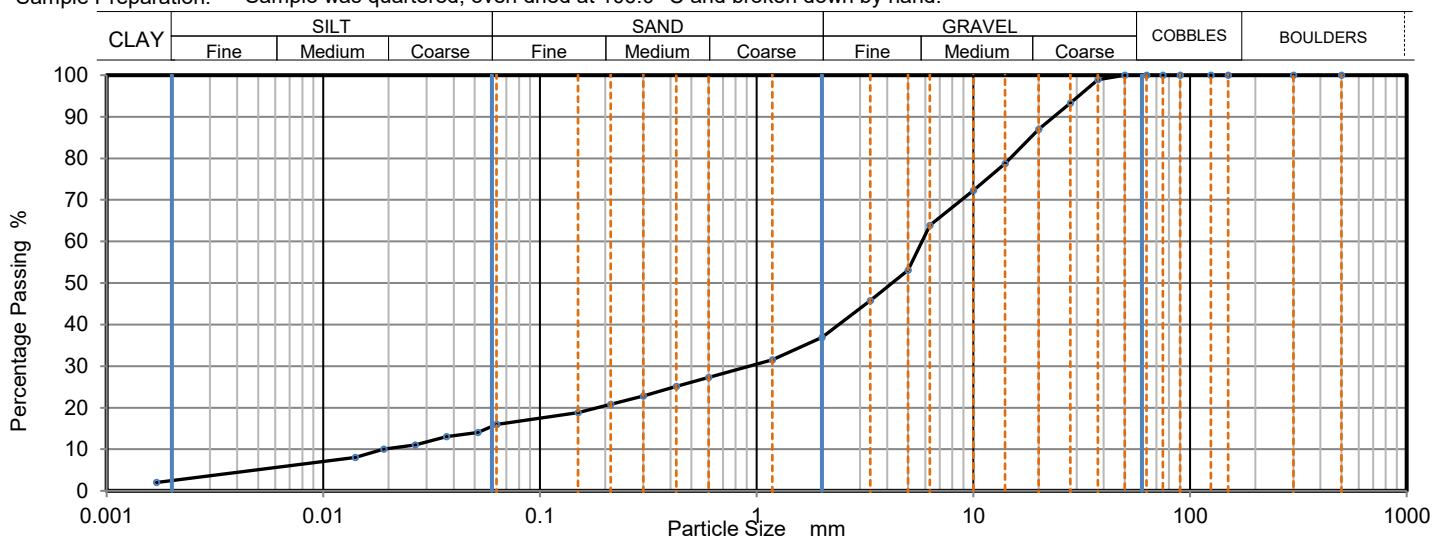
Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 02/12/2020
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 1693806
Hole No.: CP105
Sample Reference: Not Given
Sample Description: Dark brown clayey sandy GRAVEL with fragments of brick
Sample Preparation: Sample was quartered, oven dried at 106.0 °C and broken down by hand.

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



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	16
300	100	0.0517	14
150	100	0.0370	13
125	100	0.0265	11
90	100	0.0190	10
75	100	0.0140	8
63	100	0.0017	2
50	100		
37.5	99		
28	93		
20	87		
14	79		
10	72		
6.3	64		
5	53		
3.35	46	Particle density (assumed) 2.65 Mg/m ³	
2	37		
1.18	32		
0.6	27		
0.425	25		
0.3	23		
0.212	21		
0.15	19		
0.063	16		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	63.10
Sand	20.90
Silt	13.20
Clay	2.80

Grading Analysis	
D100	mm 50
D60	mm 5.8
D30	mm 0.924
D10	mm 0.0209
Uniformity Coefficient	280
Curvature Coefficient	7.1

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

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

Remarks:

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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
Unconsolidated Undrained
Triaxial Compression
Tested in Accordance with:
BS 1377-7: 1990: Clause 8

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



Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

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

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 01/12/2020
Sampled By: Not Given

Test Results:

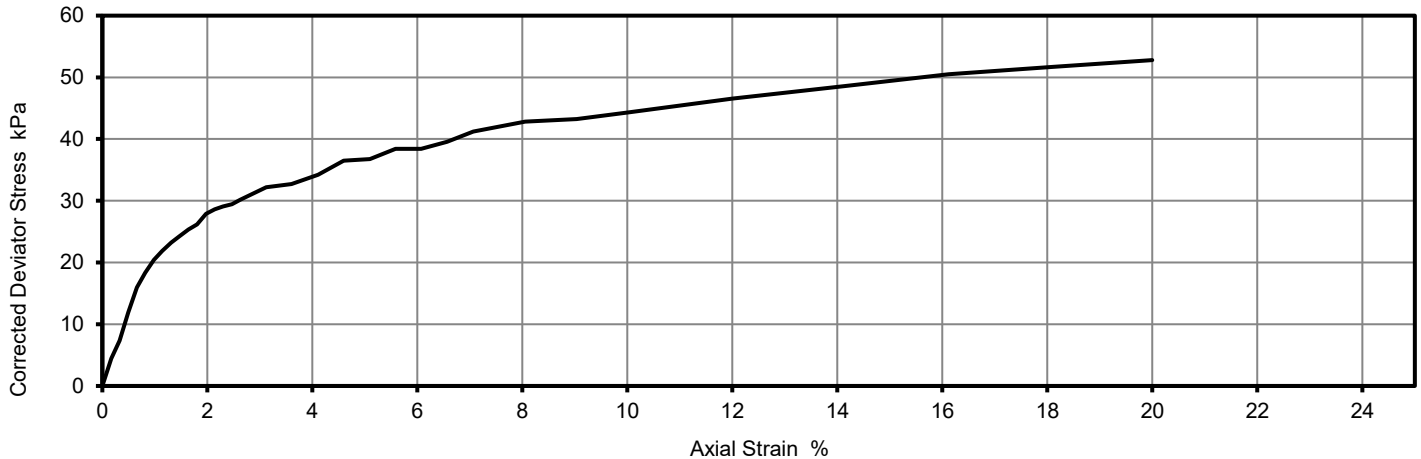
Laboratory Reference: 1693804
Hole No.: CP101
Sample Reference: Not Given
Sample Description: Grey mottled brown sandy CLAY

Depth Top [m]: 15.00
Depth Base [m]: 15.45
Sample Type: U

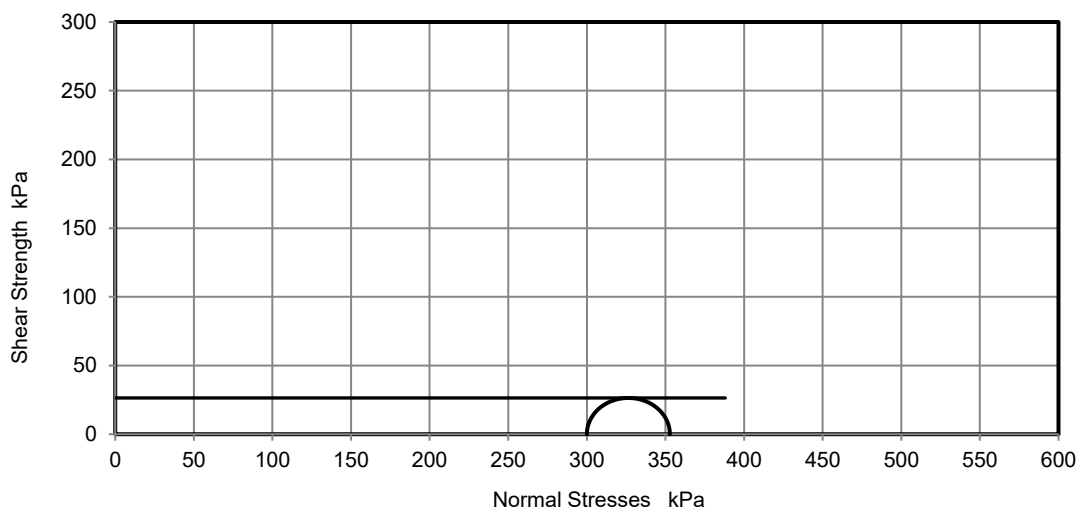
Test Number	1
Length	202.48 mm
Diameter	100.23 mm
Bulk Density	2.07 Mg/m ³
Moisture Content	24 %
Dry Density	1.67 Mg/m ³
Membrane Correction	0.88 kPa

Rate of Strain	1.98 %/min
Cell Pressure	300 kPa
Axial Strain at failure	20.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	53 kPa
Undrained Shear Strength, c_u	26 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Membrane thickness	0.23 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

Remarks: Unable to achieve multi stage due to sample softness. Reported as a single stage.

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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

Unconsolidated Undrained Triaxial Compression

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



Tested in Accordance with: BS 1377-7: 1990: Clause 9

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Robert Stafford
Site Address: Brunell Retail Park, Reading

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

Client Reference: 18-0642.03
Job Number: 20-43133
Date Sampled: Not Given
Date Received: 23/11/2020
Date Tested: 01/12/2020
Sampled By: Not Given

Test Results:

Laboratory Reference: 1693802
Hole No.: CP101
Sample Reference: Not Given
Sample Description: Multicolour slightly sandy CLAY

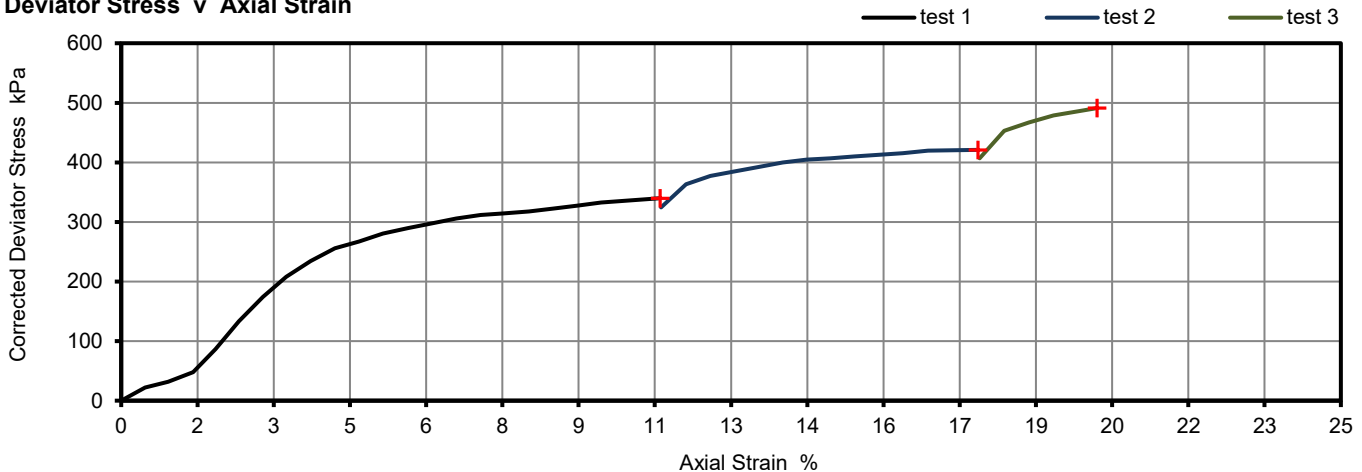
Depth Top [m]: 4.00
Depth Base [m]: 4.45
Sample Type: U

Length	138.45	mm
Diameter	68.87	mm
Bulk Density	2.14	Mg/m ³
Moisture Content	17	%
Dry Density	1.83	Mg/m ³
Membrane thickness	0.22	mm

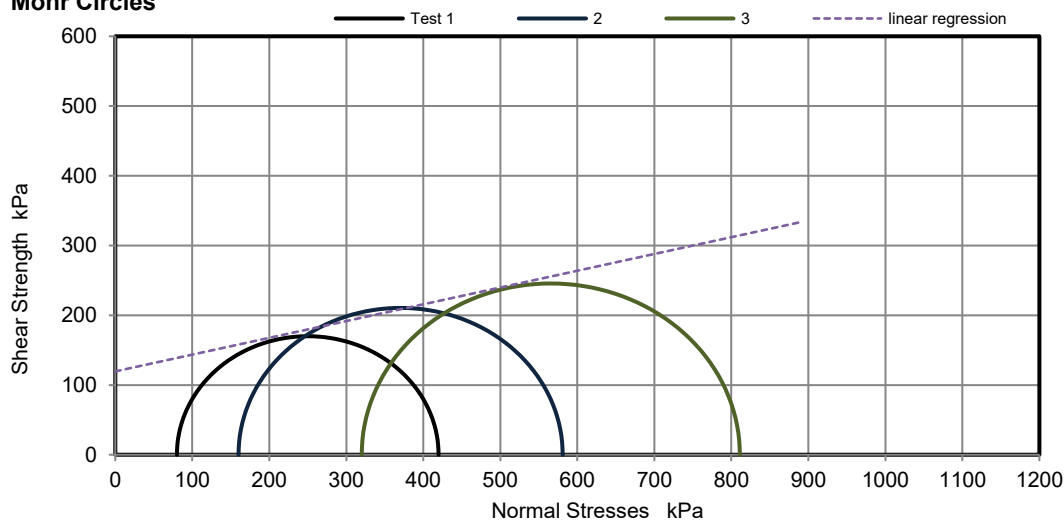
Rate of Strain
Stage Number
Cell Pressure
Axial Strain at failure
Deviator Stress, ($\sigma_1 - \sigma_3$) f
Shear strength, cu
Mode of failure
Membrane Correction

2.00			%/min
1	2	3	
80	160	320	kPa
11.0	17.6	20.0	%
340	421	491	kPa
170	210	246	kPa
Compound			
0.77	1.10	1.23	kPa

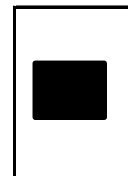
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression
 ϕ_u 13.5 °
cu 120 kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 80kPa=36N, 160kPa=69N, 320kPa=141N.

Signed:

Monika Janoszek
PL Deputy Head of Geotechnical Section
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.

Appendix E – Soil Chemical Analysis Results

Robert Stafford

Delta-Simons
Suite C1
Joseph's Well
Hanover Walk
Leeds
LS3 1AB

e: robert.stafford@deltasimons.com

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

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 20-41731

Replaces Analytical Report Number: 20-41731, issue no. 1
Additional analysis undertaken.

Project / Site name:	Brunell Retail Park, Reading	Samples received on:	13/11/2020
Your job number:	18-0642.03	Samples instructed on/ Analysis started on:	17/11/2020
Your order number:	DS57971	Analysis completed by:	27/11/2020
Report Issue Number:	2	Report issued on:	27/11/2020
Samples Analysed:	6 soil samples		

Signed:



Will Fardon
Technical Reviewer (CS Team)
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: 20-41731

Project / Site name: Brunell Retail Park, Reading

Lab Sample Number				1685967	1685968	1685969	1685970
Sample Reference				CP102	CP102	CP102	CP103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	9.00	10.00	0.60
Date Sampled				09/11/2020	09/11/2020	09/11/2020	11/11/2020
Time Taken				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	10	28	16	10
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
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.046	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	0.046	-	-	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.3	8.3	9	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1	8	-	< 1
Complex Cyanide	mg/kg	1	MCERTS	< 1	8	-	< 1
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	-	< 1
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	830	3200	400	240
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.42	1.6	0.2	0.12
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	417	1580	198	122

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.51	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.52	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.52	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	8	0.84	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	2.3	0.33	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	22	2.8	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	19	2.6	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	14	1.5	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	8.9	1.9	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	15	2.4	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	6	1.3	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	11	1.9	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	5.5	0.92	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.5	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	6.4	1.2	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	120	17.8	< 0.80	< 0.80
-----------------------------	-------	-----	--------	-----	------	--------	--------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	42	76	6.4	9.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	8.9	3.8	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	72	39	16	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1100	270	19	25
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2000	1500	47	49
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.6	6.2	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	83	140	9.8	17
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	6800	2200	46	70

Analytical Report Number: 20-41731

Project / Site name: Brunell Retail Park, Reading

Lab Sample Number	1685967	1685968	1685969	1685970
Sample Reference	CP102	CP102	CP102	CP103
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.20	9.00	10.00	0.60
Date Sampled	09/11/2020	09/11/2020	09/11/2020	11/11/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Monoaromatics & Oxygenates

Benzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	1.4	2.2	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	2.1	16	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	17	110	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	89	590	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	24	71	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	110	720	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	2.2	3.4	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	53	51	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	160	200	< 10	< 10
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	27	40	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	220	260	< 10	< 10

TPH (C35 - C40)	mg/kg	10	MCERTS	50	110	< 10	< 10
-----------------	-------	----	--------	----	-----	------	------

VOCs

Chloromethane	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
Chloroethane	mg/kg	0.001	NONE	-	-	< 0.0010	-
Bromomethane	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
Vinyl Chloride	mg/kg	0.001	NONE	-	-	< 0.0010	-
Trichlorofluoromethane	mg/kg	0.001	NONE	-	-	< 0.0010	-
1,1-Dichloroethene	mg/kg	0.001	NONE	-	-	< 0.0010	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
Cis-1,2-dichloroethene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,1-Dichloroethane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
2,2-Dichloropropane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Trichloromethane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,1,1-Trichloroethane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,2-Dichloroethane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,1-Dichloropropene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Trans-1,2-dichloroethene	mg/kg	0.001	NONE	-	-	< 0.0010	-
Benzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Tetrachloromethane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-

Analytical Report Number: 20-41731

Project / Site name: Brunell Retail Park, Reading

Lab Sample Number				1685967	1685968	1685969	1685970
Sample Reference				CP102	CP102	CP102	CP103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	9.00	10.00	0.60
Date Sampled				09/11/2020	09/11/2020	09/11/2020	11/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,2-Dichloropropane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Trichloroethene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Dibromomethane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Bromodichloromethane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Cis-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
Trans-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
Toluene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,1,2-Trichloroethane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,3-Dichloropropane	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
Dibromochloromethane	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
Tetrachloroethene	mg/kg	0.001	NONE	-	-	< 0.0010	-
1,2-Dibromoethane	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
Chlorobenzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,1,1,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Ethylbenzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
p & m-Xylene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Styrene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Tribromomethane	mg/kg	0.001	NONE	-	-	< 0.0010	-
o-Xylene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,1,2,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Isopropylbenzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Bromobenzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
n-Propylbenzene	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
2-Chlorotoluene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
4-Chlorotoluene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,3,5-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
tert-Butylbenzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,2,4-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
sec-Butylbenzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,3-Dichlorobenzene	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
p-Isopropyltoluene	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
1,2-Dichlorobenzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,4-Dichlorobenzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Butylbenzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,2-Dibromo-3-chloropropane	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-
1,2,4-Trichlorobenzene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
Hexachlorobutadiene	mg/kg	0.001	MCERTS	-	-	< 0.0010	-
1,2,3-Trichlorobenzene	mg/kg	0.001	ISO 17025	-	-	< 0.0010	-

VOCs TICs

VOCs TICs Compound Name		N/A	NONE	-	-	ND	-
-------------------------	--	-----	------	---	---	----	---

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-

Analytical Report Number: 20-41731

Project / Site name: Brunell Retail Park, Reading

Lab Sample Number				1685967	1685968	1685969	1685970
Sample Reference				CP102	CP102	CP102	CP103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	9.00	10.00	0.60
Date Sampled				09/11/2020	09/11/2020	09/11/2020	11/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	< 0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	< 0.3	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	-

SVOCs TICs

Analytical Report Number: 20-41731

Project / Site name: Brunell Retail Park, Reading

Lab Sample Number				1685967	1685968	1685969	1685970
Sample Reference				CP102	CP102	CP102	CP103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	9.00	10.00	0.60
Date Sampled				09/11/2020	09/11/2020	09/11/2020	11/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
SVOCs TICs Compound Name		N/A	NONE	-	-	Bicyclo[4.2.1]nona-2,4,7-triene, 7-phenyl-	-
SVOC % Match	%	N/A	NONE	-	-	93	-
SVOCs TICs Compound Name		N/A	NONE	-	-	1-Naphthalenamine, N-phenyl-	-
SVOC % Match	%	N/A	NONE	-	-	93	-
SVOCs TICs Compound Name		N/A	NONE	-	-	-	-
SVOC % Match	%	N/A	NONE	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	-	-	-
SVOC % Match	%	N/A	NONE	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	-	-	-
SVOC % Match	%	N/A	NONE	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	-	-	-
SVOC % Match	%	N/A	NONE	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	-	-	-
SVOC % Match	%	N/A	NONE	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	-	-	-
SVOC % Match	%	N/A	NONE	-	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	-	-	-
SVOC % Match	%	N/A	NONE	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-41731

Project / Site name: Brunell Retail Park, Reading

Lab Sample Number				1685971	1685972
Sample Reference				CP103	CP103
Sample Number				None Supplied	None Supplied
Depth (m)				4.60	7.80
Date Sampled				11/11/2020	11/11/2020
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	27	25
Total mass of sample received	kg	0.001	NONE	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
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.7	8.1
Total Cyanide	mg/kg	1	MCERTS	-	1
Complex Cyanide	mg/kg	1	MCERTS	-	1
Free Cyanide	mg/kg	1	MCERTS	-	< 1
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	3100	2200
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.6	1.1
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	1570	1110

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	0.22	0.31
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.29
Fluoranthene	mg/kg	0.05	MCERTS	0.4	1.2
Pyrene	mg/kg	0.05	MCERTS	0.37	1.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.39	1.6
Chrysene	mg/kg	0.05	MCERTS	0.41	1.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.71	2.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.38	1.2
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.58	1.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	1.2

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	3.46	13.9
-----------------------------	-------	-----	--------	------	------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	85	75
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	3.5
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	43	49
Copper (aqua regia extractable)	mg/kg	1	MCERTS	390	300
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2200	1100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	4.6	2
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	130	120
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1500	900

Analytical Report Number: 20-41731

Project / Site name: Brunell Retail Park, Reading

Lab Sample Number				1685971	1685972
Sample Reference				CP103	CP103
Sample Number				None Supplied	None Supplied
Depth (m)				4.60	7.80
Date Sampled				11/11/2020	11/11/2020
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Monoaromatics & Oxygenates					
Benzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	2	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	21	29
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	130	220
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	22	22
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	150	250

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	23	21
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	150	160
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	46	21
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	170	180

TPH (C35 - C40)	mg/kg	10	MCERTS	67	44
-----------------	-------	----	--------	----	----

VOCs

Chloromethane	mg/kg	0.001	ISO 17025	-	< 0.0010
Chloroethane	mg/kg	0.001	NONE	-	< 0.0010
Bromomethane	mg/kg	0.001	ISO 17025	-	< 0.0010
Vinyl Chloride	mg/kg	0.001	NONE	-	< 0.0010
Trichlorofluoromethane	mg/kg	0.001	NONE	-	< 0.0010
1,1-Dichloroethene	mg/kg	0.001	NONE	-	< 0.0010
1,1,2-Trichloro 1,2,2-Trifluoroethane	mg/kg	0.001	ISO 17025	-	< 0.0010
Cis-1,2-dichloroethene	mg/kg	0.001	MCERTS	-	< 0.0010
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	< 0.0010
1,1-Dichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010
2,2-Dichloropropane	mg/kg	0.001	MCERTS	-	< 0.0010
Trichloromethane	mg/kg	0.001	MCERTS	-	< 0.0010
1,1,1-Trichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010
1,2-Dichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010
1,1-Dichloropropene	mg/kg	0.001	MCERTS	-	< 0.0010
Trans-1,2-dichloroethene	mg/kg	0.001	NONE	-	< 0.0010
Benzene	mg/kg	0.001	MCERTS	-	< 0.0010
Tetrachloromethane	mg/kg	0.001	MCERTS	-	< 0.0010

Analytical Report Number: 20-41731

Project / Site name: Brunell Retail Park, Reading

Lab Sample Number				1685971	1685972
Sample Reference				CP103	CP103
Sample Number				None Supplied	None Supplied
Depth (m)				4.60	7.80
Date Sampled				11/11/2020	11/11/2020
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
1,2-Dichloropropane	mg/kg	0.001	MCERTS	-	< 0.0010
Trichloroethene	mg/kg	0.001	MCERTS	-	< 0.0010
Dibromomethane	mg/kg	0.001	MCERTS	-	< 0.0010
Bromodichloromethane	mg/kg	0.001	MCERTS	-	< 0.0010
Cis-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	< 0.0010
Trans-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	< 0.0010
Toluene	mg/kg	0.001	MCERTS	-	< 0.0010
1,1,2-Trichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010
1,3-Dichloropropane	mg/kg	0.001	ISO 17025	-	< 0.0010
Dibromochloromethane	mg/kg	0.001	ISO 17025	-	< 0.0010
Tetrachloroethene	mg/kg	0.001	NONE	-	< 0.0010
1,2-Dibromoethane	mg/kg	0.001	ISO 17025	-	< 0.0010
Chlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010
1,1,1,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	< 0.0010
Ethylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010
p & m-Xylene	mg/kg	0.001	MCERTS	-	< 0.0010
Styrene	mg/kg	0.001	MCERTS	-	< 0.0010
Tribromomethane	mg/kg	0.001	NONE	-	< 0.0010
o-Xylene	mg/kg	0.001	MCERTS	-	< 0.0010
1,1,2,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	< 0.0010
Isopropylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010
Bromobenzene	mg/kg	0.001	MCERTS	-	< 0.0010
n-Propylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010
2-Chlorotoluene	mg/kg	0.001	MCERTS	-	< 0.0010
4-Chlorotoluene	mg/kg	0.001	MCERTS	-	< 0.0010
1,3,5-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010
tert-Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010
1,2,4-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010
sec-Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010
1,3-Dichlorobenzene	mg/kg	0.001	ISO 17025	-	< 0.0010
p-Isopropyltoluene	mg/kg	0.001	ISO 17025	-	< 0.0010
1,2-Dichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010
1,4-Dichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010
Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010
1,2-Dibromo-3-chloropropane	mg/kg	0.001	ISO 17025	-	< 0.0010
1,2,4-Trichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010
Hexachlorobutadiene	mg/kg	0.001	MCERTS	-	< 0.0010
1,2,3-Trichlorobenzene	mg/kg	0.001	ISO 17025	-	< 0.0010

VOCs TICs

VOCs TICs Compound Name		N/A	NONE	-	ND
-------------------------	--	-----	------	---	----

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2

Analytical Report Number: 20-41731

Project / Site name: Brunell Retail Park, Reading

Lab Sample Number				1685971	1685972
Sample Reference				CP103	CP103
Sample Number				None Supplied	None Supplied
Depth (m)				4.60	7.80
Date Sampled				11/11/2020	11/11/2020
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	0.31
Anthracene	mg/kg	0.05	MCERTS	-	0.29
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	1.2
Pyrene	mg/kg	0.05	MCERTS	-	1.4
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	1.6
Chrysene	mg/kg	0.05	MCERTS	-	1.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	2.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	1.2
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	1.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	1.2

SVOCs TICs

Analytical Report Number: 20-41731

Project / Site name: Brunell Retail Park, Reading

Lab Sample Number				1685971	1685972
Sample Reference				CP103	CP103
Sample Number				None Supplied	None Supplied
Depth (m)				4.60	7.80
Date Sampled				11/11/2020	11/11/2020
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
SVOCs TICs Compound Name		N/A	NONE	-	10,18-Bisnorabietadiene, 5,7,9(10),11,13-pentaene
SVOC % Match	%	N/A	NONE	-	99
SVOCs TICs Compound Name		N/A	NONE	-	Heneicosane
SVOC % Match	%	N/A	NONE	-	97
SVOCs TICs Compound Name		N/A	NONE	-	D-Homoandrostane, (5.alpha.,13.alpha.)-
SVOC % Match	%	N/A	NONE	-	97
SVOCs TICs Compound Name		N/A	NONE	-	Benzo[e]pyrene
SVOC % Match	%	N/A	NONE	-	97
SVOCs TICs Compound Name		N/A	NONE	-	Naphthalenamine, N-phenyl-
SVOC % Match	%	N/A	NONE	-	96
SVOCs TICs Compound Name		N/A	NONE	-	Cholestan-3-one
SVOC % Match	%	N/A	NONE	-	96
SVOCs TICs Compound Name		N/A	NONE	-	Diphenylcyclopropane
SVOC % Match	%	N/A	NONE	-	95
SVOCs TICs Compound Name		N/A	NONE	-	Hexacosane
SVOC % Match	%	N/A	NONE	-	95
SVOCs TICs Compound Name		N/A	NONE	-	Cholestan-3-one, (5.beta.)-
SVOC % Match	%	N/A	NONE	-	95
SVOCs TICs Compound Name		N/A	NONE	-	Octadecane
SVOC % Match	%	N/A	NONE	-	94

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 20-41731
Project / Site name: Brunell Retail Park, Reading
Your Order No:

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
1685967	CP102	1.20	156	Loose Fibrous Debris	Chrysotile	0.046	0.046

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

Analytical Report Number : 20-41731

Project / Site name: Brunell Retail Park, Reading

* 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 *
1685967	CP102	None Supplied	1.2	Brown sandy clay with gravel and brick.
1685968	CP102	None Supplied	9	Brown clay and sand with gravel and vegetation.
1685969	CP102	None Supplied	10	Light grey clay and sand with gravel.
1685970	CP103	None Supplied	0.6	Brown clay and sand with gravel.
1685971	CP103	None Supplied	4.6	Brown clay and sand with gravel.
1685972	CP103	None Supplied	7.8	Brown clay and sand with gravel.

Analytical Report Number : 20-41731

Project / Site name: Brunell Retail Park, Reading

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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 soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	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
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
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Tentatively identified compounds (SVOC) in soil	Determination of semi-volatile organic compounds total ion count in soil by extraction with dichloromethane and hexane followed by GC-MS followed by a full library scan.	In-house method based on USEPA 8270	L064-PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Tentatively identified compounds (VOC) in soil	Determination of volatile organic compounds total ion count in soil by headspace GC-MS followed by a full library scan.	In-house method based on USEPA8260	L073-PL	W	NONE
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
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	NONE

Analytical Report Number : 20-41731

Project / Site name: Brunell Retail Park, Reading

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
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

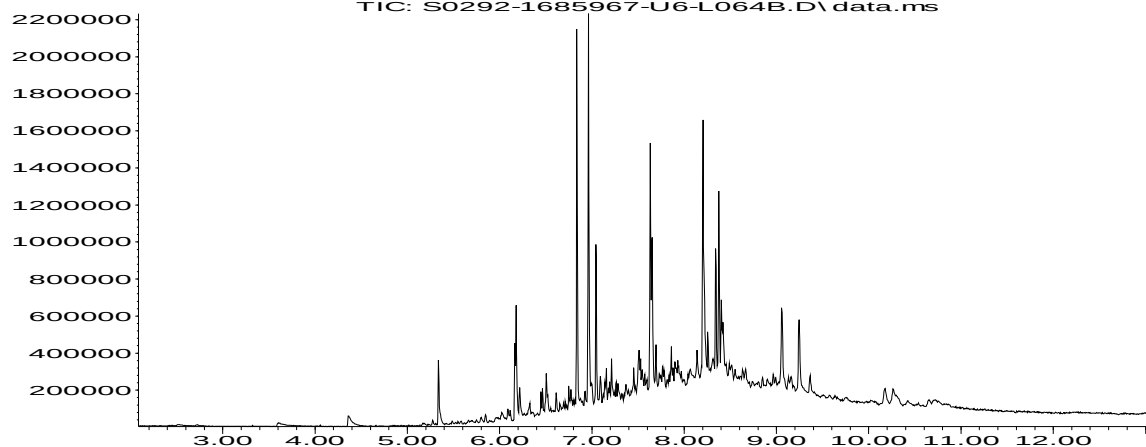
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.

Abundance

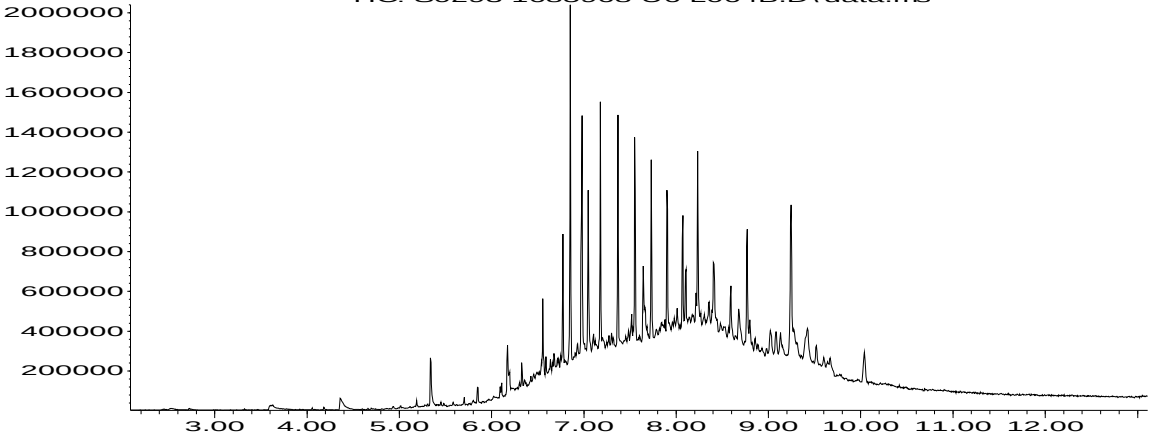
TIC: S0292-1685967-U6-L064B.D\data.ms



Time-->

Abundance

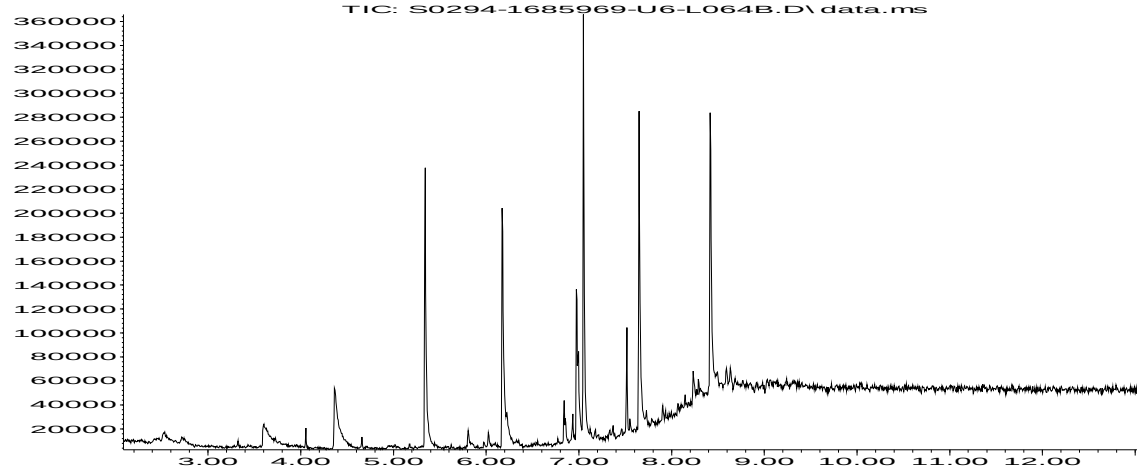
TIC: S0293-1685968-U6-L064B.D\data.ms



Time-->

Abundance

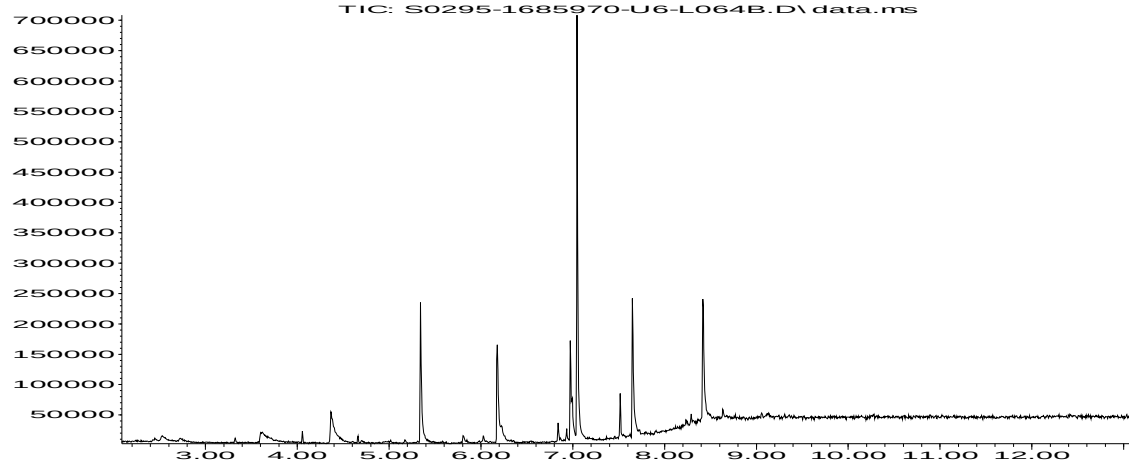
TIC: S0294-1685969-U6-L064B.D\data.ms



Time-->

Abundance

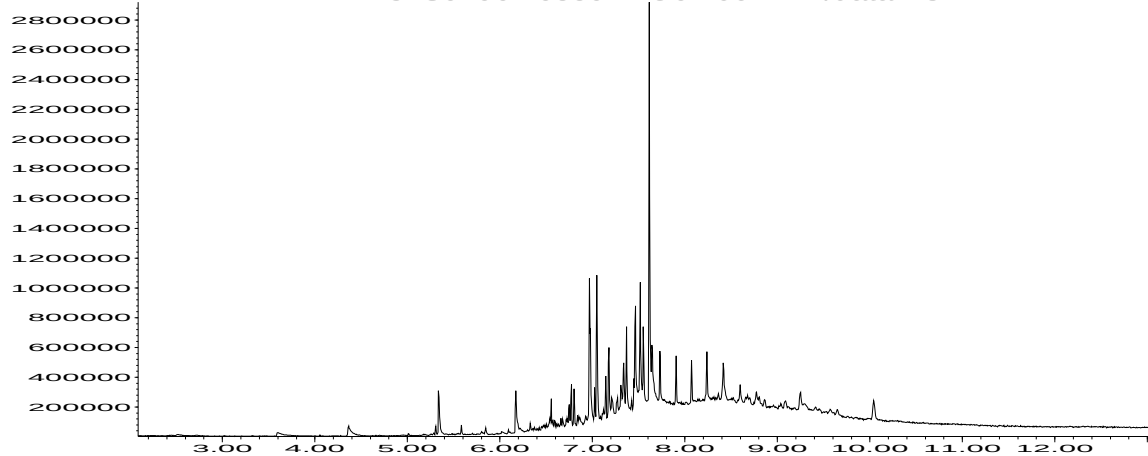
TIC: S0295-1685970-U6-L064B.D\data.ms



Time-->

Abundance

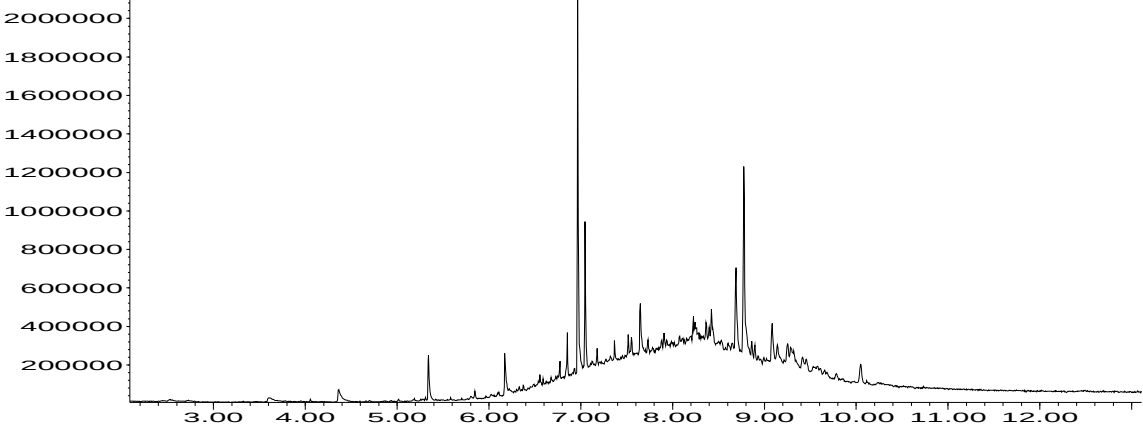
TIC: S0296-1685971-U6-L064B.D\data.ms



Time-->

Abundance

TIC: S0297-1685972-U6-L064B.D\data.ms



Time-->

Sample Deviation Report



Analytical Report Number : 20-41731

Project / Site name: Brunell Retail Park, Reading

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
CP102	None Supplied	S	1685967	c	Free cyanide in soil	L080-PL	c
CP102	None Supplied	S	1685967	c	Complex Cyanide in soil	L080-PL	c
CP102	None Supplied	S	1685967	c	Total cyanide in soil	L080-PL	c
CP102	None Supplied	S	1685968	c	Free cyanide in soil	L080-PL	c
CP102	None Supplied	S	1685968	c	Complex Cyanide in soil	L080-PL	c
CP102	None Supplied	S	1685968	c	Total cyanide in soil	L080-PL	c

Robert Stafford

Delta-Simons
Suite C1
Joseph's Well
Hanover Walk
Leeds
LS3 1AB

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

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: robert.stafford@deltasimons.com

Analytical Report Number : 20-42585

Project / Site name:	Brunell Retail Park, Reading	Samples received on:	13/11/2020
Your job number:	18-0642.03	Samples instructed on/ Analysis started on:	23/11/2020
Your order number:	DS57971	Analysis completed by:	27/11/2020
Report Issue Number:	1	Report issued on:	27/11/2020
Samples Analysed:	3 soil samples		

Signed: 

Zina Abdul Razzak
Senior Quality 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: 20-42585

Project / Site name: Brunell Retail Park, Reading

Your Order No: DS57971

Lab Sample Number				1690971	1690972	1690973
Sample Reference				CP102	CP102	CP103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				7.50	12.00	0.30
Date Sampled				09/11/2020	09/11/2020	11/11/2020
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	14	3.2
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	9.1	8.8
Total Sulphate as SO ₄	%	0.005	MCERTS	-	0.023	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	2200	160	68
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.1	0.079	0.034
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	1110	78.7	34
Total Sulphur	%	0.005	MCERTS	-	0.03	-

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	1	-	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.25	-	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	3.4	-	< 0.05
Pyrene	mg/kg	0.05	MCERTS	3	-	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.7	-	< 0.05
Chrysene	mg/kg	0.05	MCERTS	1.9	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.4	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.1	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.8	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.51	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.8	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	21.8	-	< 0.80
-----------------------------	-------	-----	--------	------	---	--------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	23	-	11
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.5	-	1.4
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	-	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29	-	9
Copper (aqua regia extractable)	mg/kg	1	MCERTS	59	-	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	470	-	66
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.8	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	-	12
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1000	-	130

Analytical Report Number: 20-42585

Project / Site name: Brunell Retail Park, Reading

Your Order No: DS57971

Lab Sample Number	1690971	1690972	1690973
Sample Reference	CP102	CP102	CP103
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	7.50	12.00	0.30
Date Sampled	09/11/2020	09/11/2020	11/11/2020
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status

Monoaromatics & Oxygenates

Benzene	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	-	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	< 10	-	< 10
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	-	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	28	-	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	73	-	< 10
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	24	-	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	100	-	< 10

TPH (C35 - C40)	mg/kg	10	MCERTS	24	-	< 10
-----------------	-------	----	--------	----	---	------

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 20-42585

Project / Site name: Brunell Retail Park, Reading

* 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 *
1690971	CP102	None Supplied	7.5	Brown sandy clay with gravel.
1690972	CP102	None Supplied	12	Light brown sandy clay.
1690973	CP103	None Supplied	0.3	Light brown loam and clay with gravel.

Analytical Report Number : 20-42585

Project / Site name: Brunell Retail Park, Reading

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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 soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	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
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
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
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	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
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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
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



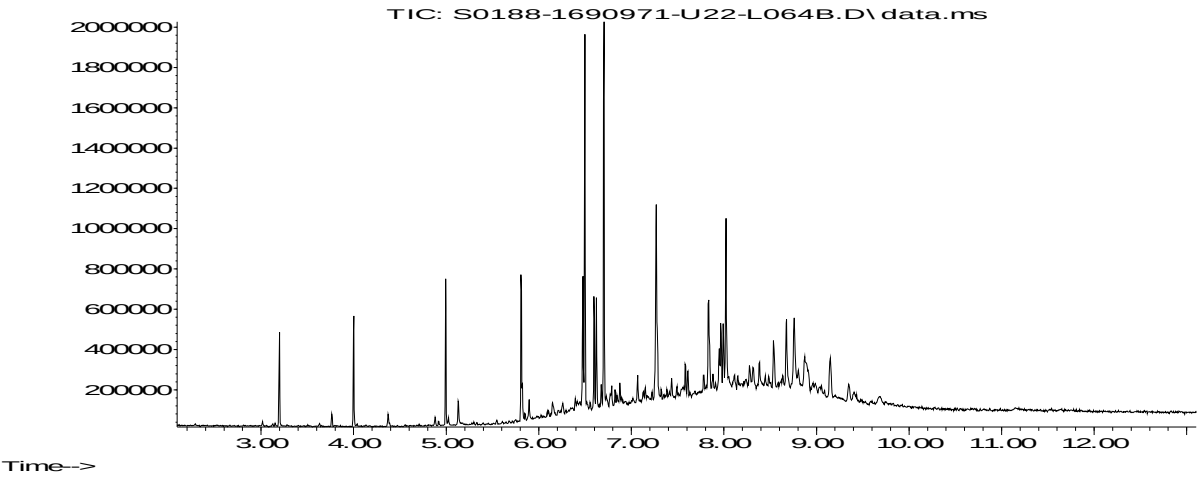
Analytical Report Number : 20-42585
Project / Site name: Brunell Retail Park, Reading

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
----------------------	-------------------------------	-----------------------------	---------------	--------------------	----------------------

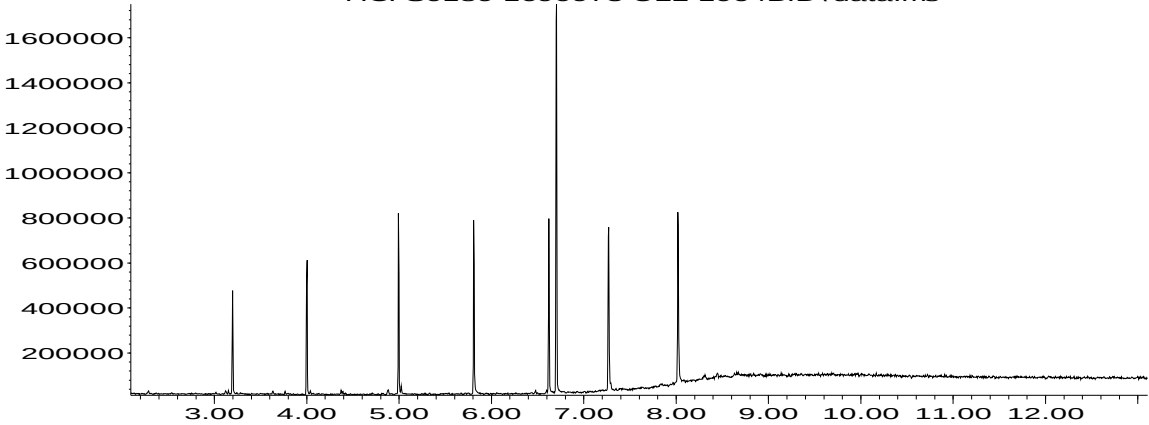
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
 For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
 Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received 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.

Abundance



Abundance

TIC: S0189-1690973-U22-L064B.D\data.ms



Time-->

Robert Stafford

Delta-Simons
Suite C1
Joseph's Well
Hanover Walk
Leeds
LS3 1AB

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

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: robert.stafford@deltasimons.com

Analytical Report Number : 20-42875

Project / Site name:	Brunell Retail Park Reading	Samples received on:	20/11/2020
Your job number:	18 0642 03	Samples instructed on/ Analysis started on:	20/11/2020
Your order number:	DS57971	Analysis completed by:	27/11/2020
Report Issue Number:	1	Report issued on:	27/11/2020
Samples Analysed:	2 bulk samples - 28 soil samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
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: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692500	1692501	1692502	1692503
Sample Reference					DS101	DS101	DS102	DS102
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					0.80	2.40	1.50-1.60	2.00-2.40
Date Sampled					16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken					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
Moisture Content					%	0.01	NONE	13
Total mass of sample received					kg	0.001	NONE	1.5

Asbestos in Soil Screen / Identification Name					Type	N/A	ISO 17025	Chrysotile- Loose Fibrous Debris	-	-	-
Asbestos in Soil					Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	-

General Inorganics

pH - Automated					pH Units	N/A	MCERTS	8.1	7.4	7.5	7.9
Total Cyanide					mg/kg	1	MCERTS	-	< 1	-	-
Complex Cyanide					mg/kg	1	MCERTS	-	< 1	-	-
Free Cyanide					mg/kg	1	MCERTS	-	< 1	-	-
Total Sulphate as SO4					%	0.005	MCERTS	-	-	-	2.26
Water Soluble Sulphate as SO4 16hr extraction (2:1)					mg/kg	2.5	MCERTS	280	3500	3000	3000
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)					g/l	0.00125	MCERTS	0.14	1.7	1.5	1.5
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)					mg/l	1.25	MCERTS	141	1730	1510	1500
Total Sulphur					%	0.005	MCERTS	-	-	-	0.975
Total Organic Carbon (TOC)					%	0.1	MCERTS	-	5.9	-	-

Phenols by GC-MS

Phenol					mg/kg	0.2	NONE	-	< 0.2	-	-
2,4,5-Trichlorophenol					mg/kg	0.2	NONE	-	< 0.2	-	-
2,4,6-Trichlorophenol					mg/kg	0.1	NONE	-	< 0.1	-	-
2,4-Dichlorophenol					mg/kg	0.3	NONE	-	< 0.3	-	-
2,4-Dimethylphenol					mg/kg	0.3	NONE	-	< 0.3	-	-
2-Chlorophenol					mg/kg	0.1	NONE	-	< 0.1	-	-
2-Methylphenol					mg/kg	0.3	MCERTS	-	< 0.3	-	-
2-Nitrophenol					mg/kg	0.3	NONE	-	< 0.3	-	-
4-Chloro-3-methylphenol					mg/kg	0.1	ISO 17025	-	< 0.1	-	-
4-Methylphenol					mg/kg	0.2	NONE	-	< 0.2	-	-

Total Phenols

Total Phenols (GC-MS)					mg/kg	1	NONE	-	< 1.0	-	-
-----------------------	--	--	--	--	-------	---	------	---	-------	---	---

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number	1692500	1692501	1692502	1692503
Sample Reference	DS101	DS101	DS102	DS102
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.80	2.40	1.50-1.60	2.00-2.40
Date Sampled	16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status	

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.35	0.53	0.8	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.75	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.64	-
Phenanthrene	mg/kg	0.05	MCERTS	1.6	0.41	9.2	-
Anthracene	mg/kg	0.05	MCERTS	0.38	< 0.05	1.9	-
Fluoranthene	mg/kg	0.05	MCERTS	3.6	0.73	12	-
Pyrene	mg/kg	0.05	MCERTS	3.2	0.59	10	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.3	0.69	6.6	-
Chrysene	mg/kg	0.05	MCERTS	1.9	0.67	4.9	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.3	1.4	6.3	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.1	0.42	3.2	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.8	1	5.7	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.6	0.81	3.3	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.39	< 0.05	0.89	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.9	1.1	3.9	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	24.4	8.39	70.5	-
-----------------------------	-------	-----	--------	------	------	------	---

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	81	100	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.2	5.8	20	-
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	71	96	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	140	950	890	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	200	1600	10000	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	4.9	7.4	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	120	210	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	340	1900	16000	-

Monoaromatics & Oxygenates

Benzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number	1692500	1692501	1692502	1692503
Sample Reference	DS101	DS101	DS102	DS102
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.80	2.40	1.50-1.60	2.00-2.40
Date Sampled	16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status	Accred- itation Status

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	4.9	3.3	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	18	< 8.0	8.9	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	83	< 8.0	250	-
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	14	< 10	140	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	110	< 10	260	-

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	11	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	16	< 10	48	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	39	< 10	260	-
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	63	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	55	< 10	320	-

TPH (C35 - C40)	mg/kg	10	MCERTS	14	< 10	210	-
-----------------	-------	----	--------	----	------	-----	---

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692500	1692501	1692502	1692503
Sample Reference				DS101	DS101	DS102	DS102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	2.40	1.50-1.60	2.00-2.40
Date Sampled				16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-

Chloromethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Chloroethane	mg/kg	0.001	NONE	-	< 0.0010	-	-
Bromomethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Vinyl Chloride	mg/kg	0.001	NONE	-	< 0.0010	-	-
Trichlorofluoromethane	mg/kg	0.001	NONE	-	< 0.0010	-	-
1,1-Dichloroethene	mg/kg	0.001	NONE	-	< 0.0010	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Cis-1,2-dichloroethene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1-Dichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
2,2-Dichloropropane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Trichloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1,1-Trichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,2-Dichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1-Dichloropropene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Trans-1,2-dichloroethene	mg/kg	0.001	NONE	-	< 0.0010	-	-
Benzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Tetrachloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,2-Dichloropropane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Trichloroethene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Dibromomethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Bromodichloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Cis-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Trans-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Toluene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1,2-Trichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,3-Dichloropropane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692500	1692501	1692502	1692503
Sample Reference				DS101	DS101	DS102	DS102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	2.40	1.50-1.60	2.00-2.40
Date Sampled				16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Dibromochloromethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Tetrachloroethene	mg/kg	0.001	NONE	-	< 0.0010	-	-
1,2-Dibromoethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Chlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1,1,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Ethylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
p & m-Xylene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Styrene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Tribromomethane	mg/kg	0.001	NONE	-	< 0.0010	-	-
o-Xylene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1,2,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Isopropylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Bromobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
n-Propylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
2-Chlorotoluene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
4-Chlorotoluene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,3,5-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
tert-Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,2,4-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
sec-Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,3-Dichlorobenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
p-Isopropyltoluene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
1,2-Dichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,4-Dichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,2-Dibromo-3-chloropropane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
1,2,4-Trichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Hexachlorobutadiene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,2,3-Trichlorobenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-

VOCs TICs

VOCs TICs Compound Name		N/A	NONE	-	ND	-	-
VOC % Match	%	N/A	NONE	-	0	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	0.53	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692500	1692501	1692502	1692503
Sample Reference					DS101	DS101	DS102	DS102
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					0.80	2.40	1.50-1.60	2.00-2.40
Date Sampled					16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status					
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.5	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	0.41	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	0.73	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	0.59	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.69	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	0.67	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	1.4	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.42	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	1	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.81	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	1.1	-	-	-

SVOCs TICs

SVOCs TICs Compound Name					1- Naphthalenamine, N-phenyl-		
SVOC % Match	%	N/A	NONE	-	98	-	-
SVOCs TICs Compound Name					Octadecane		
SVOC % Match	%	N/A	NONE	-	98	-	-
SVOCs TICs Compound Name					Eicosane		
SVOC % Match	%	N/A	NONE	-	97	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692500	1692501	1692502	1692503
Sample Reference					DS101	DS101	DS102	DS102
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					0.80	2.40	1.50-1.60	2.00-2.40
Date Sampled					16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status					
SVOCs TICs Compound Name		N/A	NONE	-	Heptadecane, 2,6,10,15- tetramethyl-	-	-	-
SVOC % Match	%	N/A	NONE	-	96	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Heneicosane	-	-	-
SVOC % Match	%	N/A	NONE	-	96	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Z-11,13- Tetradecadien-1-ol acetate	-	-	-
SVOC % Match	%	N/A	NONE	-	95	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Benzo[e]pyrene	-	-	-
SVOC % Match	%	N/A	NONE	-	95	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Naphthalene, 2,3- dimethyl-	-	-	-
SVOC % Match	%	N/A	NONE	-	94	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Naphthalene, 2,7- dimethyl-	-	-	-
SVOC % Match	%	N/A	NONE	-	93	-	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Heptadecane	-	-	-
SVOC % Match	%	N/A	NONE	-	93	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692504	1692505	1692506	1692507
Sample Reference					DS106	DS106	CP104	CP104
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					0.60	1.50	1.70	4.00
Date Sampled					16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken					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	6.5	12	11	12	12
Total mass of sample received	kg	0.001	NONE	1.5	1.5	1.5	1.5	1.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	8.5	10.1	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1	-	-	-
Complex Cyanide	mg/kg	1	MCERTS	< 1	-	-	-
Free Cyanide	mg/kg	1	MCERTS	< 1	-	-	-
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	68	30	1900	470
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.034	0.015	0.94	0.23
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	34.2	15.2	938	233
Total Sulphur	%	0.005	MCERTS	-	-	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	-

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	< 0.2	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	ISO 17025	< 0.1	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	-	-

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	< 1.0	-	-	-
-----------------------	-------	---	------	-------	---	---	---

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692504	1692505	1692506	1692507
Sample Reference				DS106	DS106	CP104	CP104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	1.50	1.70	4.00
Date Sampled				16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken				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	0.47	< 0.05	0.55	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.29	< 0.05	0.31	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.22	< 0.05	0.31	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.46	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.8	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.3	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.8	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.2	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.1	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.58	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.6	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.87	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.28	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	0.98	< 0.80	18.1	< 0.80
-----------------------------	-------	-----	--------	------	--------	------	--------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.4	7.5	25	14
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3	1.3	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	25	26	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	14	130	15
Lead (aqua regia extractable)	mg/kg	1	MCERTS	35	17	380	28
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	1	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	27	38	20
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	47	39	310	48

Monoaromatics & Oxygenates

Benzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692504	1692505	1692506	1692507
Sample Reference				DS106	DS106	CP104	CP104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	1.50	1.70	4.00
Date Sampled				16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.9
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	3.9	3.7	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	18	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	23	< 10
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	41	< 10
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
VOCs							
Chloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	-
Chloroethane	µg/kg	1	NONE	-	-	< 1.0	-
Bromomethane	µg/kg	1	ISO 17025	-	-	< 1.0	-
Vinyl Chloride	µg/kg	1	NONE	-	-	< 1.0	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	< 1.0	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	-
Trichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	< 1.0	-
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	-
Trichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	-
Dibromomethane	µg/kg	1	MCERTS	-	-	< 1.0	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	-
Tetrachloroethene	µg/kg	1	NONE	-	-	< 1.0	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	< 1.0	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692504	1692505	1692506	1692507
Sample Reference				DS106	DS106	CP104	CP104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	1.50	1.70	4.00
Date Sampled				16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Chlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	-
Styrene	µg/kg	1	MCERTS	-	-	< 1.0	-
Tribromomethane	µg/kg	1	NONE	-	-	< 1.0	-
o-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-
Bromobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	< 1.0	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-
Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-

Chloromethane	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010
Chloroethane	mg/kg	0.001	NONE	< 0.0010	-	-	< 0.0010
Bromomethane	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010
Vinyl Chloride	mg/kg	0.001	NONE	< 0.0010	-	-	< 0.0010
Trichlorofluoromethane	mg/kg	0.001	NONE	< 0.0010	-	-	< 0.0010
1,1-Dichloroethene	mg/kg	0.001	NONE	< 0.0010	-	-	< 0.0010
1,1,2-Trichloro 1,2,2-Trifluoroethane	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010
Cis-1,2-dichloroethene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
1,1-Dichloroethane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
2,2-Dichloropropane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
Trichloromethane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
1,1,1-Trichloroethane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
1,2-Dichloroethane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
1,1-Dichloropropene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
Trans-1,2-dichloroethene	mg/kg	0.001	NONE	< 0.0010	-	-	< 0.0010
Benzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
Tetrachloromethane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
1,2-Dichloropropane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
Trichloroethene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
Dibromomethane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
Bromodichloromethane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
Cis-1,3-dichloropropene	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010
Trans-1,3-dichloropropene	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010
Toluene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
1,1,2-Trichloroethane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010
1,3-Dichloropropane	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692504	1692505	1692506	1692507
Sample Reference					DS106	DS106	CP104	CP104
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					0.60	1.50	1.70	4.00
Date Sampled					16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status					
Dibromochloromethane	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010	
Tetrachloroethene	mg/kg	0.001	NONE	< 0.0010	-	-	< 0.0010	
1,2-Dibromoethane	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010	
Chlorobenzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
1,1,1,2-Tetrachloroethane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
p & m-Xylene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
Styrene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
Tribromomethane	mg/kg	0.001	NONE	< 0.0010	-	-	< 0.0010	
o-Xylene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
1,1,2,2-Tetrachloroethane	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
Isopropylbenzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
Bromobenzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
n-Propylbenzene	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010	
2-Chlorotoluene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
4-Chlorotoluene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
1,3,5-Trimethylbenzene	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010	
tert-Butylbenzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
1,2,4-Trimethylbenzene	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010	
sec-Butylbenzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
1,3-Dichlorobenzene	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010	
p-Isopropyltoluene	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010	
1,2-Dichlorobenzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
1,4-Dichlorobenzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
Butylbenzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
1,2-Dibromo-3-chloropropane	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010	
1,2,4-Trichlorobenzene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
Hexachlorobutadiene	mg/kg	0.001	MCERTS	< 0.0010	-	-	< 0.0010	
1,2,3-Trichlorobenzene	mg/kg	0.001	ISO 17025	< 0.0010	-	-	< 0.0010	

VOCs TICs

VOCs TICs Compound Name		N/A	NONE	ND	-	ND	-
VOC % Match	%	N/A	NONE	0	-	0	-

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	-	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	0.47	-	0.55	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692504	1692505	1692506	1692507
Sample Reference				DS106	DS106	CP104	CP104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	1.50	1.70	4.00
Date Sampled				16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	0.8	-	0.7	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	0.29	-	0.31	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	0.2	-	0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	0.22	-	0.31	-
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	-	2	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-	0.46	-
Carbazole	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	2.8	-
Pyrene	mg/kg	0.05	MCERTS	< 0.05	-	2.3	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	-	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	1.8	-
Chrysene	mg/kg	0.05	MCERTS	< 0.05	-	1.2	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	2.1	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	0.58	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	1.6	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	0.87	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	0.28	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	1	-

SVOCs TICs

SVOCs TICs Compound Name		N/A	NONE	Naphthalene, 2,7-dimethyl-	-	1-Naphthalenamine, N-phenyl-	-
SVOC % Match	%	N/A	NONE	95	-	98	-
SVOCs TICs Compound Name		N/A	NONE	Naphthalene, 1,4-dimethyl-	-	Benzo[e]pyrene	-
SVOC % Match	%	N/A	NONE	94	-	98	-
SVOCs TICs Compound Name		N/A	NONE	Naphthalene, 1-ethyl-	-	Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1S)-	-
SVOC % Match	%	N/A	NONE	93	-	97	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692504	1692505	1692506	1692507
Sample Reference				DS106	DS106	CP104	CP104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	1.50	1.70	4.00
Date Sampled				16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
				1- Naphthalenamine, N-phenyl-	-	Azulene, 4,6,8- trimethyl-	-
SVOCs TICs Compound Name		N/A	NONE	93	-	97	-
SVOC % Match	%	N/A	NONE		-		-
SVOCs TICs Compound Name		N/A	NONE		-		-
SVOC % Match	%	N/A	NONE		-		-
SVOCs TICs Compound Name		N/A	NONE		-		-
SVOC % Match	%	N/A	NONE		-		-
SVOCs TICs Compound Name		N/A	NONE		-		-
SVOC % Match	%	N/A	NONE		-		-
SVOCs TICs Compound Name		N/A	NONE		-		-
SVOC % Match	%	N/A	NONE		-		-
SVOCs TICs Compound Name		N/A	NONE		-		-
SVOC % Match	%	N/A	NONE		-		-
SVOCs TICs Compound Name		N/A	NONE		-		-
SVOC % Match	%	N/A	NONE		-		-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number	1692508	1692509	1692510	1692511
Sample Reference	DS107	DS104	DS104	DS103
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.50	1.50	2.50	1.50
Date Sampled	17/11/2020	17/11/2020	17/11/2020	17/11/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	Accreditation Status
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	16
Total mass of sample received	kg	0.001	NONE	1.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2	8.1	7.7	8.2
Total Cyanide	mg/kg	1	MCERTS	-	< 1	-	-
Complex Cyanide	mg/kg	1	MCERTS	-	< 1	-	-
Free Cyanide	mg/kg	1	MCERTS	-	< 1	-	-
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	3.11	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	160	630	3600	580
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.082	0.31	1.8	0.29
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	81.5	313	1780	288
Total Sulphur	%	0.005	MCERTS	-	-	1.29	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	-

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	-	< 0.2	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	ISO 17025	-	< 0.1	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	-	< 1.0	-	-
-----------------------	-------	---	------	---	-------	---	---

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692508	1692509	1692510	1692511
Sample Reference				DS107	DS104	DS104	DS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	1.50	2.50	1.50
Date Sampled				17/11/2020	17/11/2020	17/11/2020	17/11/2020
Time Taken				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	0.58	< 0.05	-	0.38
Acenaphthylene	mg/kg	0.05	MCERTS	0.3	< 0.05	-	0.27
Acenaphthene	mg/kg	0.05	MCERTS	0.31	< 0.05	-	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.21	< 0.05	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.6	0.57	-	1.5
Anthracene	mg/kg	0.05	MCERTS	0.55	0.3	-	0.41
Fluoranthene	mg/kg	0.05	MCERTS	4.8	2.3	-	4.2
Pyrene	mg/kg	0.05	MCERTS	4.7	2.3	-	4.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.9	1.8	-	4.6
Chrysene	mg/kg	0.05	MCERTS	2.6	1.8	-	3.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	5.1	3.4	-	6.1
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.3	0.85	-	2.8
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.2	2.8	-	5.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.2	1.6	-	3.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.56	< 0.05	-	0.84
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.6	2	-	3.8

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	35.5	19.6	-	41
-----------------------------	-------	-----	--------	------	------	---	----

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	59	-	79
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	-	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	27	-	44
Copper (aqua regia extractable)	mg/kg	1	MCERTS	60	150	-	190
Lead (aqua regia extractable)	mg/kg	1	MCERTS	250	1800	-	1400
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	1.9	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	78	-	180
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	200	400	-	470

Monoaromatics & Oxygenates

Benzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692508	1692509	1692510	1692511
Sample Reference				DS107	DS104	DS104	DS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	1.50	2.50	1.50
Date Sampled				17/11/2020	17/11/2020	17/11/2020	17/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	-	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	-	< 10
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	-	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	21	19	-	15
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	44	42	-	48
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	-	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	64	62	-	64
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	-	< 10
VOCs							
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692508	1692509	1692510	1692511
Sample Reference				DS107	DS104	DS104	DS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	1.50	2.50	1.50
Date Sampled				17/11/2020	17/11/2020	17/11/2020	17/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-

Chloromethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
Chloroethane	mg/kg	0.001	NONE	-	< 0.0010	-	< 0.0010
Bromomethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
Vinyl Chloride	mg/kg	0.001	NONE	-	< 0.0010	-	< 0.0010
Trichlorofluoromethane	mg/kg	0.001	NONE	-	< 0.0010	-	< 0.0010
1,1-Dichloroethene	mg/kg	0.001	NONE	-	< 0.0010	-	< 0.0010
1,1,2-Trichloro 1,2,2-Trifluoroethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
Cis-1,2-dichloroethene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,1-Dichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
2,2-Dichloropropane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Trichloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,1,1-Trichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,2-Dichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,1-Dichloropropene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Trans-1,2-dichloroethene	mg/kg	0.001	NONE	-	< 0.0010	-	< 0.0010
Benzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Tetrachloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,2-Dichloropropane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Trichloroethene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Dibromomethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Bromodichloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Cis-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
Trans-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
Toluene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,1,2-Trichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,3-Dichloropropane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692508	1692509	1692510	1692511
Sample Reference				DS107	DS104	DS104	DS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	1.50	2.50	1.50
Date Sampled				17/11/2020	17/11/2020	17/11/2020	17/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Dibromochloromethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
Tetrachloroethene	mg/kg	0.001	NONE	-	< 0.0010	-	< 0.0010
1,2-Dibromoethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
Chlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,1,1,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Ethylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
p & m-Xylene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Styrene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Tribromomethane	mg/kg	0.001	NONE	-	< 0.0010	-	< 0.0010
o-Xylene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,1,2,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Isopropylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Bromobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
n-Propylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
2-Chlorotoluene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
4-Chlorotoluene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,3,5-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
tert-Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,2,4-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
sec-Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,3-Dichlorobenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
p-Isopropyltoluene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
1,2-Dichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,4-Dichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,2-Dibromo-3-chloropropane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010
1,2,4-Trichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
Hexachlorobutadiene	mg/kg	0.001	MCERTS	-	< 0.0010	-	< 0.0010
1,2,3-Trichlorobenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	< 0.0010

VOCs TICs

VOCs TICs Compound Name		N/A	NONE	-	ND	-	ND
VOC % Match	%	N/A	NONE	-	0	-	0

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	-	0.38
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692508	1692509	1692510	1692511
Sample Reference					DS107	DS104	DS104	DS103
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					1.50	1.50	2.50	1.50
Date Sampled					17/11/2020	17/11/2020	17/11/2020	17/11/2020
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detecti on	Accredi tation Status					
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	0.27	
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-	< 0.3	
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	
Phenanthrene	mg/kg	0.05	MCERTS	-	0.57	-	1.5	
Anthracene	mg/kg	0.05	MCERTS	-	0.3	-	0.41	
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	
Fluoranthene	mg/kg	0.05	MCERTS	-	2.3	-	4.2	
Pyrene	mg/kg	0.05	MCERTS	-	2.3	-	4.3	
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-	< 0.3	
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	1.8	-	4.6	
Chrysene	mg/kg	0.05	MCERTS	-	1.8	-	3.2	
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	3.4	-	6.1	
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.85	-	2.8	
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	2.8	-	5.5	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	1.6	-	3.1	
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	0.84	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	2	-	3.8	

SVOCs TICs

SVOCs TICs Compound Name		N/A	NONE	-	Benzo[e]pyrene	-	Benzo[e]pyrene
SVOC % Match	%	N/A	NONE	-	97	-	99
SVOCs TICs Compound Name		N/A	NONE	-		-	11H- Benzo[b]fluorene
SVOC % Match	%	N/A	NONE	-		-	96
SVOCs TICs Compound Name		N/A	NONE	-		-	Chrysene, 6- methyl-
SVOC % Match	%	N/A	NONE	-		-	96

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692508	1692509	1692510	1692511
Sample Reference				DS107	DS104	DS104	DS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	1.50	2.50	1.50
Date Sampled				17/11/2020	17/11/2020	17/11/2020	17/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
SVOCs TICs Compound Name		N/A	NONE	-		-	Sulfur
SVOC % Match	%	N/A	NONE	-		-	95
SVOCs TICs Compound Name		N/A	NONE	-		-	Eicosane
SVOC % Match	%	N/A	NONE	-		-	95
SVOCs TICs Compound Name		N/A	NONE	-		-	Cyclic octaatomic sulfur
SVOC % Match	%	N/A	NONE	-		-	94
SVOCs TICs Compound Name		N/A	NONE	-		-	
SVOC % Match	%	N/A	NONE	-		-	
SVOCs TICs Compound Name		N/A	NONE	-		-	
SVOC % Match	%	N/A	NONE	-		-	
SVOCs TICs Compound Name		N/A	NONE	-		-	
SVOC % Match	%	N/A	NONE	-		-	
SVOCs TICs Compound Name		N/A	NONE	-		-	
SVOC % Match	%	N/A	NONE	-		-	

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692512	1692513	1692514	1692515
Sample Reference					DS103	DS105	DS105	DS109
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					3.20	0.50	2.50	0.70
Date Sampled					17/11/2020	18/11/2020	18/11/2020	17/11/2020
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					Units	Limit of detection	Accreditation Status	Accreditation Status
Stone Content					%	0.1	NONE	< 0.1
Moisture Content					%	0.01	NONE	28
Total mass of sample received					kg	0.001	NONE	1.5

Asbestos in Soil Screen / Identification Name					Type	N/A	ISO 17025	-
Asbestos in Soil					Type	N/A	ISO 17025	Not-detected

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2	8	8.1	8
Total Cyanide	mg/kg	1	MCERTS	-	< 1	< 1	-
Complex Cyanide	mg/kg	1	MCERTS	-	< 1	< 1	-
Free Cyanide	mg/kg	1	MCERTS	-	< 1	< 1	-
Total Sulphate as SO ₄	%	0.005	MCERTS	0.441	-	-	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	1900	270	790	200
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.95	0.14	0.4	0.1
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	945	137	397	101
Total Sulphur	%	0.005	MCERTS	2.2	-	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	5.2	-

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
2-Chlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
4-Chloro-3-methylphenol	mg/kg	0.1	ISO 17025	-	< 0.1	< 0.1	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	-	< 1.0	< 1.0	-
-----------------------	-------	---	------	---	-------	-------	---

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692512	1692513	1692514	1692515
Sample Reference				DS103	DS105	DS105	DS109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.20	0.50	2.50	0.70
Date Sampled				17/11/2020	18/11/2020	18/11/2020	17/11/2020
Time Taken				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	-	0.38	0.61	0.28
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	0.97	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	0.22	0.21	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	0.21	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	0.27	2.2	1.2
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	1.1	0.29
Fluoranthene	mg/kg	0.05	MCERTS	-	0.48	9.2	2.9
Pyrene	mg/kg	0.05	MCERTS	-	0.52	9.7	2.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.31	7.7	1.7
Chrysene	mg/kg	0.05	MCERTS	-	0.32	8	1.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	0.48	12	2.2
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.24	6.4	1.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.46	12	2.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.29	6.5	1.2
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	1.5	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.31	8.1	1.5

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	4.28	86	19.1
-----------------------------	-------	-----	--------	---	------	----	------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	8.6	67	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	0.3	< 0.2	0.6
Chromium (hexavalent)	mg/kg	1.2	MCERTS	-	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	20	41	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	21	220	41
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	56	800	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	0.6	1.2	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	13	130	14
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	72	530	280

Monoaromatics & Oxygenates

Benzene	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692512	1692513	1692514	1692515
Sample Reference				DS103	DS105	DS105	DS109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.20	0.50	2.50	0.70
Date Sampled				17/11/2020	18/11/2020	18/11/2020	17/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	0.3	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	7.3	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	21	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	16	130	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	-	< 10	22	< 10
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	20	160	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	1.8	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	15	4.6
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10	47	14
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	< 10	230	34
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	-	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	290	52
TPH (C35 - C40)	mg/kg	10	MCERTS	-	< 10	22	< 10
VOCs							
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692512	1692513	1692514	1692515
Sample Reference				DS103	DS105	DS105	DS109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.20	0.50	2.50	0.70
Date Sampled				17/11/2020	18/11/2020	18/11/2020	17/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-

Chloromethane	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010
Chloroethane	mg/kg	0.001	NONE	-	< 0.0010	< 0.0010	< 0.0010
Bromomethane	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010
Vinyl Chloride	mg/kg	0.001	NONE	-	< 0.0010	< 0.0010	< 0.0010
Trichlorofluoromethane	mg/kg	0.001	NONE	-	< 0.0010	< 0.0010	< 0.0010
1,1-Dichloroethene	mg/kg	0.001	NONE	-	< 0.0010	< 0.0010	< 0.0010
1,1,2-Trichloro 1,2,2-Trifluoroethane	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010
Cis-1,2-dichloroethene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
1,1-Dichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
2,2-Dichloropropane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
Trichloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
1,1,1-Trichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
1,2-Dichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
1,1-Dichloropropene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
Trans-1,2-dichloroethene	mg/kg	0.001	NONE	-	< 0.0010	< 0.0010	< 0.0010
Benzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
Tetrachloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
1,2-Dichloropropane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
Trichloroethene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
Dibromomethane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
Bromodichloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
Cis-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010
Trans-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010
Toluene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
1,1,2-Trichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010
1,3-Dichloropropane	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692512	1692513	1692514	1692515
Sample Reference					DS103	DS105	DS105	DS109
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					3.20	0.50	2.50	0.70
Date Sampled					17/11/2020	18/11/2020	18/11/2020	17/11/2020
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status					
Dibromochloromethane	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Tetrachloroethene	mg/kg	0.001	NONE	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2-Dibromoethane	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Chlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,1,1,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Ethylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
p & m-Xylene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Styrene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Tribromomethane	mg/kg	0.001	NONE	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
o-Xylene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,1,1,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Isopropylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Bromobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
n-Propylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2-Chlorotoluene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
4-Chlorotoluene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,3,5-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
tert-Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2,4-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
sec-Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,3-Dichlorobenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
p-Isopropyltoluene	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2-Dichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,4-Dichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2-Dibromo-3-chloropropane	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2,4-Trichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobutadiene	mg/kg	0.001	MCERTS	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2,3-Trichlorobenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	< 0.0010	< 0.0010	< 0.0010

VOCs TICs

VOCs TICs Compound Name		N/A	NONE	-	ND	ND	ND
VOC % Match	%	N/A	NONE	-	0	0	0

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	0.38	0.61	0.28
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692512	1692513	1692514	1692515
Sample Reference					DS103	DS105	DS105	DS109
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					3.20	0.50	2.50	0.70
Date Sampled					17/11/2020	18/11/2020	18/11/2020	17/11/2020
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.7	0.4	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	0.97	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	0.22	0.21	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	0.21	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	0.27	2.2	1.2	1.2
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	1.1	0.29	0.29
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	0.48	9.2	2.9	2.9
Pyrene	mg/kg	0.05	MCERTS	-	0.52	9.7	2.5	2.5
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.31	7.7	1.7	1.7
Chrysene	mg/kg	0.05	MCERTS	-	0.32	8	1.7	1.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	0.48	12	2.2	2.2
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.24	6.4	1.5	1.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.46	12	2.3	2.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.29	6.5	1.2	1.2
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	1.5	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.31	8.1	1.5	1.5

SVOCs TICs

SVOCs TICs Compound Name							
SVOC % Match	%	N/A	NONE	-	Benzo[e]pyrene	Benzo[e]pyrene	Benzo[e]pyrene
SVOCs TICs Compound Name	%	N/A	NONE	-	97	98	97
SVOC % Match	%	N/A	NONE	-	Naphthalene, 1,6-dimethyl-	Naphthalene, 1,5-dimethyl-	1-Naphthalenamine, N-phenyl-
SVOCs TICs Compound Name	%	N/A	NONE	-	96	97	96
SVOC % Match	%	N/A	NONE	-	Benzo[e]acephenanthrylene	Sulfur	
SVOCs TICs Compound Name	%	N/A	NONE	-	96	97	

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692512	1692513	1692514	1692515
Sample Reference				DS103	DS105	DS105	DS109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.20	0.50	2.50	0.70
Date Sampled				17/11/2020	18/11/2020	18/11/2020	17/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
SVOCs TICs Compound Name		N/A	NONE	-	Cyclic octaatomic sulfur	Pentadecane	
SVOC % Match	%	N/A	NONE	-	95	97	
SVOCs TICs Compound Name		N/A	NONE	-	Sulfur	Eicosane	
SVOC % Match	%	N/A	NONE	-	94	97	
SVOCs TICs Compound Name		N/A	NONE	-		Pyrene, 1-methyl-	
SVOC % Match	%	N/A	NONE	-		97	
SVOCs TICs Compound Name		N/A	NONE	-		Phenanthrene, 2-methyl-	
SVOC % Match	%	N/A	NONE	-		96	
SVOCs TICs Compound Name		N/A	NONE	-		Octadecane	
SVOC % Match	%	N/A	NONE	-		96	
SVOCs TICs Compound Name		N/A	NONE	-		Chrysene, 1-methyl-	
SVOC % Match	%	N/A	NONE	-		96	
SVOCs TICs Compound Name		N/A	NONE	-		Hexadecane	
SVOC % Match	%	N/A	NONE	-		96	

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692516	1692517	1692518	1692519
Sample Reference					DS109	DS109	DS108A	DS108A
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					1.80	2.50	0.40	0.80
Date Sampled					17/11/2020	17/11/2020	18/11/2020	18/11/2020
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	Accreditation				
Stone Content	%	0.1	NONE		< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE		17	17	7.4	12
Total mass of sample received	kg	0.001	NONE		1.5	1.5	1.5	1.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.9	9.1	10	9.3
Total Cyanide	mg/kg	1	MCERTS	-	-	-	< 1
Complex Cyanide	mg/kg	1	MCERTS	-	-	-	< 1
Free Cyanide	mg/kg	1	MCERTS	-	-	-	< 1
Total Sulphate as SO ₄	%	0.005	MCERTS	0.02	-	-	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	29	65	610	150
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.015	0.033	0.31	0.077
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	14.7	32.5	305	76.5
Total Sulphur	%	0.005	MCERTS	0.006	-	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	0.4

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	-	-	-	< 0.2
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	< 0.2
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	< 0.1
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	< 0.3
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	< 0.3
4-Chloro-3-methylphenol	mg/kg	0.1	ISO 17025	-	-	-	< 0.1
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	< 0.2

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	-	-	-	< 1.0
-----------------------	-------	---	------	---	---	---	-------

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692516	1692517	1692518	1692519
Sample Reference				DS109	DS109	DS108A	DS108A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80	2.50	0.40	0.80
Date Sampled				17/11/2020	17/11/2020	18/11/2020	18/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	0.35	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	0.24	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	< 0.05	1	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	0.27	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	2.7	0.37
Pyrene	mg/kg	0.05	MCERTS	-	< 0.05	3.2	0.36
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	2.1	0.31
Chrysene	mg/kg	0.05	MCERTS	-	< 0.05	1.5	0.24
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	2	0.36
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	1.5	0.14
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	2.1	0.33
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	1.4	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	1.6	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	< 0.80	20	2.11
-----------------------------	-------	-----	--------	---	--------	----	------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	32	11	6.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	0.6	0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	-	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	30	16	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	17	25	25
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	21	81	28
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	21	17	13
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	40	130	63

Monoaromatics & Oxygenates

Benzene	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692516	1692517	1692518	1692519
Sample Reference				DS109	DS109	DS108A	DS108A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80	2.50	0.40	0.80
Date Sampled				17/11/2020	17/11/2020	18/11/2020	18/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	5.3	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	21	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0	140	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	-	< 10	81	< 10
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	160	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	1.9	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	17	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10	33	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	< 10	160	< 10
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	-	< 10	140	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	210	< 10
TPH (C35 - C40)	mg/kg	10	MCERTS	-	< 10	220	< 10
VOCs							
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692516	1692517	1692518	1692519
Sample Reference				DS109	DS109	DS108A	DS108A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80	2.50	0.40	0.80
Date Sampled				17/11/2020	17/11/2020	18/11/2020	18/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-

Chloromethane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Chloroethane	mg/kg	0.001	NONE	-	-	-	< 0.0010
Bromomethane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Vinyl Chloride	mg/kg	0.001	NONE	-	-	-	< 0.0010
Trichlorofluoromethane	mg/kg	0.001	NONE	-	-	-	< 0.0010
1,1-Dichloroethene	mg/kg	0.001	NONE	-	-	-	< 0.0010
1,1,2-Trichloro 1,2,2-Trifluoroethane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Cis-1,2-dichloroethene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1-Dichloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
2,2-Dichloropropane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Trichloromethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1,1-Trichloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,2-Dichloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1-Dichloropropene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Trans-1,2-dichloroethene	mg/kg	0.001	NONE	-	-	-	< 0.0010
Benzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Tetrachloromethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,2-Dichloropropane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Trichloroethene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Dibromomethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Bromodichloromethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Cis-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Trans-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Toluene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1,2-Trichloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,3-Dichloropropane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692516	1692517	1692518	1692519
Sample Reference				DS109	DS109	DS108A	DS108A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80	2.50	0.40	0.80
Date Sampled				17/11/2020	17/11/2020	18/11/2020	18/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Dibromochloromethane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Tetrachloroethene	mg/kg	0.001	NONE	-	-	-	< 0.0010
1,2-Dibromoethane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Chlorobenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1,1,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Ethylbenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
p & m-Xylene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Styrene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Tribromomethane	mg/kg	0.001	NONE	-	-	-	< 0.0010
o-Xylene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1,2,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Isopropylbenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Bromobenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
n-Propylbenzene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
2-Chlorotoluene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
4-Chlorotoluene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,3,5-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
tert-Butylbenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,2,4-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
sec-Butylbenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,3-Dichlorobenzene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
p-Isopropyltoluene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
1,2-Dichlorobenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,4-Dichlorobenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Butylbenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,2-Dibromo-3-chloropropane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
1,2,4-Trichlorobenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Hexachlorobutadiene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,2,3-Trichlorobenzene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010

VOCs TICs

VOCs TICs Compound Name		N/A	NONE	-	-	-	ND
VOC % Match	%	N/A	NONE	-	-	-	0

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692516	1692517	1692518	1692519
Sample Reference				DS109	DS109	DS108A	DS108A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80	2.50	0.40	0.80
Date Sampled				17/11/2020	17/11/2020	18/11/2020	18/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	-	-	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	-	-	< 0.05
Carbazole	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	0.37
Pyrene	mg/kg	0.05	MCERTS	-	-	-	0.36
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	0.31
Chrysene	mg/kg	0.05	MCERTS	-	-	-	0.24
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	0.36
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	0.14
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	0.33
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	< 0.05

SVOCs TICs

SVOCs TICs Compound Name		N/A	NONE	-	-	-	1- Naphthalenamine, N-phenyl-
SVOC % Match	%	N/A	NONE	-	-	-	94
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692516	1692517	1692518	1692519
Sample Reference				DS109	DS109	DS108A	DS108A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80	2.50	0.40	0.80
Date Sampled				17/11/2020	17/11/2020	18/11/2020	18/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692520	1692523	1692524	1692525
Sample Reference				HP101	CP101	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	2.00	1.40	2.20
Date Sampled				18/11/2020	18/11/2020	19/11/2020	19/11/2020
Time Taken				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	13	25	9.3	27
Total mass of sample received	kg	0.001	NONE	1.5	1.5	0.5	0.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.7	8.3	8.5	8.4
Total Cyanide	mg/kg	1	MCERTS	-	-	-	< 1
Complex Cyanide	mg/kg	1	MCERTS	-	-	-	< 1
Free Cyanide	mg/kg	1	MCERTS	-	-	-	< 1
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	110	280	790	740
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.054	0.14	0.4	0.37
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	54.3	142	395	369
Total Sulphur	%	0.005	MCERTS	-	-	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	7.2

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	-	-	-	< 0.2
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	< 0.2
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	< 0.1
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	< 0.3
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	< 0.3
4-Chloro-3-methylphenol	mg/kg	0.1	ISO 17025	-	-	-	< 0.1
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	< 0.2

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	-	-	-	< 1.0
-----------------------	-------	---	------	---	---	---	-------

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692520	1692523	1692524	1692525
Sample Reference				HP101	CP101	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	2.00	1.40	2.20
Date Sampled				18/11/2020	18/11/2020	19/11/2020	19/11/2020
Time Taken				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	0.3	< 0.05	4.8	4.5
Acenaphthylene	mg/kg	0.05	MCERTS	0.51	< 0.05	7.8	7.5
Acenaphthene	mg/kg	0.05	MCERTS	0.47	< 0.05	5.2	3.4
Fluorene	mg/kg	0.05	MCERTS	0.38	< 0.05	11	4.9
Phenanthrene	mg/kg	0.05	MCERTS	6.5	0.89	98	36
Anthracene	mg/kg	0.05	MCERTS	1.5	0.27	24	13
Fluoranthene	mg/kg	0.05	MCERTS	13	1.4	130	54
Pyrene	mg/kg	0.05	MCERTS	11	1.3	110	53
Benzo(a)anthracene	mg/kg	0.05	MCERTS	7	1.2	76	44
Chrysene	mg/kg	0.05	MCERTS	5.3	0.73	57	30
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	7.3	1.3	83	63
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	4.2	0.68	35	32
Benzo(a)pyrene	mg/kg	0.05	MCERTS	7.1	1.2	80	67
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	4.1	0.6	40	42
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.1	< 0.05	10	10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	4.8	0.81	46	50

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	74.6	10.2	820	514
-----------------------------	-------	-----	--------	------	------	-----	-----

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	30	75	27	60
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.7	< 0.2	0.8	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30	38	34	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	240	230	310	600
Lead (aqua regia extractable)	mg/kg	1	MCERTS	430	990	340	650
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.8	< 0.3	1.5	13
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	41	100	49	120
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1000	590	350	850

Monoaromatics & Oxygenates

Benzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692520	1692523	1692524	1692525
Sample Reference				HP101	CP101	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	2.00	1.40	2.20
Date Sampled				18/11/2020	18/11/2020	19/11/2020	19/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	1.2	7.4
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	15	300
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	38	630
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	63	43	190	370
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	16	15	53	18
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	70	50	240	1300
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	9.8	16
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	6.7	< 2.0	88	220
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	29	< 10	640	650
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	92	40	1200	940
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	23	13	130	72
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	130	50	1900	1800
TPH (C35 - C40)	mg/kg	10	MCERTS	39	28	180	90

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692520	1692523	1692524	1692525
Sample Reference				HP101	CP101	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	2.00	1.40	2.20
Date Sampled				18/11/2020	18/11/2020	19/11/2020	19/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-

Chloromethane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Chloroethane	mg/kg	0.001	NONE	-	-	-	< 0.0010
Bromomethane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Vinyl Chloride	mg/kg	0.001	NONE	-	-	-	< 0.0010
Trichlorofluoromethane	mg/kg	0.001	NONE	-	-	-	< 0.0010
1,1-Dichloroethene	mg/kg	0.001	NONE	-	-	-	< 0.0010
1,1,2-Trichloro 1,2,2-Trifluoroethane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Cis-1,2-dichloroethene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1-Dichloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
2,2-Dichloropropane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Trichloromethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1,1-Trichloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,2-Dichloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1-Dichloropropene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Trans-1,2-dichloroethene	mg/kg	0.001	NONE	-	-	-	< 0.0010
Benzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Tetrachloromethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,2-Dichloropropane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Trichloroethene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Dibromomethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Bromodichloromethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Cis-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Trans-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Toluene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1,2-Trichloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,3-Dichloropropane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692520	1692523	1692524	1692525
Sample Reference				HP101	CP101	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	2.00	1.40	2.20
Date Sampled				18/11/2020	18/11/2020	19/11/2020	19/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Dibromochloromethane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Tetrachloroethene	mg/kg	0.001	NONE	-	-	-	< 0.0010
1,2-Dibromoethane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
Chlorobenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1,1,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Ethylbenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
p & m-Xylene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Styrene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Tribromomethane	mg/kg	0.001	NONE	-	-	-	< 0.0010
o-Xylene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,1,2,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Isopropylbenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Bromobenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
n-Propylbenzene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
2-Chlorotoluene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
4-Chlorotoluene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,3,5-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
tert-Butylbenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,2,4-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
sec-Butylbenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,3-Dichlorobenzene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
p-Isopropyltoluene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
1,2-Dichlorobenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,4-Dichlorobenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Butylbenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,2-Dibromo-3-chloropropane	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010
1,2,4-Trichlorobenzene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
Hexachlorobutadiene	mg/kg	0.001	MCERTS	-	-	-	< 0.0010
1,2,3-Trichlorobenzene	mg/kg	0.001	ISO 17025	-	-	-	< 0.0010

VOCs TICs

VOCs TICs Compound Name		N/A	NONE	-	-	-	ND
VOC % Match	%	N/A	NONE	-	-	-	0

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	4.5
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692520	1692523	1692524	1692525
Sample Reference				HP101	CP101	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	2.00	1.40	2.20
Date Sampled				18/11/2020	18/11/2020	19/11/2020	19/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	3.3
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	7.5
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	3.4
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	2.6
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	-	-	4.9
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	36
Anthracene	mg/kg	0.05	MCERTS	-	-	-	13
Carbazole	mg/kg	0.3	MCERTS	-	-	-	2.1
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	2.4
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	54
Pyrene	mg/kg	0.05	MCERTS	-	-	-	53
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	44
Chrysene	mg/kg	0.05	MCERTS	-	-	-	30
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	63
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	32
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	67
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	42
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	50

SVOCs TICs

SVOCs TICs Compound Name		N/A	NONE	-	-	-	3,4:8,9-Dibenzopyrene
SVOC % Match	%	N/A	NONE	-	-	-	99
SVOCs TICs Compound Name		N/A	NONE	-	-	-	Chrysene, 1-methyl-
SVOC % Match	%	N/A	NONE	-	-	-	98
SVOCs TICs Compound Name		N/A	NONE	-	-	-	Benzo[e]pyrene
SVOC % Match	%	N/A	NONE	-	-	-	98

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692520	1692523	1692524	1692525
Sample Reference				HP101	CP101	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	2.00	1.40	2.20
Date Sampled				18/11/2020	18/11/2020	19/11/2020	19/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
							1,2:7,8- Dibenzophenanthr- ene
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	98
							Fluoranthene, 2- methyl-
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	97
							Dibenz(a,e)aceant hrylene
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	97
							Pyrene, 1-methyl-
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	96
							Benzo[b]naphtho[2,1-d]thiophene
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	96
							3-[(2-Methyl-5- nitro-phenylimino)- methyl]-phenol
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	96
							Z-11,13- Tetradecadien-1-ol acetate
SVOCs TICs Compound Name		N/A	NONE	-	-	-	
SVOC % Match	%	N/A	NONE	-	-	-	96

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692526	1692527	1692528	1692529
Sample Reference					CP105	CP105	CP105	CP105
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					3.50	5.40	7.50	10.00
Date Sampled					19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Taken					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	21	30	34	11	
Total mass of sample received	kg	0.001	NONE	0.7	0.5	0.7	0.5	

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	-	Not-detected

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.5	8.3	8.3	9.7
Total Cyanide	mg/kg	1	MCERTS	-	3	-	-
Complex Cyanide	mg/kg	1	MCERTS	-	3	-	-
Free Cyanide	mg/kg	1	MCERTS	-	< 1	-	-
Total Sulphate as SO ₄	%	0.005	MCERTS	0.399	-	0.421	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	1700	2800	1600	79
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.84	1.4	0.81	0.04
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	837	1390	807	39.7
Total Sulphur	%	0.005	MCERTS	1.6	-	1.6	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	6.8	-	-

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	-	< 0.2	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	ISO 17025	-	< 0.1	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	-	< 1.0	-	-
-----------------------	-------	---	------	---	-------	---	---

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692526	1692527	1692528	1692529
Sample Reference				CP105	CP105	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	5.40	7.50	10.00
Date Sampled				19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Taken				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	-	0.54	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	0.2	-	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	0.21	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	0.66	-	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	0.49	-	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	0.5	-	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.48	-	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	0.36	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	0.71	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.27	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.6	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.38	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.55	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	5.95	-	< 0.80
-----------------------------	-------	-----	--------	---	------	---	--------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	87	-	5.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	-	< 1.2	-	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	51	-	27
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	220	-	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	680	-	16
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	2.5	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	150	-	39
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	720	-	73

Monoaromatics & Oxygenates

Benzene	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
Toluene	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
o-xylene	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692526	1692527	1692528	1692529
Sample Reference				CP105	CP105	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	5.40	7.50	10.00
Date Sampled				19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	40	-	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	-	< 10	-	< 10
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	46	-	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	14	-	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	23	-	< 10
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	-	< 10	-	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	37	-	< 10
TPH (C35 - C40)	mg/kg	10	MCERTS	-	< 10	-	< 10
VOCs							
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692526	1692527	1692528	1692529
Sample Reference				CP105	CP105	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	5.40	7.50	10.00
Date Sampled				19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-

Chloromethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Chloroethane	mg/kg	0.001	NONE	-	< 0.0010	-	-
Bromomethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Vinyl Chloride	mg/kg	0.001	NONE	-	< 0.0010	-	-
Trichlorofluoromethane	mg/kg	0.001	NONE	-	< 0.0010	-	-
1,1-Dichloroethene	mg/kg	0.001	NONE	-	< 0.0010	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Cis-1,2-dichloroethene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1-Dichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
2,2-Dichloropropane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Trichloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1,1-Trichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,2-Dichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1-Dichloropropene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Trans-1,2-dichloroethene	mg/kg	0.001	NONE	-	< 0.0010	-	-
Benzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Tetrachloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,2-Dichloropropane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Trichloroethene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Dibromomethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Bromodichloromethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Cis-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Trans-1,3-dichloropropene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Toluene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1,2-Trichloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,3-Dichloropropane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692526	1692527	1692528	1692529
Sample Reference				CP105	CP105	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	5.40	7.50	10.00
Date Sampled				19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
Dibromochloromethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Tetrachloroethene	mg/kg	0.001	NONE	-	< 0.0010	-	-
1,2-Dibromoethane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
Chlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1,1,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Ethylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
p & m-Xylene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Styrene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Tribromomethane	mg/kg	0.001	NONE	-	< 0.0010	-	-
o-Xylene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,1,2,2-Tetrachloroethane	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Isopropylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Bromobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
n-Propylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
2-Chlorotoluene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
4-Chlorotoluene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,3,5-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
tert-Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,2,4-Trimethylbenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
sec-Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,3-Dichlorobenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
p-Isopropyltoluene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
1,2-Dichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,4-Dichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Butylbenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,2-Dibromo-3-chloropropane	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-
1,2,4-Trichlorobenzene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
Hexachlorobutadiene	mg/kg	0.001	MCERTS	-	< 0.0010	-	-
1,2,3-Trichlorobenzene	mg/kg	0.001	ISO 17025	-	< 0.0010	-	-

VOCs TICs

VOCs TICs Compound Name		N/A	NONE	-	ND	-	-
VOC % Match	%	N/A	NONE	-	0	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	0.54	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number					1692526	1692527	1692528	1692529
Sample Reference					CP105	CP105	CP105	CP105
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					3.50	5.40	7.50	10.00
Date Sampled					19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-	
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-	
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-	
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-	-	
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.7	-	-	
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	-	
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	
Acenaphthene	mg/kg	0.05	MCERTS	-	0.2	-	-	
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	-	
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-	-	
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-	-	
Fluorene	mg/kg	0.05	MCERTS	-	0.21	-	-	
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	
Phenanthrene	mg/kg	0.05	MCERTS	-	0.66	-	-	
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	-	
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-	-	
Fluoranthene	mg/kg	0.05	MCERTS	-	0.49	-	-	
Pyrene	mg/kg	0.05	MCERTS	-	0.5	-	-	
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-	-	
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.48	-	-	
Chrysene	mg/kg	0.05	MCERTS	-	0.36	-	-	
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	0.71	-	-	
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.27	-	-	
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.6	-	-	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.38	-	-	
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.55	-	-	

SVOCs TICs

SVOCs TICs Compound Name		N/A	NONE	-	4b,8-Dimethyl-2-isopropylphenanthrene, 4b,5,6,7,8,8a,9,10-octahydro-	-	-
SVOC % Match	%	N/A	NONE	-	99	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Phenanthrene, 1-methyl-7-(1-methylethyl)-	-	-
SVOC % Match	%	N/A	NONE	-	98	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Stigmasterol, 22,23-dihydro-	-	-
SVOC % Match	%	N/A	NONE	-	98	-	-

Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number				1692526	1692527	1692528	1692529
Sample Reference				CP105	CP105	CP105	CP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	5.40	7.50	10.00
Date Sampled				19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accred- itation Status				
SVOCs TICs Compound Name		N/A	NONE	-	Eicosane	-	-
SVOC % Match	%	N/A	NONE	-	97	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Naphthalene, 2,6- dimethyl-	-	-
SVOC % Match	%	N/A	NONE	-	96	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Heptacosane	-	-
SVOC % Match	%	N/A	NONE	-	96	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Sulfur	-	-
SVOC % Match	%	N/A	NONE	-	95	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Cyclic octaatomic sulfur	-	-
SVOC % Match	%	N/A	NONE	-	95	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Cholesterol	-	-
SVOC % Match	%	N/A	NONE	-	95	-	-
SVOCs TICs Compound Name		N/A	NONE	-	Naphthalene, 1,6- dimethyl-	-	-
SVOC % Match	%	N/A	NONE	-	94	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 20-42875

Project / Site name: Brunell Retail Park Reading

Your Order No: TBC

Lab Sample Number	1692521	1692522
Sample Reference	SS101	SS102
Sample Number	None Supplied	None Supplied
Depth (m)	0.00	0.00
Date Sampled	18/11/2020	18/11/2020
Time Taken	None Supplied	None Supplied
Analytical Parameter (Bulk Analysis)	Units	Limit of detection

Asbestos Identification	Type	N/A	ISO 17025	Chrysotile-Hard/Cement Type Material	Chrysotile-Hard/Cement Type Material
-------------------------	------	-----	-----------	--------------------------------------	--------------------------------------

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 20-42875

Project / Site name: Brunell Retail Park Reading

* 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 *
1692500	DS101	None Supplied	0.8	Brown loam and clay with gravel and vegetation.
1692501	DS101	None Supplied	2.4	Brown loam and clay with gravel and vegetation.
1692502	DS102	None Supplied	1.50-1.60	Brown loam and clay with gravel and vegetation.
1692503	DS102	None Supplied	2.00-2.40	Brown loam and clay with gravel and vegetation.
1692504	DS106	None Supplied	0.6	Light brown clay with gravel.
1692505	DS106	None Supplied	1.5	Light brown clay and sand.
1692506	CP104	None Supplied	1.7	Brown loam and clay with gravel.
1692507	CP104	None Supplied	4	Light brown clay.
1692508	DS107	None Supplied	1.5	Brown clay and loam.
1692509	DS104	None Supplied	1.5	Brown loam and sand with gravel.
1692510	DS104	None Supplied	2.5	Brown loam and sand with gravel.
1692511	DS103	None Supplied	1.5	Brown loam and sand with gravel and vegetation.
1692512	DS103	None Supplied	3.2	Brown loam and sand with gravel and vegetation.
1692513	DS105	None Supplied	0.5	Brown sandy clay with gravel.
1692514	DS105	None Supplied	2.5	Brown loam and sand with gravel and vegetation.
1692515	DS109	None Supplied	0.7	Brown loam and sand with gravel and vegetation.
1692516	DS109	None Supplied	1.8	Light brown sandy clay.
1692517	DS109	None Supplied	2.5	Light brown clay and sand.
1692518	DS108A	None Supplied	0.4	Brown loam and clay with gravel and vegetation.
1692519	DS108A	None Supplied	0.8	Brown loam and sand with gravel.
1692520	HP101	None Supplied	0.3	Brown loam and clay with gravel and vegetation.
1692523	CP101	None Supplied	2	Brown loam and clay with gravel and vegetation.
1692524	CP105	None Supplied	1.4	Brown loam and clay with gravel and vegetation.
1692525	CP105	None Supplied	2.2	Brown loam and clay with gravel and vegetation.
1692526	CP105	None Supplied	3.5	Brown loam and sand with gravel and vegetation.
1692527	CP105	None Supplied	5.4	Brown loam and clay with gravel and vegetation.
1692528	CP105	None Supplied	7.5	Brown loam and clay with gravel and vegetation.
1692529	CP105	None Supplied	10	Light brown clay.

Analytical Report Number : 20-42875

Project / Site name: Brunell Retail Park Reading

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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
Phenols, speciated, in soil, by GCMS	Determination of speciated phenols in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with disperion 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 disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	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
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
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Tentatively identified compounds (SVOC) in soil	Determination of semi-volatile organic compounds total ion count in soil by extraction with dichloromethane and hexane followed by GC-MS followed by a full library scan.	In-house method based on USEPA 8270	L064-PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS

Analytical Report Number : 20-42875

Project / Site name: Brunell Retail Park Reading

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Tentatively identified compounds (VOC) in soil	Determination of volatile organic compounds total ion count in soil by headspace GC-MS followed by a full library scan.	In-house method based on USEPA8260	L073-PL	W	NONE
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
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	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
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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
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

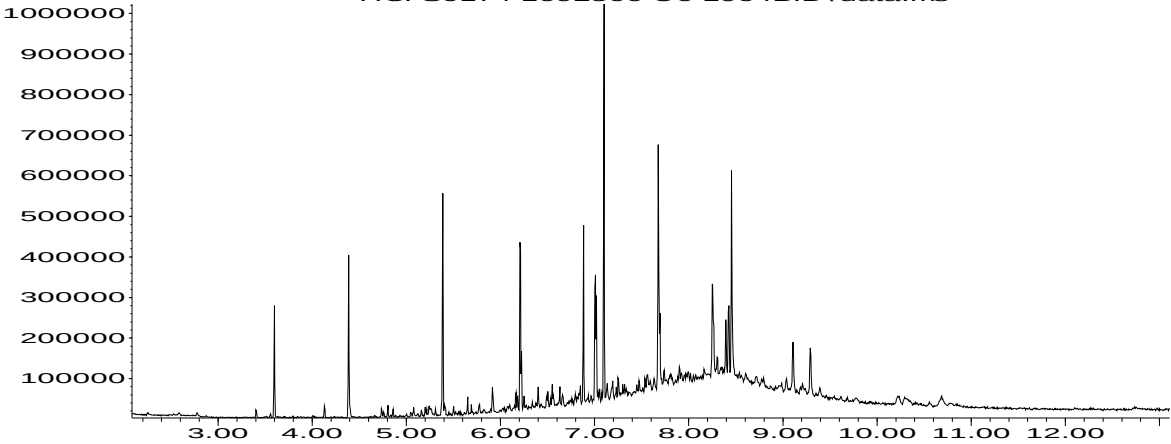
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

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

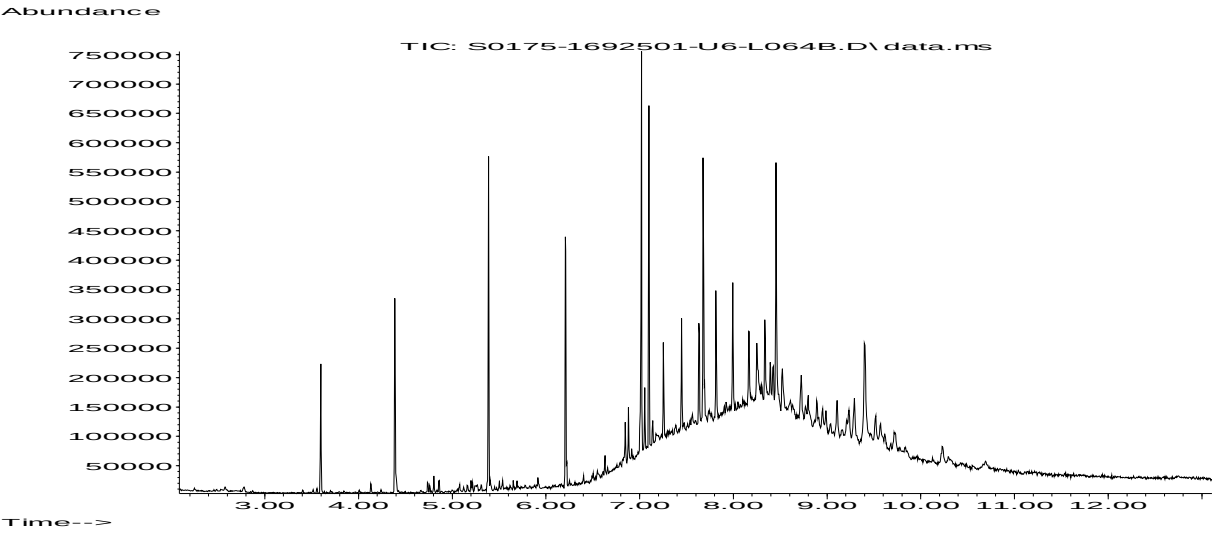
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Abundance

TIC: S0174-1692500-U6-L064B.D\data.ms

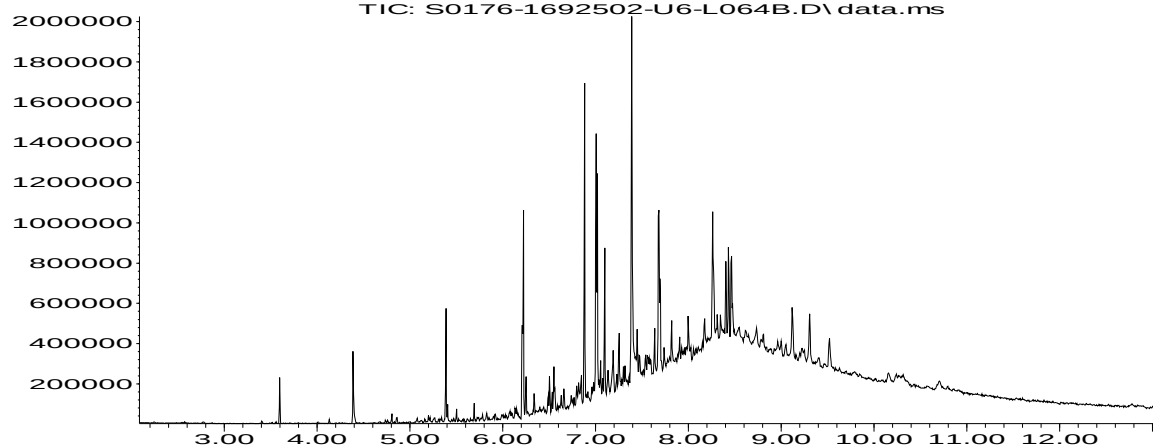


Time-->



Abundance

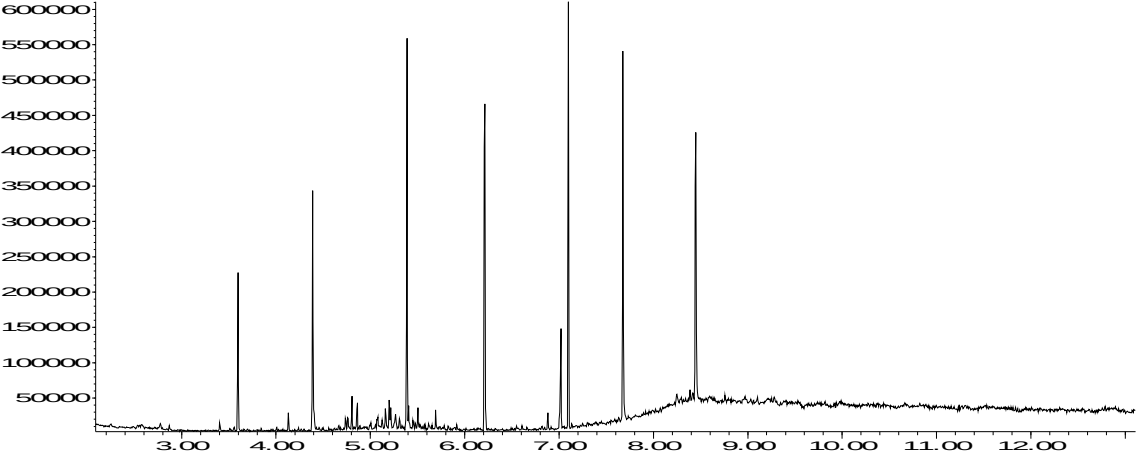
TIC: S0176-1692502-U6-L064B.D\data.ms



Time-->

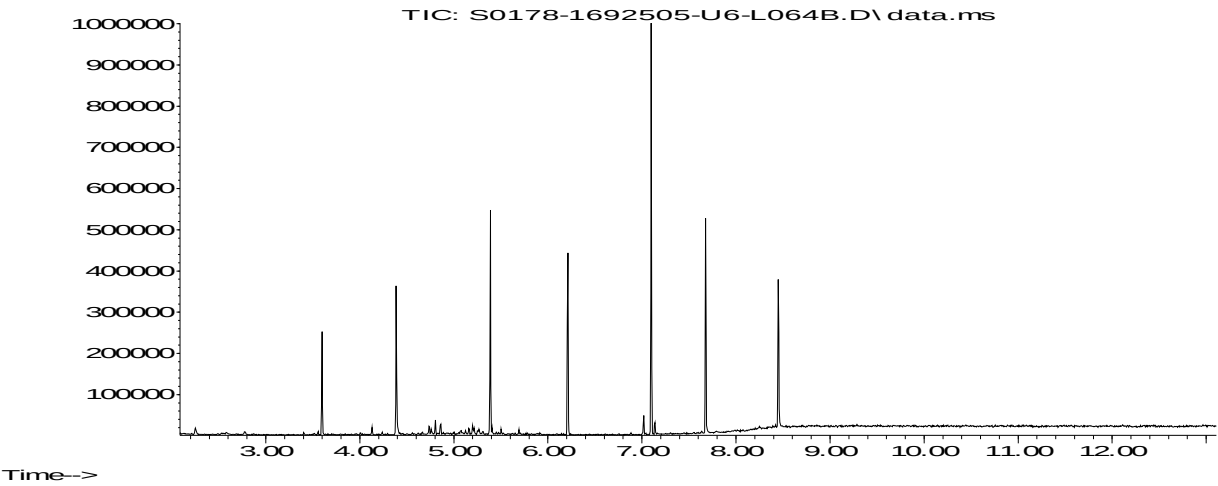
Abundance

TIC: S0177-1692504-U6-L064B.D\data.ms



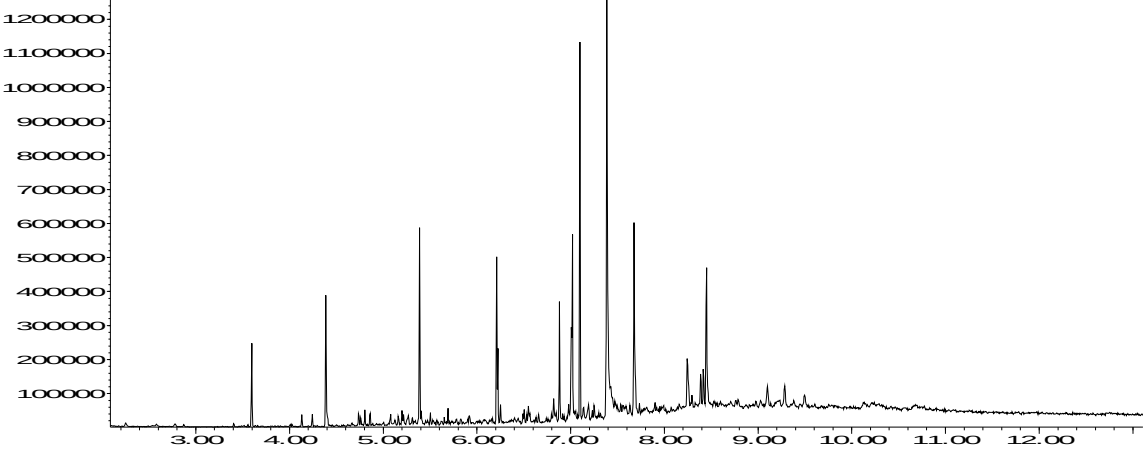
Time-->

Abundance



Abundance

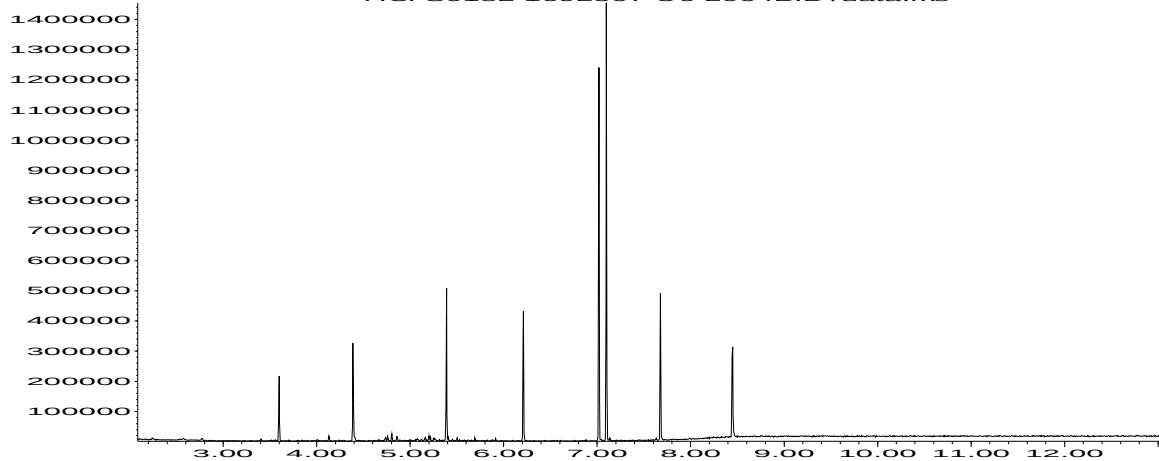
TIC: S0179-1692506-U6-L064B.D\data.ms



Time-->

Abundance

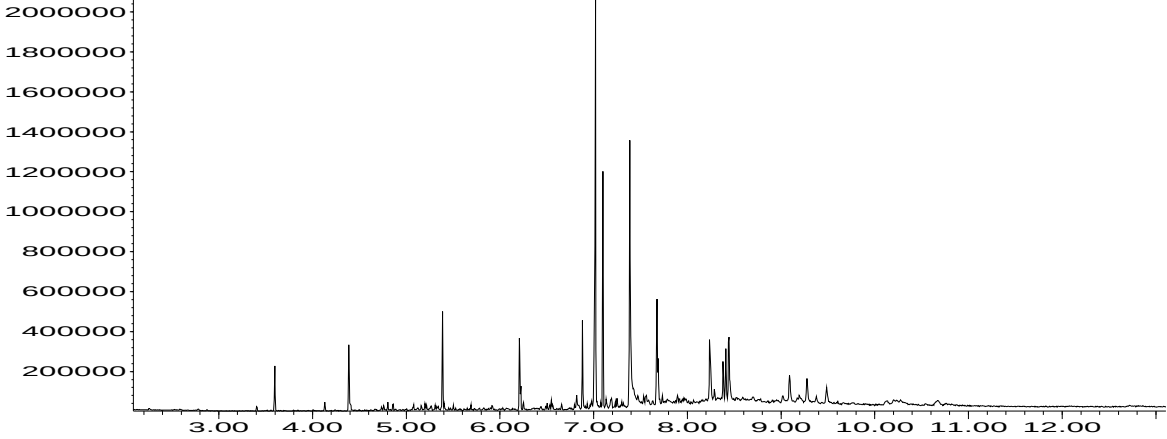
TIC: S0182-1692507-U6-L064B.D\data.ms



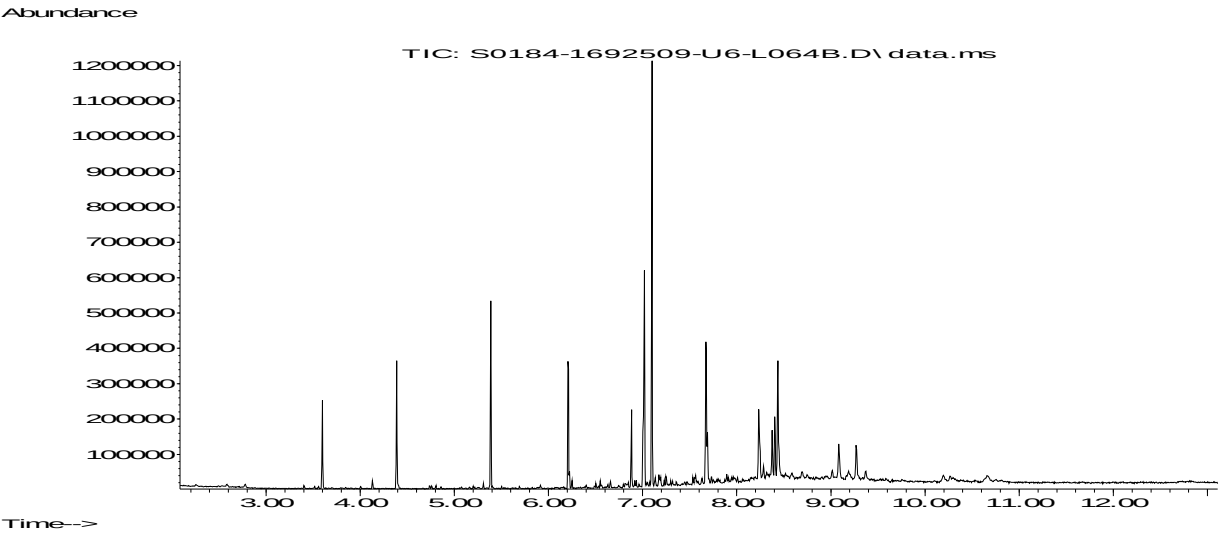
Time-->

Abundance

TIC: S0183-1692508-U6-L064B.D\data.ms

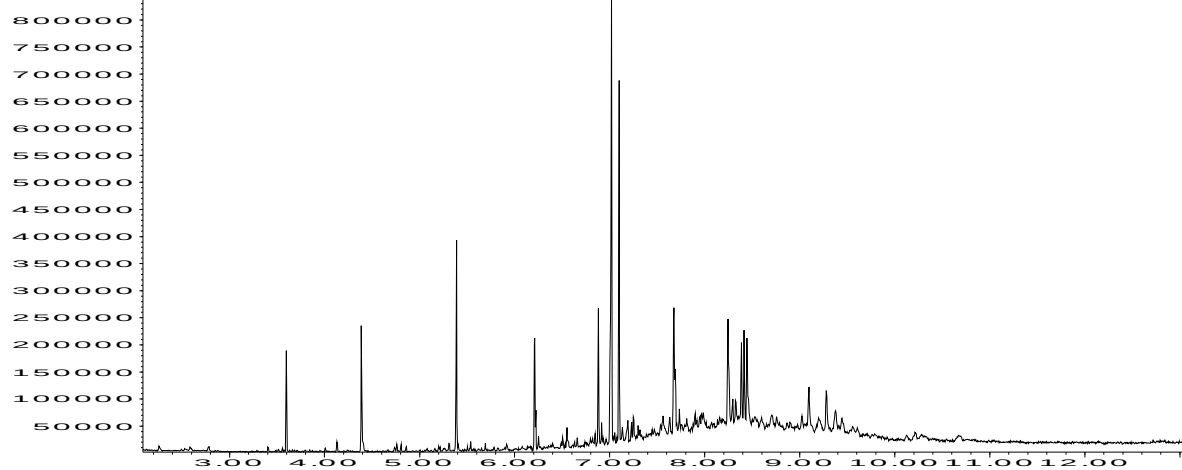


Time-->



Abundance

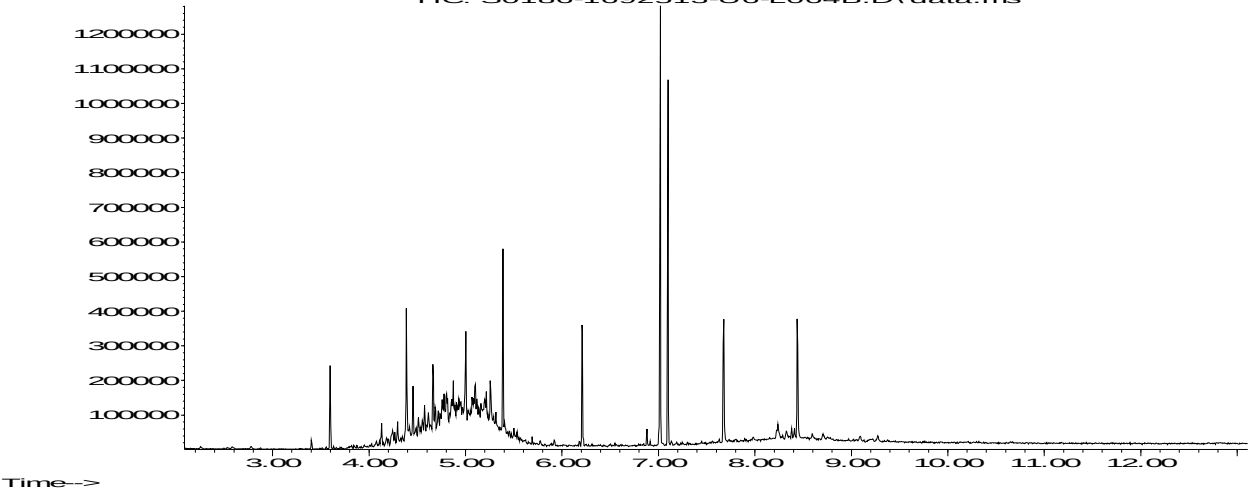
TIC: S0185-1692511-U6-L064B.D\data.ms



Time-->

Abundance

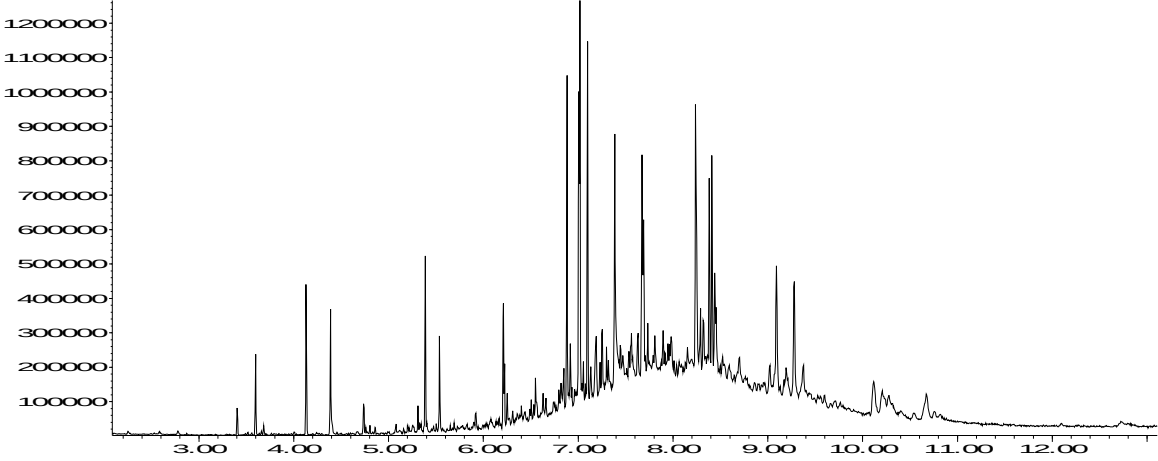
TIC: S0186-1692513-U6-L064B.D\data.ms



Time-->

Abundance

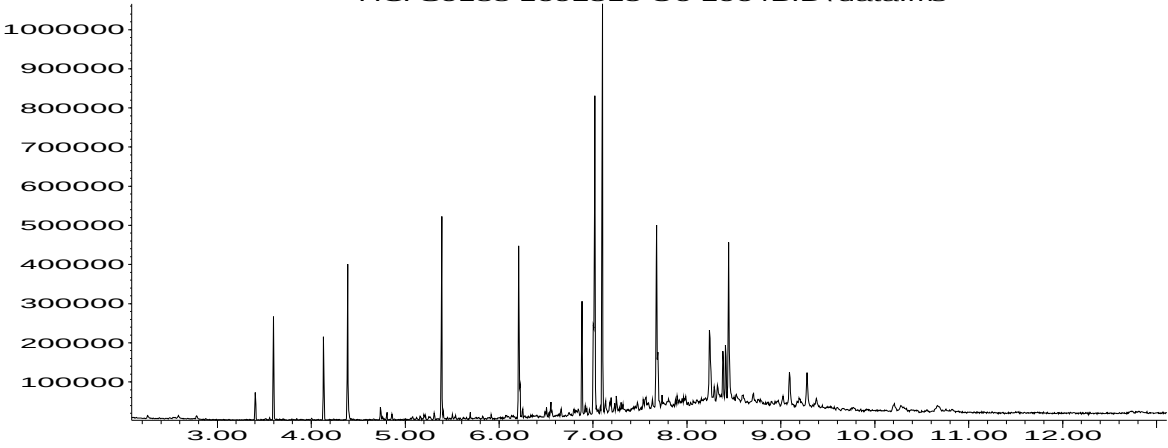
TIC: S0187-1692514-U6-L064B.D\data.ms



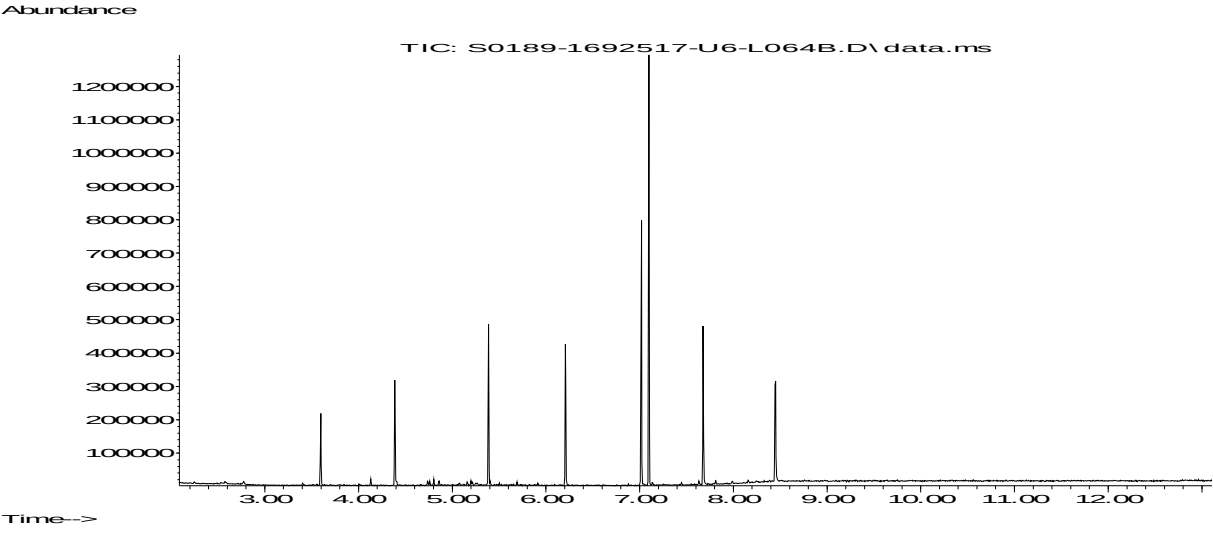
Time-->

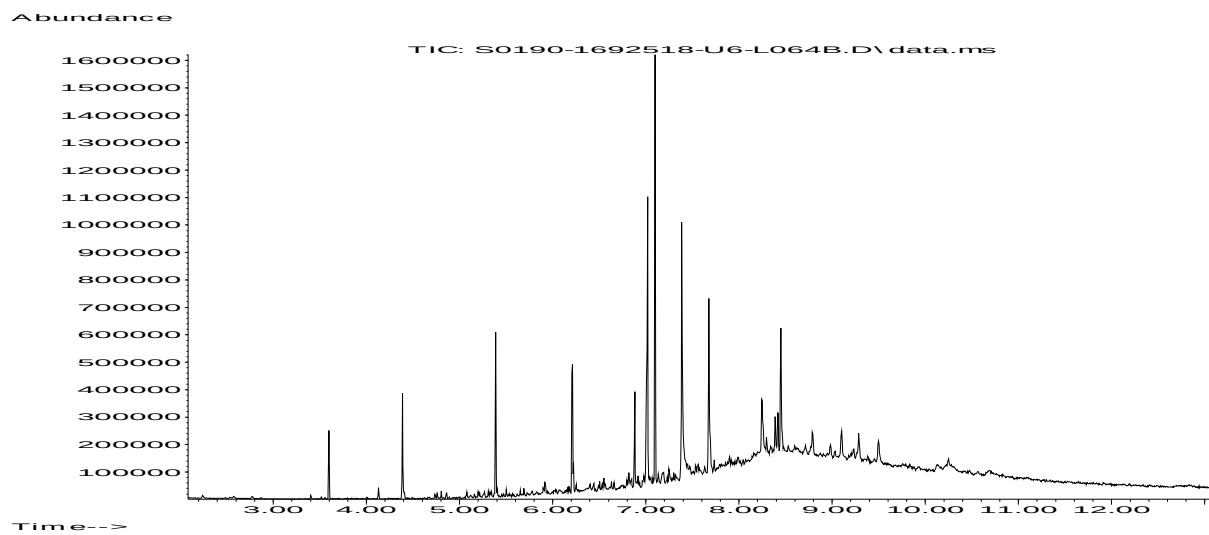
Abundance

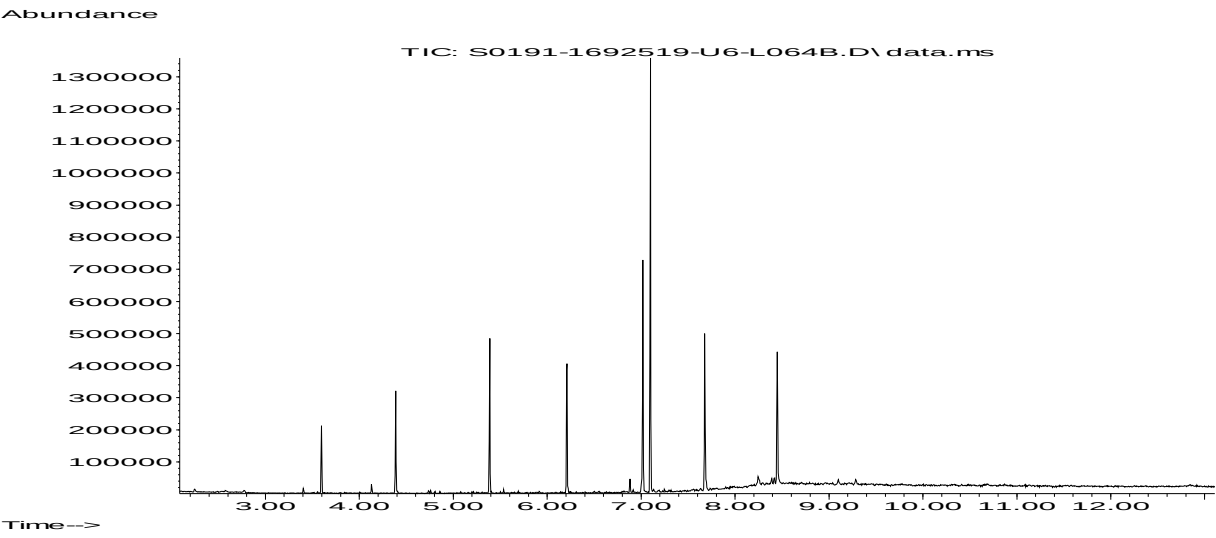
TIC: S0188-1692515-U6-L064B.D\data.ms



Time-->

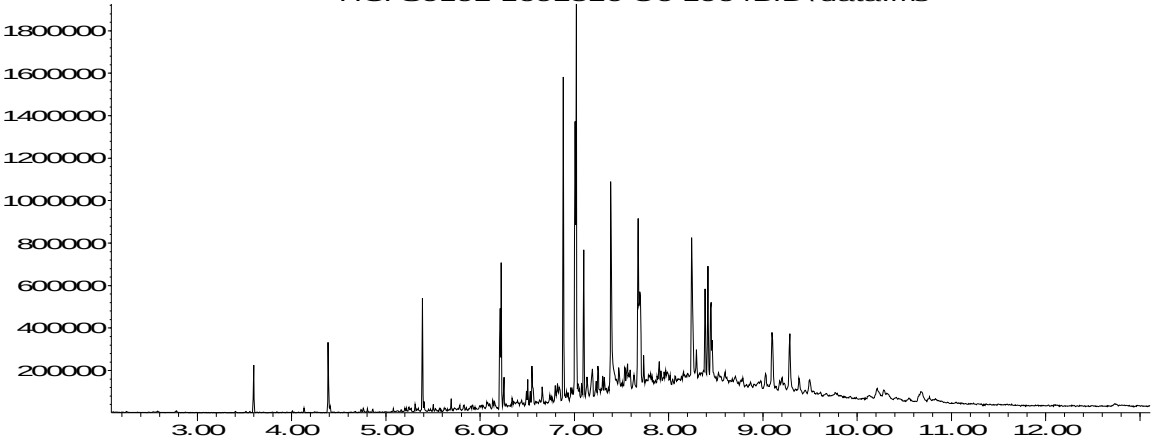




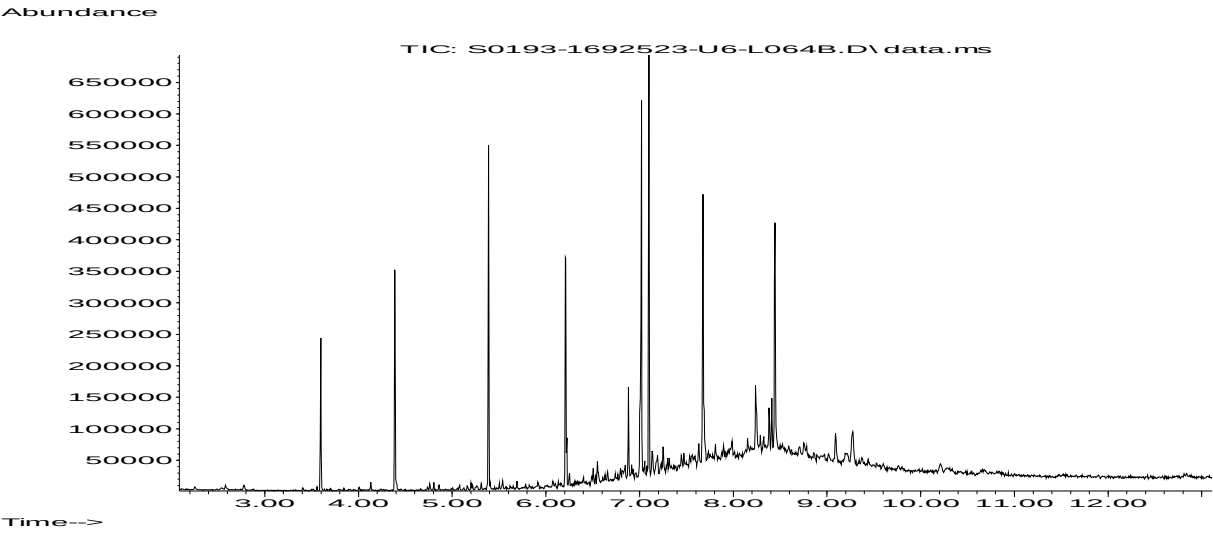


Abundance

TIC: S0192-1692520-U6-L064B.D\data.ms

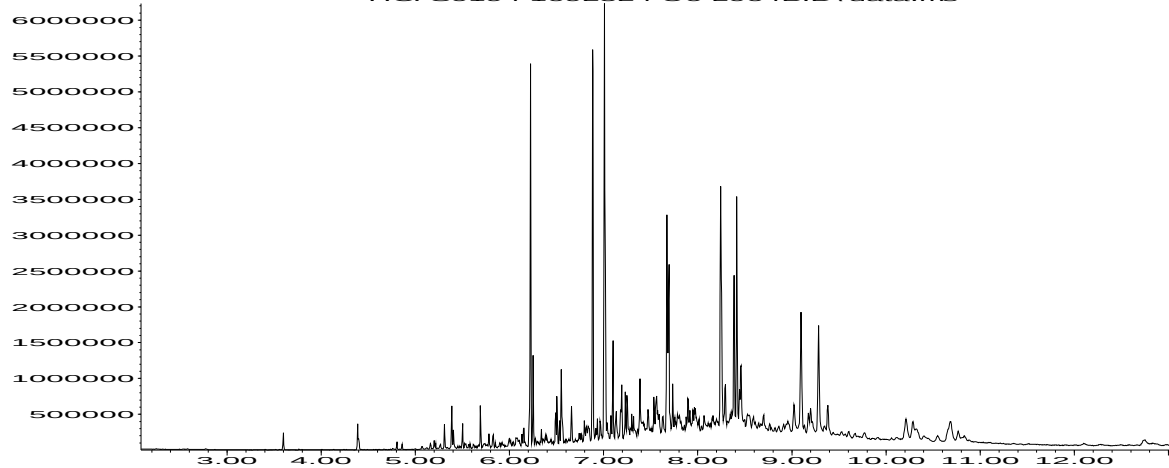


Time-->



Abundance

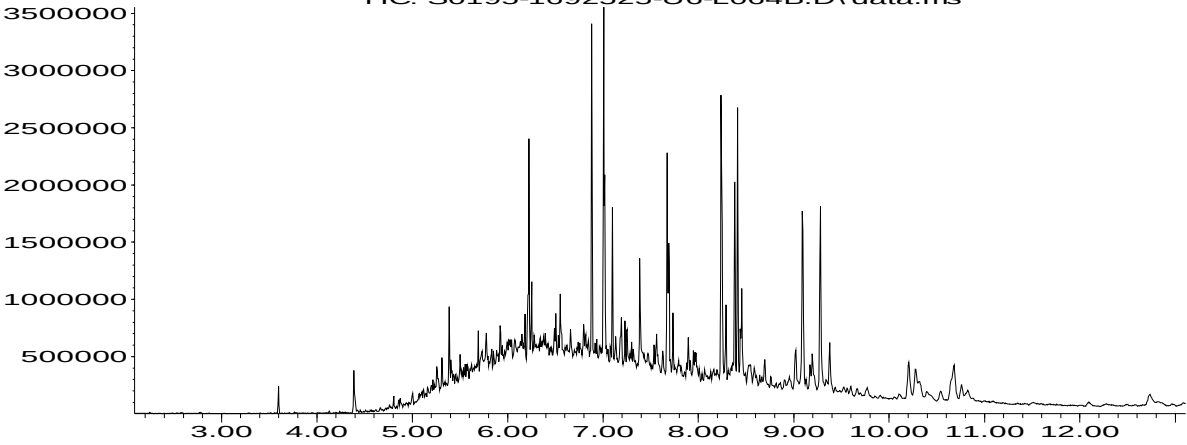
TIC: S0194-1692524-U6-L064B.D\data.ms



Time-->

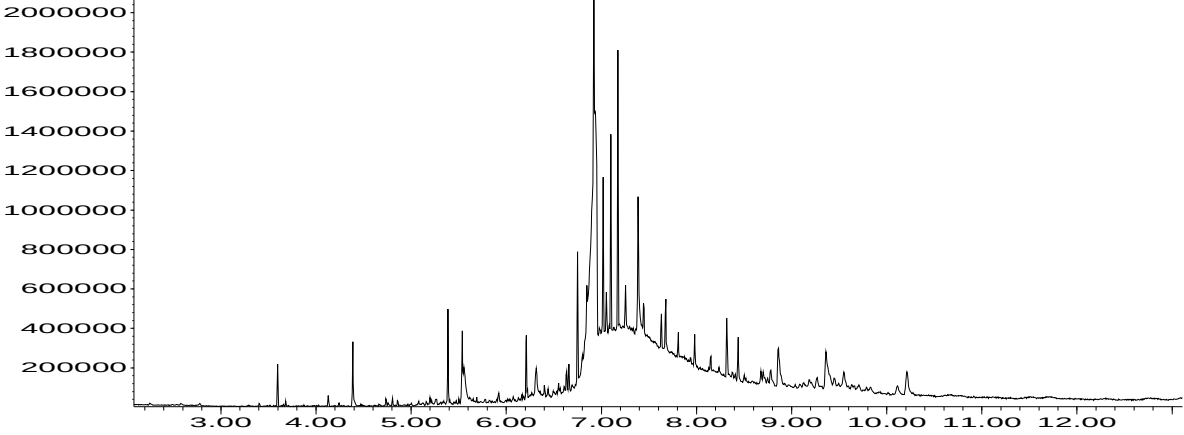
Abundance

TIC: S0195-1692525-U6-L064B.D\data.ms

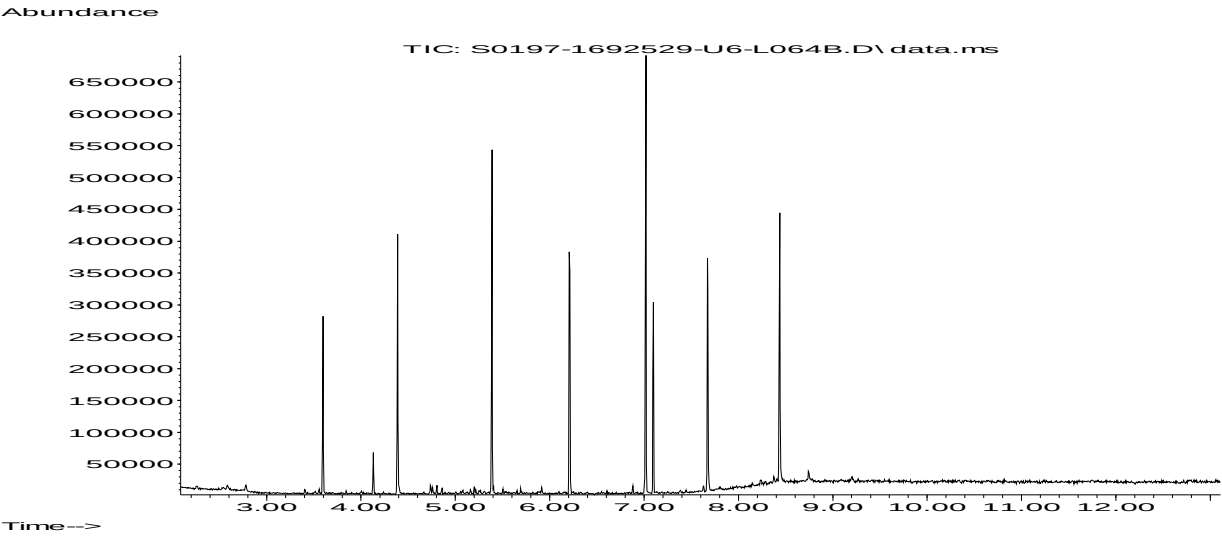


Abundance

TIC: S0196-1692527-U6-L064B.D\data.ms



Time-->



Sample Deviation Report



Analytical Report Number : 20-42875

Project / Site name: Brunell Retail Park Reading

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
DS101	None Supplied	S	1692501	c	Free cyanide in soil	L080-PL	c
DS101	None Supplied	S	1692501	c	Complex Cyanide in soil	L080-PL	c
DS101	None Supplied	S	1692501	c	Total cyanide in soil	L080-PL	c
DS106	None Supplied	S	1692504	c	Free cyanide in soil	L080-PL	c
DS106	None Supplied	S	1692504	c	Complex Cyanide in soil	L080-PL	c
DS106	None Supplied	S	1692504	c	Total cyanide in soil	L080-PL	c

Robert Stafford

Delta-Simons
3 Henley Office Park
Doddington Road
Lincoln
LN6 3QR

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

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: robert.stafford@deltasimons.com

Analytical Report Number : 20-43362

Project / Site name:	Brunell Retail Parl, Reading	Samples received on:	23/11/2020
Your job number:	18-0642.03	Samples instructed on/ Analysis started on:	23/11/2020
Your order number:	DS57971	Analysis completed by:	30/11/2020
Report Issue Number:	1	Report issued on:	30/11/2020
Samples Analysed:	3 soil samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
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: 20-43362

Project / Site name: Brunell Retail Parl, Reading

Your Order No: DS57971

Lab Sample Number				1695255	1695256
Sample Reference				CP105	CP105
Sample Number				2	3
Depth (m)				2.00-2.45	7.50-7.95
Date Sampled				19/11/2020	19/11/2020
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	20	23
Total mass of sample received	kg	0.001	NONE	2	2

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.1	8.4
Total Sulphate as SO ₄	%	0.005	MCERTS	0.175	0.341
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	1100	1600
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.53	0.81
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	533	812
Total Sulphur	%	0.005	MCERTS	0.344	1.74

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 20-43362

Project / Site name: Brunell Retail Parl, Reading

* 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 *
1695255	CP105	2	2.00-2.45	Brown clay and sand with gravel.
1695256	CP105	3	7.50-7.95	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 20-43362

Project / Site name: Brunell Retail Parl, Reading

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	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
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 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
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' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.

Robert Stafford

Delta-Simons
3 Henley Office Park
Doddington Road
Lincoln
LN6 3QR

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

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: robert.stafford@deltasimons.com

Analytical Report Number : 20-43658

Project / Site name:	Brunell Retail Park, Reading	Samples received on:	23/11/2020
Your job number:	18-0642.03	Samples instructed on/ Analysis started on:	27/11/2020
Your order number:	DS57971	Analysis completed by:	02/12/2020
Report Issue Number:	1	Report issued on:	02/12/2020
Samples Analysed:	1 soil sample		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
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: 20-43658

Project / Site name: Brunell Retail Park, Reading

Your Order No: DS57971

Lab Sample Number				1697123
Sample Reference				CP105
Sample Number				10
Depth (m)				12.00-12.45
Date Sampled				19/11/2020
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	13
Total mass of sample received	kg	0.001	NONE	1.5

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4
Total Sulphate as SO ₄	%	0.005	MCERTS	0.026
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	98
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.049
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	48.9
Total Sulphur	%	0.005	MCERTS	0.088

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 20-43658

Project / Site name: Brunell Retail Park, Reading

* 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 *
1697123	CP105	10	12.00-12.45	Grey clay and sand.

Analytical Report Number : 20-43658

Project / Site name: Brunell Retail Park, Reading

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	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
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 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
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' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.

Appendix F – Groundwater Chemical Analysis Results

**Robert Stafford**

Delta-Simons
3 Henley Office Park
Doddington Road
Lincoln
LN6 3QR

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

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: robert.stafford@deltasimons.com

Analytical Report Number : 20-43280

Project / Site name:	Brunel Road, Reading	Samples received on:	25/11/2020
Your job number:	18-0642.06	Samples instructed on/ Analysis started on:	25/11/2020
Your order number:	DS57971	Analysis completed by:	02/12/2020
Report Issue Number:	1	Report issued on:	02/12/2020
Samples Analysed:	8 water samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
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: 20-43280
Project / Site name: Brunel Road, Reading

Lab Sample Number				1694705	1694706	1694707	1694708
Sample Reference				DS109	CP105(D)/CP105	DS108a	CP101(D)/CP101
Sample Number				GW	GW	GW	GW
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/11/2020	25/11/2020	25/11/2020	25/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)				Units	Limit of detection	Accreditation Status	

General Inorganics

pH	pH Units	N/A	ISO 17025	7.7	6.8	7.6	6.8
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	88600	22400	53600	248000
Ammonium as NH4	µg/l	15	ISO 17025	190	13000	110	< 15

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	40	< 10	< 10	< 10
----------------------------	------	----	-----------	----	------	------	------

Heavy Metals / Metalloids

Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	1	NONE	5.1	8	1.6	4.1

Arsenic (dissolved)	µg/l	0.15	ISO 17025	7.08	1.65	0.64	0.83
Cadmium (dissolved)	µg/l	0.02	ISO 17025	1.6	< 0.02	0.05	0.07
Chromium (dissolved)	µg/l	0.2	ISO 17025	5.1	8	1.6	4.1
Copper (dissolved)	µg/l	0.5	ISO 17025	140	4.8	7.1	3
Lead (dissolved)	µg/l	0.2	ISO 17025	190	< 0.2	4.3	0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	56	5.5	5.1	36
Zinc (dissolved)	µg/l	0.5	ISO 17025	1800	13	14	11

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

Aliphatic >C10 - C12	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aliphatic >C12 - C16	µg/l	10	ISO 17025	19	16	22	< 10
Aliphatic >C16 - C21	µg/l	10	ISO 17025	52	19	83	< 10
Aliphatic >C21 - C35	µg/l	10	ISO 17025	740	100	220	< 10
Aliphatic >C10 - C35	µg/l	10	ISO 17025	810	140	330	< 10



Analytical Report Number: 20-43280
Project / Site name: Brunel Road, Reading

Lab Sample Number				1694705	1694706	1694707	1694708
Sample Reference				DS109	CP105(D)/CP105	DS108a	CP101(D)/CP101
Sample Number				GW	GW	GW	GW
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/11/2020	25/11/2020	25/11/2020	25/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Aromatic >C10 - C12	µg/l	10	ISO 17025	42	45	40	< 10
Aromatic >C12 - C16	µg/l	10	ISO 17025	74	72	77	< 10
Aromatic >C16 - C21	µg/l	10	ISO 17025	230	91	160	< 10
Aromatic >C21 - C35	µg/l	10	ISO 17025	2200	240	490	< 10
Aromatic >C10 - C35	µg/l	10	ISO 17025	2500	440	760	< 10

VOCs

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	18.6
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	9.1
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	6.4
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	5.3
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tri bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 20-43280
Project / Site name: Brunel Road, Reading

Lab Sample Number				1694705	1694706	1694707	1694708
Sample Reference				DS109	CP105(D)/CP105	DS108a	CP101(D)/CP101
Sample Number				GW	GW	GW	GW
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/11/2020	25/11/2020	25/11/2020	25/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	1	< 0.01	0.42	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	0.12	< 0.01	0.1	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05



Analytical Report Number: 20-43280
Project / Site name: Brunel Road, Reading

Lab Sample Number				1694705	1694706	1694707	1694708
Sample Reference				DS109	CP105(D)/CP105	DS108a	CP101(D)/CP101
Sample Number				GW	GW	GW	GW
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/11/2020	25/11/2020	25/11/2020	25/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Fluorene	µg/l	0.01	ISO 17025	0.14	< 0.01	0.13	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	1.2	< 0.01	1.3	< 0.01
Anthracene	µg/l	0.01	ISO 17025	0.51	< 0.01	0.45	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	5.2	< 0.01	4.4	< 0.01
Pyrene	µg/l	0.01	ISO 17025	5.5	< 0.01	4.3	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	3.3	< 0.01	2.6	< 0.01
Chrysene	µg/l	0.01	ISO 17025	3.1	< 0.01	2.4	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	5.6	< 0.01	3.8	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	2.1	< 0.01	1.4	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	5	< 0.01	3.2	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	3.3	< 0.01	2.1	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	0.67	< 0.01	0.44	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	4	< 0.01	2.3	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 20-43280
Project / Site name: Brunel Road, Reading

Lab Sample Number				1694709	1694710	1694711	1694712
Sample Reference				CP104(D)/CP104	CP103(D)/CP103	CP102(D)	CP102(S)
Sample Number				GW	GW	GW	GW
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/11/2020	25/11/2020	25/11/2020	25/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

pH	pH Units	N/A	ISO 17025	6.9	7.1	7.1	7.3
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	222000	331000	198000	563000
Ammonium as NH4	µg/l	15	ISO 17025	2500	80000	14000	290000

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
----------------------------	------	----	-----------	------	------	------	------

Heavy Metals / Metalloids

Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	1	NONE	5	13	5.5	3.8

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.9	16	2.41	6.11
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.14	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	5	13	5.5	3.8
Copper (dissolved)	µg/l	0.5	ISO 17025	4.1	5	5.2	1.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	1
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	15	7.4	15	7.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	22	13	55	5.4

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

Aliphatic >C10 - C12	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aliphatic >C12 - C16	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aliphatic >C16 - C21	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aliphatic >C21 - C35	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aliphatic >C10 - C35	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10



Analytical Report Number: 20-43280
Project / Site name: Brunel Road, Reading

Lab Sample Number				1694709	1694710	1694711	1694712
Sample Reference				CP104(D)/CP104	CP103(D)/CP103	CP102(D)	CP102(S)
Sample Number				GW	GW	GW	GW
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/11/2020	25/11/2020	25/11/2020	25/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Aromatic >C10 - C12	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aromatic >C12 - C16	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aromatic >C16 - C21	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aromatic >C21 - C35	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aromatic >C10 - C35	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10

VOCs

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tri bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 20-43280
Project / Site name: Brunel Road, Reading

Lab Sample Number				1694709	1694710	1694711	1694712
Sample Reference				CP104(D)/CP104	CP103(D)/CP103	CP102(D)	CP102(S)
Sample Number				GW	GW	GW	GW
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/11/2020	25/11/2020	25/11/2020	25/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05



Analytical Report Number: 20-43280
Project / Site name: Brunel Road, Reading

Lab Sample Number				1694709	1694710	1694711	1694712
Sample Reference				CP104(D)/CP104	CP103(D)/CP103	CP102(D)	CP102(S)
Sample Number				GW	GW	GW	GW
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/11/2020	25/11/2020	25/11/2020	25/11/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 20-43280

Project / Site name: Brunel Road, Reading

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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
Complex cyanide in water	Determination of complex cyanide by calculation. 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
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
Free cyanide 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
Monohydric phenols in water	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
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
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
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH C10-C35 by GCxGC-FID	Determination of total petroleum hydrocarbons in water by GC x GC FID with carbon banding aliphatic and aromatic C10-C35. Accredited Matrices SW, GW, PW.	In-house method	L101B-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
Ammonium as NH4 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
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
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



Analytical Report Number : 20-43280

Project / Site name: Brunel Road, Reading

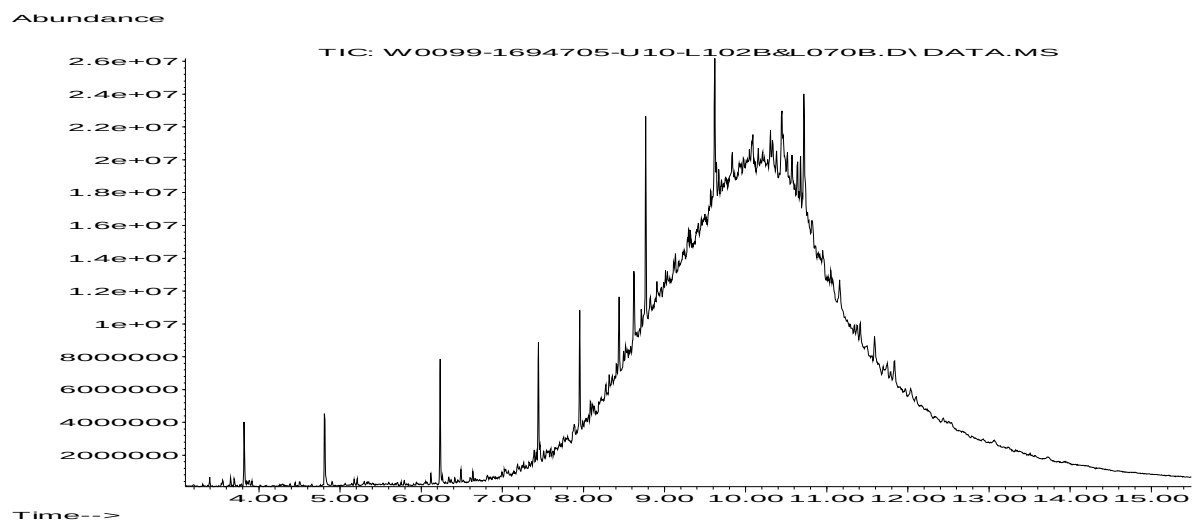
Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

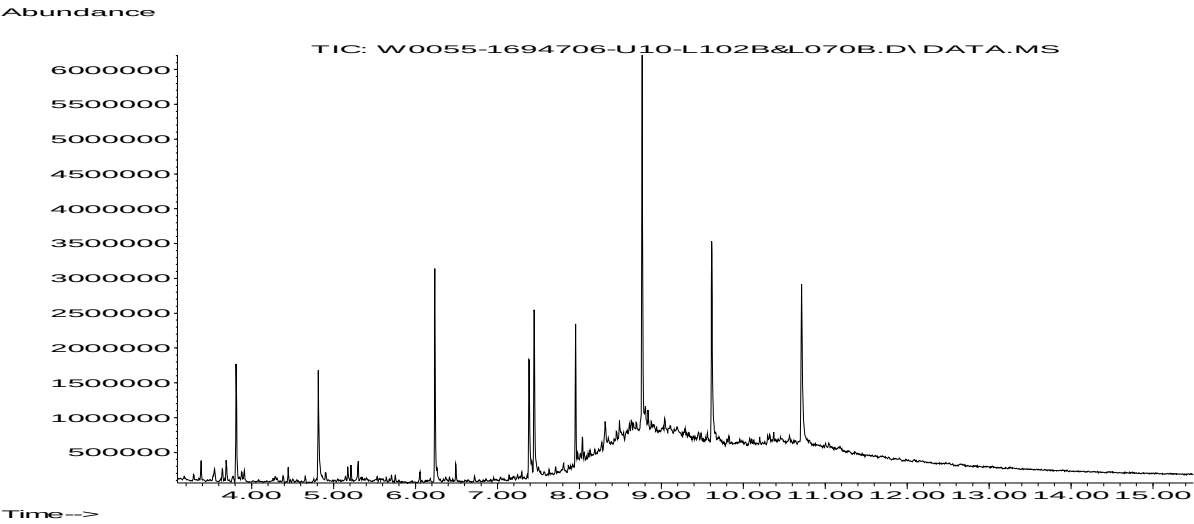
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
----------------------	-------------------------------	-----------------------------	---------------	--------------------	----------------------

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

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

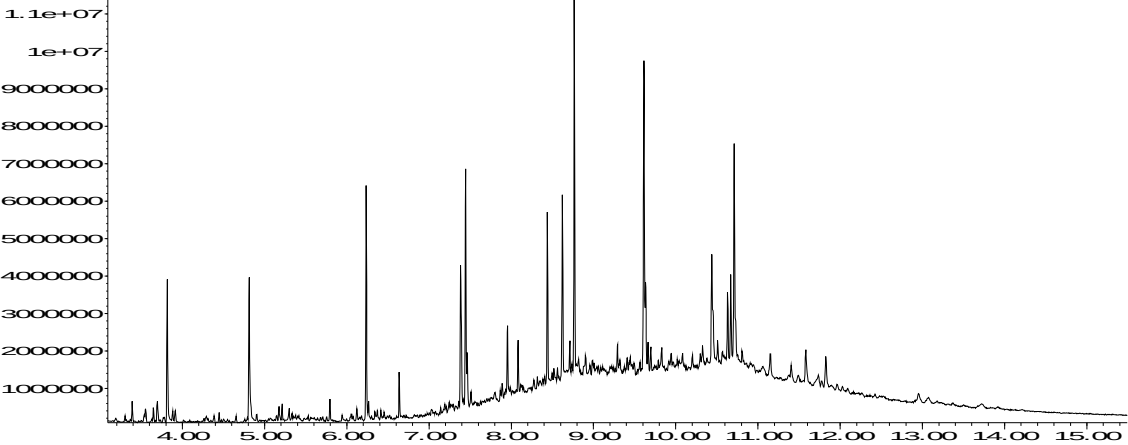
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.





Abundance

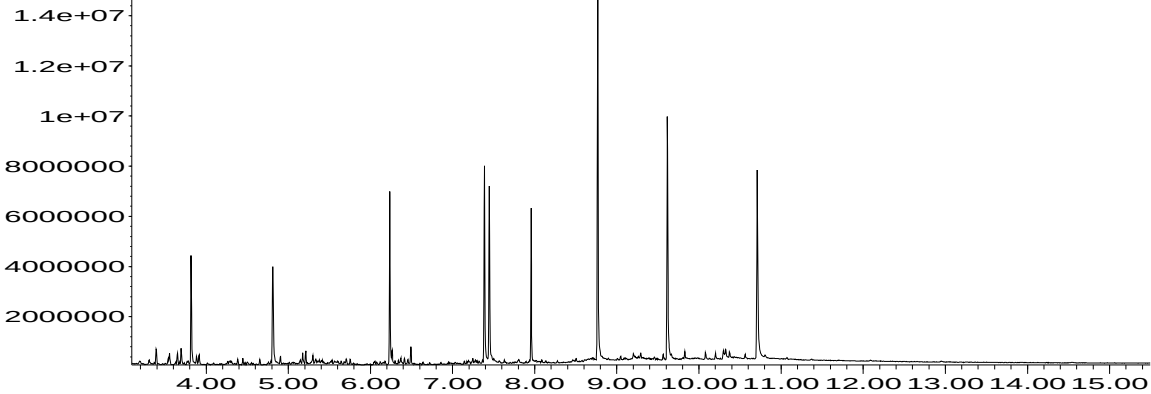
TIC: W0056-1694707-U10-L102B&L070B.D\DATA.MS



Time-->

Abundance

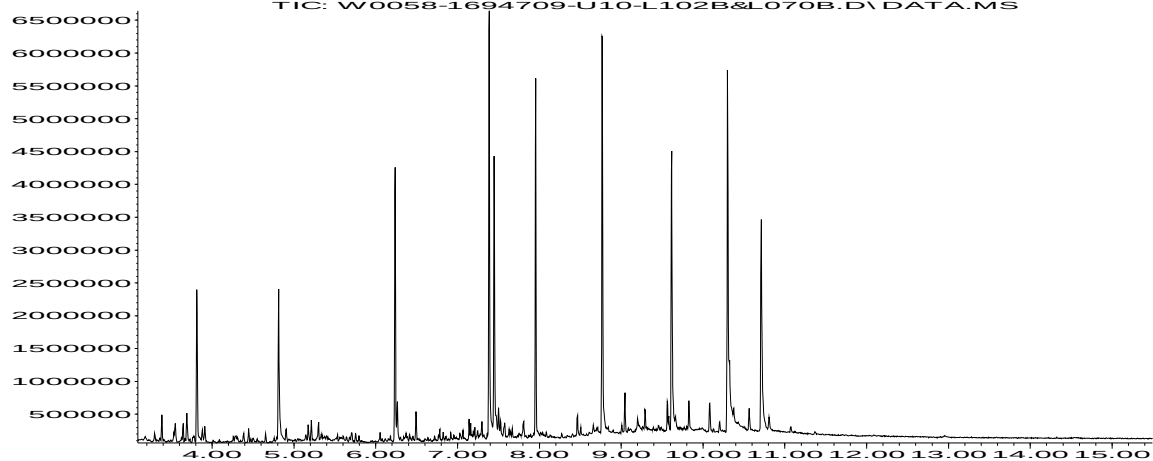
TIC: W0057-1694708-U10-L102B&L070B.D\ DATA.MS



Time-->

Abundance

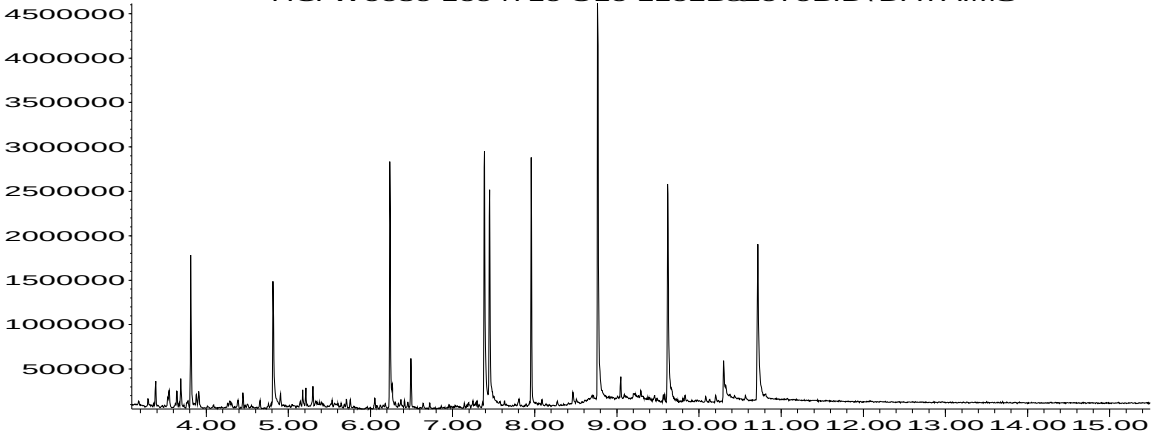
TIC: W0058-1694709-U10-L102B&L070B.D\DATA.MS



Time-->

Abundance

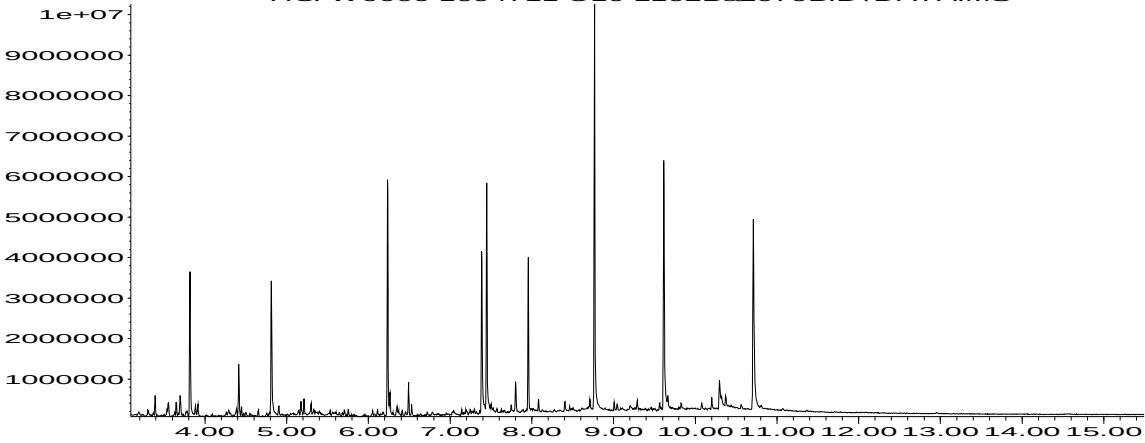
TIC: W0059-1694710-U10-L102B&L070B.D\ DATA.MS



Time-->

Abundance

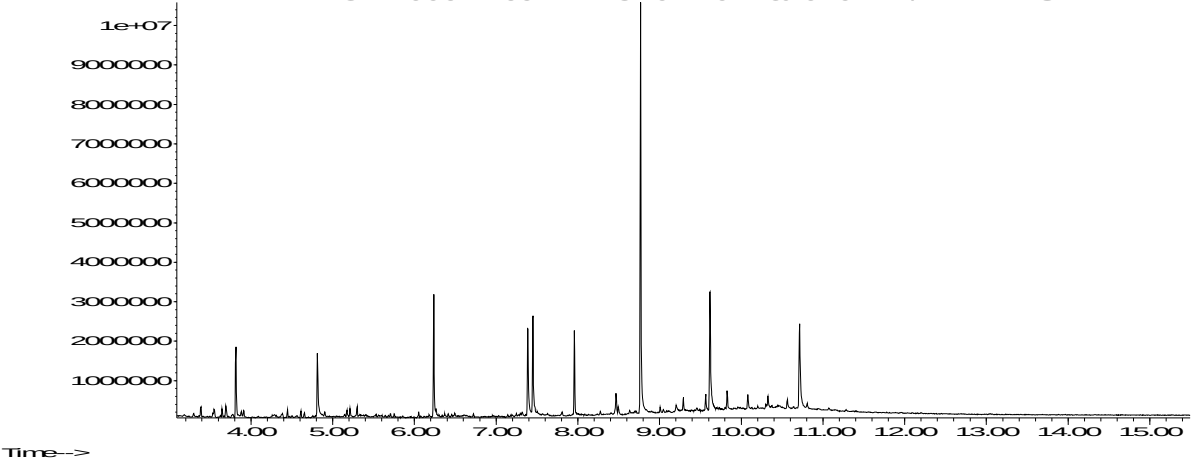
TIC: W0060-1694711-U10-L102B&L070B.D\DATA.MS



Time-->

Abundance

TIC: W0061-1694712-U10-L102B&L070B.D\ DATA.MS



Time-->

Appendix G – Field Monitoring Data/Gas Monitoring Data

Site Name		Brueni Retail Park, Reading						Job number		#REF!			WEATHER			Start	End		
													Time			08:45	13:30		
Client		18-0642.03						Recorded by		TA + RS			Weather (dry/rain/snow/ice)			Rain	Dry		
													Pressure (mb)			1010.00	1016.00		
Date (DD/MM/YYYY)		25/11/2020						Visit Number		1			Risking/Falling Trend			Falling			
Gas Analyser		GFM436 (Gas Kit 2-GSOU-NOT) - 12788											Wind Speed (m/s)			5.36	4.02		
Readings at start		CH ₄ (% v/v)		0.0	CO ₂ (% v/v)		0.1	O ₂ (% v/v)		20.3	H ₂ S (ppm)		0	Wind Dir. (From)			S	WNW	
General comments															Temperature °C			12.00	
															SWL Measured from			Ground Level	
Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.) \$ For Depth to water state Depth to water or Dry or NR (= Not Recorded - provide reason if monitoring was intended) # For Depth to Product state ND (= Not detected - product looked for but absent) or NR (= Not Recorded - instrument used unable to detect product)		
	Flow		CH ₄		CO ₂		O ₂		H ₂ S	CO	VOC	Differential (Relative Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base			
	l/hr		% v/v		% v/v		% v/v		ppm										
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max								
The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																			
DS101	<0.1	<0.1	<0.1	<0.1	0.9	0.9	19.0	19.0	<1.0	<1.0	<0.1	-1.0	1000	NR	DRY	4.91			
DS102	<0.1	<0.1	<0.1	<0.1	1.8	1.8	17.5	17.5	<1.0	<1.0	<0.1	-1.0	1000.0	NR	DRY	5.00			
DS103	<0.1	<0.1	1.8	1.8	18.0	18.0	3.2	3.2	<1.0	<1.0	<0.1	-1.0	999	NR	DRY	4.94			
DS104	<0.1	<0.1	<0.1	<0.1	11.5	11.5	11.8	11.8	<1.0	<1.0	<0.1	-1.0	999.0	NR	DRY	5.04			
DS105	<0.1	<0.1	1.8	1.8	13.6	13.5	10.3	10.4	<1.0	<1.0	<0.1	-1.0	999	NR	DRY	4.90			
DS106	<0.1	<0.1	<0.1	<0.1	7.6	7.6	14.5	14.5	<1.0	<1.0	0.5	0.0	998.0	NR	DRY	2.98			
DS107	<0.1	<0.1	<0.1	<0.1	4.1	4.1	14.7	14.7	<1.0	<1.0	3.4	0.0	999	NR	DRY	4.92			
DS108a	<0.1	<0.1	<0.1	<0.1	0.2	0.2	19.4	19.4	<1.0	<1.0	<0.1	-1.0	999	NR	1.31	2.78			
DS109	<0.1	<0.1	<0.1	<0.1	0.6	0.6	17.1	17.1	<1.0	<1.0	0.3	-2.0	1000	NR	1.37	3.05			
CP101 (S)	<0.1	<0.1	<0.1	<0.1	2.8	2.8	15.8	15.8	<1.0	<1.0	1.1	0.0	999.0	NR	DRY	3.96			
CP101 (D)	0.7	0.4	<0.1	<0.1	2.4	2.4	14.5	14.5	<1.0	<1.0	3.0	7.0	999	NR	11.25	16.53			
CP102 (S)	<0.1	<0.1	<0.1	<0.1	14.1	14.1	4.2	4.2	<1.0	<1.0	<0.1	-1.0	1000.0	NR	9.67	11.68			
CP102 (D)	<0.1	<0.1	<0.1	<0.1	2.6	2.6	15.7	15.7	<1.0	10.0	0.8	-2.0	1000.0	NR	11.02	16.15			
CP103 (S)	<0.1	<0.1	<0.1	<0.1	11.9	11.9	5.2	5.2	<1.0	<1.0	0.4	-1.0	999	NR	DRY	8.90			
CP103 (D)	<0.1	<0.1	<0.1	<0.1	0.2	0.2	20.2	20.2	<1.0	<1.0	<0.1	-1.0	999	NR	11.17	16.14			
CP104 (S)	0.1	<0.1	<0.1	<0.1	0.8	0.8	15.2	15.2	<1.0	<1.0	0.1	1.0	998	NR	2.69	2.94			
CP104 (D)	<0.1	<0.1	<0.1	<0.1	13.1	13.1	7.4	7.4	<1.0	<1.0	0.7	2.0	998	NR	11.42	14.82			
CP105 (S)	<0.1	<0.1	<0.1	<0.1	0.5	0.3	19.5	20.3	<1.0	<1.0	<0.1	0.0	999	NR	DRY	8.83			
CP105 (D)	0.1	<0.1	0.3	<0.1	1.2	0.9	18.9	19.3	<1.0	<1.0	<0.1	-1.0	999	NR	10.73	15.66			
DS1A	0.3	0.2	1.4	1.4	12.3	12.3	3.5	3.5	<1.0	<1.0	<0.1	3.0	999	NR	1.55	1.95			
BH2	<0.1	<0.1	<0.1	<0.1	5.5	5.5	14.0	14.0	<1.0	<1.0	<0.1	0.0	1000	NR	DRY	4.06			
BH3	<0.1	<0.1	<0.1	<0.1	18.8	18.8	0.1	0.1	<1.0	<1.0	<0.1	-3.0	1000	NR	DRY	7.92			
BH5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	DRY	9.48	No bung attached - concrete stuck in pipe		
Document No. C101		Version: 2.8 (Final)			Issue Date: 14/10/2020			Authors: John Rhoades / Chris Everitt						Authorised By: Richard Lawless					
© Delta-Simons Environmental Consultants Limited. No part of this document may be reproduced unless prior written permission has been granted.																			

Site Name		Brueni Retail Park, Reading						Job number		#REF!			WEATHER			Start	End		
													Time			9:00	12:45		
Client		18-0642.03						Recorded by		Ta + HB			Weather (dry/rain/snow/ice)			Dry	Dry		
													Pressure (mb)			1020.00	1015.00		
Date (DD/MM/YYYY)		02/12/2020						Visit Number		2			Risking/Falling Trend			Rising			
Gas Analyser		GA2000 (GSOU-LON) - GA10648											Wind Speed (m/s)			4 mph	5mph		
Readings at start		CH ₄ (% v/v)		<0.1	CO ₂ (% v/v)		<0.1	O ₂ (% v/v)		22.0	H ₂ S (ppm)		0	Wind Dir. (From)			WSW	WSW	
General comments															Temperature °C			4.00	
															SWL Measured from			Ground Level	
Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.) \$ For Depth to water state Depth to water or Dry or NR (= Not Recorded - provide reason if monitoring was intended) # For Depth to Product state ND (= Not detected - product looked for but absent) or NR (= Not Recorded - instrument used unable to detect product)		
	Flow		CH ₄		CO ₂		O ₂		H ₂ S	CO	VOC	Differential (Relative Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base			
	l/hr		% v/v		% v/v		% v/v		ppm										
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max								
The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																			
DS101	<0.1	<0.1	<0.1	<0.1	3.6	3.6	16.7	16.7	<1.0	<1.0	<0.1	0.2	1015	NR	DRY	4.90			
DS102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Unable to locate		
DS103	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Could not access due to parked car		
DS104	<0.1	<0.1	<0.1	<0.1	18.8	18.8	0.2	0.2	<1.0	<1.0	<0.1	0.2	1015.0	NR	DRY	5.05			
DS105	<0.1	<0.1	5.2	5.2	20.2	20.2	0.4	0.4	<1.0	<1.0	<0.1	0.2	1015	NR	DRY	4.87			
DS106	<0.1	<0.1	<0.1	<0.1	5.2	5.2	17.6	17.6	<1.0	<1.0	<0.1	0.2	1015.0	NR	DRY	2.97	Bung was loose		
DS107	<0.1	<0.1	-0.1	-0.1	6.3	6.3	14.2	14.2	<1.0	<1.0	5.5	0.2	1015	NR	DRY	4.93			
DS108a	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Could not access due to parked car		
DS109	<0.1	<0.1	-0.1	-0.1	0.4	0.4	17.5	17.5	<1.0	<1.0	<0.1	0.2	1015.0	NR	1.50	2.99			
CP101 (S)	<0.1	<0.1	<0.1	<0.1	3.1	3.1	17.9	17.9	<1.0	<1.0	<0.1	0.2	1015	NR	DRY	3.98			
CP101 (D)	3.2	3.2	<0.1	<0.1	3.0	3.0	15.8	15.8	<1.0	<1.0	2.0	0.2	1015	NR	11.20	16.60			
CP102 (S)	<0.1	<0.1	<0.1	<0.1	0.5	0.5	20.5	20.5	<1.0	<1.0	<0.1	0.4	1014.0	NR	9.74	11.67			
CP102 (D)	<0.1	<0.1	<0.1	<0.1	2.7	2.7	17.4	17.4	<1.0	<1.0	<0.1	0.4	1014	NR	11.20	16.10			
CP103 (S)	<0.1	<0.1	<0.1	<0.1	14.5	14.5	1.7	1.7	<1.0	<1.0	<0.1	0.2	1015	NR	DRY	8.95			
CP103 (D)	<0.1	<0.1	0.6	0.6	17.4	17.4	0.4	0.4	<1.0	<1.0	<0.1	0.2	1015.0	NR	11.20	16.10			
CP104 (S)	<0.1	<0.1	<0.1	<0.1	0.9	0.9	15.7	15.7	<1.0	<1.0	<0.1	0.2	1015	NR	2.73	2.93			
CP104 (D)	<0.1	<0.1	<0.1	<0.1	7.3	7.3	13.0	13.0	<1.0	<1.0	<0.1	0.2	1015	NR	11.46	14.86			
CP105 (S)	<0.1	<0.1	6.2	6.2	17.9	17.9	-0.1	-0.1	<1.0	<1.0	<0.1	0.2	1015.0	NR	DRY	8.90			
CP105 (D)	<0.1	<0.1	4.1	3.7	12.0	11.2	7.0	8.3	<1.0	<1.0	0.2	0.2	1015	NR	10.86	15.71			
DS1A	<0.1	<0.1	<0.1	<0.1	13.6	13.6	0.5	0.5	<1.0	<1.0	<0.1	0.2	1015	NR	1.54	1.95			
BH2	<0.1	<0.1	<0.1	<0.1	4.7	4.7	14.2	14.2	<1.0	<1.0	<0.1	0.4	1014.0	NR	4.04	4.06			
BH3	<0.1	<0.1	0.5	0.5	19.0	19.0	-0.1	-0.1	<1.0	<1.0	<0.1	0.2	1015	NR	DRY	7.93			
BH5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	11.30	13.75	No bung attached - concrete stuck in pipe		
Document No. C101		Version: 2.8 (Final)		Issue Date: 14/10/2020		Authors: John Rhoades / Chris Everitt							Authorised By: Richard Lawless						
© Delta-Simons Environmental Consultants Limited. No part of this document may be reproduced unless prior written permission has been granted.																			

Site Name		Brueni Retail Park, Reading						Job number		#REF!				WEATHER			Start	End		
														Time			09:15	12:30		
Client		18-0642.03						Recorded by		TA				Weather (dry/rain/snow/ice)			Dry	Dry		
														Pressure (mb)			1004.00	1004.00		
Date (DD/MM/YYYY)		08/12/2020						Visit Number		3				Risking/Falling Trend			Falling			
Gas Analyser		GFM436 (Gas Kit 4-GSOU-LIN) - 11030												Wind Speed (m/s)			1.34	2.24		
Readings at start		CH ₄ (% v/v)		0.0	CO ₂ (% v/v)		0.1	O ₂ (% v/v)		20.4	H ₂ S (ppm)		0	Wind Dir. (From)			SW	SW		
General comments																Temperature °C			0.00	
																SWL Measured from			Ground Level	
Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.) \$ For Depth to water state Depth to water or Dry or NR (= Not Recorded - provide reason if monitoring was intended) # For Depth to Product state ND (= Not detected - product looked for but absent) or NR (= Not Recorded - instrument used unable to detect product)			
	Flow		CH ₄		CO ₂		O ₂		H ₂ S	CO	VOC	Differential (Relative Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base				
	l/hr		% v/v		% v/v		% v/v		ppm											
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max									mb
The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																				
DS101	<0.1	<0.1	<0.1	<0.1	1.9	1.9	18.3	18.3	<0.1	<0.1	<0.1	0.0	993	NR	DRY	4.90				
DS102	<0.1	<0.1	<0.1	<0.1	3.8	3.8	16.5	16.5	<0.1	<0.1	<0.1	0.0	992.0	NR	DRY	5.02				
DS103	<0.1	<0.1	<0.1	<0.1	3.5	3.5	17.3	17.3	<0.1	<0.1	<0.1	-1.0	991	NR	DRY	4.94				
DS104	<0.1	<0.1	<0.1	<0.1	5.0	5.0	16.1	16.1	<0.1	<0.1	<0.1	-2.0	992.0	NR	DRY	5.04				
DS105	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Could not access due to parked car			
DS106	<0.1	<0.1	<0.1	<0.1	0.6	0.6	19.6	19.6	<0.1	<0.1	<0.1	0.0	991.0	NR	DRY	2.98				
DS107	<0.1	<0.1	<0.1	<0.1	6.6	6.6	13.5	13.5	<0.1	<0.1	<0.1	-164.0	992	NR	DRY	4.92				
DS108a	<0.1	<0.1	<0.1	<0.1	0.1	0.1	18.7	18.7	<0.1	<0.1	<0.1	-1.0	992	NR	1.31	2.76				
DS109	<0.1	<0.1	<0.1	<0.1	0.7	0.7	10.6	10.6	<0.1	<0.1	<0.1	0.0	992	NR	1.38	2.96				
CP101 (S)	<0.1	<0.1	<0.1	<0.1	3.8	3.8	17.0	17.0	<0.1	<0.1	<0.1	0.0	993.0	NR	DRY	3.97				
CP101 (D)	<0.1	<0.1	<0.1	<0.1	0.3	0.3	19.8	19.8	<0.1	<0.1	<0.1	-203.0	993	NR	11.29	16.50				
CP102 (S)	<0.1	<0.1	<0.1	<0.1	14.5	14.5	4.0	4.0	<0.1	<0.1	<0.1	0.0	993.0	NR	9.76	11.65				
CP102 (D)	<0.1	<0.1	<0.1	<0.1	2.3	2.3	16.6	16.6	<0.1	<0.1	0.1	-1.0	993.0	NR	11.07	16.13				
CP103 (S)	<0.1	<0.1	<0.1	<0.1	10.2	10.2	6.8	6.8	<0.1	<0.1	<0.1	-1.0	992	NR	DRY	8.95				
CP103 (D)	<0.1	<0.1	<0.1	<0.1	5.3	3.7	14.1	15.3	<0.1	<0.1	<0.1	-1.0	992	NR	11.22	16.08				
CP104 (S)	<0.1	<0.1	<0.1	<0.1	1.2	1.2	13.0	13.0	<0.1	<0.1	<0.1	0.0	992	NR	2.76	2.96				
CP104 (D)	0.6	0.6	<0.1	<0.1	18.5	18.5	3.6	3.6	<0.1	<0.1	0.1	8.0	992	NR	11.46	14.82				
CP105 (S)	<0.1	<0.1	3.0	3.0	12.4	12.4	7.8	7.8	<0.1	<0.1	<0.1	-2.0	992	NR	DRY	8.83				
CP105 (D)	<0.1	<0.1	2.4	2.4	8.3	8.1	11.3	11.5	<0.1	<0.1	<0.1	-6.0	992	NR	10.92	15.61				
DS1A	<0.1	<0.1	<0.1	<0.1	9.8	9.8	7.3	7.3	<0.1	<0.1	<0.1	-400.0	992	NR	1.57	1.97				
BH2	<0.1	<0.1	<0.1	<0.1	0.4	0.4	19.7	19.7	<0.1	<0.1	<0.1	-3.0	992	NR	4.05	4.06				
BH3	<0.1	<0.1	<0.1	<0.1	<0.7	0.7	18.9	18.9	<0.1	<0.1	<0.1	-2.0	992	NR	DRY	7.94				
BH5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	7.90	13.71	No bung attached - concrete stuck in pipe			
Document No. C101		Version: 2.8 (Final)		Issue Date: 14/10/2020			Authors: John Rhoades / Chris Everitt							Authorised By: Richard Lawless						
© Delta-Simons Environmental Consultants Limited. No part of this document may be reproduced unless prior written permission has been granted.																				

Site Name			Bruenl Retail Park, Reading						Job number			#REF!			WEATHER		Start	End	
Client			18-0642.03						Recorded by			TA & HB			Time		9.00	12.12	
Date (DD/MM/YYYY)			16/12/2020												Weather (dry/rain/snow/ice)		Dry	Dry	
Gas Analyser			GA2000 (GSOU-LON) - GA10648						Visit Number			4			Pressure (mb)		1006.00	1005.00	
Readings at start			CH ₄ (% v/v)		<0.1	CO ₂ (% v/v)		<0.1	O ₂ (% v/v)		21.4	H ₂ S (ppm)		<0.1	Risking/Falling Trend		Rising		
General comments																Wind Speed (m/s)		13mph	16mph
																Wind Dir. (From)		SSE	SSE
																Temperature °C		10.00	
																SWL Measured from		Ground Level	
Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.) \$ For Depth to water state Depth to water or Dry or NR (= Not Recorded - provide reason if monitoring was intended) # For Depth to Product state ND (= Not detected - product looked for but absent) or NR (= Not Recorded - instrument used unable to detect product)		
	Flow		CH ₄		CO ₂		O ₂		H ₂ S	CO	VOC	Differential (Relative Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base			
	l/hr		% v/v		% v/v		% v/v		ppm										
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	mb	m	m	m			
The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																			
DS101	<0.1	<0.1	<0.1	<0.1	4.9	4.9	14.4	14.4	<0.1	<0.1	<0.1	0.3	1001	NR	DRY	4.92			
DS102	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21.4	21.8	<0.1	<0.1	<0.1	0.3	1001.0	NR	DRY	5.00			
DS103	<0.1	<0.1	2.0	2.0	18.1	18.1	0.3	0.3	<0.1	<0.1	<0.1	0.3	1001	NR	DRY	4.93			
DS104	<0.1	<0.1	0.1	0.1	12.0	12.0	6.5	6.5	<0.1	<0.1	<0.1	0.2	1001.0	NR	DRY	5.03			
DS105	<0.1	<0.1	2.5	2.5	17.5	17.5	1.0	1.0	<0.1	<0.1	1.0	0.2	1001	NR	DRY	4.85			
DS106	<0.1	<0.1	0.1	0.1	0.1	0.3	21.3	21.3	<0.1	<0.1	<0.1	0.3	1001.0	NR	DRY	2.40			
DS107	<0.1	<0.1	<0.1	<0.1	7.1	7.1	13.4	13.4	<0.1	<0.1	13.2	0.2	1001	NR	DRY	4.92			
DS108a	0.1	<0.1	0.1	0.1	<0.1	<0.1	20.9	20.9	<0.1	<0.1	<0.1	0.2	1001.0	NR	1.28	2.77			
DS109	1.6	<0.1	0.1	0.1	0.6	0.3	14.3	16.4	<0.1	<0.1	<0.1	0.2	1001	NR	1.18	2.95			
CP101 (S)	<0.1	<0.1	<0.1	<0.1	2.8	2.8	19.7	19.7	<0.1	<0.1	<0.1	0.3	1001	NR	DRY	3.97			
CP101 (D)	0.7	0.6	0.1	0.1	<0.1	<0.1	20.9	20.9	<0.1	<0.1	0.7	0.2	1001.0	NR	11.23	16.45			
CP102 (S)	<0.1	<0.1	<0.1	<0.1	0.1	0.1	21.3	21.3	<0.1	<0.1	<0.1	0.3	1001.0	NR	9.67	11.66			
CP102 (D)	<0.1	<0.1	0.1	0.1	3.6	3.6	16.6	16.6	<0.1	<0.1	<0.1	0.3	1001	NR	10.89	16.09			
CP103 (S)	<0.1	<0.1	<0.1	<0.1	10.5	10.5	7.8	7.8	<0.1	<0.1	<0.1	0.3	1001.0	NR	DRY	8.88			
CP103 (D)	<0.1	<0.1	0.1	0.1	2.3	2.3	18.5	18.5	<0.1	<0.1	0.2	0.3	1001	NR	11.10	16.00			
CP104 (S)	<0.1	<0.1	0.1	0.1	2.0	2.0	12.4	12.4	<0.1	<0.1	<0.1	0.3	1001.0	NR	DRY	2.93	Damp at base		
CP104 (D)	<0.1	<0.1	<0.1	<0.1	12.9	12.9	7.8	7.8	<0.1	<0.1	<0.1	0.3	1001	NR	11.40	14.78			
CP105 (S)	0.1	0.1	4.4	4.4	14.1	14.1	3.8	3.8	<0.1	<0.1	<0.1	0.3	1001.0	NR	DRY	8.81			
CP105 (D)	<0.1	<0.1	0.4	0.4	1.1	1.1	20.0	20.0	<0.1	<0.1	<0.1	0.3	1001	NR	10.83	15.50			
DS1A	<0.1	<0.1	<0.1	<0.1	12.1	12.1	2.5	2.5	<0.1	<0.1	<0.1	0.3	1001.0	NR	1.57	1.95			
BH2	<0.1	<0.1	<0.1	<0.1	7.8	7.8	8.3	8.3	<0.1	<0.1	<0.1	0.3	1001	NR	DRY	4.06	Gas kit kept pumping water, damp at base		
BH3	<0.1	<0.1	<0.1	<0.1	0.1	0.1	21.4	21.4	<0.1	<0.1	<0.1	0.3	1001.0	NR	DRY	7.88			
BH5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	8.03	13.67	No bung attached - concrete stuck in pipe		
																	</		

Site Name		Brueni Retail Park, Reading						Job number			#REF!			WEATHER			Start	End		
Client		18-0642.03						Recorded by			HB			Time			9.20	12.20		
Date (DD/MM/YYYY)		23/12/2020												Weather (dry/rain/snow/ice)			rain	rain		
Gas Analyser								Visit Number						Pressure (mb)			999.00	999.00		
Readings at start		CH ₄ (% v/v)		0.1	CO ₂ (% v/v)		<0.1	O ₂ (% v/v)		21.3	H ₂ S (ppm)		<0.1	Risking/Falling Trend			Falling			
General comments															Wind Speed (m/s)			10.00	9.00	
															Wind Dir. (From)			NNE	NNE	
															Temperature °C			11.00		
															SWL Measured from			Ground Level		
Ref	GROUND GAS														GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.) \$ For Depth to water state Depth to water or Dry or NR (= Not Recorded - provide reason if monitoring was intended) # For Depth to Product state ND (= Not detected - product looked for but absent) or NR (= Not Recorded - instrument used unable to detect product)		
	Flow		CH ₄		CO ₂		O ₂		H ₂ S	CO	VOC	Differential (Relative) Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base				
	l/hr		% v/v		% v/v		% v/v		ppm											
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max						mb			
The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																				
DS101	<0.1	<0.1	<0.1	<0.1	3.8	3.8	16.5	16.5	<0.1	<0.1	<0.1	0.2	999	NR	DRY	4.90				
DS102	0.1	0.1	0.2	0.2	<0.1	<0.1	21.1	21.1	<0.1	<0.1	<0.1	0.2	999.0	NR	DRY	5.00				
DS103	<0.1	<0.1	1.3	1.3	16.2	16.2	2.4	2.4	<0.1	<0.1	<0.1	0.2	999	NR	DRY	4.96				
DS104	<0.1	<0.1	<0.1	<0.1	16.4	16.4	1.1	1.1	<0.1	<0.1	<0.1	0.2	999.0	NR	DRY	5.04				
DS105	<0.1	<0.1	5.1	5.1	19.9	19.9	0.2	0.2	<0.1	<0.1	<0.1	0.2	999	NR	DRY	4.87				
DS106	<0.1	<0.1	<0.1	<0.1	0.3	0.3	19.9	20.6	<0.1	<0.1	<0.1	0.2	999.0	NR	DRY	1.53				
DS107	1.5	1.2	0.1	0.1	7.2	7.2	13.1	13.1	<0.1	<0.1	14.6	0.2	999	NR	DRY	4.92				
DS108a	0.1	0.1	0.1	0.1	<0.1	<0.1	20.2	20.2	<0.1	<0.1	<0.1	0.2	999.0	NR	1.30	2.79				
DS109	1.3	0.4	0.1	0.1	0.6	0.6	14.4	15.4	<0.1	<0.1	<0.1	0.2	999	NR	1.21	2.95				
CP101 (S)	0.1	0.1	0.2	0.2	6.8	6.8	14.1	14.1	<0.1	<0.1	<0.1	0.2	999.0	NR	DRY	4.96				
CP101 (D)	2.3	2.3	<0.1	<0.1	6.8	6.8	14.2	14.2	<0.1	<0.1	7.5	0.2	999	NR	11.17	16.43				
CP102 (S)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21.2	21.2	<0.1	<0.1	<0.1	0.2	999.0	NR	9.60	11.58				
CP102 (D)	<0.1	<0.1	0.1	0.1	1.8	1.8	17.9	18.0	<0.1	<0.1	<0.1	0.2	999	NR	10.81	16.10				
CP103 (S)	<0.1	<0.1	0.2	0.2	14.1	14.1	3.2	3.2	<0.1	<0.1	<0.1	0.2	999.0	NR	DRY	8.90				
CP103 (D)	<0.1	<0.1	0.2	0.2	4.0	3.4	16.1	16.4	<0.1	<0.1	<0.1	0.2	999	NR	11.10	15.99				
CP104 (S)	2.0	0.1	0.1	0.1	2.7	2.5	11.6	11.6	<0.1	<0.1	<0.1	0.2	999.0	NR	DRY	2.94				
CP104 (D)	0.5	0.5	0.1	0.1	17.0	17.0	4.2	4.2	<0.1	<0.1	<0.1	0.2	999	NR	11.38	14.81				
CP105 (S)	<0.1	0.10	0.10	0.10	<0.1	<0.1	21.30	21.30	<0.1	<0.1	0.30	0.20	999.00	NR	NR	NR	Could not remove bung			
CP105 (D)	<0.1	<0.1	0.1	0.1	0.1	0.1	21.2	21.2	<0.1	<0.1	<0.1	0.2	999	NR	8.67	15.61				
DS1A	1.7	0.5	<0.1	<0.1	11.6	11.6	4.6	4.6	<0.1	<0.1	<0.1	0.2	999.0	NR	DRY	1.95				
BH2	0.2	0.2	<0.1	<0.1	0.3	0.3	20.3	20.3	<0.1	<0.1	<0.1	0.2	999	NR	DRY	4.07				
BH3	2.1	2.1	<0.1	<0.1	3.3		17.1	17.1	<0.1	<0.1	<0.1	0.2	999.0	NR	DRY	7.93				
BH5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.2	999	NR	DRY	13.67	No bung attached - concrete stuck in pipe			
Document No. C101		Version: 2.8 (Final)			Issue Date: 14/10/2020			Authors: John Rhoades / Chris Everitt						Authorised By: Richard Lawless						
© Delta-Simons Environmental Consultants Limited. No part of this document may be reproduced unless prior written permission has been granted.																				

Site Name		Brueni Retail Park, Reading						Job number		#REF!			WEATHER		Start	End			
													Time		9.30	12.30			
Client		18-0642.03						Recorded by		HB			Weather (dry/rain/snow/ice)		Dry & Cold				
Date (DD/MM/YYYY)		06/01/2021											Pressure (mb)		1016.00				
Gas Analyser		GA2000 (GSOU-LON) - GA10648											Risking/Falling Trend		Rising				
Readings at start		CH ₄ (% v/v)	<0.1	CO ₂ (% v/v)		<0.1	O ₂ (% v/v)		21.4	H ₂ S (ppm)		<0.1		Wind Speed (m/s)		9 mph			
General comments															Wind Dir. (From)		NE		
															Temperature °C		3.00		
															SWL Measured from		Ground Level		
Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.) \$ For Depth to water state Depth to water or Dry or NR (= Not Recorded - provide reason if monitoring was intended) # For Depth to Product state ND (= Not detected - product looked for but absent) or NR (= Not Recorded - instrument used unable to detect product)		
	Flow		CH ₄		CO ₂		O ₂		H ₂ S	CO	VOC	Differential (Relative Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base			
	l/hr		% v/v		% v/v		% v/v		ppm										
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max								
The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																			
DS101	<0.1	<0.1	<0.1	<0.1	2.5	2.5	18.2	18.2	<0.1	<0.1	<0.1	0.3	1016	NR	DRY	4.94			
DS102	0.1	0.1	0.2	0.2	<0.1	<0.1	21.1	21.1	<0.1	<0.1	<0.1	0.3	1016.0	NR	DRY	5.00			
DS103	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Parked Car		
DS104	<0.1	<0.1	<0.1	<0.1	0.5	0.5	20.7	20.7	<0.1	<0.1	<0.1	0.3	1016	NR	DRY	5.06			
DS105	<0.1	<0.1	1.9	1.9	19.0	19.0	0.3	0.3	<0.1	<0.1	<0.1	0.3	1016.0	NR	DRY	4.90			
DS106	1.2	<0.1	<0.1	<0.1	1.0	1.0	21.1	21.3	<0.1	<0.1	<0.1	0.3	1016.0	NR	DRY	2.35			
DS107	<0.1	<0.1	<0.1	<0.1	4.1	4.1	16.4	17.0	<0.1	<0.1	2.9	0.3	1016	NR	DRY	4.96			
DS108a	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Parked Car		
DS109	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Parked Car		
CP101 (S)	<0.1	<0.1	<0.1	<0.1	3.3	3.3	19.9	19.9	<0.1	<0.1	0.9	0.3	1016	NR	DRY	3.98			
CP101 (D)	0.1	0.1	<0.1	<0.1	0.7	0.7	21.10	21.10	<0.1	<0.1	0.5	0.3	1016	NR	11.14	16.38			
CP102 (S)	<0.1	<0.1	<0.1	<0.1	0.1	0.1	21.0	21.0	<0.1	<0.1	<0.1	0.3	1016.0	NR	9.64	11.62			
CP102 (D)	<0.1	<0.1	<0.1	<0.1	0.1	0.1	21.4	21.4	<0.1	<0.1	<0.1	0.3	1016.0	NR	10.81	16.11			
CP103 (S)	<0.1	<0.1	0.3	0.3	11.9	11.9	3.0	3.0	<0.1	<0.1	<0.1	0.3	1016	NR	DRY	8.89			
CP103 (D)	<0.1	<0.1	0.3	0.3	1.7	1.5	19.4	19.5	<0.1	<0.1	<0.1	0.3	1016.0	NR	11.50	15.98			
CP104 (S)	<0.1	<0.1	<0.1	<0.1	3.1	2.1	16.2	16.2	<0.1	<0.1	<0.1	0.3	1016.0	NR	DRY	2.98			
CP104 (D)	<0.1	<0.1	<0.1	<0.1	4.8	4.8	14.4	14.4	<0.1	<0.1	<0.1	0.3	1016	NR	DRY	14.80			
CP105 (S)	<0.1	<0.1	<0.1	<0.1	6.5	6.5	13.4	13.4	<0.1	<0.1	<0.1	0.3	1016.0	NR	DRY	8.83			
CP105 (D)	<0.1	<0.1	1.3	1.3	6.5	5.5	13.4	13.4	<0.1	<0.1	0.6	0.3	1016.0	NR	10.64	15.52			
DS1A	<0.1	<0.1	0.1	0.1	9.6	9.6	9.5	9.5	<0.1	<0.1	<0.1	0.3	1016	NR	DRY	1.96			
BH2	<0.1	<0.1	0.1	0.1	9.6	9.6	13.4	13.4	<0.1	<0.1	<0.1	0.3	1016.0	NR	DRY	4.08			
BH3	<0.1	<0.1	<0.1	<0.1	12.2	12.2	5.3	5.3	<0.1	<0.1	<0.1	0.3	1016.0	NR	DRY	7.91			
BH5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	8.75	13.70	No bung attached - concrete stuck in pipe		
Document No. C101		Version: 2.8 (Final)		Issue Date: 14/10/2020		Authors: John Rhoades / Chris Everitt							Authorised By: Richard Lawless						
© Delta-Simons Environmental Consultants Limited. No part of this document may be reproduced unless prior written permission has been granted.																			
																			