

Report on a **GEOTECHNICAL GROUND INVESTIGATION**

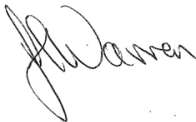
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**43 Belmont Avenue
London
N17 6AX**

Prepared for:
Paul Simon Homes

DOCUMENT CONTROL

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APPENDIX A

BOREHOLE / TRIAL PIT LOGS

APPENDIX B

LABORATORY TEST & GROUNDWATER MONITORING DATA

1.0 Executive Summary

Site Location	43 Belmont Avenue, London, N17 6AX
Client	Paul Simon Homes
Proposed Development	It is proposed to redevelop the site to provide 5 apartments consisting of three one-bedroom flats and two, two-bedroom flats with cycle and bin storage and associated landscaped areas.
Geological Setting	The 1:50000 Geological Survey of Great Britain (England and Wales) covering the area indicates the site to be underlain by deposits of London Clay Formation at depth. A surface cover of Made Ground should also be expected. The Bedrock geology underlying the site has been classified as a non-aquifer.

GEOTECHNICAL INVESTIGATION

Ground Conditions Encountered	The borehole and trial pits revealed ground conditions that were generally consistent with the geological records and known history of the area and comprised Made Ground up to 0.94m in thickness resting on the London Clay Formation at depth.
Groundwater	Groundwater was not encountered in any of the trial pits and the material remained essentially dry throughout. Groundwater was encountered in Borehole 1 as a slight seepage at 0.70m depth. Groundwater was encountered at a depth of 1.07m below ground level in Borehole 1 after a period of approximately four weeks. Given the presence of a non-aquifer below the site it is likely that the groundwater recorded within these soils relates to perched water within the Made Ground and is recharged via intermittent seepages from surface water associated with weather conditions rather than any large scale subterranean groundwater flow
Engineering Observations & Recommendations	Based on the ground and groundwater conditions encountered in the borehole, it could, in theory, be possible to support lightly loaded areas of the proposed new development on conventional strip foundations taken down below the Made Ground and any weak superficial soils and placed in the natural stiff silty sandy clay deposits which occur at a depth of 0.90m within Borehole 1. Using theory from Terzaghi (1943), strip foundations placed within natural soils may be designed to allowable net bearing pressures of approximately 45kN/m² at 1.00m depth below ground level increasing to 80kN/m² at 2.00m depth below ground level in order to allow for a factor of safety of 2.5 against general shear failure. The actual allowable bearing pressure applicable will depend on the form of foundation, its geometry and depth in accordance with classical analytical methods, details of which can be obtained from "Foundation Design and Construction", Seventh Edition, 2001 by M J Tomlinson (see references) or similar texts. In the event that the use of conventional spread foundations proves either impracticable or uneconomical due to the size and depth of foundation required, then a piled foundation will be required. In these ground conditions, it is considered that some form of bored and in-situ cast concrete piled foundation with reinforced concrete ground beams should prove satisfactory.

2.0 Introduction

2.1 Outline and Limitations of Report

At the request of Paul Simon Homes, a ground investigation was carried out in connection with a proposed development at the above site.

The information was required for the design and construction of foundations and infrastructure for the proposed development, which includes the redevelopment of the site to provide 5 apartments consisting of three one-bedroom flats and two, two-bedroom flats with cycle and bin storage and associated landscaped areas.

The recommendations and comments given in this report are based on the ground conditions encountered in the exploratory holes made during the investigation and the results of the tests made in the field and the laboratory. It must be noted that there may be special conditions prevailing at the site remote from the exploratory hole locations which have not been disclosed by the investigation and which have not been taken into account in the report. No liability can be accepted for any such conditions.

3.0 Site Details

National Grid Reference: TQ – 321 896

3.1 Site Location

The site is located to the rear of 43 Belmont Avenue at the junction of two terraces set at angles to each other on Belmont Avenue, at approximate postcode N17 6AX. The terraced properties consist of two-storey Victorian houses.

The site is located in an area of predominantly residential use, with Turnpike Underground Train Station located approximately 555m to the east of the site.

The site is an irregular shape and covers an approximate area of 0.04 Hectares with the general area being under the authority of the London Borough of Haringey.

3.2 Published Geology

The 1:50000 Geological Survey of Great Britain (England and Wales) covering the area indicates the site to be underlain by deposits of London Clay Formation at depth. A surface cover of Made Ground should also be expected.

4.0 Scope of Work

4.1 Site Works

The proposed scope of works was agreed by the client prior to the commencement of the investigations. To achieve this, the following works were undertaken:-

- The drilling of one rotary percussive borehole to a depth of 20.00m below ground level (Borehole 2).
- The installation of a groundwater monitoring standpipe to a depth of 9.00m depth in Borehole 1, together with two return monitoring visits.
- The excavation by hand of five trial pits, to 1.50m maximum depth to expose existing foundations on-site (Trial Pits 1 to 5 inclusive).
- Sampling and in-situ testing as appropriate to the ground conditions encountered in the borehole and trial pits.
- Laboratory testing to determine the engineering properties of the soils encountered in the exploratory holes.
- Interpretative reporting on foundation options for the proposed building and infrastructure.

The approximate locations of the exploratory holes are illustrated on the site sketch plan, Figure 1 below.



The borehole and trial pits revealed ground conditions that were generally consistent with the geological records and known history of the area and comprised Made Ground up to 0.94m in thickness resting on the London Clay Formation at depth.

For detailed information on the ground conditions encountered in the borehole and trial pits, reference should be made to the exploratory hole records presented in Appendix A.

4.3 Groundwater

Groundwater was not encountered in any of the trial pits and the material remained essentially dry throughout. Groundwater was encountered in Borehole 1 as detailed in the table below.

Exploratory Hole	Depth (m)	Notes	Stratum
BH1	0.70	Slight seepage	London Clay Formation

Groundwater Strike Summary

It must be noted that the speed of excavation is such that there may well be insufficient time for further light seepages of groundwater to enter the borehole and trial pits and hence be detected, particularly within more cohesive soils.

Groundwater was encountered at a depth of 1.07m below ground level in Borehole 1 after a period of approximately four weeks.

Isolated pockets of groundwater may also be present perched within any less permeable material found at shallower depth on other parts of the site especially within any Made Ground.

It should be noted that the comments on groundwater conditions are based on observations made at the time of the investigation (May and June 2024) and that changes in the groundwater level could occur due to seasonal effects and also changes in drainage conditions.

4.4 Existing Foundations

Sketches of the foundations exposed in Trial Pits 1 to 5 inclusive are presented on the appropriate exploratory hole records presented in Appendix A and indicate that the existing walls are supported on brick corbel and concrete foundations up to 0.64m in thickness placed within the Made Ground.

5.0 In-Situ and Laboratory Tests

5.1 Standard Penetration Tests

The results of the Standard Penetration Tests carried out in the natural soils are shown on the exploratory hole records in Appendix A. SPT 'N' values range between 5 and 37.

The results of the tests are shown on the appropriate borehole records and summary sheets presented in Appendix A.

5.2 Undrained Triaxial Compression Test Results

Quick Undrained Triaxial Compression tests were conducted on seven selected undisturbed 100mm diameter samples taken from Borehole 1. The results show the samples to be of high becoming very high strength in accordance with BS 5930 (2015).

The results of the tests are presented on Table 1, contained in Appendix B.

5.3 In-Situ Tests

Mackintosh Probe tests were made at regular depth increments in order to assess the relative density of the soils encountered in the trial pits. The results can be interpreted using the generally accepted correlation for Mackintosh Probe Tests which is as follows:

Mackintosh N75 X 0.38 = SPT 'N' Value

or

Mackintosh N300 X 0.1 = SPT 'N' Value

The results of the in-situ tests are shown on the appropriate exploratory hole records contained in Appendix A.

5.4 Classification Tests

Atterberg Limit tests were conducted on three selected samples taken from the cohesive portion of the natural soils in Borehole 1 and showed the samples tested to fall into Classes CH and CV according to the British Soil Classification System.

These are fine grained silty clay soils of high to very high plasticity and as such generally have a low permeability and a medium to high susceptibility to shrinkage and swelling movements with changes in moisture content, as defined by the NHBC Standards, Chapter 4.2. The results indicated Plasticity Index values of between 34% and 50%, with two samples being above the 40% boundary between soils assessed as being of medium swelling and shrinkage potential and those assessed as being of high swelling and shrinkage potential.

The results of the tests are presented on Table 2, contained in Appendix B.

5.5 Chemical Attack on Buried Concrete

Using the results contained in Appendix B, the following table provides the highest values encountered for the BRE SD1 Suite D specification and the equivalent DS and ACEC classes, based on a static groundwater:

Strata	pH	2:1 Water Soluble SO ₄ (mg/l)	2:1 Water Soluble Chloride (mg/l)	2:1 Water Soluble Nitrate (mg/l)	Total Sulphate (%)	Magnesium (mg/l)	DS Class	ACEC Class
London Clay Formation	7.7-8.8	909	68	<2.0	1.79	280	DS-2	AC-1s

Worst case DS and ACEC classes based on the BRE SD1 Suite D results

6.0 Waste Acceptance Criteria Testing

6.1 Waste Acceptance Criteria Analysis

A sample of Made Ground taken from 0.25m in Borehole 1 was sub-contracted to DETS Limited (a UKAS accredited laboratory) for Waste Acceptance Criteria (WAC) analysis.

The sample was analysed using the 'HazWasteOnline' assessment tool, which concluded that the sample contained hazardous properties HP1 (Explosive), HP7 (Carcinogenic) and HP14 (Ecotoxic) due to the elevated levels of Lead and Mercury.

For the purpose of waste disposal, the likely assessment for the sample submitted is that the material would be acceptable at:

Sample Ref: 'BH1 – 0.25m' Hazardous waste landfill

The Antimony, Sulphate and Fluoride values exceeded the Upper Acceptance Limits for Inert Waste Landfills and the TOC value exceeded the Upper Acceptance Limit for Hazardous Waste Landfills.

It should also be noted that Chrysotile asbestos was found to be present at a concentration of 0.002%.

The results of the single Waste Acceptance Criteria (WAC) test have indicated the presence of asbestos, Lead and Mercury at significant concentrations. Additionally, some PAH species were borderline action level. However, the single test undertaken does not provide a representative sample size for a full statistical contamination assessment of the site. For an assessment to determine the potential risks to human health (site users, construction workers, neighbouring sites etc.) and the environment, further investigation, sampling and analysis is required.

7.0 Foundation Design

7.1 General

It is proposed to redevelop the site to provide 5 apartments consisting of three one-bedroom flats and two, two-bedroom flats with cycle and bin storage and associated landscaped areas. Details of the structures, layouts etc. have been provided, although details of the loadings were not available at the time of preparation of this report.

7.2 Site Preparation Works

The main contractor should be informed of the site conditions and risk assessments should be undertaken to comply with the Construction Design Management (CDM) regulations. Site personnel are to be made aware of the site conditions. It is recommended that extensive searches of existing man-made services are undertaken over the site prior to final design works.

7.3 Conventional Spread Foundations

A result of the inherent variability of uncontrolled fill, (Made Ground) is that it is usually unpredictable in terms of bearing capacity and settlement characteristics. Foundations should, therefore, be taken through any Made Ground and either into, or onto a suitable underlying natural stratum of adequate bearing characteristics.

Based on the ground and groundwater conditions encountered in the borehole, it could, in theory, be possible to support lightly loaded areas of the proposed new development on conventional strip foundations taken down below the Made Ground and any weak superficial soils and placed in the natural stiff silty sandy clay deposits which occur at a depth of 0.90m within Borehole 1.

Using theory from Terzaghi (1943), strip foundations placed within natural soils may be designed to allowable net bearing pressures of approximately 45kN/m^2 at 1.00m depth below ground level increasing to 80kN/m^2 at 2.00m depth below ground level in order to allow for a factor of safety of 2.5 against general shear failure. The actual allowable bearing pressure applicable will depend on the form of foundation, its geometry and depth in accordance with classical analytical methods, details of which can be obtained from "Foundation Design and Construction", Seventh Edition, 2001 by M J Tomlinson (see references) or similar texts.

Any soft or loose pockets encountered within otherwise competent formations should be removed and replaced with well compacted granular fill.

In addition, foundations may need to be taken deeper should they be within the zones of influence of both existing or recently felled trees and any proposed tree planting. The depth of foundation required to avoid the zone likely to be affected by the root systems of trees is shown in the recommendations given in NHBC Standards, Chapter 4.2, January 2023, "Building near Trees" and it is considered that this document is relevant in this situation.

7.4 Piled Foundations

In the event that the use of conventional spread foundations proves either impracticable or uneconomical due to the size and depth of foundation required, then a piled foundation will be required. In these ground conditions, it is considered that some form of bored and in-situ cast concrete piled foundation with reinforced concrete ground beams should prove satisfactory.

The construction of a piled foundation is a specialist activity and the advice of a reputable contractor, familiar with the type of soil and groundwater conditions encountered at this site should be sought prior to finalising the foundation design. The actual pile working load will depend on the particular type of pile chosen and method of installation adopted.

To achieve the full bearing value a pile should penetrate the bearing stratum by at least five times the pile diameter.

Where piles are to be constructed in groups the bearing value of each individual pile should be reduced by a factor of about 0.8 and a calculation made to check the factor of safety against block failure.

Driven piles could also be used and would develop much higher working loads approximately 2.5 to 3 times higher than bored piles of a similar diameter at the same depth. However, the close proximity of adjacent buildings will in all probability preclude their use due to noise and vibration.

The table below provides some indicative capacities for a single pile for the diameter and depths shown:

		Pile diameter (m)		
		0.25	0.35	0.45
Pile length (m)	5m	20kN	40kN	60kN
	10m	70kN	110kN	150kN
	15m	140kN	210kN	280kN
	20m	230kN	330kN	450kN

7.5 Retaining Walls

Several methods of retaining wall construction could be considered. These may include retaining structures cast in an underpinning sequence, or the use of temporary or sacrificial works to facilitate the retaining structure's construction. The excavation of the basement must not compromise the integrity of adjacent structures.

The full design of temporary and permanent retaining structures is beyond the scope of this report. However, the following design parameters for each element of soil recorded in the relevant exploratory holes are provided in the table below to assist the design of these structures.

Stratum	Depth to top	Bulk Density (Mg/m ³) (γ)	Effective Angle of Internal Friction (Φ)
London Clay Formation	0.90	2.00	23

Retaining Wall Design Parameters

The designer should use these parameters to derive the active and passive earth pressure coefficients k_a and k_p . The determination of appropriate earth pressure coefficients, together with factors such as the pattern of the earth pressure distribution, will depend upon the type/geometry of the wall and overall design factors.

7.6 Floor Slabs

Due to the presence of soils assessed to be of high swelling and shrinkage potential below, it is recommended that ground slabs should be fully suspended.

Within the zone of influence of trees, either retained or removed, floor slabs should incorporate either underfloor voids or suitable depths of compressible material in accordance with NHBC requirements, for soils with high volume change potential.

7.7 Excavations

Given the presence of a non-aquifer below the site it is likely that the groundwater recorded within these soils relates to perched water within the Made Ground and is recharged via intermittent seepages from surface water associated with weather conditions rather than any large scale subterranean groundwater flow. As a result, the impact on excavations carried out at the site from this perched water is expected to be minimal.

However, it may still be necessary to control this water during the construction period and consideration could be given to conventional internal pumping methods from open sumps.

It is recommended that the water levels in the monitoring borehole be periodically measured immediately prior to and during, the development. Should groundwater levels rise to within the excavation volume, or should significant groundwater inflow be observed during excavation, professional advice should be sought.

8.0 List of Appendices

Appendix A – Borehole / Trial Pit Logs

Appendix B – Laboratory Test & Groundwater Monitoring Data

9.0 References

1. British Standards Institution, 1986. Code of practice for foundations, BS 8004, BSI, London.
2. British Standards Institution, 1990. Methods for test for soils for civil engineering purposes, BS1377, BSI, London
3. British Standards Institution, 1994. Code of practice for earth retaining structures, BS8002, BSI, London
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11. NHBC Standards, Chapter 4.2, "Building near Trees", January 2023.
12. Stroud M.A. and Butler F.G. (1975) Symposium on the Engineering Behaviour of Glacial Materials; the Midland Soil Mechanics and Foundation Engineering Society; pgs 124 et seq.
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APPENDIX A

Borehole / Trial Pit Logs

Site Analytical Services Ltd.							Site 43 BELMONT AVENUE, LONDON, N17 6AX		Borehole Number BH1								
Boring Method ROTARY PERCUSSIVE		Casing Diameter 128mm cased to 0.00m		Ground Level (mOD)		Client PAUL SIMON HOMES			Job Number 2438289								
		Location TQ321896		Dates 07/05/2024		Engineer HALSTEAD ASSOCIATES			Sheet 1/2								
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water								
0.25	D1		WET	Water Seepage (1) at 0.70m. 1,1/1,1,1,2		0.06	MADE GROUND: Concrete		▽1								
0.50	D2					(0.84)	MADE GROUND: Medium to dark brown silty sandy clay containing brick and concrete fragments										
0.75	D3					0.90	Soft, light brown grey silty CLAY										
1.00-1.45	SPT N=5					(0.80)	Firm, medium brown orange silty sandy CLAY										
1.00	D4					1.70											
1.50	D5		WET	30 blows													
2.00	U1																
2.50	D6																
3.00-3.45	SPT N=10									1,2/2,2,3,3							
3.00	D7										(3.20)						
3.50	D8		WET	50 blows													
4.00	U2																
4.50	D9																
5.00-5.45	SPT N=16									2,2/3,4,4,5							
5.00	D10										4.90						
6.00	U3		WET	65 blows													
7.00	D11																
7.50-7.95	SPT N=24									3,3/4,5,9,6							
7.50	D12										(5.10)						
8.00	D13											100 blows					
9.00	U4																
Remarks S= Standard Penetration Test U= Undisturbed 100mm Diameter Sample D= Disturbed Sample Excavating from 0.00m to 1.00m for 1 hour.								Scale (approx)	Logged By								
								1:50	EW								
								Figure No. 2438289.BH1									

Site Analytical Services Ltd.							Site 43 BELMONT AVENUE, LONDON, N17 6AX		Borehole Number BH1	
Boring Method ROTARY PERCUSSIVE		Casing Diameter 128mm cased to 0.00m			Ground Level (mOD)		Client PAUL SIMON HOMES		Job Number 2438289	
		Location TQ321896			Dates 07/05/2024		Engineer HALSTEAD ASSOCIATES		Sheet 2/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
10.00	D14		WET	3,4/5,6,6,7		10.00	Stiff becoming very stiff, dark brown grey silty CLAY containing partings of fine grained sand and occasional gypsum crystals			
10.50-10.95 10.50	SPT N=24 D15									
11.00	D16									
12.00	U5	115 blows								
13.00	D17									
13.50-13.95 13.50	SPT N=28 D18		4,5/6,7,7,8							
14.00	D19									
15.00	U6	135 blows		(10.00)						
16.00	D20									
16.50-16.95 16.50	SPT N=31 D21		5,6/7,7,8,9							
17.00	D22									
18.00	U7	140 blows								
19.00	D23									
19.50-19.95 19.50	SPT N=37 D24		7,7/8,9,10,10							
20.00	D25				20.00					
Remarks S= Standard Penetration Test U= Undisturbed 100mm Diameter Sample D= Disturbed Sample							Scale (approx) 1:50		Logged By EW	
							Figure No. 2438289.BH1			

Standard Penetration Test Results

Job Number
2438289

Sheet

1 / 1

1 / 1

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Site 43 BELMONT AVENUE, LONDON, N17 6AX	Borehole Number BH1
Client PAUL SIMON HOMES	Job Number 2438289
Engineer HALSTEAD ASSOCIATES	Sheet 1/1

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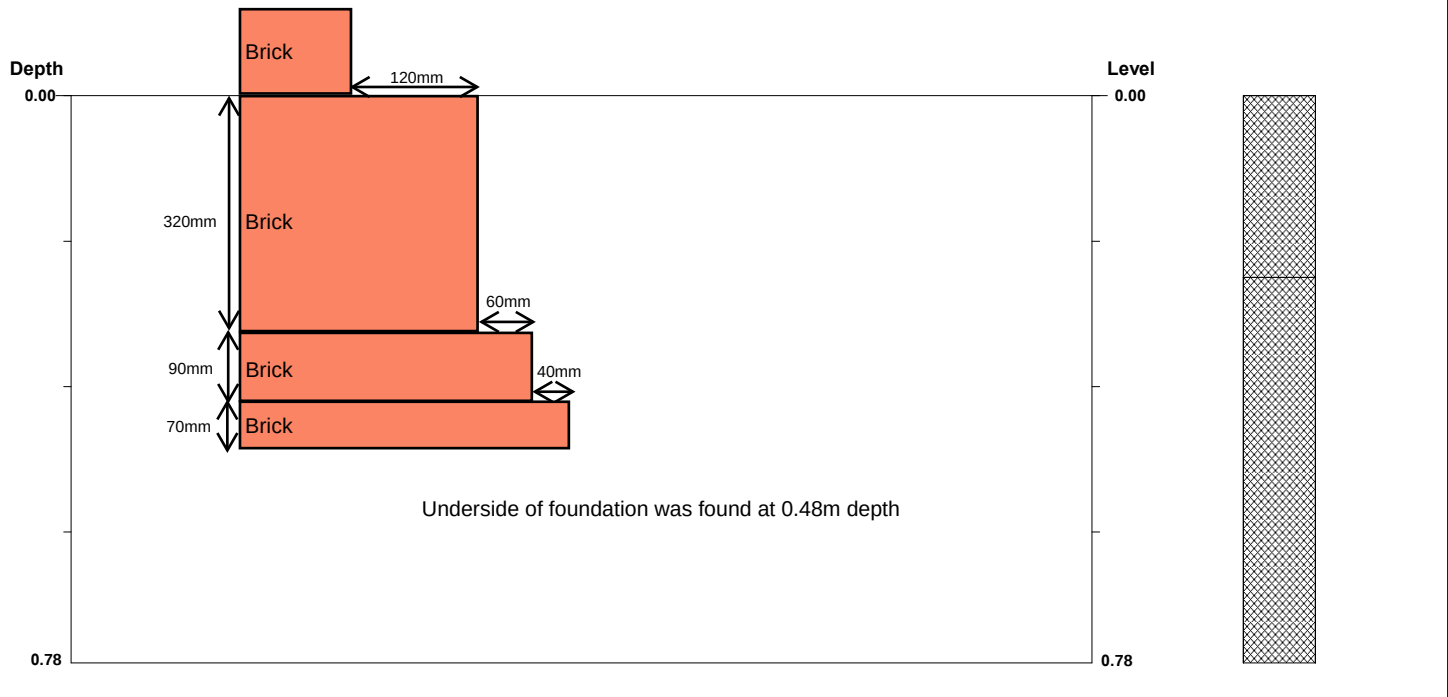
Remarks
Lockable cover set in cement

Site Analytical Services Ltd.						Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP1	
Excavation Method HAND EXCAVATION		Dimensions 0.30m(W) x 0.30m(L) x 0.80m(D)		Ground Level (mOD)		Client PAUL SIMON HOMES		Job Number 2438289	
		Location TQ321896		Dates 08/05/2024		Engineer HALSTEAD ASSOCIATES		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.50 0.50-0.80	D1 M1 12/300				0.12 (0.68) 0.80	MADE GROUND: Concrete MADE GROUND: Very loose, medium to dark brown black clayey sandy silt containing brick, concrete and other man-made fragments Complete at 0.80m			
Plan					Remarks				
.					Groundwater was not encountered during boring/excavation				
.					M= Makintosh Probe-Blows/Penetration (mm)				
.					D= Disturbed Sample				
.									
.									
.									
.									
					Scale (approx)		Logged By		Figure No.
					1:50		EW		2438289.TP1

Site Analytical Services Ltd.			Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP1						
Method Trial Pit		Dimensions 0.30m(W) x 0.30m(L) x 0.80m(D)		Ground Level (mOD)		Client PAUL SIMON HOMES		Job Number 2438289			
Orientation A D B C		Location TQ321896		Dates 08/05/2024		Engineer HALSTEAD ASSOCIATES		Sheet 1/1			
Depth 0.00 120mm 380mm 0.80 Brick Concrete Underside of foundation was found at 0.50m depth Level 0.00 0.80											
Strata						Samples and Tests					
Depth (m)		No.		Description		Depth (m)		Type		Field Records	
0.00-0.12		1		MADE GROUND: Concrete							
0.12-0.80		2		MADE GROUND: Very loose, medium to dark brown black clayey sandy silt containing brick, concrete and other man-made fragments		0.50 0.50-0.80		D1 M1 12/300			
						Excavation Method:					
						HAND EXCAVATION					
						Shoring / Support:					
						Stability:					
						Backfill:					
Remarks Groundwater was not encountered during boring/excavation M= Makintosh Probe-Blows/Penetration (mm) D= Disturbed Sample											
										Logged By : EW	
										Checked By :	
										Figure No. : 2438289.TP1	

Site Analytical Services Ltd.						Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP2A	
Excavation Method HAND EXCAVATION		Dimensions 0.30m(W) x 0.30m(L) x 0.78m(D)		Ground Level (mOD)		Client PAUL SIMON HOMES		Job Number 2438289	
		Location TQ321896		Dates 08/05/2024		Engineer HALSTEAD ASSOCIATES		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.48 0.48-0.78	D1 M1 62/300				(0.25)	MADE GROUND: Concrete			
					0.25	MADE GROUND: loose, medium to dark brown clayey sandy silt containing brick, concrete and other man-made fragments			
					(0.53)				
					0.78	Complete at 0.78m			
Plan						Remarks			
.						Groundwater was not encountered during boring/excavation			
.						M= Makintosh Probe-Blows/Penetration (mm)			
.						D= Disturbed Sample			
.									
.									
.									
.									
						Scale (approx)		Logged By	
						1:50		EW	
								Figure No.	
								2438289.TP2A	

Site 43 BELMONT AVENUE, LONDON, N17 6AX	Trial Pit Number TP2A
Client PAUL SIMON HOMES	Job Number 2438289
Engineer HALSTEAD ASSOCIATES	Sheet 1/1



Strata			Samples and Tests		
Depth (m)	No.	Description	Depth (m)	Type	Field Records
0.00-0.25	1	MADE GROUND: Concrete	0.48 0.48-0.78	D1 M1 62/300	
0.25-0.78	2	MADE GROUND: loose, medium to dark brown clayey sandy silt containing brick, concrete and other man-made fragments			

Excavation Method:
HAND EXCAVATION

Shoring / Support:

Stability:

Backfill:

Remarks
Groundwater was not encountered during boring/excavation
M= Makintosh Probe-Blows/Penetration (mm)
D= Disturbed Sample

Logged By : EW
Checked By :
Figure No. : 2438289.TP2A

Site Analytical Services Ltd.						Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP2B	
Excavation Method HAND EXCAVATION		Dimensions 0.30m(W) x 0.30m(L) x 0.78m(D)		Ground Level (mOD)		Client PAUL SIMON HOMES		Job Number 2438289	
		Location TQ321896		Dates 08/05/2024		Engineer HALSTEAD ASSOCIATES		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.48 0.48-0.78	D1 M1 62/300				(0.25)	MADE GROUND: Concrete			
					0.25	MADE GROUND: loose, medium to dark brown clayey sandy silt containing brick, concrete and other man-made fragments			
					(0.53)				
					0.78	Complete at 0.78m			
Plan						Remarks			
.						Groundwater was not encountered during boring/excavation			
.						M= Makintosh Probe-Blows/Penetration (mm)			
.						D= Disturbed Sample			
.									
.									
.									
.									
						Scale (approx)		Logged By	
						1:50		EW	
								Figure No.	
								2438289.TP2B	

Site Analytical Services Ltd.			Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP2B																						
Method Trial Pit		Dimensions 0.30m(W) x 0.30m(L) x 0.78m(D)	Ground Level (mOD)	Client PAUL SIMON HOMES		Job Number 2438289																					
Orientation A D B C		Location TQ321896	Dates 08/05/2024	Engineer HALSTEAD ASSOCIATES		Sheet 1/1																					
Depth 0.00 0.78 Brick 230mm 500mm Brick Level 0.00 0.78 Underside of foundation found at 0.50m depth <table><tr><th colspan="3">Strata</th><th colspan="3">Samples and Tests</th></tr><tr><th>Depth (m)</th><th>No.</th><th>Description</th><th>Depth (m)</th><th>Type</th><th>Field Records</th></tr><tr><td>0.00-0.25</td><td>1</td><td>MADE GROUND: Concrete</td><td rowspan="2">0.48 0.48-0.78</td><td rowspan="2">D1 M1 62/300</td><td rowspan="2"></td></tr><tr><td>0.25-0.78</td><td>2</td><td>MADE GROUND: loose, medium to dark brown clayey sandy silt containing brick, concrete and other man-made fragments</td></tr></table> Excavation Method: HAND EXCAVATION Shoring / Support: Stability: Backfill: Remarks Groundwater was not encountered during boring/excavation M= Makintosh Probe-Blows/Penetration (mm) D= Disturbed Sample Logged By : EW Checked By : Figure No. : 2438289.TP2B							Strata			Samples and Tests			Depth (m)	No.	Description	Depth (m)	Type	Field Records	0.00-0.25	1	MADE GROUND: Concrete	0.48 0.48-0.78	D1 M1 62/300		0.25-0.78	2	MADE GROUND: loose, medium to dark brown clayey sandy silt containing brick, concrete and other man-made fragments
Strata			Samples and Tests																								
Depth (m)	No.	Description	Depth (m)	Type	Field Records																						
0.00-0.25	1	MADE GROUND: Concrete	0.48 0.48-0.78	D1 M1 62/300																							
0.25-0.78	2	MADE GROUND: loose, medium to dark brown clayey sandy silt containing brick, concrete and other man-made fragments																									

Site	Trial Pit Number
43 BELMONT AVENUE, LONDON, N17 6AX	TP3A

Client PAUL SIMON HOMES	Job Number 2438289
Engineer HALSTEAD ASSOCIATES	Sheet 1/1

Description	Legend	Water
MADE GROUND: Concrete		
MADE GROUND: Medium brown orange silty sandy clay containing brick and concrete fragments		
MADE GROUND: Firm, brown orange silty sandy clay containing occasional brick and concrete fragments		
Complete at 0.83m		

Remarks D= Disturbed Sample M= Makintosh Probe-Blows/Penetration (mm) Groundwater was not encountered during boring/excavation		
Scale (approx) 1:50	Logged By EW	Figure No. 2438289.TP3A

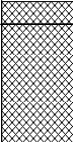
Site Analytical Services Ltd.			Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP3A	
Method Trial Pit		Dimensions 0.30m(W) x 0.30m(L) x 0.83m(D)	Ground Level (mOD)	Client PAUL SIMON HOMES		Job Number 2438289
Orientation A D B C		Location TQ321896	Dates 08/05/2024	Engineer HALSTEAD ASSOCIATES		Sheet 1/1
Depth 0.00 300mm Brick 60mm Brick 70mm Brick 100mm Brick 50mm Brick 70mm Brick Underside of foundation found at 0.53m depth Level 0.00 0.83 0.83						
Strata				Samples and Tests		
Depth (m)	No.	Description		Depth (m)	Type	Field Records
0.00-0.10	1	MADE GROUND: Concrete		0.53 0.53-0.83	D1 M1 73/300	
0.10-0.53	2	MADE GROUND: Medium brown orange silty sandy clay containing brick and concrete fragments				
0.53-0.83	3	MADE GROUND: Firm, brown orange silty sandy clay containing occasional brick and concrete fragments				
				Excavation Method:		
				HAND EXCAVATION		
				Shoring / Support:		
				Stability:		
				Backfill:		
Remarks D= Disturbed Sample M= Makintosh Probe-Blows/Penetration (mm) Groundwater was not encountered during boring/excavation						
					Logged By : EW	
					Checked By :	
					Figure No. : 2438289.TP3A	

Site Analytical Services Ltd.						Site 43 BELMONT AVENUE, LONDON, N17 6AX			Trial Pit Number TP3B	
Excavation Method HAND EXCAVATION		Dimensions 0.30m(W) x 0.30m(L) x 0.83m(D)		Ground Level (mOD)		Client PAUL SIMON HOMES			Job Number 2438289	
		Location TQ321896		Dates 08/05/2024		Engineer HALSTEAD ASSOCIATES			Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description			Legend	Water
0.53 0.53-0.83	D1 M1 73/300				0.10	MADE GROUND: Concrete				
					(0.43)	MADE GROUND: Medium brown orange silty sandy clay containing brick and concrete fragments				
					0.53	MADE GROUND: Firm, brown orange silty sandy clay containing occasional brick and concrete fragments				
					(0.30) 0.83	Complete at 0.83m				
Plan					Remarks					
					D= Disturbed Sample M= Makintosh Probe-Blows/Penetration (mm) Groundwater was not encountered during boring/excavation					
					Scale (approx)		Logged By		Figure No.	
					1:50		EW		2438289.TP3B	

Site Analytical Services Ltd.			Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP3B	
Method Trial Pit		Dimensions 0.30m(W) x 0.30m(L) x 0.83m(D)	Ground Level (mOD)	Client PAUL SIMON HOMES		Job Number 2438289
Orientation A B C D		Location TQ321896	Dates 08/05/2024	Engineer HALSTEAD ASSOCIATES		Sheet 1/1
Depth 0.00 360mm Brick 60mm 100mm Brick 40mm 70mm Brick Underside of foundation found at 0.53m depth Level 0.00 <						

Site Analytical Services Ltd.						Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP4	
Excavation Method HAND EXCAVATION		Dimensions 0.30m(W) x 0.30m(L) x 0.79m(D)		Ground Level (mOD)		Client PAUL SIMON HOMES		Job Number 2438289	
		Location TQ321896				Dates 08/05/2024		Engineer HALSTEAD ASSOCIATES	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.49 0.49-0.79	D1 M1 47/300				0.10	MADE GROUND: Concrete			
					(0.69)	MADE GROUND: Soft, medium brown orange silty sandy clay containing brick and concrete fragments			
					0.79	Complete at 0.79m			
Plan						Remarks			
						D= Disturbed Sample M= Makintosh Probe-Blows/Penetration (mm) Groundwater was not encountered during boring/excavation			
Scale (approx)		Logged By		Figure No.					
1:50		EW		2438289.TP4					

Site Analytical Services Ltd.			Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP4	
Method Trial Pit		Dimensions 0.30m(W) x 0.30m(L) x 0.79m(D)	Ground Level (mOD)	Client PAUL SIMON HOMES		Job Number 2438289
Orientation A D B C		Location TQ321896	Dates 08/05/2024	Engineer HALSTEAD ASSOCIATES		Sheet 1/1
Depth 0.00 360mm Brick 60mm Brick 70mm Brick 60mm Brick 50mm Underside of foundation found at 0.49m depth Level 0.00 0.79						
Strata				Samples and Tests		
Depth (m)	No.	Description		Depth (m)	Type	Field Records
0.00-0.10	1	MADE GROUND: Concrete		0.49 0.49-0.79	D1 M1 47/300	
0.10-0.79	2	MADE GROUND: Soft, medium brown orange silty sandy clay containing brick and concrete fragments				
				Excavation Method: HAND EXCAVATION Shoring / Support: Stability: Backfill:		
Remarks D= Disturbed Sample M= Makintosh Probe-Blows/Penetration (mm) Groundwater was not encountered during boring/excavation						
					Logged By : EW Checked By : Figure No. : 2438289.TP4	

Site Analytical Services Ltd.						Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP5		
Excavation Method HAND EXCAVATION		Dimensions 0.30m(W) x 0.30m(L) x 0.94m(D)		Ground Level (mOD)		Client PAUL SIMON HOMES		Job Number 2438289		
		Location TQ321896		Dates 08/05/2024		Engineer HALSTEAD ASSOCIATES		Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water	
0.64 0.64-0.94	D1 M1 63/300				(0.15)	MADE GROUND: Concrete				
					(0.79)	MADE GROUND: Loose, dark brown clayey sandy silt containing brick, concrete and other man-made fragments				
					0.94	Complete at 0.94m				
Plan					Remarks					
.					Groundwater was not encountered during boring/excavation					
.					M= Makintosh Probe-Blows/Penetration (mm)					
.					D= Disturbed Sample					
.										
.										
.										
.										
					Scale (approx)		Logged By		Figure No.	
					1:50		EW		2438289.TP5	

Site Analytical Services Ltd.			Site 43 BELMONT AVENUE, LONDON, N17 6AX		Trial Pit Number TP5
Method Trial Pit		Dimensions 0.30m(W) x 0.30m(L) x 0.94m(D)	Ground Level (mOD)	Client PAUL SIMON HOMES	Job Number 2438289
Orientation A B C D		Location TQ321896	Dates 08/05/2024	Engineer HALSTEAD ASSOCIATES	Sheet 1/1
Depth 0.00 500mm Brick 70mm Brick 70mm Brick 60mm 50mm Underside of foundation was found at 0.64m depth Level 0.00 0.94					
Strata			Samples and Tests		
Depth (m)	No.	Description	Depth (m)	Type	Field Records
0.00-0.15	1	MADE GROUND: Concrete	0.64 0.64-0.94	D1 M1 63/300	
0.15-0.94	2	MADE GROUND: Loose, dark brown clayey sandy silt containing brick, concrete and other man-made fragments			
			Excavation Method:		
			HAND EXCAVATION		
			Shoring / Support:		
			Stability:		
			Backfill:		
Remarks Groundwater was not encountered during boring/excavation M= Makintosh Probe-Blows/Penetration (mm) D= Disturbed Sample					
Logged By : EW Checked By : Figure No. : 2438289.TP5					

APPENDIX B

Laboratory Test & Groundwater Monitoring Data

UNDRAINED TRIAXIAL COMPRESSION TEST

BH/TP No.	Moisture Content (%)	Bulk Density (Mg/m ³)	Lateral Pressure (kN/m ²)	Compressive Strength (kN/m ²)	Cohesion (kN/m ²)	Angle of Shearing Resistance (degrees)	Depth (m)
BH1	29	1.97	50	197	98		2.25
	26	2.03	80	340	170		4.25
	29	2.01	120	361	180		6.25
	28	1.99	180	354	177		9.25
	28	2.03	240	398	199		12.25
	30	2.00	300	386	193		15.25
	24	2.07	360	390	195		18.25

Table 1

PLASTICITY INDEX & MOISTURE CONTENT DETERMINATIONS

BH/TP No.	Depth (m)	Natural Moisture (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 μ m (%)	Modified Plasticity Index (%)	Class
BH1	1.00	26	55	24	34	100	34	CH
BH3	2.50	31	73	25	48	100	48	CV
BH4	3.50	30	74	24	50	100	50	CV

Table 2

GROUNDWATER MONITORING

GROUNDWATER MONITORING RECORD			
Date	Weather Conditions	Ground Conditions	Temperature (°C)
28/05/2024	Raining	Wet	13.0
Monitoring Point Location	Depth to water (mBGL)		Depth to Base of well (mBGL)
BH1	1.03		8.97

Table 3

GROUNDWATER MONITORING RECORD			
Date	Weather Conditions	Ground Conditions	Temperature (°C)
04/06/2024	Sunny	Dry	19.0
Monitoring Point Location	Depth to water (mBGL)		Depth to Base of well (mBGL)
BH1	1.07		8.97

Table 3a



Site Analytical Services Ltd
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e: steveb@siteanalytical.co.uk

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

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

Analytical Report Number : 24-019152

Project / Site name:	43 Belmont Avenue, London N17 6AX	Samples received on:	13/05/2024
Your job number:	24-38289	Samples instructed on/ Analysis started on:	13/05/2024
Your order number:	14029	Analysis completed by:	17/05/2024
Report Issue Number:	1	Report issued on:	21/05/2024
Samples Analysed:	4 soil samples		

Signed:

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

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

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

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

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

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

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



Analytical Report Number: 24-019152
Project / Site name: 43 Belmont Avenue, London N17 6AX
Your Order No: 14029

Lab Sample Number				196388	196389	196390	196391
Sample Reference				BH1	BH1	BH1	BH1
Sample Number				D5	D9	D13	D17
Depth (m)				1.50	4.50	8.00	13.00
Date Sampled				08/05/2024	08/05/2024	08/05/2024	08/05/2024
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	15	23	18	16
Total mass of sample received	kg	0.1	NONE	2	1.8	2	1.6

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.2	7.7	8.7	8.8
Total Sulphate as SO4	%	0.005	MCERTS	0.064	1.79	0.19	0.093
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	510	1800	1400	850
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	254	909	680	423
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	12	25	68	57
Total Sulphur	mg/kg	50	MCERTS	560	6800	4300	4600
Total Sulphur	%	0.005	MCERTS	0.056	0.678	0.43	0.464
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	95	560	170	63
Magnesium (leachate equivalent)	mg/l	2.5	NONE	48	280	86	31

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



Analytical Report Number : 24-019152
Project / Site name: 43 Belmont Avenue, London N17 6AX

* 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 *
196388	BH1	D5	1.5	Brown clay and sand
196389	BH1	D9	4.5	Brown clay
196390	BH1	D13	8	Brown clay
196391	BH1	D17	13	Brown clay

Analytical Report Number : 24-019152
Project / Site name: 43 Belmont Avenue, London N17 6AX

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078B	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.



Elizabeth Warren
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Normec DETS Limited
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Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 24-05260

Site Reference: 43 Belmont Avenue

Project / Job Ref: 24/38289

Order No: 14008

Sample Receipt Date: 14/05/2024

Sample Scheduled Date: 14/05/2024

Report Issue Number: 1

Reporting Date: 21/05/2024

Authorised by:

Steve Knight
Customer Support Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate

DETS Report No: 24-05260	~Date Sampled	07/05/24				
Site Analytical Services Ltd	~Time Sampled	None Supplied				
~Site Reference: 43 Belmont Avenue	~TP / BH No	BH1				
~Project / Job Ref: 24/38289	~Additional Refs	None Supplied				
~Order No: 14008	~Depth (m)	0.25				
Reporting Date: 21/05/2024	DETS Sample No	715021				

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Detected			
Sample Matrix ^(S)	Material Type	N/a	NONE	Bundles of Chrysotile fibres			
Asbestos Type ^(S)	PLM Result	N/a	ISO17025	Chrysotile			
Asbestos Quantification ^(S)	%	< 0.001	ISO17025	0.002			
pH	pH Units	N/a	MCERTS	8.3			
Total Cyanide	mg/kg	< 1	NONE	3			
Complex Cyanide	mg/kg	< 1	NONE	3			
Free Cyanide	mg/kg	< 1	NONE	< 1			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	3122			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.31			
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	474			
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.47			
Sulphide	mg/kg	< 5	NONE	< 5			
Organic Matter (SOM)	%	< 0.1	MCERTS	14.3			
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	8.3			
Arsenic (As)	mg/kg	< 2	MCERTS	31			
W/S Boron	mg/kg	< 1	NONE	1.2			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.4			
Chromium (Cr)	mg/kg	< 2	MCERTS	29			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	234			
Lead (Pb)	mg/kg	< 3	MCERTS	3430			
Mercury (Hg)	mg/kg	< 1	MCERTS	4.9			
Nickel (Ni)	mg/kg	< 3	MCERTS	40			
Selenium (Se)	mg/kg	< 2	MCERTS	< 2			
Zinc (Zn)	mg/kg	< 3	MCERTS	238			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

~Sample details provided by customer and can affect the validity of results



Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-05260	~Date Sampled	07/05/24				
Site Analytical Services Ltd	~Time Sampled	None Supplied				
~Site Reference: 43 Belmont Avenue	~TP / BH No	BH1				
~Project / Job Ref: 24/38289	~Additional Refs	None Supplied				
~Order No: 14008	~Depth (m)	0.25				
Reporting Date: 21/05/2024	DETS Sample No	715021				

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1			
Acenaphthene	mg/kg	< 0.1	MCERTS	0.41			
Fluorene	mg/kg	< 0.1	MCERTS	0.32			
Phenanthrene	mg/kg	< 0.1	MCERTS	4.59			
Anthracene	mg/kg	< 0.1	MCERTS	0.90			
Fluoranthene	mg/kg	< 0.1	MCERTS	7.48			
Pyrene	mg/kg	< 0.1	MCERTS	6.99			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	2.55			
Chrysene	mg/kg	< 0.1	MCERTS	2.57			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	2.35			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.97			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	2.50			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	1.25			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.30			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	1.06			
Coronene	mg/kg	< 0.1	NONE	0.24			
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	12.5			
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	23.9			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	34.2			
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	34.5			

~Sample details provided by customer and can affect the validity of results



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 24-05260	~Date Sampled	07/05/24				
Site Analytical Services Ltd	~Time Sampled	None Supplied				
~Site Reference: 43 Belmont Avenue	~TP / BH No	BH1				
~Project / Job Ref: 24/38289	~Additional Refs	None Supplied				
~Order No: 14008	~Depth (m)	0.25				
Reporting Date: 21/05/2024	DETS Sample No	715021				

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01			
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05			
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2			
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2			
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3			
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3			
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10			
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21			
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01			
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05			
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	19			
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	23			
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	42			
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42			

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-05260	~Date Sampled	07/05/24				
Site Analytical Services Ltd	~Time Sampled	None Supplied				
~Site Reference: 43 Belmont Avenue	~TP / BH No	BH1				
~Project / Job Ref: 24/38289	~Additional Refs	None Supplied				
~Order No: 14008	~Depth (m)	0.25				
Reporting Date: 21/05/2024	DETS Sample No	715021				

Determinand	Unit	RL	Accreditation				
Benzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2			
Toluene : HS 1D MS	ug/kg	< 5	MCERTS	6			
Ethylbenzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2			
p & m-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2			
o-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2			
MTBE : HS 1D MS	ug/kg	< 5	MCERTS	< 5			

~Sample details provided by customer and can affect the validity of results

Waste Acceptance Criteria Analytical Certificate										
DETS Report No: 24-05260		~Date Sampled	07/05/24					Landfill Waste Acceptance Criteria Limits		
Site Analytical Services Ltd		~Time Sampled	None Supplied					Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
~Site Reference: 43 Belmont Avenue		~TP / BH No	BH1							
~Project / Job Ref: 24/38289		~Additional Refs	None Supplied							
~Order No: 14008		~Depth (m)	0.25							
Reporting Date: 21/05/2024		DETS Sample No	715021							
Determinand	Unit	MDL								
TOC ^{MU}	%	< 0.1	8.3		3%					
Loss on Ignition ^{MU}	%	< 0.01	7.50		--					
BTEX ^{MU}	mg/kg	< 0.05	< 0.05		6					
Sum of PCBs	mg/kg	< 0.1	< 0.1		1					
Mineral Oil ^{MU}	mg/kg	< 10	< 10		500					
Total PAH ^{MU}	mg/kg	< 1.7	34.5		100					
pH ^{MU}	pH Units	N/a	8.3		--					
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.6		--					
Eluate Analysis			2:1 mg/l	8:1 mg/l		Cumulative 10:1 * mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)			
Arsenic ^U			0.0029	0.0020		0.036	0.5	2	25	
Barium ^U			0.0933	0.0527		0.974	20	100	300	
Cadmium ^U			< 0.0002	< 0.0002		< 0.002	0.04	1	5	
Chromium ^U			< 0.0002	< 0.0002		0.002	0.5	10	70	
Copper ^U			0.0054	0.0048		0.088	2	50	100	
Mercury ^U			0.00008	0.00004		0.0008	0.01	0.2	2	
Molybdenum ^U			0.0754	0.0229		0.441	0.5	10	30	
Nickel ^U			0.0013	0.0009		0.0163	0.4	10	40	
Lead ^U			0.0082	0.0163		0.291	0.5	10	50	
Antimony ^U			0.0121	0.0077		0.141	0.06	0.7	5	
Selenium ^U			0.0015	0.0008		0.0141	0.1	0.5	7	
Zinc ^U			0.011	0.006		0.12	4	50	200	
Chloride ^U			< 1	2		30	800	15000	25000	
Fluoride ^U			0.8	0.8		14	10	150	500	
Sulphate ^U			177	79		1476	1000	20000	50000	
TDS			264	83		1593	4000	60000	100000	
Phenol Index ^U			< 0.01	< 0.01		< 0.5	1	-	-	
DOC ^U			19.2	10.7		199	500	800	1000	
Leach Test Information										
Sample Mass (kg)			0.10							
Dry Matter (%)			84.1							
Moisture (%)			19							
Stage 1										
Volume Eluate L2 (litres)			0.16							
Filtered Eluate VE1 (litres)			0.04							
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion										
Stated limits are for guidance only and Normec DETS Limited cannot be held responsible for any discrepancies with current legislation										
M Denotes MCERTS accredited test										
U Denotes ISO17025 accredited test										
~Sample details provided by customer and can affect the validity of results										
* DETS are accredited for the testing of leachate and not the leachate preparation stage which is unaccredited										



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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 24-05260	
Site Analytical Services Ltd	
~Site Reference: 43 Belmont Avenue	
~Project / Job Ref: 24/38289	
~Order No: 14008	
Reporting Date: 21/05/2024	

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
715021	BH1	None Supplied	0.25	15.5	Black loamy sand with stones and concrete

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ¹/₅

Unsuitable Sample ^u/₅

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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-05260

Site Analytical Services Ltd

~Site Reference: 43 Belmont Avenue

~Project / Job Ref: 24/38289

~Order No: 14008

Reporting Date: 21/05/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 dphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried

AR As Received

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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-05260

Site Analytical Services Ltd

~Site Reference: 43 Belmont Avenue

~Project / Job Ref: 24/38289

~Order No: 14008

Reporting Date: 21/05/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	U	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	UF	Biological Oxygen Demand (COD)	Determination using BOD sensors measuring the change of pressure	E133
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

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List of HWOL Acronyms and Operators

DETS Report No: 24-05260

Site Analytical Services Ltd

~Site Reference: 43 Belmont Avenue

~Project / Job Ref: 24/38289

~Order No: 14008

Reporting Date: 21/05/2024

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
Mineral Oil (C10 - C40) (BS EN 12457-3) - EH_CU_1D_AL
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aliphatic C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
Total BTEX (BS EN 12457-3) - HS_1D_MS_Total
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

Parameter	Matrix Type	Expanded Uncertainty Measurement	Unit
TOC	Soil	12.2	%
Loss on Ignition	Soil	22.9	%
BTEX	Soil	11.2	%
Sum of PCBs	Soil	43.4	%
Mineral Oil	Soil	9.0	%
Total PAH	Soil	18.5	%
pH	Soil	0.335	Units
Acid Neutralisation Capacity	Soil	18.0	%
Clay Content	Soil	15.0	%
Silt Content	Soil	14.0	%
Sand Content	Soil	13.0	%
Loss on Ignition	Soil	22.9	%
pH	Soil	0.335	Units
Carbonate	Soil	12.0	%
Total Nitrogen	Soil	12.0	%
Phosphorus (Extractable)	Soil	24.0	%
Potassium (Extractable)	Soil	20.0	%
Magnesium (Extractable)	Soil	26.0	%
Zinc	Soil	21.6	%
Copper	Soil	18.2	%
Nickel	Soil	24.3	%
Available Sodium	Soil	23.0	%
Available Calcium	Soil	23.0	%
Electrical Conductivity	Soil	10.0	%