

Molyneux Architects

181 Union Street

London

SE1 0LN

Our Ref: P17-005 L02

Your Ref:

Date: 18th April 2023

St John the Baptist, Great Cambridge Road, London N17 8LR – Additional Remediation Validation

F.A.O. Mr Roger Molyneux,

Further to the Ground Investigation (P17-005gi) for the site and subsequent comments received by yourself from the London Borough of Haringey Council's Contaminated Land Officer (CLO) in February 2023 a strategy has been designed and carried out to construct a 600mm depth cover system in the open garden areas of the proposed development, namely Plot H3 East and West gardens and the Vicarage East large and small and West gardens.

Previous Works

A Ground Investigation was carried out for the site in March 2017 reference P17-005, this comprised borehole and trial pits and sampling to allow a generic human health contamination risk assessment. This assessment indicated elevated PAH indicative compounds and phytotoxic levels of heavy metals on the south and west of the site, within shallow Made Ground strata in TP1 (metals), TP3 (PAH) and TP5 (metals). The areas impacted with PAH indicative compounds and phytotoxic levels of heavy metals were all under areas of building footprint in the proposed development.

Given this, the only active pollutant pathways considered were from direct contact in open areas of the site if the impacted Made Ground extended beyond the footprint of the proposed development. The soil impacted with PAHs did not indicate significantly elevated associated lighter TPH fractions or volatile contaminants so were considered likely to be due to cross contamination of macadam surfacing above the TP3 location and therefore, no pollutant pathways in areas covered in permanent hardstanding were considered complete.

Following the ground investigation works the site was indicated to have been cleared as part of the development enabling and ground works, such as the installation of a piling matt and oversight reduction, and the levels reduced by c. 750mm to 1500mm across the site.

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These works should have reduced the levels across the site to natural soils effectively removing the identified impacted Made Ground. However, no lines of evidence for this were available for validation purposes.

Additional Contamination Risk Assessment November 2022

As the site levels and surface soils have changed significantly since those at the time of the ground investigation with no suitable records made available of the changes, it was decided to carry out further simple intrusive assessment works in open and garden areas of the almost completed development to ensure that these are suitable for the proposed use and validate the Topsoil placement.

The data on the additional contamination risk assessment is reported in separate cover P17-005 L01 dated 29th November 2022 and is summarised below.

The open and garden areas had been built up to finished level and turfed at the time of the additional intrusive assessment site visit on 4th November 2022. During the site visit 4 no. hand excavated trial pits were formed to assess the soil make up in the open garden areas and to recover samples for laboratory analysis from the Topsoil and Sub-soil. The locations of the trial pits were chosen at random in accessible areas by the PGE Site Engineer and are detailed on the enclosed Additional GI Trial Pit Location Plan.

The trial pitting identified c. 0.35m of Topsoil over reworked natural soils of firm brown grey sandy CLAY with occasional brick fragments in some areas to a maximum depth penetrated of 0.6m bgl. .

The soil samples were sent to I2 Limited (MCerts 4041) for analysis. The suite of analysis included:

- Metals and Inorganic compounds on all 6no. samples
- Polyaromatic Hydrocarbons (PAH) USEPA Priority 16 Compounds
- Total Petroleum Hydrocarbons (TPH) Screen (EC10-EC40)
- Asbestos screen

The results of the analysis of the samples recovered from the trial pits were compared individually with the PGE In-House GACs for a stringent residential with plant uptake land use and some exceedances were noted within the deeper sub-soils within trial pit VP1 for PAH indicative compounds and VP3 for lead.

All determinands were below their respective GACs for the Topsoil samples. Further to this the Topsoil placed appeared to be suitable physically as Topsoil, however, no classification testing such as BS3882 was available.

Determinand	Assessment Criteria (mgkg ⁻¹)	Trial Pit and Depth (m bgl) (strata)	Maximum Reported Concentration (mgkg ⁻¹)	95 th Percentile Upper Confidence Limit (mgkg ⁻¹) (with exceedances removed)
Benzo[a]pyrene	2.7	VP1 0.50m	3.5	N/A
Dibenzo(a,h) anthracene	0.28	VP1 0.50m	0.58	N/A
Lead	190	VP3 0.50m	230	N/A

Given the identified elevated PAH indicative compounds and lead within the sub-soils above a depth of 0.60m below ground level (bgl), the soils were not considered acceptable in soft landscaped garden areas and risk mitigation or remediation works were deemed necessary in consultation with the local planning authority to ensure the site is suitable for its proposed residential with plant uptake land use.

Cover System

A cover system of 600mm depth was design by the project team and agreed with stake holders and the local planning authority's contaminated land officer.

The attached plan by Molyneux Architects reference '289_00_W_18_ - SOFT LANDSCAPING AMENDMENTS TO PRIVATE GARDENS' indicates the areas and design of the cover system. This comprised the reduction of the current garden levels in Plot H3 East and West gardens and the Vicarage East large and small and West gardens by 600mm, off site disposal of the arisings and the placement of clean imported soils including 300mm of Topsoil at surface. This plan also indicates a validation grid for verification of the soil depth removal and cover system thickness variation.

Level Reduction Verification

A series of photographs recovered during the level reduction works in February and March 2023 are enclosed, along with photos from the reduced levels in the grid as the above referenced plan.

These photographs indicate a level reduction throughout the remediation areas of 600mm or greater.

Soil Placement Verification

Clean imported Topsoil was placed to make up the entire 600mm of the cover system construction across the site. The soil imported was certified clean and suitable for use as general purpose topsoil prior to importation and a copy of the certification report is enclosed.

Further to the certification reporting, samples of the placed topsoil were also recovered by PGE from each of the remediation areas, namely Plot H3 East and West gardens and the Vicarage East large and small and West gardens and were analysed for a priority suite of contaminants as detailed above.

This analysis did not indicate any exceedances when compared to the most stringent GACs employed for a residential with plant uptake land use. Copies of the analysis reports are enclosed along with a copy of the applicable PGE GACs.

To validate sufficient topsoil had been placed a series of hand excavated trial pits were formed on 28th March 2023 with 2-4 pits in each remediation area in locations on the validation grid detailed in the attached Molyneux Architects plan.

All validation pits indicated dark brown clayey loamy SAND topsoil to at least 600mm depth and occasionally in excess of 600mm.

Therefore, given the above validation checks the validated site areas are deemed suitable for its proposed 'Residential with plant uptake' land use.

If you have any queries regarding the above, please do not hesitate to contact the undersigned.

Yours Sincerely



Matt Paddock MSc FGS
Principal Geo-Environmental Engineer



Matt Paddock MSc FGS
Director

Encs:

Proposed Plan

Molyneux Architects Plan - 289_00_W_18_ - Soft Landscaping Amendments to Private Gardens

Imported Topsoil Certification

Laboratory Analysis Results –

23-24687 – Plot H3 East and West and Vicarage West topsoil

23-25718 - Vicarage East large and small topsoil

PGE In-House GACs

Photographs –

Level reduction works and Level Reduction Verification

Topsoil Placement

Final Soil Placement Verification

General Notes

This report is produced for the sole use of the Client, and no responsibility of any kind, whether for negligence or otherwise, can be accepted for any Third Party who may rely upon it.

The conclusions and recommendations given in this report are based on our understanding of the future plans for the site and based on a scope of works agreed by the Client and afforded by the agreed budget. No responsibility is accepted for conditions not encountered, which are outside of the agreed scope of work.

If the future plans for the site are changed, such as the site is developed for a more or less sensitive use, then a different interpretation might be appropriate.

The report has been prepared following the guidelines and principles established in the British Standards, BS 10175:2011, entitled 'Investigation of Potentially Contaminated Sites – Code of Practice' and the DEFRA/EA Contaminated Land Reports CLR7 and CLR8. It necessarily relies on the co-operation of other organisations and the free availability of information and total access. No responsibility can, therefore, be accepted for conditions arising from information that was not available to the investigating team as a result of information being withheld or access being denied.

This report may suggest an opinion on a possible configuration of strata or conditions between exploratory points and below the maximum depth of investigation. However, this is for guidance only and no liability can be accepted for its accuracy.



Proposed Plan



Molyneux Architects Plan - 289_00_W_18_ - Soft Landscaping Amendments to Private Gardens

Figure 1 consists of two schematic diagrams, Site A and Site B, showing the layout of the experimental sites. Site A is a large, irregularly shaped area enclosed by a dashed line. It contains a central rectangular area labeled 'CH' (chick house). Surrounding the CH are several other areas: 'V' (vegetation) at the top left, 'H1' at the top right, 'H2' at the bottom right, 'H3' at the bottom left, and 'H4' at the far right. A north arrow is located to the left of Site A. Site B is a smaller, more rectangular area enclosed by a dashed line. It contains a central rectangular area labeled 'CH'. Surrounding the CH are two areas: 'V' at the top left and 'H1' at the top right. A north arrow is located to the left of Site B.

PRICE ADJUSTMENT & IMPLEMENTATION

Printed on: 21/02/2023



-
- existing ground levels of the soft landscaping in private gardens
- 600
- new topsoil of approved chemical makeup
- Reduced level 600 mm deep from existing levels

-
- Diagram illustrating the cross-section of a road construction showing the following layers and dimensions:
- washed gravel border to perimeter
 - paving slabs 450 x 450 x 35
 - sand bedding
 - consolidated hardcore
 - Terram geotextile
- Dimensions indicated on the right side of the diagram:
- 35 (thickness of sand bedding)
 - 25 (thickness of paving slabs)
 - 100 (thickness of consolidated hardcore)



Imported Topsoil Certification



Amended Report

Report No.:	22-41703-2		
Initial Date of Issue:	15-Nov-2022	Date of Re-Issue:	16-Nov-2022
Client	Springbridge Direct Ltd		
Client Address:	Oxford Road Denham Middlesex UB9 4DF		
Contact(s):	Ellissa Dunn Tom Hawkins		
Project	Springbridge Yard		
Quotation No.:	Q22-26866	Date Received:	01-Nov-2022
Order No.:	128114	Date Instructed:	01-Nov-2022
No. of Samples:	2		
Turnaround (Wkdays):	10	Results Due:	14-Nov-2022
Date Approved:	15-Nov-2022		
Approved By:			

Details: Stuart Henderson, Technical Manager

Results - Soil

Project: Springbridge Yard

Client: Springbridge Direct Ltd	Chemtest Job No.:		22-41703		
Quotation No.: Q22-26866	Chemtest Sample ID.:		1535848		
Order No.: 128114	Client Sample Ref.:		Topsoil		
	Client Sample ID.:		Top		
	Sample Type:		SOIL		
	Date Sampled:		27-Oct-2022		
	Asbestos Lab:		COVENTRY		
Determinand	Accred.	SOP	Units	LOD	
ACM Type	U	2192		N/A	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected
Moisture	N	2030	%	0.020	13
Soil Colour	N	2040		N/A	Brown
Other Material	N	2040		N/A	Stones
Soil Texture	N	2040		N/A	Sand
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	3.6
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50
Arsenic	M	2455	mg/kg	0.5	7.1
Cadmium	M	2455	mg/kg	0.10	0.12
Chromium	M	2455	mg/kg	0.5	8.9
Copper	M	2455	mg/kg	0.50	13
Mercury	M	2455	mg/kg	0.05	< 0.05
Nickel	M	2455	mg/kg	0.50	5.2
Lead	M	2455	mg/kg	0.50	19
Selenium	M	2455	mg/kg	0.25	< 0.25
Zinc	M	2455	mg/kg	0.50	48
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10
Naphthalene	N	2700	mg/kg	0.010	< 0.010

Results - Soil

Project: Springbridge Yard

Client: Springbridge Direct Ltd	Chemtest Job No.:		22-41703		
Quotation No.: Q22-26866	Chemtest Sample ID.:		1535848		
Order No.: 128114	Client Sample Ref.:		Topsoil		
	Client Sample ID.:		Top		
	Sample Type:		SOIL		
	Date Sampled:		27-Oct-2022		
	Asbestos Lab:		COVENTRY		
Determinand	Accred.	SOP	Units	LOD	
Acenaphthylene	N	2700	mg/kg	0.010	< 0.010
Acenaphthene	N	2700	mg/kg	0.010	< 0.010
Fluorene	N	2700	mg/kg	0.010	< 0.010
Phenanthrene	N	2700	mg/kg	0.010	< 0.010
Anthracene	N	2700	mg/kg	0.010	< 0.010
Fluoranthene	N	2700	mg/kg	0.010	8.0
Pyrene	N	2700	mg/kg	0.010	1.0
Benzo[a]anthracene	N	2700	mg/kg	0.010	0.40
Chrysene	N	2700	mg/kg	0.010	0.87
Benzo[b]fluoranthene	N	2700	mg/kg	0.010	0.81
Benzo[k]fluoranthene	N	2700	mg/kg	0.010	0.96
Benzo[a]pyrene	N	2700	mg/kg	0.010	0.67
Indeno(1,2,3-c,d)Pyrene	N	2700	mg/kg	0.010	< 0.010
Dibenz(a,h)Anthracene	N	2700	mg/kg	0.010	< 0.010
Benzo[g,h,i]perylene	N	2700	mg/kg	0.010	< 0.010
Total Of 16 PAH's	N	2700	mg/kg	0.20	13
Benzene	M	2760	µg/kg	1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0
Total Phenols	M	2920	mg/kg	0.10	0.33

Results - Topsoil Report

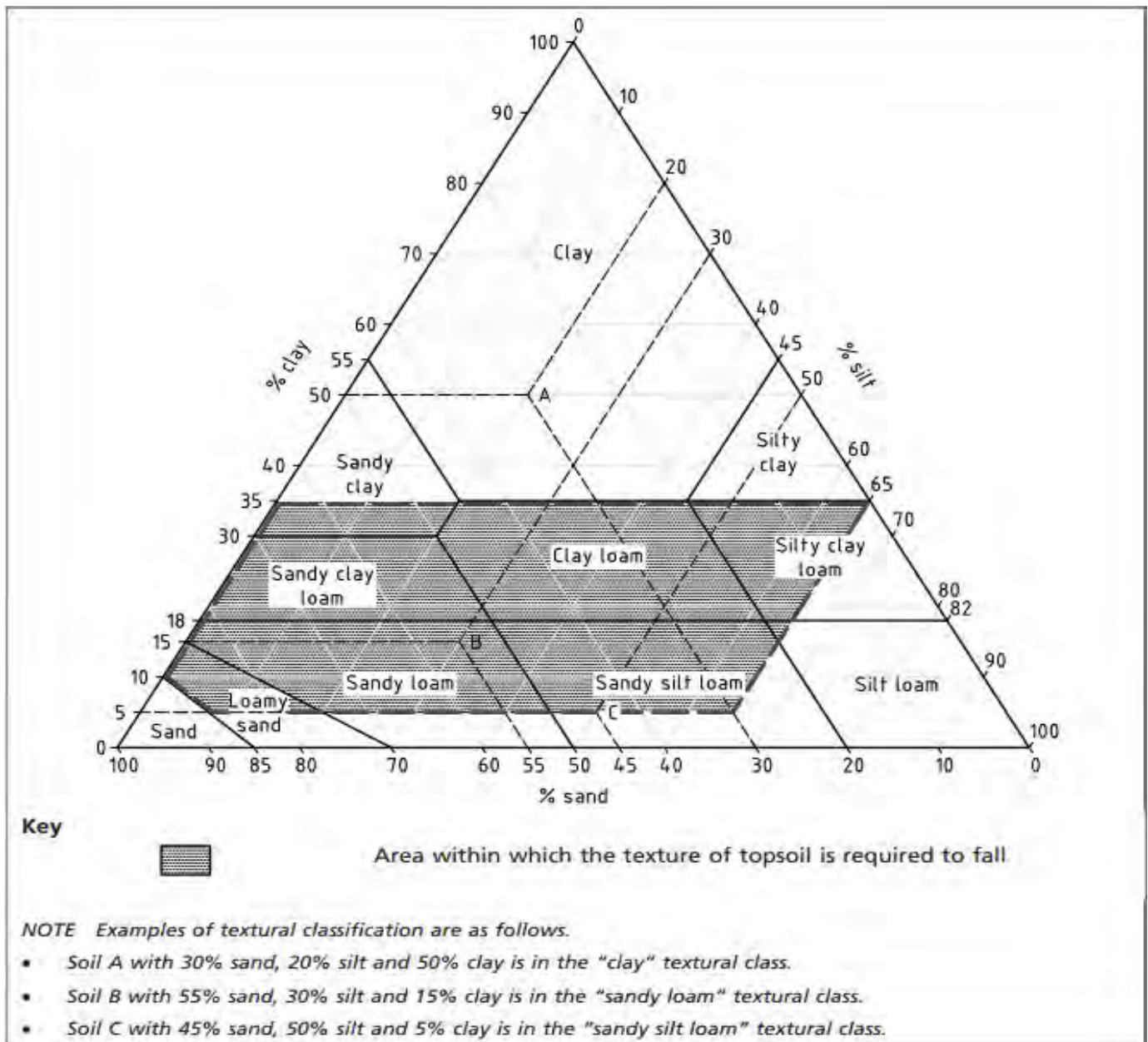
BS3882:2015

Chemtest Job No.: 22-41703
 Chemtest Sample ID.: 1535848
 Client Sample Ref.: Topsoil
 Sample Location:
 Client Sample ID.: Top
 Top Depth (m):
 Bottom Depth (m):
 Date Sampled: 27-Oct-2022
 Time Sampled:

Parameter	Units	Multipurpose Range	Result	Compliant with Multipurpose Range? (Y/N)	Compliant with Specific Purpose Range? (Y/N)		
Texture					Acid	Low F	Calc.
Clay content	%		8.1				
Silt content	%		8.1				
Sand content	%		84				
Soil texture class		See Attached Chart	Loamy Sand	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	7.3	YES	YES	YES	YES
Clay 20-35%		5.0-20					
Stone Content	% m/m						
>2mm		0-30	22	YES			
>20mm		0-10	< 0.020	YES			
>50mm		0	< 0.020	YES			
Soil pH value		5.5-8.5	8.0	YES	NO	YES	YES
Carbonate (Calcareous only)	%		4.1				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	3200	YES			
Available Nutrient Content							
Nitrogen %		>0.15	0.33	YES	YES		YES
Extractable phosphorus	mg/l	16-140	17	YES	YES	YES	YES
Extractable potassium	mg/l	121-1500	230	YES	YES		YES
Extractable magnesium	mg/l	51-600	58	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	13.1/1	YES	YES	YES	YES
Exchangeable sodium	%	<15	7.9				
Available Calcium	mg/l		580				
Available Sodium	mg/l		310				
Phytotoxic Contaminants (by soil pH)		< 6.0 6.0-7.0 > 7.0					
Zinc (Nitric Acid extract)	mg/kg	<200 <200 <300	33	YES			
Copper (Nitric Acid extract)	mg/kg	<100 <135 <200	10	YES			
Nickel (Nitric Acid extract)	mg/kg	<60 <75 <110	6.2	YES			
Visible Contaminants	% mm						
>2mm		<0.5	0.000	YES			
..... of which plastics		<0.25	0.000	YES			
..... man-made sharps		zero in 1kg	0.000	YES			

Topsoil: Texture Classification Chart

BS3882:2015



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British Standards can be obtained in PDF or hard copy formats from the BSI online shop: www.bsigroup.com/Shop or by contacting BSI Customer Services for hardcopies only: Tel: +44 (0)20 8996 9001, Email: cservices@bsigroup.com.

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2020	Electrical Conductivity	Electrical conductivity (EC) of aqueous extract or calcium sulphate solution for topsoil	Measurement of the electrical resistance of a 2:1 water/soil extract.
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2115	Total Nitrogen in Soils	Nitrogen	Determination by elemental analyser
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2260	Carbonate	Carbonate	Titration
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2400	Cations	Cations	ICP-MS
2420	Phosphate	Phosphate	Spectrophotometry - Discrete analyser
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.
2620	LOI 440	LOI 440 Trommel Fines	Determination of the proportion by mass that is lost from a soil by ignition at 440°C.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.

Test Methods

SOP	Title	Parameters included	Method summary
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com



Laboratory Analysis Results –

23-24687 – Plot H3 East and West and Vicarage West topsoil

23-25718 - Vicarage East large and small topsoil

PGE In-House GACs

**Matt Paddock**

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Analytical Report Number : 23-24687

Project / Site name:	St Johns the Baptist, Tottenham	Samples received on:	24/03/2023
Your job number:	P17-005	Samples instructed on/ Analysis started on:	24/03/2023
Your order number:	P17-005 G02	Analysis completed by:	31/03/2023
Report Issue Number:	1	Report issued on:	31/03/2023
Samples Analysed:	3 soil samples		

Signed:

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

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

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

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

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

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

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

Analytical Report Number: 23-24687

Project / Site name: St Johns the Baptist, Tottenham

Your Order No: P17-005 G02

Lab Sample Number				2627890	2627891	2627892
Sample Reference				H3 East Topsoil	H3 West Topsoil	Vicarage West 1
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				21/03/2023	21/03/2023	21/03/2023
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	24	41	26
Total mass of sample received	kg	0.001	NONE	0.5	0.5	0.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2	8.3	8.3
Total Sulphate as SO ₄	mg/kg	50	MCERTS	1200	1800	760
Loss on Ignition @ 450°C	%	0.2	MCERTS	14.1	14.6	13.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.09	0.07	0.08
Acenaphthylene	mg/kg	0.05	MCERTS	0.07	< 0.05	0.13
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.59	0.33	1.5
Anthracene	mg/kg	0.05	MCERTS	0.13	0.09	0.27
Fluoranthene	mg/kg	0.05	MCERTS	1.4	0.85	2.7
Pyrene	mg/kg	0.05	MCERTS	1.3	0.79	2.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.68	0.48	1.2
Chrysene	mg/kg	0.05	MCERTS	0.68	0.43	1.1
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.82	0.57	1.4
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.41	0.32	0.52
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.72	0.49	1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.4	0.31	0.59
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.09
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.41	0.3	0.6

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	7.64	5.03	13.3
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	12	14
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.56	0.53	0.6
Boron (water soluble)	mg/kg	0.2	MCERTS	3.6	3.5	5.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.6	0.5	0.6
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	17	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	48	40	37
Lead (aqua regia extractable)	mg/kg	1	MCERTS	84	77	81
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	13	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	29	27	30
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	130	130	120

Petroleum Hydrocarbons

TPH C10 - C40 _{EH,CU,10_TOTAL}	mg/kg	10	MCERTS	29	32	44
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 23-24687
Project / Site name: St Johns the Baptist, Tottenham

* 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 *
2627890	H3 East Topsoil	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
2627891	H3 West Topsoil	None Supplied	None Supplied	Brown sand with gravel and vegetation.
2627892	Vicarage West 1	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 23-24687

Project / Site name: St Johns the Baptist, Tottenham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
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
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS

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

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

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

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC. Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 23-24687

Project / Site name: St Johns the Baptist, Tottenham

Water matrix abbreviations:

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

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

List of HWOL Acronyms and Operators

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



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Analytical Report Number : 23-25718

Project / Site name:	St Johns the Baptist, Tottenham	Samples received on:	29/03/2023
Your job number:	P17-005	Samples instructed on / Analysis started on:	29/03/2023
Your order number:	P17-005-G02	Analysis completed by:	06/04/2023
Report Issue Number:	1	Report issued on:	11/04/2023
Samples Analysed:	2 soil samples		

Signed: _____

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

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

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

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

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

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

Analytical Report Number: 23-25718
Project / Site name: St Johns the Baptist, Tottenham
Your Order No: P17-005-G02

Lab Sample Number				2633593	2633594
Sample Reference				Vicarage East Small	Vicarage East Large
Sample Number				None Supplied	None Supplied
Depth (m)				0.00	0.00
Date Sampled				28/03/2023	28/03/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	27	26
Total mass of sample received	kg	0.001	NONE	0.4	0.4

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.3	8.3
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2300	2100
Loss on Ignition @ 450oC	%	0.2	MCERTS	11.5	11.5

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.1	0.08
Acenaphthene	mg/kg	0.05	MCERTS	0.09	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.1	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.3	0.38
Anthracene	mg/kg	0.05	MCERTS	0.33	0.12
Fluoranthene	mg/kg	0.05	MCERTS	2.3	0.99
Pyrene	mg/kg	0.05	MCERTS	2	0.93
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.2	0.57
Chrysene	mg/kg	0.05	MCERTS	0.98	0.52
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.5	0.69
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.48	0.37
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.1	0.58
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.66	0.37
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.14	0.07
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.71	0.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	12.9	6.07
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	12
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.54	0.49
Boron (water soluble)	mg/kg	0.2	MCERTS	3.4	5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	32	28
Lead (aqua regia extractable)	mg/kg	1	MCERTS	71	63
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	30	27
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	99

Petroleum Hydrocarbons

TPH C10 - C40 _{EH,CU,1D,TOTAL}	mg/kg	10	MCERTS	120	88
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-25718

Project / Site name: St Johns the Baptist, Tottenham

* 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 *
2633593	Garage East Small	None Supplied	0	Brown loam and sand with gravel and vegetation.
2633594	Garage East Large	None Supplied	0	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 23-25718

Project / Site name: St Johns the Baptist, Tottenham

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
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
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

Analytical Report Number : 23-25718
Project / Site name: St Johns the Baptist, Tottenham

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

GENERIC HUMAN HEALTH SCREENING TOTAL SOIL CONCENTRATION ASSESSMENT CRITERIA (GAC)

DETERMINAND		RESIDENTIAL (mg/kg)		COMMERCIAL (mg/kg)
Chemical	GAC Sources and units	With Home Grown produce	Without Home Grown produce	
Asbestos Screen & ID*	-	Detected	Detected	Detected
Cyanide - Total	SNIFFER	53.25	53.25	53.25
Cyanide - Free	SNIFFER	53.25	53.25	53.25
Loss on Ignition @ 450°C	-	-	-	-
Sulphate (as SO ₄) - Total	BRE****	2400	2400	2400
Sulphide	ICRCL	2500	2500	2500
Sulphur - Total	ICRCL	2500	2500	2500
Phenol (Total Monohydric)	CLEA	420	420	3200
pH	ICRCL	<5,>12	<5,>12	-
Metals and Metalloids (CLEA Metals)				
Arsenic	LQM S4UL	37	40	640
Beryllium	LQM S4UL	1.7	1.7	12
Cadmium	LQM S4UL	11	85	190
Chromium III	LQM S4UL	910	910	8600
Lead	DEFRA C4SL	190	310	2300
Mercury (Total)	LQM S4UL (Inorganic)	40	56	1100
Selenium	LQM S4UL	250	430	12000
Copper (phytotoxicity)	LQM S4UL	2400 (111)	7100	68000
Nickel	LQM S4UL	180	180	980
Zinc (phytotoxicity)	LQM S4UL	3700 (330)	40000	730000
Vanadium	LQM S4UL	410	1200	9000
Boron - Water Soluble	LQM S4UL	290	11000	240000
Total Petroleum Hydrocarbons**				
TPH (EC6-EC10) - PRO	LQM S4UL (2.5% SOM)	65	100	4800
TPH (EC10-EC21) - DRO	LQM S4UL (2.5% SOM)	300	600	23000
TPH (EC21-EC40) - Min. Oil	LQM S4UL (2.5% SOM)	1500	1900	28000
Total TPH (EC10-EC40)	LQM S4UL (2.5% SOM)	600	900	23000
Polycyclic Aromatic Hydrocarbons***				
Naphthalene	LQM S4UL (2.5% SOM)	5.6	5.6	460
Flourene	LQM S4UL (2.5% SOM)	400	3800	68000
Benzo[a]pyrene	LQM S4UL (2.5% SOM)	2.7	3.2	35
Dibenzo[a,h]anthracene	LQM S4UL (2.5% SOM)	0.28	0.32	3.6

Notes

The Generic Assessment Criteria (GAC) are based on CLEA Soil Guidance Values published values and CIEH/LQM S4CLs where available or ICRCL, DoE, BRE and HSE levels where necessary.
Where gaps remain GACs were calculated using the latest CLEA spreadsheet using DEFRA C4SL toxicology and physiochemical parameters from DEFRA SP1010.

* Guidance level set at any fibre identification.

** TPH 3 band is employed as a screening tool to instigate detailed speciated analysis to the TPHCWG methodology. Based on mean of fractions included

*** Testing based on USEPA Priority 16 compounds. GACs for four compounds and total PAH with published GACs only, used as a screening tool.

**** BRE SD1 - DS-1 Concrete Sulphate Design Class limit. Sulphate is not considered to pose a significant risk to human health under normal circumstances.



Photographs –

Level reduction works and Level Reduction Verification

Topsoil Placement

Final Soil Placement Verification



Plot H3 West Reduced Level



Formation Depth Check—Plot H3 West Grid A1



Formation Depth Check—Plot H3 West Grid A2



Formation Depth Check—Plot H3 West Grid A3



Formation Depth Check—Plot H3 West Grid B1



Formation Depth Check—Plot H3 West Grid B2



Formation Depth Check—Plot H3 West Grid C1





Plot H3 East in process of stripping to formation level



Formation Depth Check—Plot H3 East Grid A2



Formation Depth Check—Plot H3 East Grid A3



Formation Depth Check—Plot H3 East Grid B1



Formation Depth Check—Plot H3 East Grid B1



Formation Depth Check—Plot H3 East Grid B2



Formation Depth Check—Plot H3 East Grid B3



Formation Depth Check—Plot H3 East Grid B3



Plot Vicarage West Reduced Level



Formation Depth Check—Plot Vicarage West Grid A1



Formation Depth Check—Plot Vicarage West Grid A2



Formation Depth Check—Plot Vicarage West Grid A3



Formation Depth Check—Plot Vicarage West Grid B1



Formation Depth Check—Plot Vicarage West Grid B2



Formation Depth Check—Plot Vicarage West Grid B3



Formation Depth Check—Plot Vicarage West Grid C1



Formation Depth Check—Plot Vicarage West Grid C2



Formation Depth Check—Plot Vicarage West Grid C3



Plot Vicarage East Large Reduced Level



Formation Depth Check—Plot Vicarage East Large Grid A1



Formation Depth Check—Plot Vicarage East Large Grid A2



Formation Depth Check—Plot Vicarage East Large Grid A3



Formation Depth Check—Plot Vicarage East Large Grid B1



Formation Depth Check—Plot Vicarage East Large Grid B2



Formation Depth Check—Plot Vicarage East Large Grid B3



Plot Vicarage East Small Reduced Level



Formation Depth Check—Plot Vicarage East Small Grid A1



Formation Depth Check—Plot Vicarage East Small Grid A2



Topsoil Placement—H3 East 21/03/23



Topsoil Placement—H3 East 21/03/23



Topsoil Placement—H3 West 21/03/23



Topsoil Placement—Vicarage West 21/03/23



Topsoil Placement—H3 West 21/03/23



Topsoil Placement—Vicarage West 21/03/23



H3 West Topsoil Placed



Topsoil Validation—H3 West Grid A3



Topsoil Validation—H3 West Grid A3



Topsoil Validation—H3 West Grid B1



Topsoil Validation—H3 West Grid B1



Topsoil Validation—H3 West Grid C2



Topsoil Validation—H3 West Grid C2



H3 East Topsoil Placed



Topsoil Validation—H3 East Grid A3



Topsoil Validation—H3 East Grid A3



Topsoil Validation—H3 East Grid B2



Topsoil Validation—H3 East Grid B2



Topsoil Validation—H3 East Grid B1



Topsoil Validation—H3 East Grid B1



Vicarage West Topsoil Placed



Topsoil Validation—Vicarage West Grid B3



Topsoil Validation—Vicarage West Grid A2



Topsoil Validation—Vicarage West Grid B1



Topsoil Validation—Vicarage West Grid C2



Vicarage East Large Topsoil Placed



Topsoil Validation—Vicarage East Large Grid A3



Topsoil Validation—Vicarage East Large Grid B2



Vicarage East Small Topsoil Placed



Topsoil Validation—Vicarage East Small Grid A1



Topsoil Validation—Vicarage East Small Grid A2