

Phytotoxic Contaminants

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in *BS3882:2015 – Table 1*.

CONCLUSION

The purpose of the analysis was to determine the suitability of the topsoil sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil (*BS3882:2015 Specification for Topsoil – Multipurpose Topsoil*).

From the soil examination and laboratory analysis, the sample was described as a slightly alkaline, non-saline, non-calcareous *loamy sand* with a well developed structure and very low stone content. The sample contained sufficient reserves of organic matter and all major plant nutrients. Of the potential contaminants determined, none exceeded their respective guideline values.

To conclude, based on our findings, the topsoil represented by this sample would be considered suitable for general landscape purposes (trees, shrubs and amenity grass), provided the physical condition of the soil is satisfactory.

The topsoil was also fully compliant with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

RECOMMENDATIONS

Soil Handling Recommendations

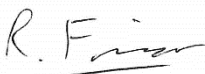
It is important to maintain the physical condition of the soil and avoid structural damage during all phases of soil handling (e.g. stockpiling, respreading, cultivating, planting, seeding or turfing). As a consequence, soil handling operations should be carried out when soil is reasonably dry and non-plastic (friable) in consistency.

It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the soil is friable in consistency. If the soil is structurally damaged and compacted at any stage during the course of soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

Further details on soil handling are provided in Annex A of *BS3882:2015*.

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully



Ross Friar
MEnvSci
Graduate Soil Scientist



Rebecca Hollands
BSc MSc MISOilSci
Senior Soil Scientist

For & on behalf of Tim O'Hare Associates LLP



Client:	R Draper Ltd
Project:	Grade 1 Topsoil
Job:	Topsoil Analysis - BS3882:2015
Date:	21/02/2023
Job Ref No:	TOHA/23/7826/2/SS

Sample Reference		
		Accreditation
Clay (<0.002mm)	%	UKAS
Silt (0.002-0.063mm)	%	UKAS
Sand (0.063-2.0mm)	%	UKAS
Texture Class (UK Classification)		UKAS
Stones (2-20mm)	% DW	GLP
Stones (20-50mm)	% DW	GLP
Stones (>50mm)	% DW	GLP

pH Value (1:2.5 water extract)	units	UKAS
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS
Electrical Conductivity (1:2 CaSO ₄ extract)	uS/cm	UKAS
Exchangeable Sodium Percentage	%	UKAS
Organic Matter (LOI)	%	UKAS
Total Nitrogen (Dumas)	%	UKAS
C : N Ratio	ratio	UKAS
Extractable Phosphorus	mg/l	UKAS
Extractable Potassium	mg/l	UKAS
Extractable Magnesium	mg/l	UKAS

Total Arsenic (As)	mg/kg	MCERTS
Total Cadmium (Cd)	mg/kg	MCERTS
Total Chromium (Cr)	mg/kg	MCERTS
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS
Total Copper (Cu)	mg/kg	MCERTS
Total Lead (Pb)	mg/kg	MCERTS
Total Mercury (Hg)	mg/kg	MCERTS
Total Nickel (Ni)	mg/kg	MCERTS
Total Selenium (Se)	mg/kg	MCERTS
Total Zinc (Zn)	mg/kg	MCERTS
Water Soluble Boron (B)	mg/kg	MCERTS
Total Cyanide (CN)	mg/kg	MCERTS
Total (mono) Phenols	mg/kg	MCERTS

Naphthalene	mg/kg	MCERTS
Acenaphthylene	mg/kg	MCERTS
Acenaphthene	mg/kg	MCERTS
Fluorene	mg/kg	MCERTS
Phenanthrene	mg/kg	MCERTS
Anthracene	mg/kg	MCERTS
Fluoranthene	mg/kg	MCERTS
Pyrene	mg/kg	MCERTS
Benzo(a)anthracene	mg/kg	MCERTS
Chrysene	mg/kg	MCERTS
Benzo(b)fluoranthene	mg/kg	MCERTS
Benzo(k)fluoranthene	mg/kg	MCERTS
Benzo(a)pyrene	mg/kg	MCERTS
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS
Dibenzo(a,h)anthracene	mg/kg	MCERTS
Benzo(g,h,i)perylene	mg/kg	MCERTS
Total PAHs (sum USEPA16)	mg/kg	MCERTS

Aliphatic TPH >C5 - C6	mg/kg	MCERTS
Aliphatic TPH >C6 - C8	mg/kg	MCERTS
Aliphatic TPH >C8 - C10	mg/kg	MCERTS
Aliphatic TPH >C10 - C12	mg/kg	MCERTS
Aliphatic TPH >C12 - C16	mg/kg	MCERTS
Aliphatic TPH >C16 - C21	mg/kg	MCERTS
Aliphatic TPH >C21 - C35	mg/kg	MCERTS
Aliphatic TPH (C5 - C35)	mg/kg	MCERTS
Aromatic TPH >C5 - C7	mg/kg	MCERTS
Aromatic TPH >C7 - C8	mg/kg	MCERTS
Aromatic TPH >C8 - C10	mg/kg	MCERTS
Aromatic TPH >C10 - C12	mg/kg	MCERTS
Aromatic TPH >C12 - C16	mg/kg	MCERTS
Aromatic TPH >C16 - C21	mg/kg	MCERTS
Aromatic TPH >C21 - C35	mg/kg	MCERTS
Aromatic TPH (C5 - C35)	mg/kg	MCERTS

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

Asbestos Screen	N/ND	ISO 17025
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LS = LOAMY SAND

Visual Examination

The sample was described as a very dark brown (Munsell Colour 10YR 2/2), slightly moist, friable, non-calcareous LOAMY SAND with a well developed, fine to coarse granular and subangular blocky structure. The sample was virtually stone-free and no unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

Results of analysis should be read in conjunction with the report they were issued with.

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Grade 1 Topsoil

8
8
84
LS
1
0
0

7.1
395
2409
2.8
6.2
0.22
16
27
355
76

9
< 0.2
11
< 1.8
43
130
0.5
11
< 1.0
60
0.7
< 1.0
< 1.0

< 0.05
< 0.05
0.14
0.08
1.20
0.25
1.70
1.80
0.79
0.82
1.10
0.22
0.73
0.41
0.09
0.46
9.75

< 0.001
< 0.001
< 0.001
< 1.0
< 2.0
< 8.0
< 8.0
< 10
< 0.001
< 0.001
< 0.001
< 1.0
5.7
< 10
10
24

< 0.005
< 0.005
< 0.005
< 0.005
< 0.005
< 0.005

Not-detected

R. Friar

Ross Friar
MEnvSci
Graduate Soil Scientist

This spreadsheet has been developed by IGE Consulting Ltd

APPENDIX 3



Office 16, Bartle House, Oxford Court,
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tel: 0161 914 9170

Verification Log

Project Name: Victoria Avenue, Blackley

Project Number: 3951

Location: Victoria Avenue, Blackley

Client: John Southworth

Remediation Requirements:

150mm to 300mm 'clean' topsoil, underlain by up to 300mm to 450mm 'clean' subsoil, to provide a total of 600mm depth of clean cover materials.

Validation Requirements:

Plot thickness validation of rear gardens, Report and photographs provided. Chemical testing completed using appropriate volumes to determine the number of tests.

6&7

Plot Number: 1

Inspection date: 21st May 2024

Engineer: P SPEAKMAN

Photographs:



Rear view of Plot 1



Depth of pit demonstrated at 600mm



Photographs show 150mm of topsoil, 450mm of subsoil, and plot context.

This plot has PASSED /~~FAILED~~* verification

*Proposed further remedial works (if FAILED):

An additional inspection IS- / IS NOT required for this plot

Verification Log

Project Name: Victoria Avenue, Blackley

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6&7

Plot Number: 2

Inspection date: 11th June 2024

Engineer: P SPEAKMAN

Photographs:



Rear view of Plot

Survey Staff
demonstrates
600mm depth
achieved.



Depth of pit
demonstrated
at 600mm

Photographs show 200mm of topsoil, 400mm of subsoil, and plot context.

This plot has PASSED /-FAILED* verification

*Proposed further remedial works (if FAILED):

An additional inspection IS-/ IS NOT required for this plot



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Client: John Southworth

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Validation Requirements:

Plot thickness validation of rear gardens, Report and photographs provided. Chemical testing completed using appropriate volumes to determine the number of tests.

Plot Number: 3-5

Inspection date: 28th March 2024

Engineer: P SPEAKMAN

Photographs:



Rear view of Plots 3, 4 & 5



Depth of pit demonstrated
at 600mm



Photographs show 150mm of topsoil, 450mm of subsoil, and plot context.

This plot has PASSED /~~FAILED~~* verification

*Proposed further remedial works (if FAILED):

An additional inspection ~~IS~~/ IS NOT required for this plot



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Verification Log

Project Name: Victoria Avenue, Blackley

Project Number: 3951

Location: Victoria Avenue, Blackley

Client: John Southworth

Remediation Requirements:

150mm to 300mm 'clean' topsoil, underlain by up to 300mm to 450mm 'clean' subsoil, to provide a total of 600mm depth of clean cover materials.

Validation Requirements:

Plot thickness validation of rear gardens, Report and photographs provided. Chemical testing completed using appropriate volumes to determine the number of tests.

6&7

Plot Number: 6&7

Inspection date: 28th March 2024

Engineer: P SPEAKMAN

Photographs:



Rear view of Plots 3, 4 & 5



Depth of pit demonstrated at 600mm



Survey Staff demonstrates 600mm depth achieved.

Photographs show 150mm of topsoil, 450mm of subsoil, and plot context.

This plot has PASSED /~~FAILED~~* verification

*Proposed further remedial works (if FAILED):

An additional inspection IS- / IS NOT required for this plot



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Project Name: Victoria Avenue, Blackley

Project Number: 3951

Location: Victoria Avenue, Blackley

Client: John Southworth

Remediation Requirements:

150mm to 300mm 'clean' topsoil, underlain by up to 300mm to 450mm 'clean' subsoil, to provide a total of 600mm depth of clean cover materials.

Validation Requirements:

Plot thickness validation of rear gardens, Report and photographs provided. Chemical testing completed using appropriate volumes to determine the number of tests.

6&7

Plot Number: 8

Inspection date: 11th June 2024

Engineer: P SPEAKMAN

Photographs:



Rear view of Plot 8



Total 600mm
depth achieved.



Staff at base
of pit

This plot has PASSED /~~FAILED~~* verification

*Proposed further remedial works (if FAILED):

An additional inspection ~~IS~~/ IS NOT required for this plot



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Verification Log

Project Name: Victoria Avenue, Blackley

Project Number: 3951

Location: Victoria Avenue, Blackley

Client: John Southworth

Remediation Requirements:

150mm to 300mm 'clean' topsoil, underlain by up to 300mm to 450mm 'clean' subsoil, to provide a total of 600mm depth of clean cover materials.

Validation Requirements:

Plot thickness validation of rear gardens, Report and photographs provided. Chemical testing completed using appropriate volumes to determine the number of tests.

Plot Number: 9

Inspection date: 11th June 2024

Engineer: P SPEAKMAN

Photographs:



Rear view of Plot 9



Close view of Staff - Total 600mm depth achieved.



Staff at base of pit

This plot has PASSED /~~FAILED~~* verification

*Proposed further remedial works (if FAILED):

An additional inspection ~~IS~~/ IS NOT required for this plot