Gedney, Oliver

From: Polly Harris-Gorf
Sent: 22 September 2020 07:29
To: _planningadvice
Cc: Norman, Phil
Subject: FW: H16-0635-20
Attachments: We sent you safe versions of your files; Chemtest CESL Topsoil Bourne.pdf; 20-9404-SS - British Sugar - Wissington - L20 - Feb 20.pdf

6SUP (Additional material)

From: Luke Boekestyn <
Sent: 21 September 2020 16:02
To: Polly Harris-Gorf <
Cc:
Subject: RE: H16-0635-20

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

This message originated from outside your organization

Hi Polly,

Please see attached testing for the imported screened topsoil and also the British Sugar capping material. This is the latest testing available from both parties.

I have all the delivery notes for both on site if you need this for further substantiation. NHBC have cleared their conditions based on the letter report, but apologies that it doesn't explicitly state these sources.

These have been consistent throughout the project and remain unchanged. At the point of the letter being compiled by Geomatters, only plots 17-20 and 6-9 has been completed and so I wanted to get the strategy and condition part discharged in readiness for the others so that the process was exactly the same.

Hopefully this is OK, if you need anything further please let me know.

Regards,

Luke Boekestyn BSc (Hons)
Managing Director

burmor projects

burmor house, sunderland road,
northfields industrial estate,
market deeping, peterborough.
pe6 8fd

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

British Sugar Topsoil

Mr Andy Spetch
British Sugar plc Co-Products
Oundle Road
Peterborough
PE2 9QU

24th February 2020
Our Ref: TOHA/20/9404/SS
Your Ref: PO60114784

Dear Sirs

Topsoil Analysis Report: Landscape 20 Wissington

We have completed the analysis of the LANDSCAPE 20 TOPSOIL sample recently submitted, referenced *Wi-L20-Feb 20* and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the LANDSCAPE 20 TOPSOIL sample for general landscape purposes. 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* – Table 1, *Multipurpose Topsoil)*.

This report presents the results of analysis for the sample submitted to our office, and it should be considered 'indicative' of the topsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing or waste designation purposes, especially after the topsoil has left the British Sugar factory.

SAMPLE EXAMINATION

The sample was described as a very dark greyish brown (Munsell Colour 10YR 3/2), dry, friable, moderately calcareous, SANDY LOAM with a weakly developed, very fine to fine granular structure*. The sample was virtually stone free and no unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

*This appraisal of soil structure was made from examination of a disturbed sample. Structure is a key soil characteristic that may only be accurately assessed by examination in an in-situ state.

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ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition and fertility of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- particle size analysis;
- stone content (2-20mm, 20-50mm, >50mm);
- pH and electrical conductivity values;
- exchangeable sodium percentage;
- major plant nutrients (N, P, K, Mg);
- organic matter content;
- C:N ratio;
- heavy metals (As, B, Ba, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, V, Zn);
- total cyanide and total (mono) phenols;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below. The interpretation considers the use of the LANDSCAPE 20 TOPSOIL for general landscape purposes and its compliance/non-compliance with our general landscape specification.

RESULTS OF ANALYSIS

Particle Size Analysis and Stone Content

The sample fell into the *sandy loam* texture class, which is usually considered suitable for general landscape applications provided the soil's physical condition is satisfactory.

The sample was virtually stone-free and, as such, stones should not restrict the use of the soil for general landscape purposes.

pH and Electrical Conductivity Values

The sample was alkaline in reaction (pH 7.8). This pH value would be considered suitable for general landscape purposes providing species with a wide pH tolerance or those known to prefer alkaline soils are selected for planting, turfing and seeding.

The electrical conductivity (salinity) value (water extract) was moderate, which indicates that soluble salts should not be present at levels that would be harmful to plants.

The electrical conductivity value by $CaSO_4$ extract (*BS3882* requirement) fell below the maximum specified value (3300 µS/cm) given in *BS3882:2015 – Table 1*.

Organic Matter and Fertility Status

The sample was well supplied with organic matter and all major plant nutrients.

The C:N ratio of the sample was acceptable for general landscape purposes.

British Sugar Topsoil

Potential Contaminants

With reference to *BS3882:2015* - Table 1: Notes 3 and 4, there is a recommendation to confirm levels of potential contaminants in relation to the topsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific criteria, the concentrations that affect human health have been compared with the *residential with homegrown produce* land use in the Suitable For Use Levels (S4ULs) presented in the *LQM/CIEH S4ULs for Human Health Risk Assessment* (2015) and the DEFRA SP1010: *Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document* (2014). The concentration of barium has been compared with the *residential* land use given in the document *EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment* (2010).

Of the potential contaminants determined, none was found at levels that exceeded their guideline values.

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 LANDSCAPE 20 TOPSOIL sample for general landscape purposes. 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* – Table 1, *Multipurpose Topsoil)*.

From the soil examination and laboratory analysis, the sample was described as an alkaline, moderately saline, moderately calcareous, virtually stone-free sandy loam with a weak structure. The sample was well supplied with organic matter and all major plant nutrients. Of the potential contaminants determined, none was found at levels that exceeded their guideline values.

Based on our findings, the topsoil represented by this sample would be considered suitable for general landscape purposes (trees, shrubs and amenity grass), provided plant species with a wide pH tolerance or those known to prefer alkaline soils are selected and 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.*

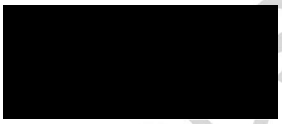
British Sugar Topsoil

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 sincerely



Matthew Lowry
BSc MSc
Graduate Soil Scientist



Tim White
BSc MSc MISoilSci CSci
Senior Associate

For & on behalf of Tim O'Hare Associates LLP

British Sugar Topsoil

Client:	**British Sugar plc Co-Products**
Client Ref:	**Wissington Landscape 20**
Job:	**Topsoil Analysis**
Date:	**24/02/2020**
Job Ref No:	**TOHA/20/9404/SS**

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Sample Reference			**Wi-L20-Feb 20**	
Clay (<0.002mm)	%	U	16	✓
Silt (0.002-0.063mm)	%	U	20	✓
Sand (0.063-2.0mm)	%	U	64	✓
Texture Class (UK Classification)	--	U	SL	--
Stones (2 20mm)	% DW	G	1	✓
Stones (20-50mm)	% DW	G	1	✓
Stones (>50mm)	% DW	G	0	✓
pH Value (1:2.5 water extract)	units	U	7.8	✓
Electrical Conductivity (1:2.5 water extract)	uS/cm	U	1370	✓
Electrical Conductivity (1:2 $CaSO_4$ extract)	uS/cm	U	2909	✓
Exchangeable Sodium Percentage	%	U	10.8	✓
Moisture Content	%	U	15	--
Organic Matter (LOI)	%	U	6.9	✓
Total Nitrogen (Dumas)	%	U	0.29	✓
C : N Ratio	ratio	U	14	✓
Extractable Phosphorus	mg/l	U	70	✓
Extractable Potassium	mg/l	U	1037	✓
Extractable Magnesium	mg/l	U	108	✓
Total Arsenic (As)	mg/kg	M	19	✓
Total Barium (Ba)	mg/kg	M	54	✓
Total Beryllium (Be)	mg/kg	M	0.7	✓
Total Cadmium (Cd)	mg/kg	M	< 0.2	✓
Total Chromium (Cr)	mg/kg	M	24	✓
Hexavalent Chromium (Cr VI)	mg/kg	M	< 4.0	✓
Total Copper (Cu)	mg/kg	M	17	✓
Total Lead (Pb)	mg/kg	M	26	✓
Total Mercury (Hg)	mg/kg	M	< 0.3	✓
Total Nickel (Ni)	mg/kg	M	18	✓
Total Selenium (Se)	mg/kg	M	< 1.0	✓
Total Vanadium (V)	mg/kg	M	37	✓
Total Zinc (Zn)	mg/kg	M	62	✓
Water Soluble Boron (B)	mg/kg	M	3.6	✓
Total Cyanide (CN)	mg/kg	M	< 1	✓
Total (mono) Phenols	mg/kg	M	< 1.0	✓
Naphthalene	mg/kg	M	< 0.05	✓
Acenaphthylene	mg/kg	M	< 0.05	✓
Acenaphthene	mg/kg	M	< 0.05	✓
Fluorene	mg/kg	M	< 0.05	✓
Phenanthrene	mg/kg	M	< 0.05	✓
Anthracene	mg/kg	M	< 0.05	✓
Fluoranthene	mg/kg	M	< 0.05	✓
Pyrene	mg/kg	M	< 0.05	✓
Benzo(a)anthracene	mg/kg	M	< 0.05	✓
Chrysene	mg/kg	M	< 0.05	✓
Benzo(b)fluoranthene	mg/kg	M	< 0.05	✓
Benzo(k)fluoranthene	mg/kg	M	< 0.05	✓
Benzo(a)pyrene	mg/kg	M	< 0.05	✓
Indeno(1,2,3-cd)pyrene	mg/kg	M	< 0.05	✓
Dibenzo(a,h)anthracene	mg/kg	M	< 0.05	✓
Benzo(g,h,i)perylene	mg/kg	M	< 0.05	✓
Total PAHs (sum USEPA16)	mg/kg	M	< 0.80	✓
Aliphatic TPH (C5-C6)	mg/kg	M	< 0.001	✓
Aliphatic TPH (C6-C8)	mg/kg	M	< 0.001	✓
Allphatic TPH (C8-C10)	mg/kg	M	< 0.001	✓
Aliphatic TPH (C10-C12)	mg/kg	M	2.1	✓
Aliphatic TPH (C12-C16)	mg/kg	M	4.8	✓
Aliphatic TPH (C16-C21)	mg/kg	M	22	✓
Aliphatic TPH (C21-C35)	mg/kg	M	34	✓
Aliphatic TPH (C5-C35)	mg/kg	M	63	✓
Aromatic TPH (C5-C7)	mg/kg	M	< 0.001	✓
Aromatic TPH (C7-C8)	mg/kg	M	< 0.001	✓
Aromatic TPH (C8-C10)	mg/kg	M	< 0.001	✓
Aromatic TPH (C10-C12)	mg/kg	M	< 1.0	✓
Aromatic TPH (C12-C16)	mg/kg	M	3.1	✓
Aromatic TPH (C16-C21)	mg/kg	M	18	✓
Aromatic TPH (C21-C35)	mg/kg	M	29	✓
Aromatic TPH (C5-C35)	mg/kg	M	49	✓
Benzene	mg/kg	M	< 0.001	✓
Toluene	mg/kg	M	< 0.001	✓
Ethylbenzene	mg/kg	M	< 0.001	✓
p & m-xylene	mg/kg	M	< 0.001	✓
o-xylene	mg/kg	M	< 0.001	✓
Asbestos	ND/D	I	Not-detected	✓

Visual Examination

The sample was described as a very dark greyish brown (Munsell Colour 10YR 3/2), dry, friable, moderately calcareous, SANDY LOAM with a weakly developed, very fine to fine granular structure. The sample was virtually stone free and no unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

✓	Meets General Landscape Specification
X	Fails General Landscape Specification
SL	SANDY LOAM Texture Class
M	MCERTS accredited method (& UKAS accredited method)
I	ISO 17025 accredited method
U	UKAS accredited method
G	GLP accredited method

This report presents the results of analysis for the sample submitted to our office, and it should be considered 'indicative' of the topsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing or waste designation purposes, especially after the topsoil has left the British Sugar factory.

[redacted]

Matthew Lowry
BSc MSc
Graduate Soil Scientist

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

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British Sugar Topsoil

Chemtest
The right chemistry to deliver results
Chemtest Ltd.
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

UKAS TESTING
2183

Final Report

Report No.:	19-16030-1
Initial Date of Issue:	17-May-2019
Client	CESL (Construction Environmental Services Ltd)
Client Address:	Stirling Way Market Deeping Peterborough Cambridgeshire PE1 8AS
Contact(s):	Andrew Kirby Lee Craighead
Project	South Fen Rd Bourne
Quotation No.:	
Order No.:	AR1966
No. of Samples:	4
Turnaround (Wkdays):	5
Date Approved:	17-May-2019
Approved By:	[redacted]
Details:	Martin Dyer, Laboratory Manager

Date Received:	13-May-2019
Date Instructed:	13-May-2019
Results Due:	17-May-2019

Chemtest
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Results - Soil

Project: South Fen Rd Bourne

Client: CESL (Construction Environmental Services Ltd)					**Chemtest Job No.:**	19-16030	19-16030	19-16030	19-16030
Quotation No.:					**Chemtest Sample ID.:**	824673	824674	824675	824676
Order No.: AR1966					Client Sample Ref.:	1	2	3	4
					Client Sample ID.:	1	2	3	4
					Sample Location:	SFR	SFR	SFR	SFR
					Sample Type:	SOIL	SOIL	SOIL	SOIL
					Date Sampled:	07-May-2019	07-May-2019	07-May-2019	07-May-2019
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Moisture	N	2030	%	0.020		24	27	18	30

Chemtest
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Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 19-16030
Chemtest Sample ID.: 824673
Client Sample Ref.: 1
Sample Location: SFR
Client Sample ID.: 1
Top Depth (m):
Bottom Depth (m):
Date Sampled: 07-May-2019
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	%		27				
Silt content	%		18				
Sand content	%		55				
Soil texture class		See Attached Chart	Sandy Clay Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	30	NO	YES	NO	NO
Clay 20-35%		5.0-20					
Stone Content	**% m/m**						
>2mm		0-30	36	NO			
>20mm		0-10	< 0.020	YES			
>50mm		0	< 0.020	YES			
Soil pH value		5.5-8.5	7.9	YES	NO	YES	YES
Carbonate (Calcareous only)	%		6.0				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	2200	YES			
Available Nutrient Content							
Nitrogen %		>0.15	1.1	YES	YES		YES
Extractable phosphorus	mg/l	16-140	9.8	NO	NO	YES	NO
Extractable potassium	mg/l	121-1500	210	YES	YES		YES
Extractable magnesium	mg/l	51-600	100	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	16.1/1	YES	YES	YES	YES
Exchangeable sodium	**%**	<15	0.54				
Available Calcium	mg/l		7400				
Available Sodium	mg/l		48				
Phytotoxic Contaminants (by soil pH)		**< 6.0** / **6.0-7.0** / **> 7.0**					
Zinc (Nitric Acid extract)	mg/kg	<200 / <200 / <300	57	YES			
Copper (Nitric Acid extract)	mg/kg	<100 / <135 / <200	23	YES			
Nickel (Nitric Acid extract)	mg/kg	<60 / <75 / <110	21	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			

Chemtest
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Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 19-16030
Chemtest Sample ID.: 824674
Client Sample Ref.: 2
Sample Location: SFR
Client Sample ID.: 2
Top Depth (m):
Bottom Depth (m):
Date Sampled: 07-May-2019
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	%		23				
Silt content	%		16				
Sand content	%		61				
Soil texture class		See Attached Chart	Sandy Clay Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	31	NO	NO	NO	NO
Clay 20-35%		5.0-20					
Stone Content	**% m/m**						
>2mm		0-30	28	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)	%		6.0				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	2100	YES			
Available Nutrient Content							
Nitrogen %		>0.15	1.3	YES	YES		YES
Extractable phosphorus	mg/l	16-140	12	NO	NO	YES	NO
Extractable potassium	mg/l	121-1500	230	YES	YES		YES
Extractable magnesium	mg/l	51-600	90	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	13.9/1	YES	YES	YES	YES
Exchangeable sodium	**%**	<15	0.46				
Available Calcium	mg/l		7100				
Available Sodium	mg/l		40				
Phytotoxic Contaminants (by soil pH)		**< 6.0** / **6.0-7.0** / **> 7.0**					
Zinc (Nitric Acid extract)	mg/kg	<200 / <200 / <300	58	YES			
Copper (Nitric Acid extract)	mg/kg	<100 / <135 / <200	24	YES			
Nickel (Nitric Acid extract)	mg/kg	<60 / <75 / <110	23	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			

Chemtest
The right chemistry to deliver results

Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 19-16030
Chemtest Sample ID.: 824675
Client Sample Ref.: 3
Sample Location: SFR
Client Sample ID.: 3
Top Depth (m):
Bottom Depth (m):
Date Sampled: 07-May-2019
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	%		15				
Silt content	%		18				
Sand content	%		68				
Soil texture class		See Attached Chart	Sandy Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	25	NO	YES	NO	NO
Clay 20-35%		5.0-20					
Stone Content	**% m/m**						
>2mm		0-30	13	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)	%		7.8				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	2400	YES			
Available Nutrient Content							
Nitrogen %		>0.15	1.0	YES	YES		YES
Extractable phosphorus	mg/l	16-140	9.1	NO	NO	YES	NO
Extractable potassium	mg/l	121-1500	130	YES	YES		YES
Extractable magnesium	mg/l	51-600	85	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	14.6/1	YES	YES	YES	YES
Exchangeable sodium	**%**	<15	0.63				
Available Calcium	mg/l		6500				
Available Sodium	mg/l		49				
Phytotoxic Contaminants (by soil pH)		**< 6.0** / **6.0-7.0** / **> 7.0**					
Zinc (Nitric Acid extract)	mg/kg	<200 / <200 / <300	37	YES			
Copper (Nitric Acid extract)	mg/kg	<100 / <135 / <200	19	YES			
Nickel (Nitric Acid extract)	mg/kg	<60 / <75 / <110	18	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			

Chemtest
The right chemistry to deliver results

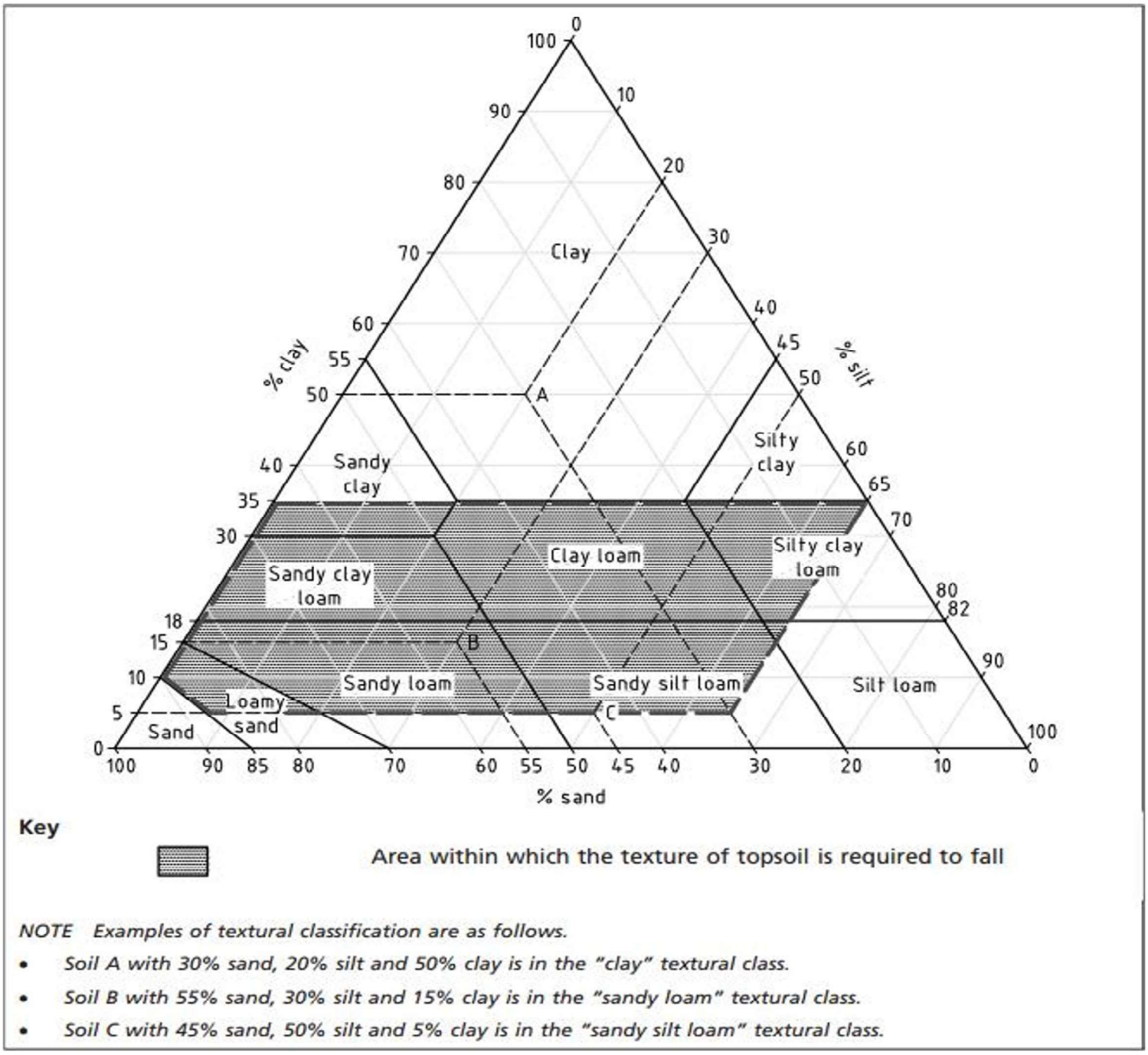
Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 19-16030
Chemtest Sample ID.: 824676
Client Sample Ref.: 4
Sample Location: SFR
Client Sample ID.: 4
Top Depth (m):
Bottom Depth (m):
Date Sampled: 07-May-2019
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	%		13				
Silt content	%		13				
Sand content	%		74				
Soil texture class		See Attached Chart	Sandy Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	27	NO	YES	NO	NO
Clay 20-35%		5.0-20					
Stone Content	**% m/m**						
>2mm		0-30	29	YES			
>20mm		0-10	< 0.020	YES			
>50mm		0	< 0.020	YES			
Soil pH value		5.5-8.5	7.8	YES	NO	YES	YES
Carbonate (Calcareous only)	%		1.8				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	2200	YES			
Available Nutrient Content							
Nitrogen %		>0.15	1.1	YES	YES		YES
Extractable phosphorus	mg/l	16-140	7.2	NO	NO	YES	NO
Extractable potassium	mg/l	121-1500	100	NO	NO		NO
Extractable magnesium	mg/l	51-600	85	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	14.3/1	YES	YES	YES	YES
Exchangeable sodium	**%**	<15	0.47				
Available Calcium	mg/l		7000				
Available Sodium	mg/l		39				
Phytotoxic Contaminants (by soil pH)		**< 6.0** / **6.0-7.0** / **> 7.0**					
Zinc (Nitric Acid extract)	mg/kg	<200 / <200 / <300	49	YES			
Copper (Nitric Acid extract)	mg/kg	<100 / <135 / <200	23	YES			
Nickel (Nitric Acid extract)	mg/kg	<60 / <75 / <110	22	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



Key

Area within which the texture of topsoil is required to fall

NOTE Examples of textural classification are as follows.

- *Soil A with 30% sand, 20% silt and 50% clay is in the "clay" textural class.*
- *Soil B with 55% sand, 30% silt and 15% clay is in the "sandy loam" textural class.*
- *Soil C with 45% sand, 50% silt and 5% clay is in the "sandy silt loam" textural class.*

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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.
2115	Total Nitrogen in Soils	Nitrogen	Determination by elemental analyser
2260	Carbonate	Carbonate	Titration
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.
2620	LOI 440	LOI 440	Determination of the proportion by mass that is lost from a soil by ignition at 440°C.

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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"

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 45 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