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Amended Report

Report No.:	23-17307-2		
Initial Date of Issue:	09-Jun-2023	**Date of Re-Issue:**	09-Jun-2023
Re-Issue Details:	This report has been revised and directly supersedes 23-17307-1 in its entirety		
Client	Southern Testing Laboratories Ltd		
Client Address:	Keeble House, Stuart Way East Grinstead West Sussex RH19 4QA		
Contact(s):	Results Timon Greenwood		
Project	GL8452 North Barn Farm, Worthing		
Quotation No.:		**Date Received:**	25-May-2023
Order No.:	GL8452_1	**Date Instructed:**	25-May-2023
No. of Samples:	1		
Turnaround (Wkdays):	10	**Results Due:**	08-Jun-2023
Date Approved:	09-Jun-2023	**Subcon Results Due:**	16-Jun-2023

Approved By:

[redacted]

Details: Stuart Henderson, Technical Manager

Results - Soil

Project: GL8452 North Barn Farm, Worthing

Client: Southern Testing Laboratories Ltd			Chemtest Job No.:		23-17307
Quotation No.:			Chemtest Sample ID.:		1644763
			Sample Location:		Batch No 5
			Sample Type:		SOIL
			Date Sampled:		12-May-2023
			Asbestos Lab:		DURHAM
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	29
Soil Colour	N	2040		N/A	Brown
Other Material	N	2040		N/A	Roots
Soil Texture	N	2040		N/A	Loam
pH	M	2010		4.0	8.3
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	< 0.40
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	6.5
Arsenic	M	2455	mg/kg	0.5	4.0
Cadmium	M	2455	mg/kg	0.10	< 0.10
Chromium	M	2455	mg/kg	0.5	7.2
Copper	M	2455	mg/kg	0.50	10
Mercury	M	2455	mg/kg	0.05	< 0.05
Nickel	M	2455	mg/kg	0.50	3.0
Lead	M	2455	mg/kg	0.50	20
Selenium	M	2455	mg/kg	0.25	< 0.25
Vanadium	U	2455	mg/kg	0.5	10
Zinc	M	2455	mg/kg	0.50	33
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50
Total Organic Carbon	M	2625	%	0.20	3.6
Total TPH >C6-C40	M	2670	mg/kg	10	< 10
Naphthalene	M	2700	mg/kg	0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.10	< 0.10
Fluorene	M	2700	mg/kg	0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10	< 0.10
Anthracene	M	2700	mg/kg	0.10	< 0.10
Fluoranthene	M	2700	mg/kg	0.10	< 0.10
Pyrene	M	2700	mg/kg	0.10	< 0.10
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10
Chrysene	M	2700	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10

Results - Soil

Project: GL8452 North Barn Farm, Worthing

Client: Southern Testing Laboratories Ltd			**Chemtest Job No.:**		23-17307
Quotation No.:			**Chemtest Sample ID.:**		1644763
			Sample Location:		Batch No 5
			Sample Type:		SOIL
			Date Sampled:		12-May-2023
			Asbestos Lab:		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0
Total Phenols	M	2920	mg/kg	0.10	0.18

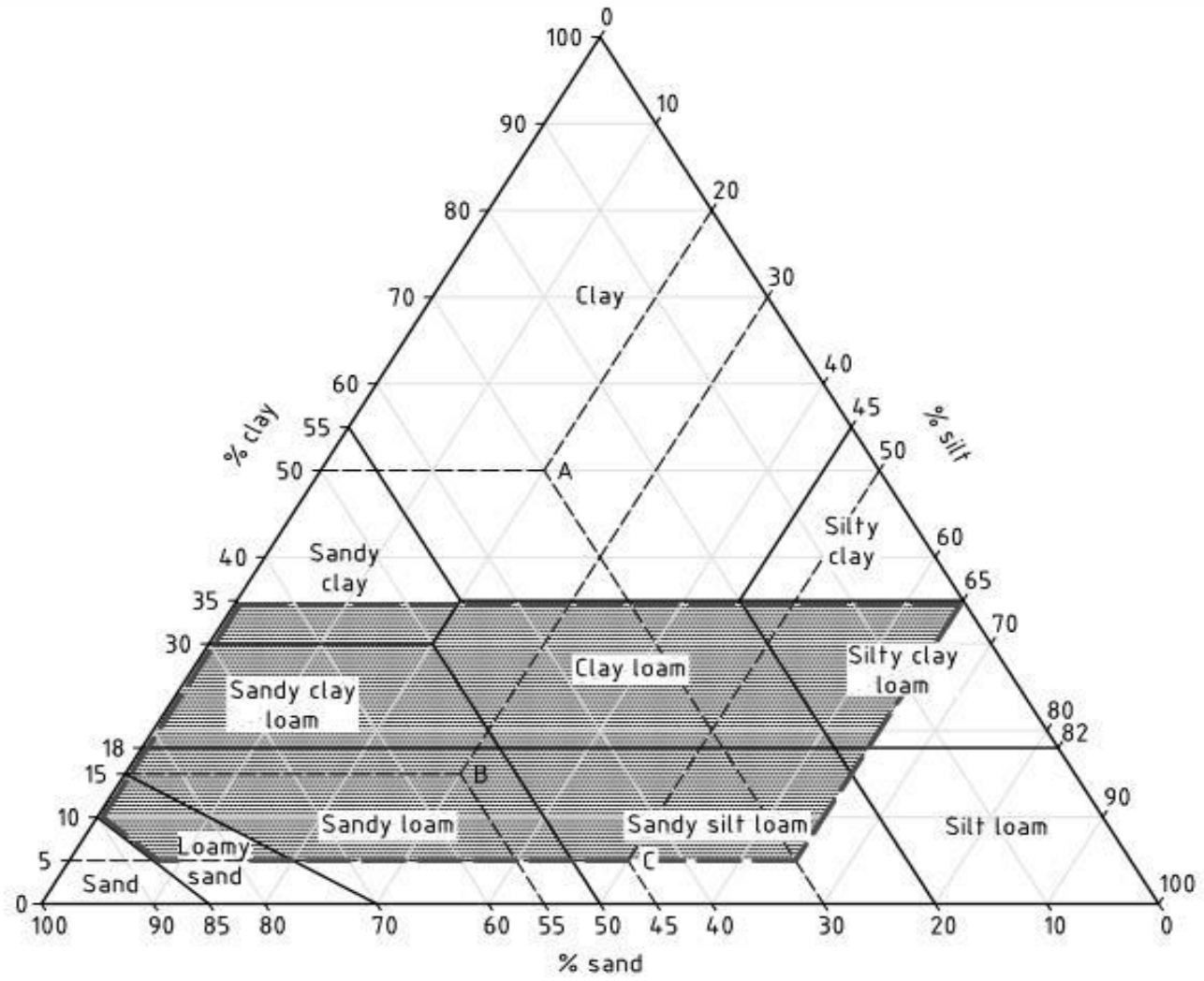
Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 23-17307
Chemtest Sample ID.: 1644763
Client Sample Ref.:
Sample Location: Batch No 5
Client Sample ID.:
Top Depth (m):
Bottom Depth (m):
Date Sampled: 12-May-2023
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 (Sub Contracted)	%		7.4				
Silt content (Sub Contracted)	%		34				
Sand content (Sub Contracted)	%		58				
Soil texture class		See Attached Chart	Sandy Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	8.9	YES	YES	YES	YES
Clay 20-35%		5.0-20					
Stone Content	% m/m						
>2mm (Sub Contracted)		0-30	3.7	YES			
>20mm (Sub Contracted)		0-10	< 100	YES			
>50mm (Sub Contracted)		0	< 100	YES			
Soil pH value		5.5-8.5	8.3	YES	YES	YES	YES
Carbonate (Calcareous only)	%		10				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	2900	YES			
Available Nutrient Content							
Nitrogen %		>0.15	0.39	YES	YES		YES
Extractable phosphorus	mg/l	16-140	78	YES	YES	YES	YES
Extractable potassium	mg/l	121-1500	1025	YES	YES		YES
Extractable magnesium	mg/l	51-600	250	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	13.4/1	YES	YES	YES	YES
Exchangeable sodium	%	<15	6.0				
Available Calcium	mg/l		470				
Available Sodium	mg/l		260				
Phytotoxic Contaminants (by soil pH)		**< 6.0** / **6.0-7.0** / **> 7.0**					
Zinc (Nitric Acid extract)	mg/kg	<200 / <200 / <300	48	YES			
Copper (Nitric Acid extract)	mg/kg	<100 / <135 / <200	12	YES			
Nickel (Nitric Acid extract)	mg/kg	<60 / <75 / <110	5.0	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.
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	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
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-diphenylcarbazide.
2620	LOI 440	LOI 440 Trommel Fines	Determination of the proportion by mass that is lost from a soil by ignition at 440°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
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; Dibenz[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)
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