



2183

Final Report

Report No.: 21-00412-1
Initial Date of Issue: 22-Jan-2021
Client Huperade Ltd
Client Address: Bridge House Farm
Brooks Drive
Timperley
Cheshire
WA15 7DQ
Contact(s): Lesley Cox
Project Soil Testing
Quotation No.:
Order No.:
No. of Samples: 3
Turnaround (Wkdays): 10
Date Approved: 22-Jan-2021

Date Received: 11-Jan-2021

Date Instructed: 11-Jan-2021

Results Due: 22-Jan-2021

Approved By:



Details: Glynn Harvey, Technical Manager

Results - Soil

Project: Soil Testing

Client: Huperade Ltd	Chemtest Job No.:				21-00412	21-00412	21-00412
Quotation No.:	Chemtest Sample ID.:				1122307	1122308	1122309
	Client Sample ID.:				1	2	3
	Sample Type:				SOIL	SOIL	SOIL
	Asbestos Lab:						COVENTRY
Determinand	Accred.	SOP	Units	LOD			
ACM Type	U	2192		N/A			-
Asbestos Identification	U	2192		N/A			No Asbestos Detected
ACM Detection Stage	U	2192		N/A			-
Moisture	N	2030	%	0.020	14	11	
Stones and Removed Materials	N	2030	%	0.020		< 0.020	
pH	U	2010		4.0		[A] 8.0	
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40		[A] 1.1	
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010		[A] 0.13	
Cyanide (Free)	U	2300	mg/kg	0.50		[A] < 0.50	
Cyanide (Total)	U	2300	mg/kg	0.50		[A] < 0.50	
Thiocyanate	U	2300	mg/kg	5.0		[A] < 5.0	
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50		[A] 4.5	
Sulphate (Total)	U	2430	%	0.010		[A] 0.14	
Arsenic	U	2450	mg/kg	1.0		13	
Cadmium	U	2450	mg/kg	0.10		0.31	
Chromium	U	2450	mg/kg	1.0		22	
Copper	U	2450	mg/kg	0.50		60	
Mercury	U	2450	mg/kg	0.10		0.53	
Nickel	U	2450	mg/kg	0.50		15	
Lead	U	2450	mg/kg	0.50		110	
Selenium	U	2450	mg/kg	0.20		0.33	
Zinc	U	2450	mg/kg	0.50		110	
Chromium (Hexavalent)	N	2490	mg/kg	0.50		< 0.50	
Organic Matter	U	2625	%	0.40		[A] 3.8	
Naphthalene	U	2700	mg/kg	0.10		[A] < 0.10	
Acenaphthylene	U	2700	mg/kg	0.10		[A] < 0.10	
Acenaphthene	U	2700	mg/kg	0.10		[A] < 0.10	
Fluorene	U	2700	mg/kg	0.10		[A] < 0.10	
Phenanthrene	U	2700	mg/kg	0.10		[A] 2.2	
Anthracene	U	2700	mg/kg	0.10		[A] 0.48	
Fluoranthene	U	2700	mg/kg	0.10		[A] 2.8	
Pyrene	U	2700	mg/kg	0.10		[A] 2.9	
Benzo[a]anthracene	U	2700	mg/kg	0.10		[A] 1.4	
Chrysene	U	2700	mg/kg	0.10		[A] 1.4	
Benzo[b]fluoranthene	U	2700	mg/kg	0.10		[A] 1.7	
Benzo[k]fluoranthene	U	2700	mg/kg	0.10		[A] 0.85	
Benzo[a]pyrene	U	2700	mg/kg	0.10		[A] 1.6	
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10		[A] 1.1	
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10		[A] 0.49	
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10		[A] 1.2	

Results - Soil

Project: Soil Testing

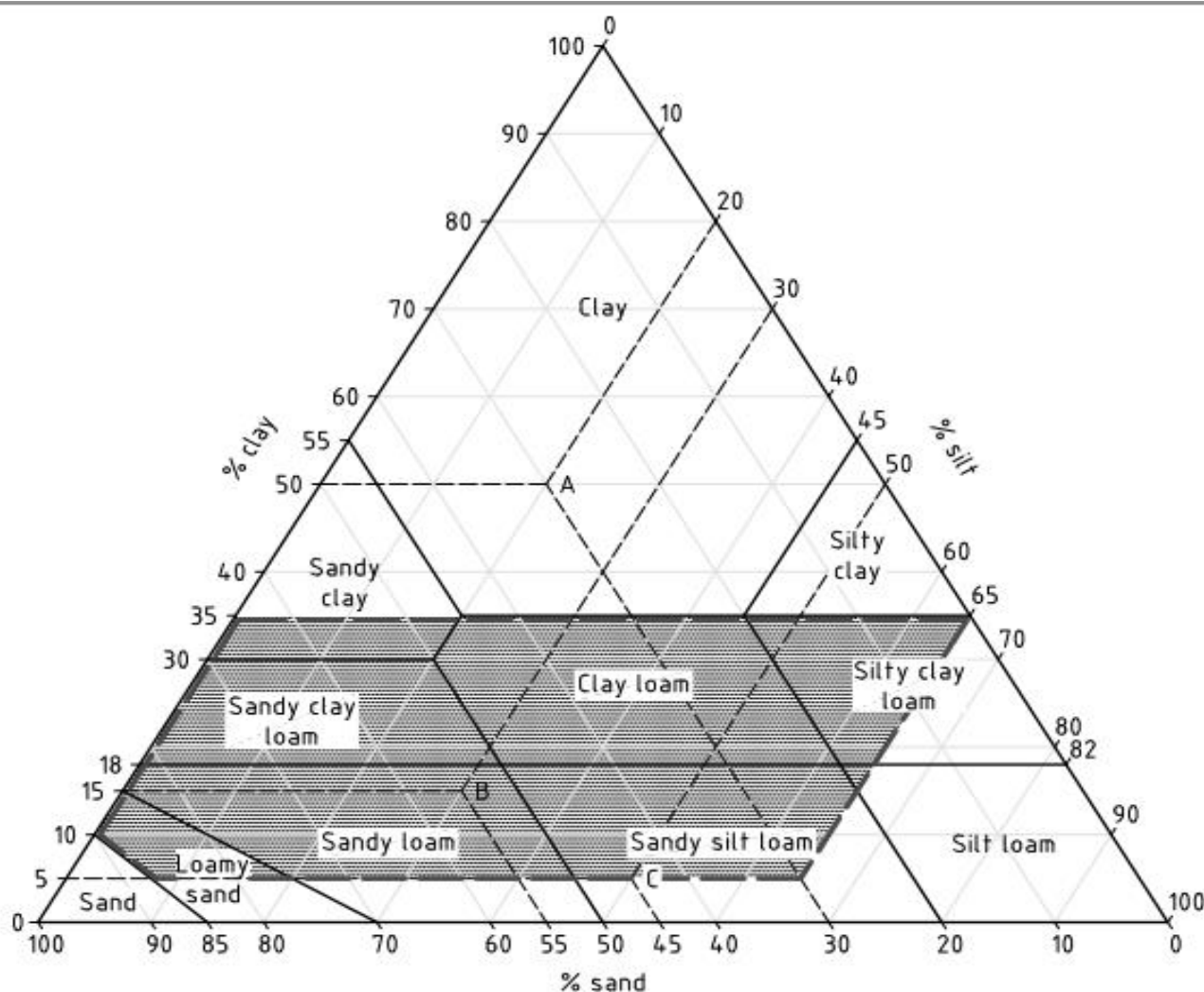
Client: Huperade Ltd	Chemtest Job No.:				21-00412	21-00412	21-00412
Quotation No.:	Chemtest Sample ID.:				1122307	1122308	1122309
	Client Sample ID.:				1	2	3
	Sample Type:				SOIL	SOIL	SOIL
	Asbestos Lab:						COVENTRY
Determinand	Accred.	SOP	Units	LOD			
Total Of 16 PAH's	U	2700	mg/kg	2.0		[A] 18	
Total Phenols	U	2920	mg/kg	0.30		< 0.30	

Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 21-00412
 Chemtest Sample ID.: 1122307
 Client Sample Ref.:
 Sample Location:
 Client Sample ID.: 1
 Top Depth (m):
 Bottom Depth (m):
 Date Sampled:
 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	%		19				
Sand content	%		68				
Soil texture class		See Attached Chart	Sandy Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	4.5	YES	YES	YES	YES
Clay 20-35%		5.0-20					
Stone Content	% m/m						
>2mm		0-30	7.3	YES			
>20mm		0-10	< 0.020	YES			
>50mm		0	< 0.020	YES			
Soil pH value		5.5-8.5	[A] 7.9	YES	NO	YES	YES
Carbonate (Calcareous only)	%		< 0.10				NO
Electrical Conductivity	µS/cm	If >3300 do ESP	[A] 2100	YES			
Available Nutrient Content							
Nitrogen %		>0.15	0.20	YES	YES		YES
Extractable phosphorus	mg/l	16-140	36	YES	YES	NO	YES
Extractable potassium	mg/l	121-1500	220	YES	YES		YES
Extractable magnesium	mg/l	51-600	95	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	13.2/1	YES	YES	YES	YES
Exchangeable sodium	%	<15	3.3				
Available Calcium	mg/l		2300				
Available Sodium	mg/l		100				
Phytotoxic Contaminants (by soil pH)		< 6.0	6.0-7.0	> 7.0			
Zinc (Nitric Acid extract)	mg/kg	<200	<200	<300	92	YES	
Copper (Nitric Acid extract)	mg/kg	<100	<135	<200	44	YES	
Nickel (Nitric Acid extract)	mg/kg	<60	<75	<110	13	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			

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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Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1122307		1			A	Plastic Bag
1122308		2			A	Amber Glass 250ml
1122308		2			A	Miscellaneous

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.
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
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
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.
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.
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"

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