



Final Report

Report No.: 24-18293

Initial Date of Issue: 21-Oct-2024

Client FLD limited

Client Address: Hayes Village
Nestle Ave
Hayes
UB3 4QF

Contact(s): David Furniss

Project Hayes Village

Quotation No.: Q24-34174

Date Received: 07-Oct-2024

Order No.: 1197

Date Instructed: 07-Oct-2024

No. of Samples: 2

Turnaround (Wkdays): 10

Results Due: 21-Oct -2024

Date Approved: 21-Oct-2024

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: Hayes Village

Client: FLD Limited Ltd		Chemtest Job No.:		24-18293		
Quotation No.: Q24-34174		Chemtest Sample ID.:		1817325		
Order No.: 1197		Client Sample Ref.:		Topsoil		
		Client Sample ID.:		Top		
		Sample Type:		SOIL		
		Date Sampled:		03-Oct-2024		
		Asbestos Lab:		DURHAM		
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
ACM Type		U	2192		N/A	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected
Moisture		N	2030	%	0.020	14
Soil Colour		N	2040		N/A	Brown
Other Material		N	2040		N/A	Stones and Roots
Soil Texture		N	2040		N/A	Sand
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	2.8
Cyanide (Total)		M	2300	mg/kg	0.50	0.80
Arsenic		M	2455	mg/kg	0.5	33
Cadmium		M	2455	mg/kg	0.10	0.10
Chromium		M	2455	mg/kg	0.5	12
Copper		M	2455	mg/kg	0.50	20
Mercury		M	2455	mg/kg	0.05	0.16
Nickel		M	2455	mg/kg	0.50	10
Lead		M	2455	mg/kg	0.50	54
Selenium		M	2455	mg/kg	0.25	0.37
Zinc		M	2455	mg/kg	0.50	60
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50
Aliphatic VPH >C5-C6	HS 2D AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C6-C7	HS 2D AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C7-C8	HS 2D AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS 2D AL	N	2780	mg/kg	0.10	< 0.10
Aliphatic VPH >C8-C10	HS 2D AL	U	2780	mg/kg	0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS 2D AL	U	2780	mg/kg	0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH 2D AL #1	M	2690	mg/kg	2.00	< 2.0
Aliphatic EPH >C12-C16 MC	EH 2D AL #1	M	2690	mg/kg	1.00	< 1.0
Aliphatic EPH >C16-C21 MC	EH 2D AL #1	M	2690	mg/kg	2.00	5.6
Aliphatic EPH >C21-C35 MC	EH 2D AL #1	M	2690	mg/kg	3.00	43
Aliphatic EPH >C35-C40 MC	EH 2D AL #1	N	2690	mg/kg	10.00	15
Total Aliphatic EPH >C10-C35 MC	EH 2D AL #1	M	2690	mg/kg	5.00	49
Total Aliphatic EPH >C10-C40 MC	EH 2D AL #1	N	2690	mg/kg	10.00	64
Aromatic VPH >C5-C7	HS 2D AR	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C7-C8	HS 2D AR	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C8-C10	HS 2D AR	U	2780	mg/kg	0.05	< 0.05
Total Aromatic VPH >C5-C10	HS 2D AR	U	2780	mg/kg	0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH 2D AR #1	U	2690	mg/kg	1.00	< 1.0
Aromatic EPH >C12-C16 MC	EH 2D AR #1	U	2690	mg/kg	1.00	4.3
Aromatic EPH >C16-C21 MC	EH 2D AR #1	U	2690	mg/kg	2.00	32
Aromatic EPH >C21-C35 MC	EH 2D AR #1	U	2690	mg/kg	2.00	35
Aromatic EPH >C35-C40 MC	EH 2D AR #1	N	2690	mg/kg	1.00	37

Results - Soil

Project: Hayes Village

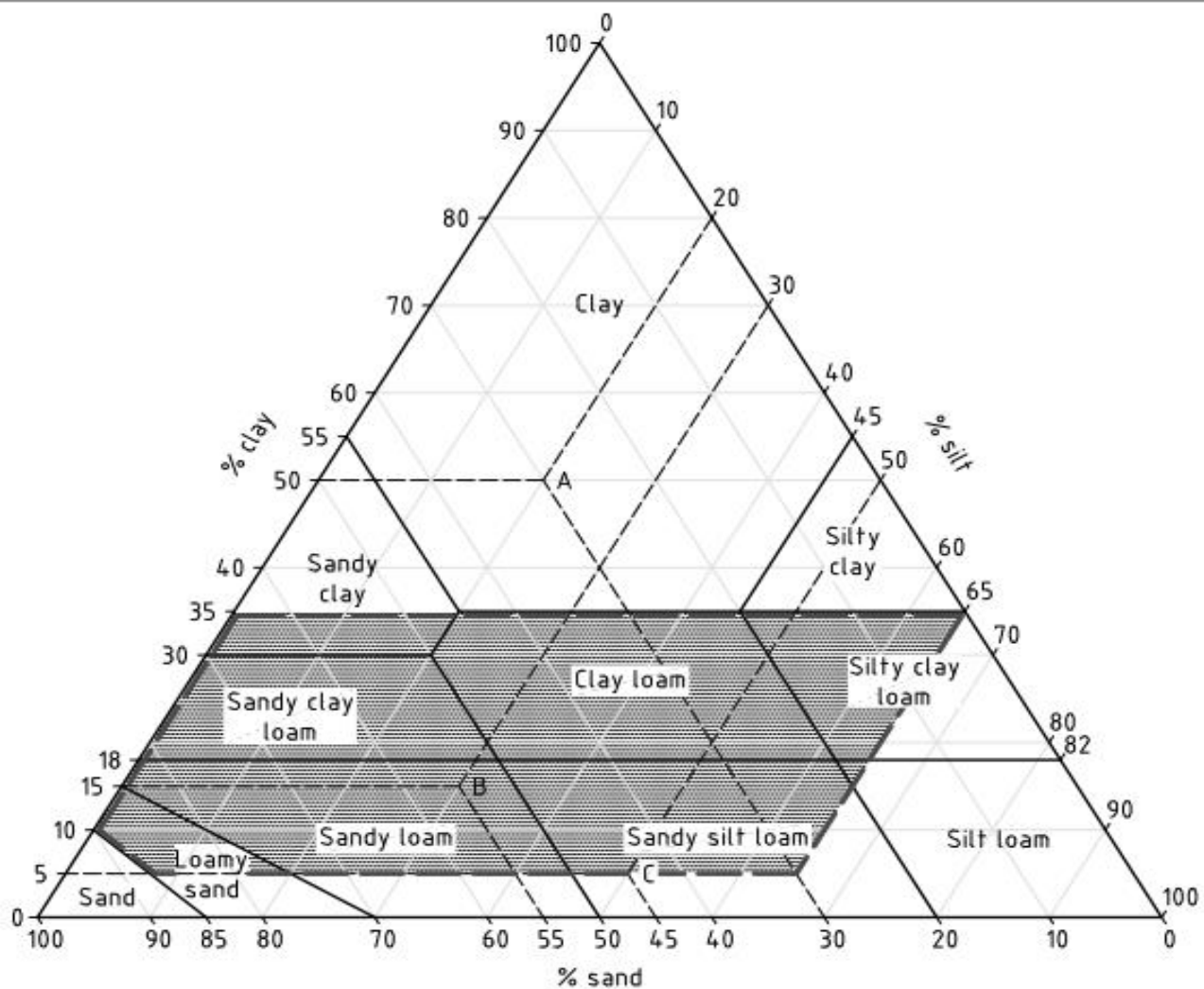
Client: FLD Limited		Chemtest Job No.:		24-18293	
Quotation No.: Q24-34174		Chemtest Sample ID.:		1817235	
Order No.: 1197		Client Sample Ref.:		Topsoil	
		Client Sample ID.:		Top	
		Sample Type:		SOIL	
		Date Sampled:		03-Oct-2024	
		Asbestos Lab:		DURHAM	
Determinand	HWOL Code	Accred.	SOP	Units	LOD
Total Aromatic EPH >C10-C35 MC	EH 2D AR #1	U	2690	mg/kg	5.00
Total Aromatic EPH >C10-C40 MC	EH 2D AR #1	N	2690	mg/kg	10.00
Total VPH >C5-C10	HS 2D Total	U	2780	mg/kg	0.50
Total EPH >C10-C35 MC	EH 2D Total #1	U	2690	mg/kg	10.00
Total EPH >C10-C40 MC	EH 2D Total #1	N	2690	mg/kg	10.00
Benzene		M	2760	µg/kg	1.0
Toluene		M	2760	µg/kg	1.0
Ethylbenzene		M	2760	µg/kg	1.0
m & p-Xylene		M	2760	µg/kg	1.0
o-Xylene		M	2760	µg/kg	1.0
Naphthalene		M	2800	mg/kg	0.10
Acenaphthylene		N	2800	mg/kg	0.10
Acenaphthene		M	2800	mg/kg	0.10
Fluorene		M	2800	mg/kg	0.10
Phenanthrene		M	2800	mg/kg	0.10
Anthracene		M	2800	mg/kg	0.10
Fluoranthene		M	2800	mg/kg	0.10
Pyrene		M	2800	mg/kg	0.10
Benzo[a]anthracene		M	2800	mg/kg	0.10
Chrysene		M	2800	mg/kg	0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0
Total Phenols		M	2920	mg/kg	0.10

Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 24-18293
Chemtest Sample ID.: 1817235
Client Sample Ref.: Topsoil
Sample Location: Hayes Village
Client Sample ID.: Top
Top Depth (m):
Bottom Depth (m):
Date Sampled: 03-Oct-2024
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)	%				5.7				
Silt content (Sub Contracted)	%				7.1				
Sand content (Sub Contracted)	%				87				
Soil texture class		See Attached Chart			Loamy Sand	YES			
Mass Loss on Ignition									
Clay 5-20%			3.0-20		4.4	YES	YES	YES	YES
Clay 20-35%			5.0-20						
Stone Content	% m/m								
>2mm (Sub Contracted)			0-30		7.0	YES			
>20mm (Sub Contracted)			0-10		< 0.10	YES			
>50mm (Sub Contracted)			0		< 0.10	YES			
Soil pH value			5.5-8.5		7.5	YES	NO	YES	YES
Carbonate (Calcareous only)	%				< 0.10				NO
Electrical Conductivity	µS/cm	If >3300 do ESP			3300	YES			
Available Nutrient Content									
Nitrogen %			>0.15		0.34	YES	YES		YES
Extractable phosphorus	mg/l		16-140		61	YES	YES	NO	YES
Extractable potassium	mg/l		121-1500		1500	YES	YES		YES
Extractable magnesium	mg/l		51-600		240	YES	YES		YES
Carbon : Nitrogen Ratio			<20:1		7.6/1	YES	YES	YES	YES
Exchangeable sodium	%		<15		5.1				
Available Calcium	mg/l				490				
Available Sodium	mg/l				220				
Phytotoxic Contaminants (by soil pH)		< 6.0	6.0-7.0	> 7.0					
Zinc (Nitric Acid extract)	mg/kg	<200	<200	<300	56	YES			
Copper (Nitric Acid extract)	mg/kg	<100	<135	<200	18	YES			
Nickel (Nitric Acid extract)	mg/kg	<60	<75	<110	8.6	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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Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	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 <30°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.	
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection	
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.	
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	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-MS	
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

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

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 EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ 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.

Water Sample Category Key for Accreditation

DW - Drinking Water

GW - Ground Water

LE - Land Leachate

Report Information

NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com