



Final Report

Report No.: 24-05175-1

Initial Date of Issue: 27-Feb-2024

Re-Issue Details:

Client West Norfolk and Kings Lynn Council

Client Address: Kings Court
Chapel Street
Norfolk
PE30 1EX

Contact(s): Fabia Pollard

Project CL/24/001/FP Chequers

Quotation No.: **Date Received:** 21-Feb-2024

Order No.: # **Date Instructed:** 21-Feb-2024

No. of Samples: 5

Turnaround (Wkdays): 5 **Results Due:** 27-Feb-2024

Date Approved: 27-Feb-2024

Approved By:

Details: Stuart Henderson, Technical
Manager

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

Results - Soil

Project: CL/24/001/FP Chequers

Client: West Norfolk and Kings Lynn Council		Chemtest Job No.:				24-05175	24-05175	24-05175	24-05175	24-05175
Quotation No.:		Chemtest Sample ID.:				1769313	1769314	1769315	1769316	1769317
Order No.:		Client Sample Ref.:				Topsoil	Fruit Bed	Comp/Soil	Soil	Topsoil
		Client Sample ID.:				S1	S2	S3	S3	S4
		Sample Location:				Chequers	Chequers	Chequers	Chequers	Chequers
		Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):				0.00	0.00	0.00	0.40	0.00
		Bottom Depth (m):				0.10	0.10	0.10	0.44	0.10
		Date Sampled:				19-Feb-2024	19-Feb-2024	19-Feb-2024	19-Feb-2024	19-Feb-2024
		Time Sampled:				10:30	10:30	10:30	10:30	10:30
Determinand	HWOL Code	Accred.	SOP	Units	LOD					
Moisture		N	2030	%	0.020	26	20	36	21	29
Stones and Removed Materials		N	2030	%	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Stones and Roots	Stones and Roots	Stones and Roots	Roots and Stones
Soil Texture		N	2040		N/A	Loam	Loam	Loam	Loam	Loam
pH at 20C		M	2010		4.0	7.2	6.8	7.5	7.6	6.8
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	1.2	0.82	1.6	1.9	0.96
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	< 0.010	0.040	< 0.010	< 0.010
Cyanide (Free)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	0.60	< 0.50	0.70
Thiocyanate		M	2300	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	3.7	3.6	3.1	2.5	3.0
Sulphate (Total)		U	2430	%	0.010	0.088	0.056	0.28	0.12	< 0.010
Arsenic		M	2455	mg/kg	0.5	12	8.6	10	9.0	16
Cadmium		M	2455	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium		M	2455	mg/kg	0.5	14	10	15	10	18
Copper		M	2455	mg/kg	0.50	9.8	7.3	22	9.2	15
Mercury		M	2455	mg/kg	0.05	0.07	0.15	0.12	0.09	0.43
Nickel		M	2455	mg/kg	0.50	11	7.7	10	7.2	15
Lead		M	2455	mg/kg	0.50	53	40	53	35	63
Selenium		M	2455	mg/kg	0.25	0.38	< 0.25	0.43	0.31	0.51
Zinc		M	2455	mg/kg	0.50	160	69	89	75	150
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	4.4	4.9	15	3.8	14
Total Organic Carbon		M	2625	%	0.20	2.5	2.8	8.5	2.2	8.0
Naphthalene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.69	0.31	< 0.10
Anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.65	< 0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	0.20	0.23	2.3	0.94	< 0.10
Pyrene		M	2800	mg/kg	0.10	0.21	0.24	2.3	0.82	< 0.10
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10	2.5	0.41	< 0.10

Results - Soil

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Determinand	HWOL Code	Accred.	SOP	Units	LOD					
Chrysene		M	2800	mg/kg	0.10	< 0.10	< 0.10	2.2	0.42	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	2.9	0.63	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	2.4	0.22	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10	2.6	0.43	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10	3.0	0.39	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10	2.3	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10	< 0.10	2.9	0.41	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0	< 2.0	27	5.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10	0.13	< 0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
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	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
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.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
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.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
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

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

Water Sample Category Key for Accreditation

DW - Drinking Water

GW - Ground Water

LE - Land Leachate

NA - Not Applicable

PL - Prepared Leachate

PW - Processed Water

Report Information

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

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