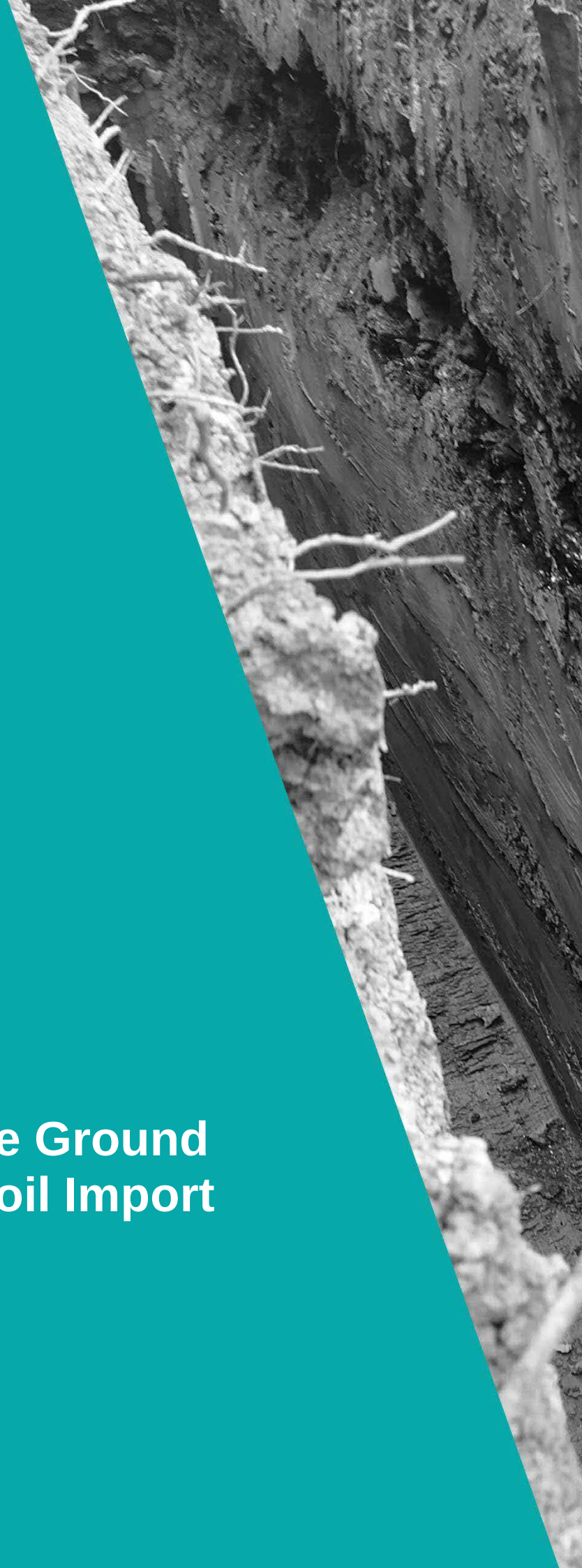
Eastwood
CONSULTING ENGINEERS



Verification of Made Ground Excavation & Topsoil Import

Vale House, Vale Avenue, Horwich

Consensus

12 March 2024

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS
mail@eastwoodce.com
0114 255 4554
eastwoodce.com

Ian Timmins
c/o Consensus
3 The Courtyards
Phoenix Square
Wyncolls Road
Colchester CO4 9PE

47800-ECE-XX-XX-RP-C-003

12 March 2024

Dear Ian,

Vale House, Vale Road, Horwich

Eastwood Consulting Engineers (ECE) have been appointed by Consensus to carry out verification of the removal of made ground below soft landscaped areas and conduct chemical testing of topsoil that is to be imported and installed into the landscaping.

ECE have completed an 'Implementation Plan, Issue 2' for the site, referenced KE/DD/47800-001 and dated 4 April 2023 and 'Report on Additional Chemical Testing', referenced 47800-ECE-XX-XX-RP-C-0002 and dated 13 April 2023. This assessment should be read in conjunction with this Implementation Plan.

The 0.2 hectare site is located north of Vale Avenue in Horwich. The site is currently occupied by a care home, located in the centre-east of the site with associated areas of hard and soft landscaping. It is proposed to construct a new care home building in the north of the site, and also create a new car park to the south of the existing building.

Removal of Made Ground

The Implementation Plan notes the made ground should be capped where it underlies proposed areas of landscaping, or removed from site to negate the need for capping. The contractor chose to remove the made ground offsite. There are a number of root protection zones (RPZs) which surrounded the site. It has been agreed with the Tree Protection Officer that no excavation work can take place within these zones.

ECE attended site on 14 February 2024 to determine with the contractor the level of the natural ground. An approximately 2 by 2 m area of proposed landscaping had been excavated by the

time of our visit, to a depth of 0.4 m. The made ground consisted of a grey or black gravel containing brick, shale, coal, clinker, sandstone, cement. Natural brown sandy clay / clayey sand was visible at the base of the excavation.

The contractor then commenced excavating made ground from the remainder of the landscaping, and ECE visited again on 20 February 2024 to verify the works. ECE confirm natural ground was present at the base of the stripped areas. To the east of the new building, a small area had not been excavated; this area contained a newly imported stockpile of topsoil ready for placement. This stockpile was subsequently moved and the area extending up to the root protection zone to the north excavated to natural ground.

The appended drawing Approximate Extent of Made Ground Removal shows the areas which have been verified.

Waste transfer tickets have been provided, some of which refer to the made ground arisings were removed from site.

Chemical Testing of Excavation

As per the recommendations in our Implementation Plan, selected samples have been taken from the bases of the excavations, as well as two samples from the sides of each area were submitted for chemical testing for lead only (the contaminants of concern).

Comparing the results to the assessment value for a residential without home-grown produce end use (i.e. 200 mg/kg), one sample taken from the western wall of the western excavation recorded a lead concentration of 210 mg/kg, in excess of the assessment value. All other samples did not record lead concentrations in excess of 140 mg/kg. Although this western sample recorded a slightly elevated concentration, the material underlies a root protection zone where excavation cannot take place.

On this basis, it can be considered that the made ground below proposed areas of landscaping outside of root protection zones has been adequately removed, and a ‘capping’ is no longer required.

Chemical Suitablity of Imported Topsoil

Topsoil from a site in Astley, Wigan is due to be imported to the site. Freeland Horticulture previously sampled this topsoil and conducted one chemical test. This test recorded no

asbestos fibres and no chemical determinants exceeded their relevant assessment values. The texture recorded indicates it would be compliant with multipurpose grade topsoil.

ECE collected four samples from the stockpile which had been imported to site. The material is described as a brown, slightly gravelly clayey sand. The results are appended (Eurofins Chemtest Report 24-05756-1); an average total organic carbon concentration of 2.43% has been recorded, which is equivalent to a soil organic matter content of 4.2%. Assessment values derived using 2.5% SOM have been used in this assessment.

No asbestos fibres were detected, and none of the tested determinands exceeded the assessment values.

The certificate can be used to certify up to 200 m^3 of material. If more is to be imported, then additional samples will be required.

Conclusion

The removal of the made ground from below proposed areas of landscaping has been verified, and the topsoil intended to be used within these areas is considered chemically suitable for use. No other verification works in relation to capping are considered necessary.

Yours sincerely,

[redacted]

Kate Edwards

Enc Photographic Record

Approximate Extent of Made Ground Removal dwg 47800-ECE-XX-XX-DR-C-0002

Eurofins Chemtest Report 24-05756-1

Overview of eastern stripped area; topsoil stockpile in distance, which was later removed with underlying made ground excavated. Looking northeast

Overview of western stripped area, with spoil heap to be removed. Looking north

Prepared	JDO	**Checked**	KE	**Job No.**	47800	**Date**	20/02/2024	**Photograph No.**	**1&2**

VALE HOUSE, VALE AVENUE,

LMO CONSTRUCTION

SITE PHOTOGRAPHS

Eastwood
CONSULTING ENGINEERS
St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS
T: 0114 255 4554
E: mail@eastwoodce.com
eastwoodce.com

Southern wall of the western stripped area showing made ground of gravel and clinker.

Clinker in eastern wall of the western stripped area.

Prepared	JDO	**Checked**	KE	**Job No.**	47800	**Date**	20/02/2024	**Photograph No.**	**3&4**

VALE HOUSE, VALE AVENUE,

LMO CONSTRUCTION

SITE PHOTOGRAPHS

Eastwood
CONSULTING ENGINEERS

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS

T: 0114 255 4554
E: mail@eastwoodce.com
eastwoodce.com

Northern side of the western stripped area, south of the existing grassed area. Made ground comprising brick, concrete clinker gravel.

Base of eastern stripped area showing natural ground. Looking north.

Prepared	JDO	**Checked**	KE	**Job No.**	47800	**Date**	20/02/2024	**Photograph No.**	**5&6**

VALE HOUSE, VALE AVENUE,

LMO CONSTRUCTION

SITE PHOTOGRAPHS

Eastwood
CONSULTING ENGINEERS

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS

T: 0114 255 4554
E: mail@eastwoodce.com
eastwoodce.com

Eastern wall of the eastern stripped area showing made ground below thin topsoil on site boundary.

Overview of the southern wall of the eastern stripped area. Looking southeast.

Prepared	JDO	**Checked**	KE	**Job No.**	47800	**Date**	20/02/2024	**Photograph No.**	**7&8**

VALE HOUSE, VALE AVENUE,

LMO CONSTRUCTION

SITE PHOTOGRAPHS

Eastwood
CONSULTING ENGINEERS

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS

T: 0114 255 4554
E: mail@eastwoodce.com
eastwoodce.com

North eastern area; topsoil stockpile present, which was subsequently moved, and made ground below excavated.

Stripped north eastern area.

Prepared	JDO	Checked	KE	Job No.	47800	Date	20/02/2024	Photograph No.	9&10

VALE HOUSE, VALE AVENUE,

LMO CONSTRUCTION

SITE PHOTOGRAPHS

Eastwood
CONSULTING ENGINEERS
St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS
T: 0114 255 4554
E: mail@eastwoodce.com
eastwoodce.com

Topsoil stockpile in west of the site. Looking west.

Prepared	JDO	**Checked**	KE	**Job No.**	47800	**Date**	20/02/2024	**Photograph No.**	**11**

VALE HOUSE, VALE AVENUE,

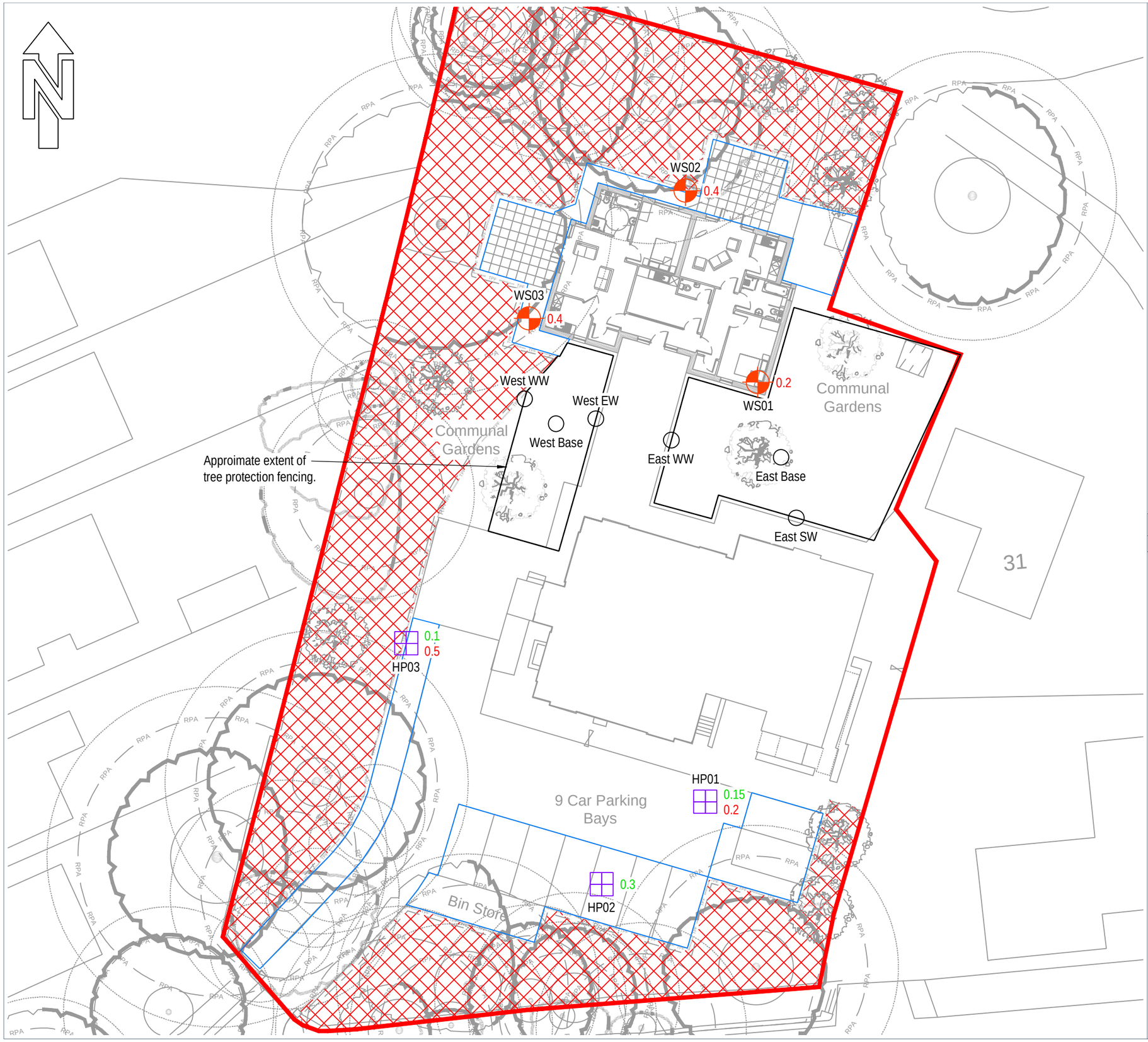
LMO CONSTRUCTION

SITE PHOTOGRAPHS

Eastwood
CONSULTING ENGINEERS

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS

T: 0114 255 4554
E: mail@eastwoodce.com
eastwoodce.com



1. The site layout is taken from Barnes Associates Ltd, Tree Protection Plan, Drawing No BA10624TPP, revision B, dated 06/05/2021.

Key:

- Site boundary.
- Approximate location of window sample borehole completed by GRM on 21 June 2018.
- Approximate location of hand pit excavated by ECE on 16 March 2023.
- 0.15 — Depth to base of topsoil (m).
- 0.2 — Depth to base of made ground (m).
- Approximate location of excavation sample, taken by Eastwood CE on 20 February 2024.
- Approximate extent of made ground removal, undertaken in February 2024.
- Approximate extent of root protection zone.
- Approximate extent of tree precautionary zone.

REV	DESCRIPTION	SIG	CHK	DATE
P01	First Issue.	JL	KE	12.03.2024

CONSENSUS

VALE HOUSE, VALE AVENUE, HORWICH

APPROXIMATE EXTENT OF MADE GROUND REMOVAL

Eastwood
CONSULTING ENGINEERS
St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS
T: 0114 255 4554
E: mail@eastwoodce.com
eastwoodce.com

ECE PROJECT No	SCALE AT A3	STATUS	SUITABLE FOR
47800	1:250	S0	Initial

DRAWING NUMBER: 47800 - ECE - XX - XX - DR - C - 0002 (Project - Originator - Zone - Level - Type - Role - Number) REV: P01

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.: 24-05756-1

Initial Date of Issue: 01-Mar-2024

Re-Issue Details:

Client Eastwood & Partners

Client Address: [redacted]

Contact(s): Jack Ditchfield-Ogle

Project 47800 Vale House, Vale Avenue

Quotation No.:

Date Received: 26-Feb-2024

Order No.:

Date Instructed: 26-Feb-2024

No. of Samples: 10

Turnaround (Wkdays): 5

Results Due: 01-Mar-2024

Date Approved: 01-Mar-2024

Approved By: [redacted]

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: 47800 Vale House, Vale Avenue

Client: Eastwood & Partners				**Chemtest Job No.:**		24-05756	24-05756	24-05756	24-05756	24-05756	24-05756	24-05756	24-05756
Quotation No.:				**Chemtest Sample ID.:**		1771715	1771716	1771717	1771718	1771719	1771720	1771721	1771722
				Client Sample ID.:		West Base	East Base	East SW	East WW	West EW	West WW	T1	T2
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Date Sampled:		20-Feb-2024	20-Feb-2024	20-Feb-2024	20-Feb-2024	20-Feb-2024	20-Feb-2024	20-Feb-2024	20-Feb-2024
				Asbestos Lab:								DURHAM	DURHAM
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type		U	2192		N/A							-	-
Asbestos Identification		U	2192		N/A							No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020							24	14
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Stones and Roots	Stones	Stones	Stones	Stones and Roots	Stones and Roots	Stones and Roots
Soil Texture		N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
pH at 20C		M	2010		4.0							8.6	8.8
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010							0.019	0.025
Total Sulphur		U	2175	%	0.010							0.031	0.027
Sulphate (Acid Soluble)		U	2430	%	0.010							0.044	0.030
Arsenic		M	2455	mg/kg	0.5							1.7	2.3
Cadmium		M	2455	mg/kg	0.10							< 0.10	< 0.10
Chromium		M	2455	mg/kg	0.5							5.1	6.0
Copper		M	2455	mg/kg	0.50							8.5	15
Mercury		M	2455	mg/kg	0.05							< 0.05	< 0.05
Nickel		M	2455	mg/kg	0.50							6.5	7.1
Lead		M	2455	mg/kg	0.50	42	71	59	140	73	210	23	150
Selenium		M	2455	mg/kg	0.25							< 0.25	< 0.25
Zinc		M	2455	mg/kg	0.50							23	31
Chromium (Hexavalent)		N	2490	mg/kg	0.50							< 0.50	< 0.50
Total Organic Carbon		M	2625	%	0.20							2.4	1.3
Naphthalene		M	2800	mg/kg	0.10							0.57	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10							< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10							0.44	< 0.10
Fluorene		M	2800	mg/kg	0.10							0.41	< 0.10
Phenanthrene		M	2800	mg/kg	0.10							2.6	2.2
Anthracene		M	2800	mg/kg	0.10							0.64	0.54
Fluoranthene		M	2800	mg/kg	0.10							2.2	2.1
Pyrene		M	2800	mg/kg	0.10							2.0	1.8
Benzo[a]anthracene		M	2800	mg/kg	0.10							0.91	0.82
Chrysene		M	2800	mg/kg	0.10							0.81	0.98
Benzo[b]fluoranthene		M	2800	mg/kg	0.10							0.98	0.89
Benzo[k]fluoranthene		M	2800	mg/kg	0.10							0.44	0.39
Benzo[a]pyrene		M	2800	mg/kg	0.10							0.87	0.77
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10							0.47	0.50
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10							< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10							0.58	0.51
Total Of 16 PAH's		N	2800	mg/kg	2.0							14	12

Results - Soil

Project: 47800 Vale House, Vale Avenue

Client: Eastwood & Partners				**Chemtest Job No.:**		24-05756	24-05756
Quotation No.:				**Chemtest Sample ID.:**		1771723	1771724
				Client Sample ID.:		T3	T4
				Sample Type:		SOIL	SOIL
				Date Sampled:		20-Feb-2024	20-Feb-2024
				Asbestos Lab:		DURHAM	DURHAM
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**		
ACM Type		U	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	23	17
Soil Colour		N	2040		N/A	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones
Soil Texture		N	2040		N/A	Sand	Sand
pH at 20C		M	2010		4.0	8.9	8.6
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.020	0.031
Total Sulphur		U	2175	%	0.010	0.030	0.034
Sulphate (Acid Soluble)		U	2430	%	0.010	0.034	0.040
Arsenic		M	2455	mg/kg	0.5	1.6	2.9
Cadmium		M	2455	mg/kg	0.10	< 0.10	< 0.10
Chromium		M	2455	mg/kg	0.5	4.7	7.8
Copper		M	2455	mg/kg	0.50	9.5	15
Mercury		M	2455	mg/kg	0.05	< 0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	4.7	7.9
Lead		M	2455	mg/kg	0.50	24	130
Selenium		M	2455	mg/kg	0.25	< 0.25	< 0.25
Zinc		M	2455	mg/kg	0.50	34	49
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50
Total Organic Carbon		M	2625	%	0.20	3.1	2.9
Naphthalene		M	2800	mg/kg	0.10	< 0.10	0.99
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	0.47
Fluorene		M	2800	mg/kg	0.10	< 0.10	0.44
Phenanthrene		M	2800	mg/kg	0.10	1.5	2.9
Anthracene		M	2800	mg/kg	0.10	0.35	0.66
Fluoranthene		M	2800	mg/kg	0.10	1.6	2.4
Pyrene		M	2800	mg/kg	0.10	1.3	2.2
Benzo[a]anthracene		M	2800	mg/kg	0.10	0.59	1.0
Chrysene		M	2800	mg/kg	0.10	0.57	1.1
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	0.65	1.0
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	0.22	0.41
Benzo[a]pyrene		M	2800	mg/kg	0.10	0.58	0.95
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	0.33	0.61
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	0.39	0.68
Total Of 16 PAH's		N	2800	mg/kg	2.0	8.1	16

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	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
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-diphenylcarbazide.	
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	

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

Eastwood

CONSULTING ENGINEERS

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS
mail@eastwoodce.com
0114 255 4554
eastwoodce.com