

Dharmesh Mistry
 Gleeson Developments Ltd
 First Floor, Unit 1 Silkwood Park
 Fryers Way
 Ossett
 Wakefield WF5 9TJ

CAT/KE/DN/42177-009

23 January 2019

Dear Dharmesh,

'Calder View', Lower Hopton, Mirfield

We are writing to report on the capping placed in the garden associated with plots 201, 202, 217 and 218. An Implementation Plan for this site has been prepared by Lithos Consulting (referenced 1082/3A, dated July 2017), which states that a clean capping layer of 600 mm, including a minimum of 100 mm of topsoil, should be placed above any made ground which is to remain beneath gardens and areas of soft landscaping.

Verification of Capping Thickness

We previously visited site on 20 November 2018 and dug one pit in the rear garden of plot 217 and 218. The capping thickness within each of these plots was found to be insufficient (510 and 530 mm respectively), thought to be due to settling of the capping materials due to poor weather conditions. We informed site that additional topsoil would be required within these plots in order to meet the required capping thickness of 600 mm.

We returned to site on 18 January 2019 to verify the depth of capping within plots 217 and 218 as well as 201 and 202. The depths of the materials encountered are shown in the following table. Photographs of the verification pit and the gardens are attached.

Plot	Description	Thickness (mm)	Total Thickness Encountered (mm)
201	Topsoil: Dark brown sandy slightly gravelly CLAY, with frequent organic fragments. Gravel is fine to coarse angular to subangular of sandstone. [Hade Edge]	310	610
	Subsoil: Firm pale yellow slightly sandy gravelly CLAY. Gravel is fine to coarse angular to subangular of limestone. [Ferrybridge].	300	

Directors: P Richardson BSc, CEng, MICE, MStructE S R Ellis BEng, CEng, MStructE, MICE K R Pursall BEng, CEng, MStructE
 C A Topliss BSc, CEnv, CSci, CGeol, SiLC, MICE, FGS S J English BEng, CEng, MStructE A R Priest BEng
Technical Director: A G Marshall BEng, CEng, MStructE
Senior Associates: S J Mitchell BSc, MSc, CEng, MEI, MCBSE, MASHRAE A Allison BEng
 M Young MA, CEng, MICE, MStructE C A Wood BSc, CEng, MStructE, MICE
Associates: K Edwards MSci, CGeol, FGS A J Kerlake BEng FGS C Hodge EngTech, MICE P A Harrison BEng, CEng, MStructE
 M P Chappell BEng, IEng, AMIStructE M Dyson BSc, CEng, MStructE A M Cross MEng, CEng, MICE A Lavelle MEng, CEng, MICE
Consultant: S D Preston BEng, CEng, FICE, FStructE

202	Topsoil: Dark brown sandy slightly gravelly CLAY, with frequent organic fragments. Gravel is fine to coarse angular to subangular of sandstone. [Hade Edge]	240	610
	Subsoil: Firm pale yellow slightly sandy gravelly CLAY. Gravel is fine to coarse angular to subangular of limestone. [Ferrybridge].	370	
217	Topsoil: Dark brown sandy slightly gravelly CLAY, with frequent organic fragments. Gravel is fine to coarse angular to subangular of sandstone. [Hade Edge];	210	620
	Topsoil: Brown slightly clayey slightly gravelly fine SAND. Gravel is fine angular to sub-rounded of limestone. [Barnsdale Bar]		
	Subsoil: Grey brown slightly clayey slightly gravelly SAND. Gravel is fine subangular of sandstone. [Howley Park]	410	
218	Topsoil: Dark brown sandy slightly gravelly CLAY, with frequent organic fragments. Gravel is fine to coarse angular to subangular of sandstone. [Hade Edge]	200	620
	Topsoil: Brown slightly clayey slightly gravelly fine SAND. Gravel is fine angular to sub-rounded of limestone. [Barnsdale Bar]		
	Subsoil: Grey brown slightly clayey slightly gravelly SAND. Gravel is fine subangular of sandstone. [Howley Park]	420	

Made ground was encountered at the base of each of the pits; the capping thickness is therefore considered satisfactory.

Verification of Chemical Suitability

Topsoil

We understand that the topsoil initially placed in plots 217 and 218 in November 2018 had been sourced from Barnsdale Bar Quarry in Pontefract. Due to settlement of this material, additional topsoil sourced from the Jones Homes site at Heather View, Hade Edge, was placed in January 2019 to meet the required capping thickness.

Six samples of the Barnsdale Bar topsoil taken from the quarry were initially tested in April 2015. None of the contaminants were found to exceed their respective residential assessment values. In 2016, 30 samples were tested, plus an additional 20 samples in 2017. None of the contaminants were found to exceed their respective residential assessment values. The chemical test results for the latest batch are appended to this verification report. We have received a Topsoil Analysis Report (included in the Appendix) for one sample of the Barnsdale Bar topsoil, dated July 2018. None of the contaminants analysed exceeded their respective residential assessment values.

The topsoil seen in plots 217 and 218 was visually consistent to the topsoil seen at the Barnsdale Bar Quarry. The topsoil is therefore considered to be suitable for use as a capping material.

The topsoil placed in plots 201 and 202 comprised Hade Edge topsoil only. Ten samples of the Hade Edge topsoil were tested by Eastwood & Partners in October 2018. None of the contaminants were found to exceed their respective residential assessment values. The chemical test results for this testing are appended to this report. A total of 1340 tonnes has been imported to site between the 19 and 20 November 2018. The import tickets for this material are appended to this report.

The topsoil seen in the plots on site was visually consistent to the topsoil seen at the Heather View site in Hade Edge. The topsoil is therefore considered to be suitable for use as a capping material.

Subsoil

We understand the subsoil used in plots 201 and 202 has been sourced from Gleasons' Rainsborough Park development, in Ferrybridge. Eastwood & Partners tested five samples of the natural ground, including samples of clay, sand and gravel, during our Phase 2 Site Investigation in January 2016. None of the samples recorded concentrations elevated above current assessment values for human health with home-grown produce end use. The chemical test results are appended to this verification report. Further testing of recent natural ground arisings is currently being undertaken.

Around 60 m³ was imported to site on 12 December 2018, whilst another eight loads (around 96 m³) were imported to site on 17 January 2019. A copy of the latest import ticket is appended to this report.

The most recent loads of the Ferrybridge subsoil imported to the site are visually consistent with the natural ground encountered during the site investigation, and also with material previously imported to the site from the same source. The subsoil is therefore considered to be suitable for use as a capping material.

We understand the subsoil used in plots 217 and 218 has been sourced from Howley Park Quarry in Leeds. Fifteen samples of the subsoil taken from the quarry were tested in June 2018. None of the contaminants were found to exceed their respective residential assessment values. The chemical test results for the latest batch are appended to this verification report.

The subsoil seen in the plots on site was visually consistent to the subsoil seen at the Howley Park Quarry. The subsoil is therefore considered to be suitable for use as a capping material.

Conclusion

The capping materials are considered to be chemically suitable for use in a residential setting and the capping thickness encountered is in accordance with the Implementation Plan.

The capping placed in plots 201, 202, 217 and 218 is therefore considered to be satisfactory.

Yours sincerely,

Redacted

Kate Edwards

Enc. Verification Photographs

Chemtest Report No. 17-29673-1 - Barnsdale Bar Topsoil

Topsoil Analysis Report (TOHA/18/7663/SS) – Barnsdale Bar Topsoil

Chemtest Report No. 18- 31270-1 – Hade Edge Topsoil

Chemtest Report No. 18-18517-1 - Howley Park Subsoil

Chemtest Report No. 16-02353-1 - Ferrybridge Subsoil

Import Ticket for Ferrybridge Subsoil



Verification Pit in Rear Garden of Plot 201 (610 mm)



Verification Pit in Rear Garden of Plot 202 (610 mm)



Verification Pit in Rear Garden of Plot 217 (620 mm)



Verification Pit in Rear Garden of Plot 218 (620 mm)



Overview of Plot 201 and 202 Rear Gardens



Overview of Plot 217 and 218 Rear Gardens



Final Report

Report No.: 17-29673-1

Initial Date of Issue: 15-Nov-2017

Client: Eastwood & Partners

Client Address: St. Andrews House
23 Kingfield Road
Sheffield
South Yorkshire
S11 9AS

Contact(s): Geo
Daniel Nowell

Project: 39396 - Barnsdale Bar Quarry

Quotation No.:		Date Received:	09-Nov-2017
Order No.:	KE/DN/39396	Date Instructed:	09-Nov-2017
No. of Samples:	10		
Turnaround (Wkdays):	5	Results Due:	15-Nov-2017
Date Approved:	15-Nov-2017		

Approved By:

Redacted

Details:  Martin Dyer, Laboratory Manager

Results - Soil

Client: Eastwood & Partners	Chemtest Job No.:		17-29673	17-29673	17-29673	17-29673	17-29673	17-29673	17-29673	17-29673	17-29673	17-29673	17-29673
Quotation No.:	Chemtest Sample ID.:		536721	536722	536723	536724	536725	536726	536727	536728	536729		
	Client Sample ID.:		S1	S2	S3	S4	S5	S6	S7	S8	S9		
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
	Date Sampled:		08-Nov-2017	08-Nov-2017	08-Nov-2017	08-Nov-2017	08-Nov-2017	08-Nov-2017	08-Nov-2017	08-Nov-2017	08-Nov-2017	08-Nov-2017	08-Nov-2017
	Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	-	-	-	-	-	-	-	-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected								
Moisture	N	2030	%	0.020	15	14	19	12	15	13	13	14	13
Soil Colour	N	2040		N/A	Brown	Brown	Brown, Black	Brown	Brown	Brown, Beige	Yellow, Brown	Brown	Brown, Yellow
Other Material	N	2040		N/A	Stones								
Soil Texture	N	2040		N/A	Sand								
pH	M	2010		N/A	8.2	8.2	8.4	8.1	8.3	8.4	8.3	8.3	8.3
Arsenic	M	2450	mg/kg	1.0	6.3	4.9	4.4	4.0	5.0	5.6	6.9	6.5	7.1
Cadmium	M	2450	mg/kg	0.10	0.15	0.16	0.18	0.17	0.18	0.15	0.16	0.17	0.18
Chromium	M	2450	mg/kg	1.0	8.4	11	5.4	5.4	5.9	4.4	4.7	3.7	4.9
Copper	M	2450	mg/kg	0.50	12	12	12	11	9.8	9.3	12	8.3	10
Mercury	M	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	5.1	8.6	4.9	4.4	4.2	3.8	6.1	3.6	4.5
Lead	M	2450	mg/kg	0.50	9.7	13	15	14	11	9.8	8.6	9.5	11
Selenium	M	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	M	2450	mg/kg	0.50	19	23	26	21	20	18	18	18	21
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 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	< 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	< 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	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Client: Eastwood & Partners		Chemtest Job No.:		17-29673	
Quotation No.:		Chemtest Sample ID.:		536730	
		Client Sample ID.:		S10	
		Sample Type:		SOIL	
		Date Sampled:		08-Nov-2017	
		Asbestos Lab:		COVENTRY	
Determinand	Accred.	SOP	Units	LOD	
ACM Type	U	2192		N/A	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected
Moisture	N	2030	%	0.020	13
Soil Colour	N	2040		N/A	Brown
Other Material	N	2040		N/A	Stones
Soil Texture	N	2040		N/A	Sand
pH	M	2010		N/A	8.4
Arsenic	M	2450	mg/kg	1.0	5.7
Cadmium	M	2450	mg/kg	0.10	0.17
Chromium	M	2450	mg/kg	1.0	5.8
Copper	M	2450	mg/kg	0.50	11
Mercury	M	2450	mg/kg	0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	4.9
Lead	M	2450	mg/kg	0.50	11
Selenium	M	2450	mg/kg	0.20	< 0.20
Zinc	M	2450	mg/kg	0.50	20
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	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
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
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.
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"

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.co.uk



TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Marchington Stone Ltd
105 Buxton Road
High Lane
Stockport
SK6 8DX

17th July 2018
Our Ref: TOHA/18/7663/SS

Dear Sirs

Topsoil Analysis Report: Barnsdale Landscape Grade Topsoil

We have completed the analysis of the soil sample recently submitted, referenced *Landscape Grade*, and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

This report presents the results of analysis for the sample submitted to our office, and it should be considered 'indicative' of the topsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing or waste designation purposes, especially after the topsoil has left the Green-tech Ltd site.

SAMPLE EXAMINATION

The sample was described as a dark yellowish brown (Munsell Colour 10YR 4/4), slightly moist, friable, moderately calcareous SANDY LOAM with a single grain structure*. The sample was virtually stone free and contained occasional organic fines. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

*This appraisal of soil structure was made from examination of a disturbed sample(s). Structure is a key soil characteristic that may only be accurately assessed by examination in an in-situ state.

Tim O'Hare Associates LLP
Howbery Park Wallingford Oxfordshire OX10 8BA
T: 01491 822653 E: info@toha.co.uk
www.toha.co.uk

ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition and fertility of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- particle size analysis (sand, silt, clay);
- stone content (2-20mm, 20-50mm, >50mm);
- pH and electrical conductivity values;
- exchangeable sodium percentage;
- major plant nutrients (N, P, K, Mg);
- organic matter content;
- C:N ratio;
- heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn, B);
- total cyanide and total (mono) phenols;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

RESULTS OF ANALYSIS

Particle Size Analysis and Stone Content

The sample fell into the *sandy loam* texture class, which is usually considered suitable for general landscape applications provided the soil's physical condition is satisfactory.

The sample was virtually stone-free and as such, stones should not restrict the use of the soil for general landscape purposes.

pH and Electrical Conductivity Values

The sample was strongly alkaline in reaction (pH 8.2). This pH value would be considered suitable for general landscape purposes providing species with a wide pH tolerance or those known to prefer alkaline soils are selected for planting, turfing and seeding.

The electrical conductivity (salinity) value (water extract) was moderate, which indicates that soluble salts should not be present at levels that would be harmful to plants.

The electrical conductivity value by CaSO₄ extract (*BS3882* requirement) fell below the maximum specified value (3300 µS/cm) given in *BS3882:2015 – Table 1*.

Organic Matter and Fertility Status

The sample was adequately supplied with organic matter and all major plant nutrients.

The C:N ratio of the sample was acceptable for general landscape purposes.

Potential Contaminants

With reference to *BS3882:2015 - Table 1: Notes 3 and 4*, there is a recommendation to confirm levels of potential contaminants in relation to the topsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific assessment criteria, the concentrations that affect human health have been assessed for *residential with homegrown produce* end-use against the Suitable For Use Levels (S4ULs) presented in *The LQM/CIEH S4ULs for Human Health Risk Assessment* (2015) and the DEFRA SP1010: *Development of Category 4 Screening Levels (C4SLs) for Assessment of Land Affected by Contamination – Policy Companion Document* (2014).

Of the potential contaminants determined, none was found at levels that exceeded their guideline values.

Phytotoxic Contaminants

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in *BS3882:2015 – Table 1*.

CONCLUSION

The purpose of the analysis was to determine the suitability of the sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

From the soil examination and subsequent laboratory analysis, the sample was described as a strongly alkaline, moderately calcareous sandy loam with a weakly developed structure and low stone content. The sample contained sufficient reserves of organic matter and all major plant nutrients. Of the potential contaminants determined, none exceeded their respective guideline values.

To conclude, based on our findings, the topsoil represented by this sample would be considered suitable for general landscape purposes (trees, shrubs and amenity grass), provided species with a wide pH tolerance are selected and the physical condition of the soil is maintained.

The topsoil was also fully compliant with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

General Landscape Environments*Rootballed Trees*

The most demanding planting environment is semi-mature, pit planted trees. Trees of this size and age have grown accustomed to optimum growing conditions in the nursery, and these need to be replicated when the rootballed or containerised tree is planted in the pit. In particular, aeration and drainage around the rootball are critical. Without these properties, trees will very quickly suffer and possibly die during their first few growing seasons after planting.

The topsoil can be used as backfill in tree pits to a maximum depth of 400mm, provided the topsoil is kept dry and non-plastic during planting.

Shrubs

Containerised shrubs are generally more tolerant of a wider range of soil-types, and they require less topsoil to root into than trees. The topsoil would be suited to a range of shrubs typically used in commercial and domestic landscaping.

Forestry Stock

Less demanding planting habitats include indigenous woodland planting, planted as small whips and feathered trees. The topsoil would be suitable for such planting environments.

Amenity Grass

This soil would be considered suitable for amenity grass seeding and turfing.

Sports Pitches

This soil is suited for sports pitch construction given its high sand content. However, all materials to be used for sports pitch construction, including topsoil, should be carefully considered in relation to the required performance and standard of the sports pitch.

Domestic Gardens

The horticultural properties of the soil would be suitable for domestic garden applications. In addition, of the potential contaminants determined, none was found at levels that would be considered elevated. However, permissible levels for potential contaminants do vary from site to site. Therefore, the suitability of topsoil represented by this sample for any particular project or development should be confirmed by comparing the results against the site's specific assessment criteria.

RECOMMENDATIONS

Soil Handling Recommendations

It is important to maintain the physical condition of the soil and avoid structural damage during all phases of soil handling (e.g. stockpiling, resspreading, cultivating, planting, seeding or turfing). As a consequence, soil handling operations should be carried out when soil is reasonably dry and non-plastic (friable) in consistency.

It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the soil is friable in consistency. If the soil is structurally damaged and compacted at any stage during the course of soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

Further details on soil handling are provided in Annex A of *BS3882:2015*.

Further guidance on the management, preparation and handling of soils is provided in the DEFRA publication *Construction code of practice for the sustainable use of soils on construction sites*, 2009.

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully

Redacted

Matthew Lowry
BSc MSc
Graduate Soil Scientist

Laura Hathaway-Jenkins
BSc MSc EngD MISOilSci
Senior Associate

For & on behalf of Tim O'Hare Associates LLP



Client:	
Project	Barnsdale Landscape Grade
Job:	Topsoil Analysis - BS3882:2015
Date:	17/07/2018
Job Ref No:	TOHA/18/7663/SS

Sample Reference		
		Acreditation
Clay (<0.002mm)	%	UKAS
Silt (0.002-0.063mm)	%	UKAS
Sand (0.063-2.0mm)	%	UKAS
Texture Class (UK Classification)	--	UKAS
Stones (2-20mm)	% DW	GLP
Stones (20-50mm)	% DW	GLP
Stones (>50mm)	% DW	GLP

Landscape Grade

8
18
74
SL
3 0
0

pH Value (1:2.5 water extract)	units	UKAS
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS
Electrical Conductivity (1:2 CaSO ₄ extract)	uS/cm	UKAS
Exchangeable Sodium Percentage	%	UKAS
Organic Matter (LOI)	%	UKAS
Total Nitrogen (Dumas)	%	UKAS
C : N Ratio	ratio	UKAS
Extractable Phosphorus	mg/l	UKAS
Extractable Potassium	mg/l	UKAS
Extractable Magnesium	mg/l	UKAS

8.2
936
2877
3.5
4.1
0.21
11
60
1191
148

Total Arsenic (As)	mg/kg	MCERTS
Total Cadmium (Cd)	mg/kg	MCERTS
Total Chromium (Cr)	mg/kg	MCERTS
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS
Total Copper (Cu)	mg/kg	MCERTS
Total Lead (Pb)	mg/kg	MCERTS
Total Mercury (Hg)	mg/kg	MCERTS
Total Nickel (Ni)	mg/kg	MCERTS
Total Selenium (Se)	mg/kg	MCERTS
Total Zinc (Zn)	mg/kg	MCERTS
Water Soluble Boron (B)	mg/kg	MCERTS
Total Cyanide (CN)	mg/kg	MCERTS
Total (mono) Phenols	mg/kg	MCERTS

2
0.3
6.7
< 4.0
20
12
< 0.3
6
< 1.0
38
1.6
< 1
< 1

Naphthalene	mg/kg	MCERTS
Acenaphthylene	mg/kg	MCERTS
Acenaphthene	mg/kg	MCERTS
Fluorene	mg/kg	MCERTS
Phenanthrene	mg/kg	MCERTS
Anthracene	mg/kg	MCERTS
Fluoranthene	mg/kg	MCERTS
Pyrene	mg/kg	MCERTS
Benzo(a)anthracene	mg/kg	MCERTS
Chrysene	mg/kg	MCERTS
Benzo(b)fluoranthene	mg/kg	MCERTS
Benzo(k)fluoranthene	mg/kg	MCERTS
Benzo(a)pyrene	mg/kg	MCERTS
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS
Dibenzo(a,h)anthracene	mg/kg	MCERTS
Benzo(g,h,i)perylene	mg/kg	MCERTS
Total PAHs (sum USEPA16)	mg/kg	MCERTS

< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.8

Aliphatic TPH >C5 - C6	mg/kg	MCERTS
Aliphatic TPH >C6 - C8	mg/kg	MCERTS
Aliphatic TPH >C8 - C10	mg/kg	MCERTS
Aliphatic TPH >C10 - C12	mg/kg	MCERTS
Aliphatic TPH >C12 - C16	mg/kg	MCERTS
Aliphatic TPH >C16 - C21	mg/kg	MCERTS
Aliphatic TPH >C21 - C35	mg/kg	MCERTS
Aliphatic TPH (C5 - C35)	mg/kg	MCERTS
Aromatic TPH >C5 - C7	mg/kg	MCERTS
Aromatic TPH >C7 - C8	mg/kg	MCERTS
Aromatic TPH >C8 - C10	mg/kg	MCERTS
Aromatic TPH >C10 - C12	mg/kg	MCERTS
Aromatic TPH >C12 - C16	mg/kg	MCERTS
Aromatic TPH >C16 - C21	mg/kg	MCERTS
Aromatic TPH >C21 - C35	mg/kg	MCERTS
Aromatic TPH (C5 - C35)	mg/kg	MCERTS

< 0.001
< 0.001
< 0.001
1
12
16
23
53
< 0.001
< 0.001
< 0.001
1.9
15
17
26
59

Benzene	mg/kg	MCERTS
Toluene	mg/kg	MCERTS
Ethylbenzene	mg/kg	MCERTS
p & m-xylene	mg/kg	MCERTS
o-xylene	mg/kg	MCERTS
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS

< 0.001
< 0.001
< 0.001
< 0.001
< 0.001
< 0.001

Asbestos Screen	ND/D	ISO 17025
-----------------	------	-----------

Not-detected

SL = SANDY LOAM

Visual Examination

The sample was described as a dark yellowish brown (Munsell Colour 10YR 4/4), slightly moist, friable, slightly calcareous SANDY LOAM with a single grain structure. The sample was slightly stony and contained occasional organic fines. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

Matthew Lowry

Matthew Lowry
BSc MSc
Graduate Soil

Results of analysis should be read in conjunction with the report they were issued with

The contents of this certificate shall not be reproduced without the express written permission of Tim O'Hare Associates LLP.



Final Report

Report No.: 18-31270-1

Initial Date of Issue: 17-Oct-2018

Client: Eastwood & Partners

Client Address: St. Andrews House
23 Kingfield Road
Sheffield
South Yorkshire
S11 9AS

Contact(s): Geo
Stefani Ellis

Project: 39396 Heather View Topsoil Source

Quotation No.: **Date Received:** 11-Oct-2018

Order No.: 39396/KE/SAE **Date Instructed:** 11-Oct-2018

No. of Samples: 10

Turnaround (Wkdays): 5 **Results Due:** 17-Oct-2018

Date Approved: 17-Oct-2018

Approved By:

Redacted

Details:

Glynn Harvey, Laboratory Manager

Results - Soil

Client: Eastwood & Partners	Chemtest Job No.:				18-31270	18-31270	18-31270	18-31270	18-31270	18-31270	18-31270	18-31270	18-31270
Quotation No.:	Chemtest Sample ID.:				704338	704339	704340	704341	704342	704343	704344	704345	704345
	Sample Location:				S2	S4	S6	S8	S10	S12	S14	S16	S16
	Sample Type:				SOIL								
	Top Depth (m):				0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	Date Sampled:				09-Oct-2018								
	Asbestos Lab:				COVENTRY								
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	-	-	-	-	-	-	-	-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected								
Moisture	N	2030	%	0.020	19	20	17	21	15	16	18	17	17
Soil Colour	N	2040		N/A	Brown								
Other Material	N	2040		N/A	Stones, Roots	Stones, Roots	Stones, Roots	Roots	Stones, Roots	Stones, Roots	Stones, Roots	Stones, Roots	Stones
Soil Texture	N	2040		N/A	Sand	Clay	Sand						
pH	M	2010		N/A	6.0	5.5	6.0	5.2	5.3	7.6	7.4	6.3	6.3
Arsenic	M	2450	mg/kg	1.0	13	12	12	13	13	11	14	8.4	8.4
Cadmium	M	2450	mg/kg	0.10	0.25	0.24	0.23	0.23	0.21	0.22	0.26	0.19	0.19
Chromium	M	2450	mg/kg	1.0	24	14	17	13	11	19	21	13	13
Copper	M	2450	mg/kg	0.50	19	18	18	17	16	14	16	9.6	9.6
Mercury	M	2450	mg/kg	0.10	0.16	0.22	0.15	0.19	0.18	0.16	0.16	0.11	0.11
Nickel	M	2450	mg/kg	0.50	8.9	7.8	9.2	7.9	7.4	11	11	6.3	6.3
Lead	M	2450	mg/kg	0.50	54	73	64	62	59	43	54	27	27
Selenium	M	2450	mg/kg	0.20	0.68	0.62	0.71	0.67	0.58	0.43	0.58	0.49	0.49
Zinc	M	2450	mg/kg	0.50	50	53	53	40	35	38	50	32	32
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 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	< 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	< 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	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	0.24	0.59	0.62	0.51	0.18	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	0.26	0.68	0.93	0.42	0.21	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	0.23	0.69	0.91	0.39	0.23	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	0.15	0.26	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	0.21	0.35	0.10	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	0.23	0.33	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.17	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.18	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	2.6	4.1	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Client: Eastwood & Partners		Chemtest Job No.:		18-31270	18-31270	
Quotation No.:		Chemtest Sample ID.:		704346	704347	
		Sample Location:		S18	S20	
		Sample Type:		SOIL	SOIL	
		Top Depth (m):		0.10	0.10	
		Date Sampled:		09-Oct-2018	09-Oct-2018	
		Asbestos Lab:		COVENTRY	COVENTRY	
Determinand	Accred.	SOP	Units	LOD		
ACM Type	U	2192		N/A	-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	21	18
Soil Colour	N	2040		N/A	Brown	Brown
Other Material	N	2040		N/A	Stones, Roots	Stones, Roots
Soil Texture	N	2040		N/A	Sand	Sand
pH	M	2010		N/A	5.7	6.2
Arsenic	M	2450	mg/kg	1.0	14	13
Cadmium	M	2450	mg/kg	0.10	0.30	0.33
Chromium	M	2450	mg/kg	1.0	21	23
Copper	M	2450	mg/kg	0.50	24	21
Mercury	M	2450	mg/kg	0.10	0.19	0.19
Nickel	M	2450	mg/kg	0.50	9.2	11
Lead	M	2450	mg/kg	0.50	75	66
Selenium	M	2450	mg/kg	0.20	0.71	0.66
Zinc	M	2450	mg/kg	0.50	58	53
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	0.12	0.14
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	0.16	0.16
Pyrene	M	2800	mg/kg	0.10	0.16	0.16
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10
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	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	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
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
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.
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"

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



Final Report

Report No.: 18-18517-1

Initial Date of Issue: 02-Jul-2018

Client: Eastwood & Partners

Client Address: St. Andrews House
23 Kingfield Road
Sheffield
South Yorkshire
S11 9AS

Contact(s): Geo
Stefani Ellis

Project: 42177 Calder View, Lower Hopton
Subsoil

Quotation No.: **Date Received:** 27-Jun-2018

Order No.: 42177/KE/SAE **Date Instructed:** 27-Jun-2018

No. of Samples: 15

Turnaround (Wkdays): 3 **Results Due:** 29-Jun-2018

Date Approved: 02-Jul-2018

Approved By:

Redacted

Details: Robert Monk, Technical Manager

Project: 42177 Calder View, Lower Hopton Subsoil

Client: Eastwood & Partners		Chemtest Job No.:		18-18517	18-18517	18-18517	18-18517	18-18517	18-18517	18-18517	18-18517	18-18517	18-18517
Quotation No.:		Chemtest Sample ID.:		645006	645007	645008	645009	645010	645011	645012	645013	645014	645014
Order No.: 42177/KE/SAE		Client Sample Ref.:		S1	S2	S3	S4	S5	S6	S7	S8	S9	S9
		Sample Type:		SOIL									
		Date Sampled:		25-Jun-2018									
Determinand	Accred.	SOP	Units	LOD									
Moisture	N	2030	%	0.020	4.7	4.3	6.1	5.6	5.4	6.0	4.2	3.6	4.7
Soil Colour	N	2040		N/A	Grey	Beige	Grey						
Other Material	N	2040		N/A	NONE	Stones	NONE	NONE	NONE	NONE	Stones	NONE	NONE
Soil Texture	N	2040		N/A	Sand								
pH	M	2010		N/A	8.2	7.9	7.7	7.8	7.8	7.7	7.9	7.9	7.9
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.018	0.018	0.015	0.031
Total Sulphur	M	2175	%	0.010	0.015	< 0.010	0.021	0.038	0.025	0.022	0.024	0.021	0.024
Sulphate (Acid Soluble)	M	2430	%	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Arsenic	M	2450	mg/kg	1.0	3.5	4.4	3.9	4.8	4.5	4.3	3.4	4.0	4.1
Cadmium	M	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	M	2450	mg/kg	1.0	9.0	9.5	9.4	10	11	10	8.9	9.8	10
Copper	M	2450	mg/kg	0.50	11	14	12	15	38	34	13	15	19
Mercury	M	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	20	24	22	27	31	31	20	27	26
Lead	M	2450	mg/kg	0.50	13	7.4	6.4	5.6	17	10	12	7.0	15
Selenium	M	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	M	2450	mg/kg	0.50	40	25	25	24	64	46	37	27	47
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	0.13	< 0.10	< 0.10	< 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	< 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	< 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	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	0.33	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Project: 42177 Calder View, Lower Hopton Subsoil

Client: Eastwood & Partners		Chemtest Job No.:		18-18517	18-18517	18-18517	18-18517	18-18517	18-18517	
Quotation No.:		Chemtest Sample ID.:		645015	645016	645017	645018	645019	645020	
Order No.: 42177/KE/SAE		Client Sample Ref.:		S10	S11	S12	S13	S14	S15	
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		Date Sampled:		25-Jun-2018	25-Jun-2018	25-Jun-2018	25-Jun-2018	25-Jun-2018	25-Jun-2018	
Determinand	Accred.	SOP	Units	LOD						
Moisture	N	2030	%	0.020	1.2	2.7	2.5	1.9	0.89	1.2
Soil Colour	N	2040		N/A	Grey	Grey	Grey	Grey	Grey	Grey
Other Material	N	2040		N/A	NONE	NONE	Stones	Stones	Stones	Stones,
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand
pH	M	2010		N/A	7.8	7.8	7.9	7.9	7.6	7.9
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.032	0.045	0.030	0.031	0.037	0.033
Total Sulphur	M	2175	%	0.010	0.030	0.024	0.019	0.036	0.026	0.029
Sulphate (Acid Soluble)	M	2430	%	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Arsenic	M	2450	mg/kg	1.0	4.7	4.6	3.8	3.7	4.9	5.1
Cadmium	M	2450	mg/kg	0.10	0.10	0.10	< 0.10	0.12	0.17	0.10
Chromium	M	2450	mg/kg	1.0	10	9.9	9.7	9.3	11	8.8
Copper	M	2450	mg/kg	0.50	18	19	16	16	19	19
Mercury	M	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	26	25	24	24	28	26
Lead	M	2450	mg/kg	0.50	23	19	17	14	17	16
Selenium	M	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	M	2450	mg/kg	0.50	56	54	54	49	74	52
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	< 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	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 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	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	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.
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-diphenylcarbazine.
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"

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.co.uk



Final Report

Report No.: 16-02353-1

Initial Date of Issue: 08-Feb-2016

Client: Eastwood & Partners

Client Address: St. Andrews House
23 Kingfield Road
Sheffield
South Yorkshire
S11 9AS

Contact(s): Lucy Duffus

Project: 39484 - Pontefract Road, Ferrybridge

Quotation No.:		Date Received:	02-Feb-2016
Order No.:	KE/LED/39484/01.02.16	Date Instructed:	02-Feb-2016
No. of Samples:	17	Target Date:	08-Feb-2016
Turnaround (Wkdays):	5	Results Due:	08-Feb-2016

Date Approved: 08-Feb-2016

Approved By:

Redacted

Details: Keith Jones, Technical Manager

Results - Soil

Client: Eastwood & Partners	Chemtest Job No.:				16-02353	16-02353	16-02353	16-02353	16-02353	16-02353	16-02353	16-02353	16-02353
Quotation No.:	Chemtest Sample ID.:				248759	248760	248761	248762	248763	248764	248765	248766	248766
	Client Sample ID.:				SA1	SA2	SA3	SA4	SA5	SA6	SA7	TP1	TP1
	Sample Type:				SOIL								
	Top Depth (m):				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Date Sampled:				28-Jan-2016								
Determinand	Accred.	SOP	Units	LOD									
Moisture	N	2030	%	0.020	21	19	19	18	19	18	19	21	21
Soil Colour	N	2040		N/A	Brown								
Other Material	N	2040		N/A	Stones, Roots								
Soil Texture	N	2040		N/A	Clay								
pH	M	2010		N/A	8.2	8.3	8.3	8.2	8.1	8.1	8.2	8.1	8.1
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010									
Total Sulphur	M	2175	%	0.010									
Sulphate (Acid Soluble)	M	2430	%	0.010									
Arsenic	M	2450	mg/kg	1.0	28	31	28	27	20	21	28	28	28
Cadmium	M	2450	mg/kg	0.10	0.52	0.65	0.73	0.70	0.63	0.51	0.57	0.53	0.53
Chromium	M	2450	mg/kg	1.0	29	26	25	22	23	22	24	24	24
Copper	M	2450	mg/kg	0.50	32	29	32	26	35	30	30	31	31
Mercury	M	2450	mg/kg	0.10	0.20	0.15	0.16	0.15	0.16	0.15	0.15	0.19	0.19
Nickel	M	2450	mg/kg	0.50	33	27	28	24	28	29	27	27	27
Lead	M	2450	mg/kg	0.50	71	65	66	64	65	58	61	68	68
Selenium	M	2450	mg/kg	0.20	0.25	0.28	0.41	0.28	0.51	0.45	0.25	< 0.20	< 0.20
Zinc	M	2450	mg/kg	0.50	84	85	98	87	90	87	75	81	81
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	0.24	0.18	< 0.10	0.36	< 0.10	0.10	0.11	0.23	0.23
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 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	0.23	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.15	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	0.49	0.18	< 0.10	1.5	0.10	0.15	0.33	0.30	0.30
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.38	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	0.47	0.23	0.16	1.6	0.10	0.29	0.29	0.37	0.37
Pyrene	M	2800	mg/kg	0.10	0.33	0.21	0.12	1.4	0.10	0.25	0.26	0.31	0.31
Benzo[a]anthracene	M	2800	mg/kg	0.10	0.11	< 0.10	< 0.10	0.50	< 0.10	0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	0.10	< 0.10	< 0.10	0.63	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	0.12	< 0.10	< 0.10	0.54	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.15	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.33	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.17	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.18	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0	8.1	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Results - Soil

Client: Eastwood & Partners	Chemtest Job No.:				16-02353	16-02353	16-02353	16-02353	16-02353	16-02353	16-02353	16-02353
Quotation No.:	Chemtest Sample ID.:				248767	248768	248769	248770	248771	248772	248773	248774
	Client Sample ID.:				TP2	TP3	TP4	TP5	SA2	SA5	SA6	TP3
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.1	0.1	0.1	0.1	0.5	1.3	0.7	0.4
	Date Sampled:				28-Jan-2016	28-Jan-2016	28-Jan-2016	28-Jan-2016	28-Jan-2016	28-Jan-2016	28-Jan-2016	28-Jan-2016
Determinand	Accred.	SOP	Units	LOD								
Moisture	N	2030	%	0.020	19	18	19	19	17	24	14	15
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones, Roots	Stones, Roots	Stones, Roots	Stones, Roots	NONE	Stones	NONE	Stones
Soil Texture	N	2040		N/A	Clay	Clay	Clay	Clay	Clay	Sand	Clay	Clay
pH	M	2010		N/A	8.2	8.1	8.2	8.1	8.1	8.6	8.3	8.4
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010					0.012	0.012	0.054	< 0.010
Total Sulphur	M	2175	%	0.010					< 0.010	0.065	0.020	0.025
Sulphate (Acid Soluble)	M	2430	%	0.010					0.019	0.044	0.030	0.051
Arsenic	M	2450	mg/kg	1.0	26	24	22	29	33	14	10	25
Cadmium	M	2450	mg/kg	0.10	0.52	0.41	0.50	0.63	0.55	0.67	0.40	0.31
Chromium	M	2450	mg/kg	1.0	24	26	21	20	33	11	20	18
Copper	M	2450	mg/kg	0.50	37	27	33	20	27	13	19	9.6
Mercury	M	2450	mg/kg	0.10	0.23	0.13	0.17	0.10	0.32	< 0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	29	29	26	20	42	17	26	17
Lead	M	2450	mg/kg	0.50	96	58	65	44	55	23	19	15
Selenium	M	2450	mg/kg	0.20	0.38	< 0.20	0.43	< 0.20	0.45	< 0.20	0.55	< 0.20
Zinc	M	2450	mg/kg	0.50	83	68	85	75	120	47	62	44
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	0.15	0.15	0.15	0.15	< 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	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 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	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	0.27	0.24	0.10	0.19	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	0.30	0.32	0.22	0.19	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	0.24	0.24	0.19	0.13	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Client: Eastwood & Partners		Chemtest Job No.:		16-02353	
Quotation No.:		Chemtest Sample ID.:		248775	
		Client Sample ID.:		TP5	
		Sample Type:		SOIL	
		Top Depth (m):		1.2	
		Date Sampled:		28-Jan-2016	
Determinand	Accred.	SOP	Units	LOD	
Moisture	N	2030	%	0.020	16
Soil Colour	N	2040		N/A	Yellow
Other Material	N	2040		N/A	NONE
Soil Texture	N	2040		N/A	Clay
pH	M	2010		N/A	8.7
Sulphate (2:1 Water Soluble) as SO ₄	M	2120	g/l	0.010	< 0.010
Total Sulphur	M	2175	%	0.010	< 0.010
Sulphate (Acid Soluble)	M	2430	%	0.010	0.027
Arsenic	M	2450	mg/kg	1.0	27
Cadmium	M	2450	mg/kg	0.10	0.15
Chromium	M	2450	mg/kg	1.0	11
Copper	M	2450	mg/kg	0.50	5.0
Mercury	M	2450	mg/kg	0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	9.1
Lead	M	2450	mg/kg	0.50	8.1
Selenium	M	2450	mg/kg	0.20	0.21
Zinc	M	2450	mg/kg	0.50	14
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0

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 our Coventry 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

Sample Retention and Disposal

All soil samples will be retained for a period of 60 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.co.uk



CONTRACTING

No: 03363

559 Carlisle Street East, Sheffield S4 8DT
t: 0114 221 3795 f: 0114 221 3805
e: info@mhhcontracting.co.uk www.mhhcontracting.co.uk

W/E.....DAY THURSDAY DATE 17.1.19

Registration No:	Driver	Start Time	Meal Break	Finish Time	Total Hours Excluding Interval
YWI8XXC	MIT				

Arrive Site	Leave Site	Travel Time	DETAILS OF WORK
			GLEESON RAINSBOROUGH PARK TO CALDERVIEW
			ILD SUB FILL off SITE TO CALDERVIEW J C
			ILD SUB FILL off SITE TO CALDERVIEW J C
			ILD SUB FILL off SITE TO CALDERVIEW J C
			ILD SUB FILL off SITE TO CALDERVIEW J C

SPOIL TO MHH TIP _____ MIXED TO MHH TIP _____ TOTAL LOADS _____

WASTE TRANSFER NOTE

HOLDER OF WASTE MHH	PRODUCER OF WASTE Redacted
------------------------	-------------------------------

HOW IS WASTE/SCRAP CONTAINED SACKS DRUM LOOSE SKIP OTHER

WASTE CARRIERS LICENSE No: CB/NP3819QY WASTE DISPOSAL LICENSE No: WD 20S44

PLACE OF TRANSFER

RAINSBOROUGH PARK

DATE OF TRANSFER 17.1.19

17 01 07 Concrete Bricks, Tiles	17 02 01 Wood	17 02 03 Plastic	17 03 02 Tarmac Bituminous	17 04 07 Mixed Metals	17 05 04 Soil & Stones	17 09 04 Mixed Construction Demolition Wastes	20 02 01 Biodegradable Waste Garden
---------------------------------	---------------	------------------	----------------------------	-----------------------	------------------------	---	-------------------------------------

MHH CONTRACTING LTD. SIC CODE	46900 NON-SPECIALISED WHOLESALE TRADE	HAULIER SIC CODE
-------------------------------	---------------------------------------	------------------

HOLDER SIGNATURE Redacted	PRODUCER SIGNATURE	AUTHORISED AGENT/FOREMANS SIGNATURE Redacted
------------------------------	--------------------	---

- * Customers directing vehicles off the public highway do so at the customers risk.
- * No allowance can be made for weather conditions, or punctures whilst on hire.
- * No responsibility taken for accidental damage whilst under supervision of Hirer.
- * By signing the above we confirm that we have fulfilled our duty to apply the waste hierarchy as required by regulation 12 of the Waste (England & Wales) Regulations 2011.

I certify that ALL particulars shown on this TIME SHEET are correct. Time signed on this sheet constitutes the basis on which our charges will be made.

The provision of any Goods and/or Services by MHH Contracting Limited is subject to its standard terms and conditions, a copy of which is available on request and/or for inspection at its Trading Address, 559 Carlisle Street East, Sheffield S4 8DT.