

LAND CONTAMINATION SURVEYS

Phase 4 Verification Report

Proposed 2 No. Residential Dwellings with Garages and Private Gardens

on the land at

Main Street, Aberford, Leeds LS25 3AN

Date: September 2022

Status:

Reference:

Final Report

3375D P4 Burrows - Aberford

Date:

26/09/2022

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EXECUTIVE SUMMARY

The previous Phase 2 Investigation for the site identified exceedances of Arsenic, Lead and Benzo(b)fluoranthene and Dibenzo(a,h)anthracene in shallow site soils. The exceedances showed Arsenic recorded at concentrations of 91mg/kg at the location of TP06, exceeding the C4SL and S4UL of 37mg/kg. Accordingly, remediation of site soils was recommended to be planned and carried out, a summary of which can be found in the following report.

The developer has removed all surface and subsurface made ground deposits from across the site. Furthermore, deposits located around the locations of TP06, TP05 and TP04 have been excavated and removed offsite to facilitate the construction of the 2 No. dwellings here. As such, the levelling works here have removed the contaminants due to the topographical differences between the western and eastern and south eastern extents of site). The remaining areas on site occupied by building footprint or hardstanding and as such, the relevant pollutant linkages here have been effectively severed.

Photographs of the inspection pits carried out to ascertain the correct depth of encapsulation and imported material tickets and pre-certification of imported materials can be found as Appendices A, B & C, respectively

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1.0 QUALITY ASSURANCE

Castledine Environmental confirm that all reasonable efforts have been made to ensure that the information outlined within this report is accurate.

Castledine Environmental would further confirm that due care, attention and technical skill were used in the creation of this report.

For and on behalf of Castledine Environmental.

Kevin Castledine

(Proprietor)

2.0 LIMITATIONS

The conclusions and recommendations made in this report are limited to those based on the findings of the investigation. Where comments are made based on information obtained from third parties, Castledine Environmental assumes that all third-party information is true and correct. No independent action has been undertaken to validate the findings of third parties. The assessments and interpretation have been made in line with legislation and guidelines in force at the time of writing, representing best practice at the time.

This survey has not included asbestos within existing structures, invasive plant species, geotechnical considerations or any elements unconnected with potential ground contamination at the site. If required, such surveys should be undertaken by suitably accredited organisations.

There may be other conditions prevailing at the site which have not been disclosed by this investigation and which have not been taken into account by this report. Responsibility cannot be accepted for conditions not revealed by the investigation.

3.0 INTRODUCTION

Castledine Environmental have been appointed by Mr. R. Burrows to undertake a Phase 4 Verification of remediation on land at Main Street, Aberford, Leeds LS25 3AN.

4.0 SCOPE

Castledine Environmental have prepared this report for the sole use and reliance of Mr. R. Burrows and his appointees for the purpose of ensuring compliance with:

- Paragraph(s) 174, 179, 183 & 184 of the National Planning Policy
 Framework 2021
- part C1 of the building regulations
- Condition No.14 of the Leeds City Council planning approval reference 19/03768/FU <u>https://publicaccess.leeds.gov.uk/online-applications/caseDetails.do?caseType=Application&keyVal=PTC0 QFJBMJK00</u>

14. No development shall commence until a Phase I Desk Study has been submitted to, and approved in writing by, the Local Planning Authority and:

(a) Where the approved Phase I Desk Study indicates that intrusive investigation is necessary, development shall not commence until a Phase II Site Investigation Report has been submitted to, and approved in writing by, the Local Planning Authority,

(b) Where remediation measures are shown to be necessary in the Phase I/Phase II Reports and/or where soil or soil forming material is being imported to site, development shall not commence until a Remediation Statement demonstrating how the site will be made suitable for the intended use has been submitted to, and approved in writing by, the Local Planning Authority. The Remediation Statement shall include a programme for all works and for the provision of Verification Reports.

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Reason: To ensure that the presence of contamination is identified, risks assessed, and proposed remediation works are agreed in order to make the site suitable for use.

This report may not be used or relied upon by any unauthorised third party, or for any other proposed use than that specified above, without the explicit written agreement of Castledine Environmental.

The report consists of a preliminary risk assessment in accordance with BS10175:2011+A1:2013, CLR11 "Model Procedures for the Management of Land Contamination" and LCRM "Land Contamination Risk Management".

The objectives of the report are:-

- To confirm the remediation recommendations have been carried out sufficiently and are effective
- To determine the remaining work required (if any)

5.0 PREVIOUS REPORTS

This report should be read in conjunction with:

 Stage 1 Desk Study Report on Land at Main Street, Aberford on Behalf of Commercial Developments Projects Ltd. Dated 19th June and referenced CDP/10r2.

6.0 FINDINGS IN PREVIOUS PHASE 2 INVESTIGATION

The previous Phase 2 Investigation for the site identified exceedances of Arsenic, Lead and Benzo(b)fluoranthene and Dibenzo(a,h)anthracene in shallow site soils. The exceedances showed Arsenic recorded at concentrations of 91mg/kg at the location of TP06, exceeding the C4SL and S4UL of 37mg/kg.

Lead exceedances were recorded at concentrations of 1800mg/kg, 250mg/kg (2 No.) and 350mg/kg at TP06 (0.1m, 0.3m), TP07 and TP09, respectively; thus exceeding the C4SL of 200mg/kg.

Exceedance of Benzo(b)fluoranthene by 2.9mg/kg to S4UL of 2.2mg/kg and Dibenzo(a,h)anthracene by 0.28mg/kg to S4UL of 0.24mg/kg were also noted at the location of TP06.

Analysis has shown that the major hotspot of contamination on site exists at the location of TP06, with exceedances of lead, arsenic, Benzo(b)fluoranthene and Dibenzo(a,h)anthracene encountered here. This is likely to be associated with the surface level made ground deposits and the ashy made ground beneath this. This stratum was also encountered at the location of TP08, which is located in a proposed softlandscaping area.

Lead contamination was also noted at TP07 and TP09 and (while untested) is likely to be found at the location of TP08, all of which are located in areas of proposed soft-landscaping. Accordingly, remediation was recommended to be carried out on site, the extents of which are outlined below.

7.0 REMEDIATION RECOMMENDATIONS

In light of the above contamination identified in the prior Phase 2 works, it was recommended that all surface and subsurface made ground deposits be removed down to the bedrock horizon (noted during the site works to be fairly shallow across the site). Following excavation of these areas, certified clean materials should be imported in place and these should amount to a minimum of 600mm depth. A geotextile membrane was not considered necessary as no asbestos was detected and in the majority of areas on site, the encapsulation layer has been emplaced atop residual bedrock deposits, which were previously shown to be uncontaminated.

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8.0 WORKS UNDERTAKEN

The developer has removed all surface and subsurface made ground deposits from across the site. Furthermore, deposits located around the locations of TP06, TP05 and TP04 have been excavated and removed offsite to facilitate the construction of the 2 No. dwellings here. As such, the levelling works here have removed the contaminants due to the topographical differences between the western and eastern and south eastern extents of site). The remaining areas on site occupied by building footprint or hardstanding and as such, the relevant pollutant linkages here have been effectively severed.

Photographs of the inspection pits carried out to ascertain the correct depth of encapsulation and imported material tickets and pre-certification of imported materials can be found as Appendices A, B & C, respectively.

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9.0 REFERENCES

9.1 LEGISLATION AND REGULATIONS

9.1.1 ACTS

 Environmental Protection Act 1990, Part IIA: inserted by Environment Act 1995, Section 57. See Environment Act 1995 for text of Part IIA.

9.1.2 PLANNING REGULATIONS

- [2] The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 SI1999/No.293
- [3] The Town and Country Planning (Environmental Impact Assessment) (England and Wales) (Amendment) Regulations 2000 SI2000/No.2867

9.1.3 CONTAMINATED LAND REGULATIONS

- [4] The Contaminated Land (England) Regulations 2000. SI2000/No.227
- [5] The Contaminated Land (England) (Amendment) Regulations 2001 SI2001/No.663
- [6] The Contaminated Land (England) Regulations 2006 SI2006/No.1380

9.2 STATUTORY GUIDANCE

- [7] Department of Environment, Food and Rural Affairs. 2012. Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance.
 Department of Environment, Food and Rural Affairs
- [8] Communities and local Government, 2012: National Planning Policy Framework.

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9.3 BRITISH STANDARDS

- [9] BS 5930:1999 Code of practice for site investigations
- [10] BS 10175:2011+A1:2013 Investigation of potentially contaminated sites Code of practice
- [11] BS 8485:2015 bs 8485 2015 Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings
- [12] BS 8576:2013 Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs)

9.4 NON STATUTORY TECHNICAL GUIDANCE

9.4.1 ENVIRONMENT AGENCY

[13] Cassella Stranger, 2002. Model Procedures for the Management of Contaminated Land, Contaminated Land Report (CLR) 11, Department for Environment, Food, and Rural Affairs.

9.4.2 CIRIA PUBLICATIONS

- [14] Wilson, S., Oliver, S., Mallett, H., Hutchings, H., and Card, G. 2007,
 C 665 Assessing risks posed by hazardous ground gases to buildings London:
 Construction Industry Research and Information Association
- [15] Mallett, H., Cox, L., Wilson, S. and ,Corban M... 2014, C 735 Good practice on the testing and verification of protection systems for buildings against hazardous ground gases London: Construction Industry Research and Information Association

9.4.3 CL:AIRE

 [16] Card G, Wilson S, Mortimer S. 2012. A Pragmatic Approach to Ground Gas Risk Assessment. CL:AIRE Research Bulletin RB17. CL:AIRE, London, UK. ISSN 2047- 6450 (Online)

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10.0 APPENDICES

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APPENDIX A

INSPECTION PIT PHOTOGRAPHS



Inspection Pit Photographs

LAND CONTAMINATION SURVEYS

Photo No.1: Facing north showing removed material to correct depth to rear of northernmost retaining wall



Address: Site at Main Street, Aberford, Leeds

Client: Mr. R. Burrows

Photo No.2: Facing SE from the same location showing installed decking and imported materials to rear of this



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Inspection Pit Photographs

LAND CONTAMINATION SURVEYS

Photo No.3: Facing east showing inspection pit located in imported material in rear garden of Plot No.1



Address: Site at Main Street, Aberford, Leeds Client: Mr. R. Burrows

Photo No.4: Showing correct emplaced depth of certified clean material in rear garden area of Plot No.1



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Address: Site at Main Street, Aberford, Leeds Client: Mr. R. Burrows

Photo No.6: Showing correct emplaced depth of certified clean material in rear garden area of Plot No.2



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APPENDIX B

IMPORTED MATERIAL CERTIFICATION AND TICKETS



Green-tree Topsoil

Green-tree Topsoil is manufactured from natural by-products of the recycling industry and packed full of the essential nutrients and structural components that result in a rich and organic topsoil.

Certified to BS3882:2015 standards to ensure that the same high quality topsoil is delivered to site all year round. The high fertility of Green-tree Topsoil guarantees quick establishment of trees, plants and turf, no additional fertiliser products are required for the first season.

Green-tree Topsoil has been specified for use on many high profile projects across the UK including, The Olympic Park Legacy and South Tyneside Regeneration project.

Benefits of Green-tree Topsoil:

- Complies to BS3882:2015 standards
- Peat free with high organic content and fertility
- Environmentally sustainable blend
- Year-round availability
- Friable and easy to work with
- Good water holding capacity

Applications:

- Housing developments
- Commercial developments
- Public parks and recreation areas
- Domestic gardens
- Good water holding capacity



Example analysis of a Green-tree Topsoil*

pH Value (1:2.5 Water Extract)	8.4
Clay (<0.002mm)	8%
Silt (0.002 - 0.063mm)	13%
Sand (0.0063-2.0mm)	79%
Total Nitrogen (DUMUS)	0.16%
Extractable Phosphorus	47mg
Extractable Potassium	869mg/l
Extractable Magnesium	113mg/l
Organic Matter (LOI)	3.4%
Carbon: Nitrogen Ratio	12:1

*Contact your Sales Advisor for specific test data for your project.



reen-tree endeavour to ensure that the information given on this technical data sheet is accurate, but accept no liability for its use or suitability for particular application. Rabbit Hill Business Park, Great North Road, Arkendale, Knaresborough HG5 0FF **T:** 01423 332100 **E:** sales@green-tree.co.uk **W:** www.green-tree.co.uk **Facebook:** @greentechuk **Twitter:** @greentechItd

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Mr Mark Wood Green-tech Ltd Rabbit Hill Business Park Great North Road Arkendale Knaresborough North Yorkshire HG5 0FF

> 3rd August 2020 Our Ref: TOHA/20/9569/3/SS Your Ref: PO 403815

Dear Sirs

Topsoil Analysis Report: Barnsdale Landscape Grade Topsoil

We have completed the analysis of the soil sample recently submitted, referenced Barnsdale Landscape Grade Topsoil, 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 brown (Munsell Colour 7.5YR 3/4), slightly moist, friable, moderately calcareous LOAMY SAND with a weakly developed, fine granular structure*. The sample was virtually stone-free, with a moderate proportion of organic fines and occasional woody fragments. 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

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Green-tech Ltd Topsoil Analysis Report Barnsdale Landscape Grade Topsoil

Tim O'Hare Associates

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:

- detailed particle size analysis (5 sands, 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

Detailed Particle Size Analysis and Stone Content

The sample fell into the *loamy sand* 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 8.0) and moderately calcareous. This pH value would be considered suitable for general landscape purposes providing species with a wide pH tolerance or those known to prefer alkaline, moderately calcareous 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.

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Green-tech Ltd Topsoil Analysis Report Barnsdale Landscape Grade Topsoil Tim O'Hare Associates

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, non-saline, moderately calcareous loamy sand with a weakly developed granular structure and a low stone content. The sample contained sufficient reserves of organic matter and all major plant. 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 only species tolerant of alkaline, moderately calcareous soil conditions are selected and the physical condition of the soil is satisfactory.

The sample was fully compliant with the requirements of the British Standard for Topsoil (BS3882:2015 – Specification for topsoil and requirements for use – 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 (or 300mm if heavier soil or broad PSD), 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.

TOHA/20/9569/3/SS/Jul

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Green-tech Ltd Topsoil Analysis Report Barnsdale Landscape Grade Topsoil

Tim O'Hare Associates

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, respreading, 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.

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

Aaron Cross BSc MSc Graduate Soil Scientist

For & on behalf of Tim O'Hare Associates LLP

Tim White BSc MSc MISoilSci CSci Senior Associate

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Client: Green-tech Ltd			
Project Barnsdale Landscape Grade			
Job: Topsoil Analysis - B\$3882:20	15		
Date: 03/08/2020			
Job Ref No: TOHA/20/9569/3/SS			
			
Sample Reference			Landscape Grade
		Acreditation	
Clay (<0.002mm)	%	UKAS	8
Silt (0.002-0.05mm)	%	UKAS	13
Very Fine Sand (0.05-0.15mm)	%	UKAS	15
Fine Sand (0.15-0.25mm)	%	UKAS	25
Medium Sand (0.25-0.50mm)	%	UKAS	28
Coarse Sand (0.50-1.0mm)	%	UKAS	6
Very Coarse Sand (1.0-2.0mm)	%	UKAS	5
Total Sand (0.05-2.0mm)	%	UKAS	79
Texture Class (UK Classification)		UKAS	LS
Stones (2-20mm) Stones (20-50mm)	% DW % DW	GLP GLP	1
Stones (>50mm)	% DW	GLP	0
Stores (200mm)	1000	00	-
pH Value (1:2.5 water extract)	units	UKAS	8.0
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS	745
Electrical Conductivity (1:2 CaSO ₄ extract)	uS/cm	UKAS	2687
Exchangeable Sodium Percentage	%	UKAS	3.4
Organic Matter (LOI)	%	UKAS	6.4
Total Nitrogen (Dumas)	%	UKAS	0.22
C : N Ratio	ratio	UKAS	17
Extractable Phosphorus	mg/l	UKAS	50
Extractable Potassium	mg/l	UKAS	698
Extractable Magnesium	mg/l	UKAS	152
Total Arsenic (As)	mailer	MOEDTO	3
Total Cadmium (Cd)	mg/kg mg/kg	MCERTS MCERTS	0.3
Total Chromium (Cd)	mg/kg	MCERTS	0.3
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS	< 4.0
Total Copper (Cu)	mg/kg	MCERTS	21
Total Lead (Pb)	mg/kg	MCERTS	22
Total Mercury (Hg)	mg/kg	MCERTS	< 0.3
Total Nickel (Ni)	mg/kg	MCERTS	6
Total Selenium (Se)	mg/kg	MCERTS	< 1.0
Total Zinc (Zn)	mg/kg	MCERTS	41
Water Soluble Boron (B)	mg/kg	MCERTS	1.1
Total Cyanide (CN)	mg/kg	MCERTS	<1
Total (mono) Phenols	mg/kg	MCERTS	< 1.0
Naphthalene	mg/kg	MCERTS	< 0.05
Acenaphthylene	mg/kg	MCERTS	< 0.05
Acenaphthene	mg/kg	MCERTS	< 0.05
Fluorene	mg/kg	MCERTS	< 0.05
Phenanthrene	mg/kg	MCERTS	< 0.05
Anthracene	mg/kg	MCERTS	< 0.05
Fluoranthene	mg/kg	MCERTS	< 0.05
Pyrene	mg/kg	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	MCERTS	< 0.05
Chrysene	mg/kg	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	MCERTS	< 0.05
Benzo(k)fluoranthene	mg/kg	MCERTS	< 0.05
Benzo(a)pyrene	mg/kg	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene	mg/kg mg/kg	MCERTS MCERTS	< 0.05
Benzo(g,h,i)perylene	mg/kg	MCERTS	< 0.05
Total PAHs (sum USEPA16)	mg/kg	MCERTS	
Aliphatic TPH >C5 - C6	mg/kg	MCERTS	< 0.001
Aliphatic TPH >C6 - C8	mg/kg	MCERTS	< 0.001
Aliphatic TPH >C8 - C10	mg/kg	MCERTS	< 0.001
Aliphatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aliphatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aliphatic TPH >C16 - C21	mg/kg	MCERTS	< 8.0
Aliphatic TPH >C21 - C35	mg/kg	MCERTS MCERTS	< 8.0
Aliphatic TPH (C5 - C35) Aromatic TPH >C5 - C7	mg/kg	MCERTS MCERTS	< 10 < 0.001
Aromatic TPH >C5 - C7 Aromatic TPH >C7 - C8	mg/kg mg/kg	MCERTS MCERTS	< 0.001
Aromatic TPH >C8 - C10	mg/kg	MCERTS	< 0.001
Aromatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aromatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aromatic TPH >C16 - C21	mg/kg	MCERTS	< 10
Aromatic TPH >C21 - C35	mg/kg	MCERTS	< 10
Aromatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Benzene	mg/kg	MCERTS	< 0.001
Toluene	mg/kg	MCERTS	< 0.001
Ethylbenzene	mg/kg	MCERTS	< 0.001 < 0.001
p & m-xylene o-xylene	mg/kg mg/kg	MCERTS MCERTS	< 0.001
O-xylene MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS	< 0.001
many remary buy carery		moento	50.001
Asbestos Screen	ND/D	ISO 17025	Not-detected

-	
1	
0	
8.0	
745	
2687	
3.4	
6.4	
0.22	
0.22 17	
50	
698	
152	
3	
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LS = LOAMY SAND

Visual Examination

Visual Examination The sample was described as a brown (Munsell Colour 7.5YR 3/4), slightly moist, friable, moderately calcareous LOAMY SAND with a weakly developed, fine granular structure. The sample was virtually stone-free with a moderate proportion of organic fines and occasional woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

ACOST

Aaron Cross BSc MSc Soil Scientist

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

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Castledine Environmental



Invoice No. Customer No.

Your Order No.

Sales Manager

Email address

Date

Due date EC VAT No.

SALES INVOICE

365139

RICH45

Adam Wray

26/05/2021

25/06/2021

adamw@green-tech.co.uk

Richlea Ltd 100 Rein Road Tingley WAKEFIELD

WF3 1JB

SALES INVOICE: 365139

Item no.	Item name	Qty.	Price	VAT %	Total (GBP)
190GT3210	Green tree Topsoil Barnsdale Landscape Grade GT2	92.0200	20.7500	20.00	1,909.42
	(Tonne)				

4138193 18.92, 4138217 18.28, 4138240 18.20, 4138281 18.34, 4138287 18.28

5/07

Delivery address (if different)	Total net	1,909.42
Adj to Royal Oak Public House	VAT	381.88
Main Street North LEEDS	Document total (GBP)	2,291.30
West Yorkshire		
LS25 3AH		

Please pay directly to HSBC Sort Code: 40-47-31 Account Number: 54643143 Account Name: Greentech Ltd Our standard terms & conditions apply

Only products itemised as FSC Mix 70% are FSC certified INT - COC 001296

Greentech Ltd, Rabbit Hill Park, Great North Road, Arkendale, Knaresborough. HG5 0FF. UK Tel: +44 (0)1423 332100 Fax: +44 (0)1423 332101 Email: sales@green-tech.co.uk Web: www.green-tech.co.uk Greentech Ltd Registered in England No. 04543146 VAT Registration No: GB 222 4698 10

Castledine Environmental



Invoice No.

Customer No. Your Order No.

Sales Manager

Email address

Date

Due date EC VAT No.

SALES INVOICE

365129

RICH45

Adam Wray

28/05/2021

27/06/2021

adamw@green-tech.co.uk

Richlea Ltd 100 Rein Road Tingley WAKEFIELD

WF3 1JB

SALES INVOICE: 365129

Total (GBP)	VAT %	Price	Qty.	Item name	Item no.
1,942.20	20.00	20.7500	93.6000	Green tree Topsoil Barnsdale Landscape Grade GT2 (Tonne)	190GT3210
					4138323 18.56 4138512 18.86
					4138364 18.20
					4138400 18.86
					4138398 19.12 4138400 18.86

1		-
5	0)
-		

Delivery address (if different)	Total net	1,942.20
Adj to Royal Oak Public House	VAT	388,44
Main Street North LEEDS West Yorkshire LS25 3AH	Document total (GBP)	2,330.64
ise pay directly to HSBC Code: 40-47-31 punt Number: 54643143 punt Name: Greentech Ltd	Our standard terms Only products itemised as FSC Mix 70% are FSC certified	

Greentech Ltd, Rabbit Hill Park, Great North Road, Arkendale, Knaresborough. HG5 0FF. UK Tel: +44 (0)1423 332100 Fax: +44 (0)1423 332101 Email: sales@green-tech.co.uk Web: www.green-tech.co.uk Greentech Ltd Registered in England No. 04543146 VAT Registration No: GB 222 4698 10

Page: 1 of 1

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