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Waste Classification Assessment Report for Soils

Leedale Ltd

Provender Mill, Under The Hill, Biddulph Moor, Stoke-On-Trent, ST8 7RR

Inspection Pit

0800 030 5051 | enquiries@ecofficiency.co.uk

Ecofficiency Ltd | Armstrong House | First Avenue | Finningley Estate | DN9 3GA



Report Reference:	74603
Date of Report:	19.10.2018
Client:	Leedale Ltd
Site Address:	Provender Mill, Under The Hill Biddulph Moor, Stoke-On-Trent Staffordshire, ST8 7RR
Customer Contact:	Christian Stone
Customer Job Reference:	44319
Date Samples Received:	12.10.2018
Date Report Completed:	19.10.2018

Limitations and Uncertainties

The information reported herein is based on the interpretation of data collected during the site visit only, pertaining specifically to the soil samples retained from the identified locations.

This report has been prepared by Ecofficiency Ltd with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client

The evaluation and conclusions do not preclude the existence of other waste classifications, which could not reasonably have been revealed by the site investigation works undertaken at the time of writing. This report should be used for information purposes only and should not be construed as a comprehensive characterisation of all site conditions or potential waste streams.

This report has been prepared solely for the use of the above client, and may not be relied upon by other parties without written consent from Ecofficiency Ltd.

Ecofficiency Ltd disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

Section A: Sampling Plan for Waste Classification and Assessment

Sampling plan for waste classification and assessment	
Preparatory steps	
Involved parties: Producer, sampler and laboratory	
Objectives: Identify waste classification	Technical goals: Determine scope of sampling
Background information to research: • Site details • Process or nature of arising • Type, form and amount of material • Known physical, biological, or chemical characteristics • Operational procedures that may affect characteristics • Previous investigations or analysis	
Determine level of testing required: Basic	
Constituents to be tested: Metals, TPH, PAH, pH	
Health and safety precautions, and access restrictions: As per on-site induction	
Technical goals	
Define • Populations, and • Subpopulations	Stockpile
Variability and causes: • Spatial • Temporal	Spatial variability occurs in soil and made ground properties
Scale of sampling	Representative

Practical instructions and sampling methodology (CEN/TR 15310-1&2)	
Name and organisation of sampler	Leedale
Other parties present during sampling (name and organisation)	n/a
Statistical approach to be used	Individual sampling
Sampling approach and pattern (including justification)	Simple random
Identify sampling place and points	Refer to sample location plan
Sampling equipment needed	Standard tools/ plant
Sampling equipment to be used	Standard tools/ plant
Sample details • Individual or composite • Number of samples/ increments • Size of samples/ increments	 Individual 1 250ml amber glass jar
Requirements for sample reduction	N/A
Requirement for on-site determinations	N/A
Sample ref. number methodology	Ecofficiency reference
Anticipated restrictions or limitations that may impact on data reliability	N/A
Sub-sampling (CEN/TR 15310-3)	
Detail procedure used (if applicable)	N/A
Packaging, preservations, storage, and transportation requirements (CEN/TR 15310-4)	
Packaging (type, size, material considering risk of absorption/reaction, cleaning etc.)	250ml amber glass jar
Preservation (samples shall be packed and transported in such a way that their condition at the time of sampling is preserved)	
Storage	Protective cardboard box
Transport method	Courier
Transport company details: TNT Contact: 0800 100 600	Delivery date: 12.10.2018

Section B: Waste Classification

Sample ID	Waste Classification	EWC Code	Comments
Inspection Pit/Workshop	Non Hazardous	17 05 04	

Section C: Conclusion and Recommendations

It can be seen from the data that the sample submitted is non-hazardous with no elevated levels.

Section D: List of Appendices

Appendix A – Sample & Testing Information
Appendix B – Soil Classification Test Suite
Appendix C – Laboratory Results
Appendix D – UKAS & MCERTs Accredited Report

Appendix A – Sample & Testing Information

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are exclusive of stones.

Lab Ref	Sample ID	Depth (m)	Sample Description	Material Removed	Removed (%)	Moisture (%)
74603-1	Inspection Pit/Workshop	-	Sand	-	-	7.2

Laboratory Information:

Ecofficiency Ltd use UKAS & MCERTs accredited laboratories for all testing carrying out. Details of the laboratory used within this report are shown below along with relevant accreditations:

Laboratory Name: Chemtech Environmental
Address: Unit 6 Parkhead, Greencroft Industrial Park, Stanley, DH9 7YB
UKAS Testing: 2531
Accredited to: ISO/IEC 17025:2005

Full schedule of accreditation available on request.

Key:

U – UKAS accredited test
M – MCERTS & UKAS accredited test
$ - Test carried out by an approved subcontractor
I/S – Insufficient sample to carry out test
N/S – Sample not suitable for testing
NAD – No Asbestos Detected

Appendix B – Soil Classification Test Suite

All samples collected from site are forwarded to one of our approved, UKAS accredited, laboratories for analysis. Ecofficiency Ltd has developed a pre-determined range of soil classification test suites focusing on specific areas of industry associated with contaminated land in the UK. The analysis suites determined for this project are detailed in the below table.

Standard Classification Test Suite & Method

Analysis	LOD	Unit	Technique	Accreditation
Arsenic (total)	1	mg/kg As	Aqua regia digest, ICP-MS	M
Cadmium (total)	0.2	mg/kg Cd	Aqua regia digest, ICP-MS	M
Chromium (total)	1	mg/kg Cr	Aqua regia digest, ICP-MS	M
Chromium (III)	1	mg/kg CrIII	Calculation: Cr (total) – Cr (VI)	
Chromium (VI)	1	mg/kg CrVI	Acid extraction, Colorimetry	
Copper (total)	1	mg/kg Cu	Aqua regia digest, ICP-MS	M
Lead (total)	1	mg/kg Pb	Aqua regia digest, ICP-MS	M
Mercury (total)	0.5	mg/kg Hg	Aqua regia digest, ICP-MS	M
Nickel (total)	1	mg/kg Ni	Aqua regia digest, ICP-MS	M
Selenium (total)	0.3	mg/kg Se	Aqua regia digest, ICP-MS	M
Zinc (total)	5	mg/kg Zn	Aqua regia digest, ICP-MS	M
pH		Units	Based on BS 1377, pH Meter	M
Napthalene	0.01	mg/kg	Solvent extraction, GC-MS	M
Acenaphthylene	0.01	mg/kg	Solvent extraction, GC-MS	M
Acenaphthene	0.01	mg/kg	Solvent extraction, GC-MS	M
Fluorene	0.01	mg/kg	Solvent extraction, GC-MS	U
Phenanthrene	0.02	mg/kg	Solvent extraction, GC-MS	M
Anthracene	0.02	mg/kg	Solvent extraction, GC-MS	U
Fluoranthene	0.02	mg/kg	Solvent extraction, GC-MS	M
Pyrene	0.02	mg/kg	Solvent extraction, GC-MS	M
Benzo(a)anthracene	0.02	mg/kg	Solvent extraction, GC-MS	U
Chrysene	0.01	mg/kg	Solvent extraction, GC-MS	M
Benzo(b)fluoranthene	0.02	mg/kg	Solvent extraction, GC-MS	M
Benzo(k)fluoranthene	0.02	mg/kg	Solvent extraction, GC-MS	M
Benzo(a)pyrene	0.02	mg/kg	Solvent extraction, GC-MS	U
Indeno(123cd)pyrene	0.02	mg/kg	Solvent extraction, GC-MS	M
Dibenz(ah)anthracene	0.02	mg/kg	Solvent extraction, GC-MS	M
Benzo(ghi)perylene	0.02	mg/kg	Solvent extraction, GC-MS	M
PAH (total of USEPA 16)	0.27	mg/kg	Solvent extraction, GC-MS	
Benzo(j)fluoranthene	0.02	mg/kg	Solvent extraction, GC-MS	
PAH (total of OIL 8)	0.15	mg/kg	Solvent extraction, GC-MS	
VPH (>C5-C10)	0.1	mg/kg	Headspace GC-FID	
EPH (>C10-C25)	10	mg/kg	Solvent extraction, GC-FID	M
EPH (>C25-C40)	10	mg/kg	Solvent extraction, GC-FID	M

Appendix C – Laboratory Results

Lab number **Sample id** **Depth (m)** **Date sampled**			74603-1 Inspection Pit/Workshop - 11/10/2018
Test	**Method**	**Units**	
Arsenic (total)	CE127 M	mg/kg As	7.2
Cadmium (total)	CE127 M	mg/kg Cd	<0.2
Chromium (total)	CE127 M	mg/kg Cr	43
Chromium (III)	-	mg/kg CrIII	43
Chromium (VI)	CE146	mg/kg CrVI	<1
Copper (total)	CE127 M	mg/kg Cu	4.2
Lead (total)	CE127 M	mg/kg Pb	4.8
Mercury (total)	CE127 M	mg/kg Hg	<0.5
Nickel (total)	CE127 M	mg/kg Ni	20
Selenium (total)	CE127 M	mg/kg Se	0.3
Zinc (total)	CE127 M	mg/kg Zn	12
pH	CE004 M	units	8.6
PAH			
Naphthalene	CE087 M	mg/kg	<0.01
Acenaphthylene	CE087 M	mg/kg	<0.01
Acenaphthene	CE087 M	mg/kg	<0.01
Fluorene	CE087 U	mg/kg	<0.01
Phenanthrene	CE087 M	mg/kg	<0.02
Anthracene	CE087 U	mg/kg	<0.02
Fluoranthene	CE087 M	mg/kg	0.04
Pyrene	CE087 M	mg/kg	0.03
Benzo(a)anthracene	CE087 U	mg/kg	<0.02
Chrysene	CE087 M	mg/kg	<0.01
Benzo(b)fluoranthene	CE087 M	mg/kg	<0.02
Benzo(k)fluoranthene	CE087 M	mg/kg	<0.02
Benzo(a)pyrene	CE087 U	mg/kg	<0.02
Indeno(123cd)pyrene	CE087 M	mg/kg	<0.02
Dibenz(ah)anthracene	CE087 M	mg/kg	<0.02
Benzo(ghi)perylene	CE087 M	mg/kg	<0.02
PAH (total of USEPA 16)	CE087	mg/kg	<0.27
Benzo(j)fluoranthene	CE087	mg/kg	<0.02
PAH (total of OIL 8)	CE087	mg/kg	<0.15
TPH			
VPH (>C5-C10)	CE067	mg/kg	<0.1
EPH (>C10-C25)	CE033 M	mg/kg	<10
EPH (>C25-C40)	CE033 M	mg/kg	<10

Appendix D – UKAS & MCERTS Accredited Report

2531

CHEMTECH environmental

ANALYTICAL TEST REPORT

Contract no: 74603

Contract name: Provender Mill, Under The Hill, Biddulph Moor, Stoke-On-Trent, Staffordshire, ST8 7RR

Client reference: 44319

Clients name: Ecofficiency

Clients address: US18 Armstrong House
Finningley
DN9 3GA

Samples received: 12 October 2018

Analysis started: 12 October 2018

Analysis completed: 19 October 2018

Report issued: 19 October 2018

Notes: Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key: U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by:
Dave Bowerbank
Customer Services Co-ordinator

Chemtech Environmental Limited
SAMPLE INFORMATION

MCERTS (Soils):
Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
74603-1	Inspection Pit/Workshop	-	Sand	-	-	7.2

Chemtech Environmental Limited
SOILS

Lab number			74603-1
Sample id			Inspection Pit/Workshop
Depth (m)			-
Date sampled			11/10/2018
Test	**Method**	**Units**	
Arsenic (total)	CE127 ^	mg/kg As	7.2
Cadmium (total)	CE127 ^	mg/kg Cd	<0.2
Chromium (total)	CE127 ^	mg/kg Cr	43
Chromium (III)	-	mg/kg CrIII	43
Chromium (VI)	CE146	mg/kg CrVI	<1
Copper (total)	CE127 ^	mg/kg Cu	4.2
Lead (total)	CE127 ^	mg/kg Pb	4.8
Mercury (total)	CE127 ^	mg/kg Hg	<0.5
Nickel (total)	CE127 ^	mg/kg Ni	20
Selenium (total)	CE127 ^	mg/kg Se	0.3
Zinc (total)	CE127 ^	mg/kg Zn	12
pH	CE004 ^	units	8.6
PAH			
Naphthalene	CE087 ^	mg/kg	<0.01
Acenaphthylene	CE087 ^	mg/kg	<0.01
Acenaphthene	CE087 ^	mg/kg	<0.01
Fluorene	CE087 ^	mg/kg	<0.01
Phenanthrene	CE087 ^	mg/kg	<0.02
Anthracene	CE087 ^	mg/kg	<0.02
Fluoranthene	CE087 ^	mg/kg	0.04
Pyrene	CE087 ^	mg/kg	0.03
Benzo(a)anthracene	CE087 ^	mg/kg	<0.02
Chrysene	CE087 ^	mg/kg	<0.01
Benzo(b)fluoranthene	CE087 ^	mg/kg	<0.02
Benzo(k)fluoranthene	CE087 ^	mg/kg	<0.02
Benzo(a)pyrene	CE087 ^	mg/kg	<0.02
Indeno(123cd)pyrene	CE087 ^	mg/kg	<0.02
Dibenz(ah)anthracene	CE087 ^	mg/kg	<0.02
Benzo(ghi)perylene	CE087 ^	mg/kg	<0.02
PAH (total of USEPA 16)	CE087	mg/kg	<0.27
Benzo(j)fluoranthene	CE087	mg/kg	<0.02
PAH (total of OIL 8)	CE087	mg/kg	<0.15
TPH			
VPH (>C5-C10)	CE067	mg/kg	<0.1
EPH (>C10-C25)	CE033 ^	mg/kg	<10
EPH (>C25-C40)	CE033 ^	mg/kg	<10

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METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
-	Chromium (III)	Calculation: Cr (total) - Cr (VI)	Dry		1	mg/kg CrIII
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE004	pH	Based on BS 1377, pH Meter	Wet	M	-	units
CE087	Naphthalene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	Wet	U	0.01	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	Wet	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	Wet	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	Wet	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	Wet		0.27	mg/kg
CE087	Benzo(j)fluoranthene	Solvent extraction, GC-MS	Wet		0.02	mg/kg
CE087	PAH (total of OIL 8)	Solvent extraction, GC-MS	Wet		0.15	mg/kg
CE067	VPH (>C5-C10)	Headspace GC-FID	Wet		0.1	mg/kg
CE033	EPH (>C10-C25)	Solvent extraction, GC-FID	Wet	M	10	mg/kg
CE033	EPH (>C25-C40)	Solvent extraction, GC-FID	Wet	M	10	mg/kg

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DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
74603-1	Inspection Pit/Workshop	-	N	

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