BROWNFIELD SOLUTIONS LTD

GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

DOMIS CONSTRUCTION LTD

Manchester Youth Zone East, Gorton

Validation Report

NS/C4134/8423

April 2019

PROJECT QUALITY CONTROL DATA SHEET

Site Name:	Manchester Youth Zone East, Gorton		
Document Name:	Validation Report		
Reference:	NS/C4134/8423		
Status:	-	10/04/2019	Final.

Issued By:	**Client:**	**Engineer:**
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C4134/02	-	Sample Location Plan

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Appendix A	Chemical Laboratory Testing Certificates
Appendix B	Waste Classification Report
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1.0 INTRODUCTION

1.1 Context

This Validation Report has been produced by Brownfield Solutions Limited (BSL) for Domis Construction Ltd for a site off Queensland Road, Gorton and has been completed in general accordance with the following guidance:

- CLR11 Model Procedures for the Management of Land Contamination.
- BS 10175:2011+A2:2017 Investigation of Potentially Contaminated Sites.

1.2 Objectives and Scope

A Geo-Environmental Assessment Report was produced and issued by Geo-Ventures (UK) in June 2018.

A Remedial Strategy has also been produced for the site by Geo-Ventures (UK), dated June 2018. The above reports should be read in conjunction with this Validation Report. It is assumed that these reports have been accepted by the Local Authority in order to produce this Validation Report.

The enabling works were carried out in order to make the site suitable for the proposed end use, which will comprise a youth centre with associated external play areas and multi-use games area (MUGA) (adopting a residential without plant root uptake scenario in respect to land quality assessment).

1.3 Remediation Works

The remedial works and consequent validation carried out as part of the enabling works phase were done so in order to create a development environment. The works comprised providing appropriate supervision of the remedial works from a geo-environmental perspective (i. e. watching brief by a suitably qualified geo-environmental engineer).

1.4 Limitations

This report has been prepared for the sole use and reliance of the Client, Domis Construction Ltd. This report shall not be relied upon or transferred to any other parties without the express written authorisation of BSL. If an unauthorised third party comes into possession of this report they rely on it at their risk and the authors owe them no duty of care or skill.

Current UK guidance and legislation has been used in the environmental assessment of the site, BSL is not liable for any subsequent changes in the guidance and legislation.

The findings and opinions conveyed via this report are based on information obtained from a number of sources as detailed within this report, BSL have assumed this information is correct and reliable. Nevertheless, BSL cannot and does not guarantee the authenticity or reliability of the information it has relied upon.

The recommendations within this report are based upon the proposed site end use provided to BSL at the time of writing. If the end use or development layout changes from the proposal, then the recommendations may change or become invalid.

The site plans enclosed in this report should not be scaled off. Any site boundary line depicted on plans does not imply legal ownership of land.

Any recommendations made in this report should be confirmed with the Regulatory Authorities prior to implementation to ensure compliance.

2.0 GROUND MODEL SUMMARY

2.1 Location & Access

The site is located off Queensland Road, Gorton, M12 5PS. It is situated approximately 4km south-east of Manchester City Centre, centred on National Grid Reference 387810, 396350 as shown on the Site Location Plan, Drawing No. C4134/01.

2.2 Site Description

At the time of the first site visit to undertake a watching brief, the side was widely featureless and comprised brown made ground across the surface of the site. A black metal fence remained in place between the south-eastern half of the site and the land acquired within the adjacent park (Gorton Park) to the north-west. Within the north-west of the site was grass and a tarmacadam path which ran north to south beyond the fence line.

2.3 Environmental Setting

Site History
The previous uses on site from a review of available historical mapping includes a Public Baths and a Wash House. The building that was formerly the Public Wash House in the south of the site was no longer present by 1989 mapping. The former public baths was later denoted as a gymnasium. Land in the north-west of the site was denoted as a playground with associated pavilion to the south from 1961 mapping. 1:10:000 mapping indicates that much of the site was redeveloped as a police station by 1955.

Geology
Geological mapping indicates that artificial ground is not present at the site. The superficial deposits underlying the site are Devensian till (clays, silt, sand and gravel) and are underlain by the Sherwood Sandstone Formation (sandstone).

Information from the site investigation undertaken at the site revealed made ground up to 2.10m thick typically comprising clay fill with brick fragments. The natural ground comprised stiff to very stiff brown clay generally from 1.00m to greater than 10.00mbgl.

Hydrogeology
The superficial deposits beneath the site are classified by the Environment Agency as a Secondary Aquifer (Undifferentiated), whilst the bedrock beneath the site is classified by the Environment Agency as a Principal Aquifer.

The site does not lie within 500m of a Source Protection Zone. A groundwater abstraction for dust suppression is located 2845m south-east of the site at Belle Vue Greyhound Stadium

Groundwater was not encountered during the site investigation.

Hydrology
There are no significant surface water features, discharge consents, pollution incidents or abstraction licenses within influencing distance of the site.

Potential Environmental Constraints
The Geo-Ventures report detailed the following: 'there are no landfill sites within 250m of the site. The historical maps indicate that the "Boating Lake" on the south side of Hyde Road has been backfilled and could be a potential source of hazardous gases depending on the type of materials used in this operation and these may have migrated laterally depending on ground conditions. Three rounds of gas monitoring were undertaken which did not reveal any elevated carbon dioxide and methane concentrations. Given

this, the risk was considered to be low and no remedial measures were considered necessary in respect to ground gas'.

Radon

Information from the environmental database report indicates the property is not in a radon affected area and therefore no radon protective measures are necessary in accordance with BRE Report 211 'Radon – Guidance on protective measures for new dwellings' 2015 Edition.

3.0 SITE REMEDIATION WORK

3.1 General Requirements

The previous ground investigations did not highlight any levels of contamination above the assessment criteria. Given this the following remedial works were required to make the site suitable for the proposed end use:

- Watching brief for any previously unidentified contamination.

3.2 Watching Brief

The enabling works at the site involved a reduced level dig of up to 2.00m to remove made ground and desiccated clays, then replace these with compacted 6F2 to assist with foundation installation . BSL attended site on numerous occasions to undertake a watching brief between 18th February 2019 and 18th March 2019.

3.3 Hydrocarbon Hotspot Removal

During the site works BSL was made aware of anecdotal evidence suggesting that fuel tanks had historically been stored in the north-eastern corner of the site. BSL attended site on 21st February 2019 to oversee excavation in this area of the site. Excavation revealed a localised area of ash fill and visual/olfactory evidence of hydrocarbon contaminated clay made ground. The hydrocarbon impacted area was limited, approximately 2m by 2m in size. The area was excavated and stockpiled separately whilst testing was undertaken to classify the waste. Two samples (TP101-A and TP101-B) were taken from the base of the excavation to validate the hotpot removal and analysed for Total Petroleum Hydrocarbons (TPH). When compared to a conservative residential without plant take end-use, levels of banded TPH did not exceed their relevant assessment criteria and it is considered the hotspot has been successfully removed. The chemical laboratory test certificates (19-29966) are presented in Appendix A.

3.4 Enabling Works

No other signs of visual or olfactory contamination were noted during the reduced level dig/enabling works. The soils at the site were brought down to natural strata with all made ground removed offsite as waste and disposed to a suitable off site facility. Given this, no residual risk is considered to exist, and the site is suitable for the intended end use.

3.5 Waste

One sample was taken of the arisings and tested for heavy metals, PAHs, TPH, and asbestos, the results of which are presented on chemical certificates (19-29966) in Appendix A. The results classified the waste as non-hazardous, subsequent WAC testing (19-29970) revealed the material to be above the inert WAC limit values. The waste classification report for the site is presented in Appendix B.

General site arisings were stored in a large stockpile in the western half of the site during the reduced level dig whilst awaiting offsite disposal. WAC testing was undertaken on three samples of the stockpile, SP101, SP102-3 and SP102-5, the testing revealed the waste to be above the inert WAC limit values. The chemical certificates (19-31523) are presented in Appendix A.

Prior to 5th March 2019, excavation commenced on an area in the northern most corner of the site to make room for a large attenuation tank. The excavation, which was approximately 20m x 10m x 1m, resulted in a stockpile of approximately 200m^3 in the north of the site. WAC testing was undertaken on

two samples, AT1 and AT2, from the natural clay arising from the attenuation tank excavation. Testing showed the waste to be below the inert WAC limit values. The chemical certificates (19-31523) are presented in Appendix A.

Waste Transfer Notes are presented in Appendix C.

4.0 IMPORTED SOILS CRITERIA

Imported soils to be used as part of the soft landscaping should be tested and meet the criteria outlined within Appendix D.

Any imported material should be approved by BSL and the Local Authority prior to being imported onto site.

5.0 CONCLUSIONS

5.1 General

A small hydrocarbon hotspot was noted during the enabling works at the site, localised to the north-eastern corner of the site, the hotspot was successfully validated and removed from the site. No other signs of visual or olfactory contamination was noted during the reduced level dig. The soils at the site were excavated down to natural strata with all made ground removed offsite as waste to a suitable facility. Given this, no residual risk is considered to exist, and the site is considered to be suitable for the intended end use.

5.2 Further Work

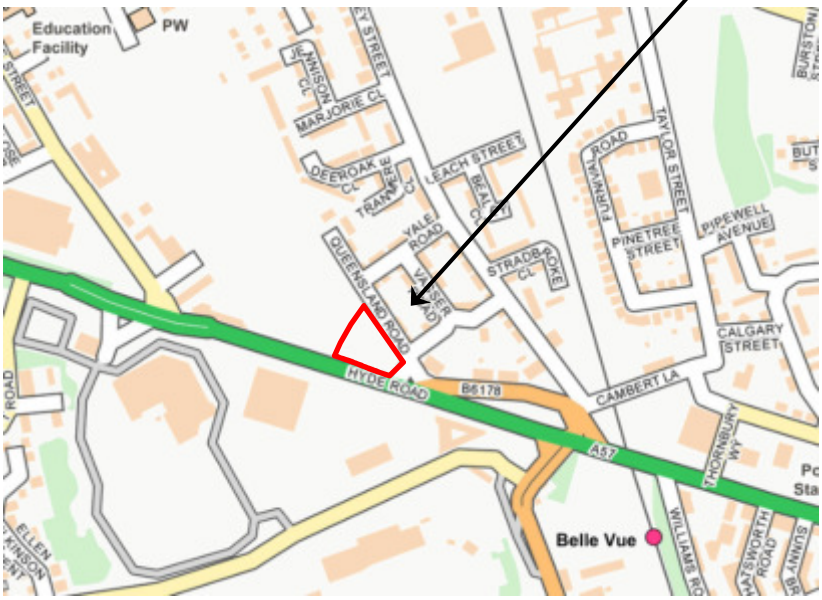
BSL will maintain records of the works to include the following:

- Importation of soils for soft landscaping to meet agreed chemical criteria.

DRAWINGS



SITE LOCATION



REV	DATE	DESCRIPTION	BY	CKD

BROWNFIELD SOLUTIONS LTD

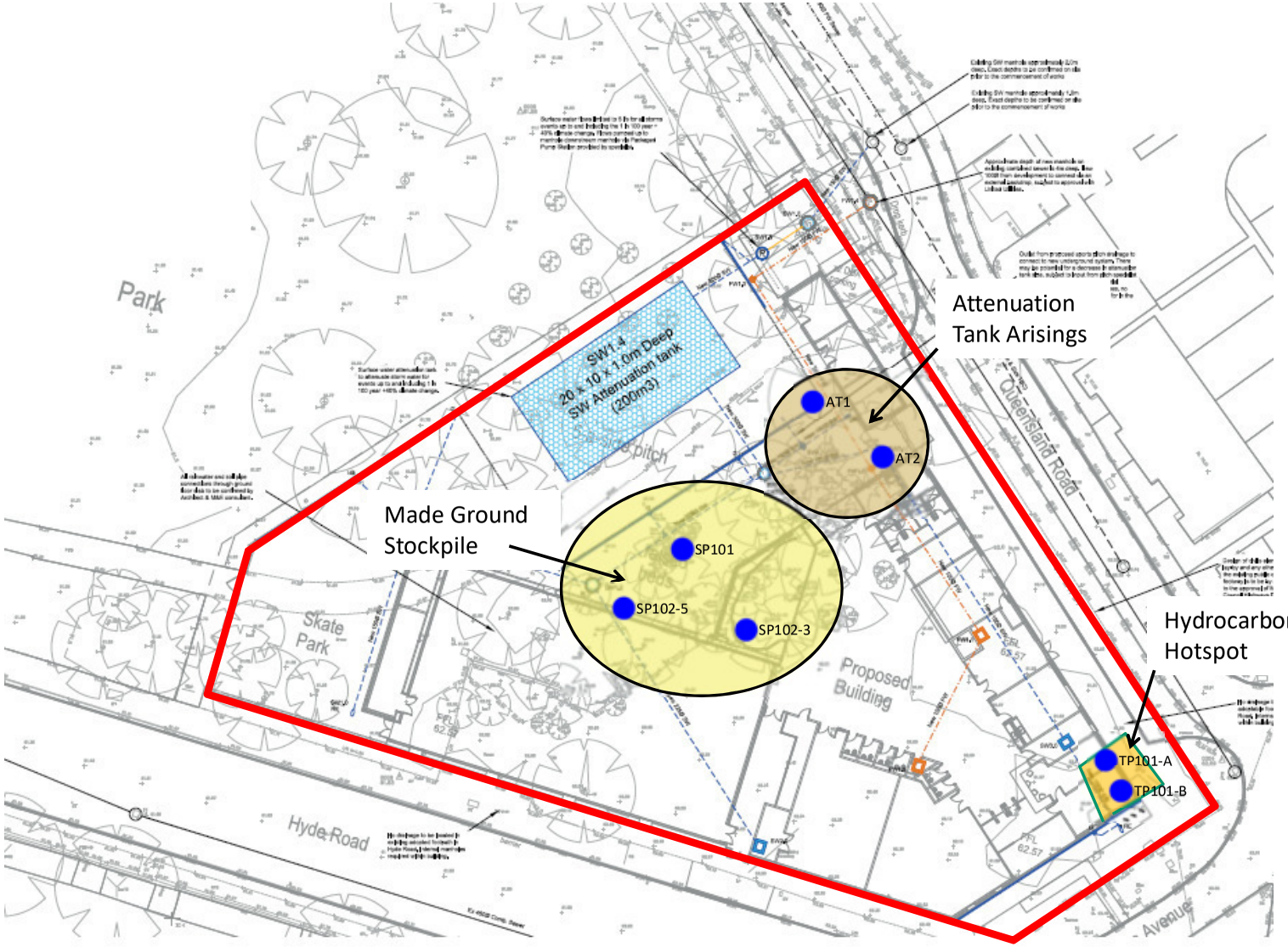
CLIENT
DOMIS CONSTRUCTION LTD

PROJECT TITLE
MYZE, GORTON

DRAWING TITLE
SITE LOCATION PLAN

DRAWING No.	REVISION	SCALE	DATE
C4134/01	-	NTS	27/03/2019

DRAWN BY	CHECKED BY
NS	DMG



KEY

APPROXIMATE SITE BOUNDARY

NOTES

1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING WORKS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT & ENGINEER FOR VERIFICATION. FIGURED DIMENSIONS ONLY ARE TO BE TAKEN FROM THIS DRAWING.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS REPORTS. THIS DRAWING IS COPYRIGHT OF BSL.
3. DRAWING NOT FOR CONSTRUCTION PURPOSES.

REV	DATE	DESCRIPTION	BY	CKD

BROWNFIELD SOLUTIONS LTD

CLIENT
DOMIS CONSTRUCTION LTD

PROJECT TITLE
MYZE, GORTON

DRAWING TITLE
SAMPLE LOCATION PLAN

DRAWING No.	REVISION	SCALE	DATE
C4134/02	-	NTS	27/03/19

DRAWN BY	CHECKED BY
NS	DMG

APPENDIX A

Chemical Laboratory Test Certificates

Nicola Swallow
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Cheshire
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Analytical Report Number : 19-29966-B

Replaces Analytical Report Number : 19-29966, issue no. 2

Project / Site name:	MYZE, Gorton	**Samples received on:**	21/02/2019
Your job number:	C4134	**Samples instructed on:**	21/02/2019
Your order number:	NS-C4134-6295	**Analysis completed by:**	27/02/2019
Report Issue Number:	3	**Report issued on:**	29/03/2019
Samples Analysed:	4 soil samples		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 19-29966-B

Project / Site name: MYZE, Gorton

Your Order No: NS-C4134-6295

Lab Sample Number				1161580	1161581	1161582		
Sample Reference				TP101	TP101-A	TP101-B		
Sample Number				Arisings	Base	Base		
Depth (m)				None Supplied	0.10	0.10		
Date Sampled				21/02/2019	21/02/2019	21/02/2019		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	17	13	16		
Total mass of sample received	kg	0.001	NONE	1.2	1.0	1.2		
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Crocidolite	-	-		
Asbestos in Soil	Type	N/A	ISO 17025	Detected	-	-		
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	-	-		
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	-	-		
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.5	-	-		
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	2900	-	-		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.4	-	-		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	1430	-	-		
Organic Matter	%	0.1	MCERTS	1.0	1.6	0.8		

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Your Order No: NS-C4134-6295

Lab Sample Number				1161580	1161581	1161582		
Sample Reference				TP101	TP101-A	TP101-B		
Sample Number				Arisings	Base	Base		
Depth (m)				None Supplied	0.10	0.10		
Date Sampled				21/02/2019	21/02/2019	21/02/2019		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.18	-	-		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-	-		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	-		
Phenanthrene	mg/kg	0.05	MCERTS	1.0	-	-		
Anthracene	mg/kg	0.05	MCERTS	0.39	-	-		
Fluoranthene	mg/kg	0.05	MCERTS	3.8	-	-		
Pyrene	mg/kg	0.05	MCERTS	3.6	-	-		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	-	-		
Chrysene	mg/kg	0.05	MCERTS	1.3	-	-		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.8	-	-		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.49	-	-		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.4	-	-		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.52	-	-		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.54	-	-		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	16.4	-	-		

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Lab Sample Number				1161580	1161581	1161582		
Sample Reference				TP101	TP101-A	TP101-B		
Sample Number				Arisings	Base	Base		
Depth (m)				None Supplied	0.10	0.10		
Date Sampled				21/02/2019	21/02/2019	21/02/2019		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	28	-	-		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	-		
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	-	-		
Chromium (III)	mg/kg	1	NONE	34	-	-		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34	-	-		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	160	-	-		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	79	-	-		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	44	-	-		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	170	-	-		

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Lab Sample Number				1161580	1161581	1161582		
Sample Reference				TP101	TP101-A	TP101-B		
Sample Number				Arisings	Base	Base		
Depth (m)				None Supplied	0.10	0.10		
Date Sampled				21/02/2019	21/02/2019	21/02/2019		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Petroleum Hydrocarbons								

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Lab Sample Number				1161580	1161581	1161582		
Sample Reference				TP101	TP101-A	TP101-B		
Sample Number				Arisings	Base	Base		
Depth (m)				None Supplied	0.10	0.10		
Date Sampled				21/02/2019	21/02/2019	21/02/2019		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	14	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	28	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	17	< 8.0	< 8.0		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	59	< 10	< 10		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	1.3	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	33	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	70	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	38	< 10	< 10		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	140	< 10	< 10		

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Analytical Report Number: 19-29966-B
Project / Site name: MYZE, Gorton
Your Order No: NS-C4134-6295

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
1161580	TP101		109	Loose Fibres	**Crocidolite**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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Project / Site name: MYZE, Gorton

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1161580	TP101	Arisings	None Supplied	Brown clay with brick.
1161581	TP101-A	Base	0.10	Brown clay.
1161582	TP101-B	Base	0.10	Brown clay and loam.

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Analytical Report Number : 19-29966-B

Project / Site name: MYZE, Gorton

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 19-29970

Project / Site name:	MYZE, Gorton	**Samples received on:**	21/02/2019
Your job number:	C4134	**Samples instructed on:**	21/02/2019
Your order number:	NS-C4134-6295	**Analysis completed by:**	28/02/2019
Report Issue Number:	1	**Report issued on:**	28/02/2019
Samples Analysed:	2 10:1 WAC samples		

Signed:

Agnieszka Pietrowska
Laboratory Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Waste Acceptance Criteria Analytical Results

Report No:	**19-29970**						
					Client:	**BSL**	
Location	**MYZE, Gorton**						
Lab Reference (Sample Number)	1161590 / 1161591				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	21/02/2019				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP101 Arisings						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	0.6				3%	5%	6%
Loss on Ignition (%) **	2.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	99				500	--	--
Total PAH (WAC-17) (mg/kg)	16				100	--	--
pH (units)**	7.8				--	>6	--
Acid Neutralisation Capacity (mol / kg)	8.2				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0027			0.0225	0.5	2	25
Barium *	0.0405			0.341	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	< 0.0004			< 0.0040	0.5	10	70
Copper *	0.0025			0.021	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0070			0.0590	0.5	10	30
Nickel *	0.0011			0.0092	0.4	10	40
Lead *	0.0021			0.018	0.5	10	50
Antimony *	0.0029			0.024	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0023			0.019	4	50	200
Chloride *	2.0			17	800	4000	25000
Fluoride	0.37			3.1	10	150	500
Sulphate *	310			2600	1000	20000	50000
TDS*	350			3000	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	5.95			50.2	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.2						
Dry Matter (%)	83						
Moisture (%)	17						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results

Report No:	**19-29970**						
					Client:	**BSL**	
Location	**MYZE, Gorton**						
Lab Reference (Sample Number)	1161592 / 1161593				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	21/02/2019				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	SP101						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	2.5				3%	5%	6%
Loss on Ignition (%) **	5.5				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	0.19				1	--	--
Mineral Oil (mg/kg)	110				500	--	--
Total PAH (WAC-17) (mg/kg)	110				100	--	--
pH (units)**	7.7				--	>6	--
Acid Neutralisation Capacity (mol / kg)	9.4				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0039			0.0335	0.5	2	25
Barium *	0.0521			0.443	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0046			0.039	0.5	10	70
Copper *	0.0095			0.081	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0037			0.0318	0.5	10	30
Nickel *	0.0010			0.0088	0.4	10	40
Lead *	0.021			0.18	0.5	10	50
Antimony *	0.0045			0.038	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0087			0.074	4	50	200
Chloride *	2.3			20	800	4000	25000
Fluoride	0.72			6.1	10	150	500
Sulphate *	12			100	1000	20000	50000
TDS*	80			680	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	13.7			117	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	82						
Moisture (%)	18						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
*= UKAS accredited (liquid eluate analysis only)
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** = MCERTS accrediited

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Analytical Report Number : 19-29970

Project / Site name: MYZE, Gorton

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1161590	TP101	Arisings	None Supplied	Brown clay with brick.
1161592	SP101	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.

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Analytical Report Number : 19-29970

Project / Site name: MYZE, Gorton

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	NONE

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Analytical Report Number : 19-29970

Project / Site name: MYZE, Gorton

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 19-31523

Project / Site name:	MYZE, Gorton	**Samples received on:**	05/03/2019
Your job number:	C4134	**Samples instructed on:**	05/03/2019
Your order number:	NS-C4134-6295	**Analysis completed by:**	12/03/2019
Report Issue Number:	1	**Report issued on:**	12/03/2019
Samples Analysed:	4 10:1 WAC		

Signed:

Rexona Rahman
Head of Customer Services
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Waste Acceptance Criteria Analytical Results

Report No:	**19-31523**						
					Client:	**BSL**	
Location	**MYZE, Gorton**						
Lab Reference (Sample Number)	1169450 / 1169451				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	05/03/2019				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	AT1						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	1.4				3%	5%	6%
Loss on Ignition (%) **	4.0				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	22				500	--	--
Total PAH (WAC-17) (mg/kg)	8.5				100	--	--
pH (units)**	7.8				--	>6	--
Acid Neutralisation Capacity (mol / kg)	11				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0011			< 0.0110	0.5	2	25
Barium *	0.0237			0.195	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0009			0.0071	0.5	10	70
Copper *	0.0043			0.035	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0015			0.0126	0.5	10	30
Nickel *	0.0003			< 0.0030	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0052			0.043	4	50	200
Chloride *	1.3			11	800	4000	25000
Fluoride	1.1			8.8	10	150	500
Sulphate *	5.3			44	1000	20000	50000
TDS*	76			620	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	7.98			65.6	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.3						
Dry Matter (%)	82						
Moisture (%)	18						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
*= UKAS accredited (liquid eluate analysis only)
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation
** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results

Report No:	**19-31523**						
					Client:	**BSL**	
Location	**MYZE, Gorton**						
Lab Reference (Sample Number)	1169452 / 1169453				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	05/03/2019				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	AT2						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	3.1				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	4.7				100	--	--
pH (units)**	7.8				--	>6	--
Acid Neutralisation Capacity (mol / kg)	3.5				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0063			0.0531	0.5	2	25
Barium *	0.0161			0.136	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0013			0.011	0.5	10	70
Copper *	0.0065			0.055	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0014			0.0122	0.5	10	30
Nickel *	0.0009			0.0077	0.4	10	40
Lead *	0.0025			0.021	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0049			0.042	4	50	200
Chloride *	1.5			12	800	4000	25000
Fluoride	1.0			8.8	10	150	500
Sulphate *	2.8			23	1000	20000	50000
TDS*	59			500	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	10.2			86.9	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.2						
Dry Matter (%)	84						
Moisture (%)	16						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
*= UKAS accredited (liquid eluate analysis only)
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** = MCERTS accrediited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
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Waste Acceptance Criteria Analytical Results

Report No:	**19-31523**						
					Client:	**BSL**	
Location	**MYZE, Gorton**						
Lab Reference (Sample Number)	1169454 / 1169455				**Landfill Waste Acceptance Criteria**		
					Limits		
Sampling Date	28/02/2019				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	SP102-3						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	3.0				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	7.7				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mol / kg)	5.7				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0015			0.0130	0.5	2	25
Barium *	0.0209			0.175	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0007			0.0060	0.5	10	70
Copper *	0.0037			0.031	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	< 0.0004			< 0.0040	0.5	10	30
Nickel *	0.0003			< 0.0030	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0014			0.012	4	50	200
Chloride *	2.8			24	800	4000	25000
Fluoride	1.9			16	10	150	500
Sulphate *	18			150	1000	20000	50000
TDS*	100			870	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.05			50.6	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	86						
Moisture (%)	14						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
*= UKAS accredited (liquid eluate analysis only)
Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation
** = MCERTS accrediited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	**19-31523**						
					Client:	**BSL**	
Location	**MYZE, Gorton**						
Lab Reference (Sample Number)	1169456 / 1169457				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	28/02/2019				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	SP102-5						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	1.5				3%	5%	6%
Loss on Ignition (%) **	3.4				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	34				500	--	--
Total PAH (WAC-17) (mg/kg)	37				100	--	--
pH (units)**	7.7				--	>6	--
Acid Neutralisation Capacity (mol / kg)	13				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0019			0.0160	0.5	2	25
Barium *	0.0518			0.447	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0011			0.0094	0.5	10	70
Copper *	0.0052			0.045	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0039			0.0336	0.5	10	30
Nickel *	0.0004			0.0032	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0040			0.035	4	50	200
Chloride *	1.4			12	800	4000	25000
Fluoride	1.2			11	10	150	500
Sulphate *	86			740	1000	20000	50000
TDS*	170			1500	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	7.76			67.0	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	86						
Moisture (%)	14						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
*= UKAS accredited (liquid eluate analysis only)
Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation
** = MCERTS accrediited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Analytical Report Number : 19-31523

Project / Site name: MYZE, Gorton

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1169450	AT1	None Supplied	None Supplied	Brown clay and sand with gravel.
1169452	AT2	None Supplied	None Supplied	Brown clay and sand with gravel.
1169454	SP102-3	None Supplied	0.50	Brown clay and sand with gravel.
1169456	SP102-5	None Supplied	0.50	Brown loam and sand with gravel and rubble.

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Analytical Report Number : 19-31523

Project / Site name: MYZE, Gorton

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	NONE

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Analytical Report Number : 19-31523

Project / Site name: MYZE, Gorton

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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APPENDIX B

Waste Classification Report

Waste Classification Report

ZBTFN-3Y9G6-8Q3P5

Job name

MYZE, Gorton

Description/Comments

Project

C4163

Site

MYZE, Gorton

Related Documents

#	Name	Description
None		

Waste Stream Template

BSL Suite without Asbestos

Classified by

Name:
Nicola Swallow
Date:
27 Mar 2019 15:18 GMT
Telephone:
01606 334 844

Company:
Brownfield Solutions Ltd
William Smith House
173 – 183 Witton Street
Northwich
CW9 5LP

Report

Created by: Nicola Swallow
Created date: 27 Mar 2019 15:18 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	EMYZ BH2	0.5-1.0	Non Hazardous		2
2	EMYZ BH3	0.5-1.0	Non Hazardous		4
3	EMYZ BH4	0.5-1.0	Non Hazardous		6
4	TP101		Non Hazardous		8
5	TP101-A		Non Hazardous		10
6	TP101-B		Non Hazardous		11

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	12
Appendix B: Rationale for selection of metal species	13
Appendix C: Version	13

Classification of sample: EMYZ BH2

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
EMYZ BH2
Sample Depth:
0.5-1.0 m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		8	pH		8	pH	8pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		17	mg/kg	1.32	22.446	mg/kg	0.00224 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<1	mg/kg	1.285	<1.285	mg/kg	<0.0001 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		25	mg/kg	1.462	36.539	mg/kg	0.00365 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		100	mg/kg	1.126	112.589	mg/kg	0.0113 %	✓	
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	300	mg/kg		300	mg/kg	0.03 %	✓	
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		24	mg/kg	1.579	37.908	mg/kg	0.00379 %	✓	
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<3	mg/kg	2.554	<7.661	mg/kg	<0.000766 %		<LOD
10	zinc { zinc chromate }	024-007-00-3				210	mg/kg	2.774	582.571	mg/kg	0.0583 %	✓	
11	naphthalene	601-052-00-2	202-049-5	91-20-3		0.3	mg/kg		0.3	mg/kg	0.00003 %	✓	
12	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	acenaphthene		201-469-6	83-32-9		1.5	mg/kg		1.5	mg/kg	0.00015 %	✓	
14	fluorene		201-695-5	86-73-7		1.6	mg/kg		1.6	mg/kg	0.00016 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		phenanthrene				11	mg/kg		11	mg/kg	0.0011 %	✓	
			201-581-5	85-01-8									
16		anthracene				2.8	mg/kg		2.8	mg/kg	0.00028 %	✓	
			204-371-1	120-12-7									
17		fluoranthene				11	mg/kg		11	mg/kg	0.0011 %	✓	
			205-912-4	206-44-0									
18		pyrene				11	mg/kg		11	mg/kg	0.0011 %	✓	
			204-927-3	129-00-0									
19		benzo[a]anthracene				4.1	mg/kg		4.1	mg/kg	0.00041 %	✓	
		601-033-00-9	200-280-6	56-55-3									
20		chrysene				4.3	mg/kg		4.3	mg/kg	0.00043 %	✓	
		601-048-00-0	205-923-4	218-01-9									
21		benzo[a]pyrene; benzo[def]chrysene				3.3	mg/kg		3.3	mg/kg	0.00033 %	✓	
		601-032-00-3	200-028-5	50-32-8									
22		indeno[123-cd]pyrene				1.9	mg/kg		1.9	mg/kg	0.00019 %	✓	
			205-893-2	193-39-5									
23		dibenz[a,h]anthracene				3.7	mg/kg		3.7	mg/kg	0.00037 %	✓	
		601-041-00-2	200-181-8	53-70-3									
24		benzo[ghi]perylene				1.4	mg/kg		1.4	mg/kg	0.00014 %	✓	
			205-883-8	191-24-2									
25		benzo[b]fluoranthene				0.4	mg/kg		0.4	mg/kg	0.00004 %	✓	
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				1.7	mg/kg		1.7	mg/kg	0.00017 %	✓	
		601-036-00-5	205-916-6	207-08-9									
27		TPH (C6 to C40) petroleum group				32	mg/kg		32	mg/kg	0.0032 %	✓	
				TPH									
										Total:	0.119 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because The absence of a free draining liquid and the relatively low concentration of short-chain hydrocarbons reported indicate that this hazard property is not applicable to this waste.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0032%)

Classification of sample: EMYZ BH3

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
EMYZ BH3
Sample Depth:
0.5-1.0 m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.9	pH		7.9	pH	7.9 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15	mg/kg	1.32	19.805	mg/kg	0.00198 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<1	mg/kg	1.285	<1.285	mg/kg	<0.0001 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		26	mg/kg	1.462	38	mg/kg	0.0038 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		100	mg/kg	1.126	112.589	mg/kg	0.0113 %	✓	
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	290	mg/kg		290	mg/kg	0.029 %	✓	
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		22	mg/kg	1.579	34.749	mg/kg	0.00347 %	✓	
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<3	mg/kg	2.554	<7.661	mg/kg	<0.000766 %		<LOD
10	zinc { zinc chromate }	024-007-00-3				200	mg/kg	2.774	554.829	mg/kg	0.0555 %	✓	
11	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
12	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	acenaphthene		201-469-6	83-32-9		0.4	mg/kg		0.4	mg/kg	0.00004 %	✓	
14	fluorene		201-695-5	86-73-7		0.3	mg/kg		0.3	mg/kg	0.00003 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		phenanthrene				3.2	mg/kg		3.2	mg/kg	0.00032 %	✓	
			201-581-5	85-01-8									
16		anthracene				0.7	mg/kg		0.7	mg/kg	0.00007 %	✓	
			204-371-1	120-12-7									
17		fluoranthene				4.9	mg/kg		4.9	mg/kg	0.00049 %	✓	
			205-912-4	206-44-0									
18		pyrene				4.5	mg/kg		4.5	mg/kg	0.00045 %	✓	
			204-927-3	129-00-0									
19		benzo[a]anthracene				2.1	mg/kg		2.1	mg/kg	0.00021 %	✓	
		601-033-00-9	200-280-6	56-55-3									
20		chrysene				2	mg/kg		2	mg/kg	0.0002 %	✓	
		601-048-00-0	205-923-4	218-01-9									
21		benzo[a]pyrene; benzo[def]chrysene				1.6	mg/kg		1.6	mg/kg	0.00016 %	✓	
		601-032-00-3	200-028-5	50-32-8									
22		indeno[123-cd]pyrene				1.6	mg/kg		1.6	mg/kg	0.00016 %	✓	
			205-893-2	193-39-5									
23		dibenz[a,h]anthracene				1.9	mg/kg		1.9	mg/kg	0.00019 %	✓	
		601-041-00-2	200-181-8	53-70-3									
24		benzo[ghi]perylene				0.9	mg/kg		0.9	mg/kg	0.00009 %	✓	
			205-883-8	191-24-2									
25		benzo[b]fluoranthene				0.4	mg/kg		0.4	mg/kg	0.00004 %	✓	
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				1.1	mg/kg		1.1	mg/kg	0.00011 %	✓	
		601-036-00-5	205-916-6	207-08-9									
27		TPH (C6 to C40) petroleum group				360	mg/kg		360	mg/kg	0.036 %	✓	
				TPH									
										Total:	0.145 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because The absence of a free draining liquid and the relatively low concentration of short-chain hydrocarbons reported indicate that this hazard property is not applicable to this waste.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.036%)

Classification of sample: EMYZ BH4

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
EMYZ BH4
Sample Depth:
0.5-1.0 m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		7	pH		7	pH	7pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12	mg/kg	1.32	15.844	mg/kg	0.00158 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<1	mg/kg	1.285	<1.285	mg/kg	<0.0001 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		29	mg/kg	1.462	42.385	mg/kg	0.00424 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		89	mg/kg	1.126	100.204	mg/kg	0.01 %	✓	
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	370	mg/kg		370	mg/kg	0.037 %	✓	
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		26	mg/kg	1.579	41.067	mg/kg	0.00411 %	✓	
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<3	mg/kg	2.554	<7.661	mg/kg	<0.000766 %		<LOD
10	zinc { zinc chromate }	024-007-00-3				260	mg/kg	2.774	721.278	mg/kg	0.0721 %	✓	
11	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
12	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
14	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		phenanthrene				0.8	mg/kg		0.8	mg/kg	0.00008 %	✓	
			201-581-5	85-01-8									
16		anthracene				0.2	mg/kg		0.2	mg/kg	0.00002 %	✓	
			204-371-1	120-12-7									
17		fluoranthene				1	mg/kg		1	mg/kg	0.0001 %	✓	
			205-912-4	206-44-0									
18		pyrene				1	mg/kg		1	mg/kg	0.0001 %	✓	
			204-927-3	129-00-0									
19		benzo[a]anthracene				0.4	mg/kg		0.4	mg/kg	0.00004 %	✓	
		601-033-00-9	200-280-6	56-55-3									
20		chrysene				0.5	mg/kg		0.5	mg/kg	0.00005 %	✓	
		601-048-00-0	205-923-4	218-01-9									
21		benzo[a]pyrene; benzo[def]chrysene				0.4	mg/kg		0.4	mg/kg	0.00004 %	✓	
		601-032-00-3	200-028-5	50-32-8									
22		indeno[123-cd]pyrene				0.3	mg/kg		0.3	mg/kg	0.00003 %	✓	
			205-893-2	193-39-5									
23		dibenz[a,h]anthracene				0.4	mg/kg		0.4	mg/kg	0.00004 %	✓	
		601-041-00-2	200-181-8	53-70-3									
24		benzo[ghi]perylene				0.2	mg/kg		0.2	mg/kg	0.00002 %	✓	
			205-883-8	191-24-2									
25		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				0.2	mg/kg		0.2	mg/kg	0.00002 %	✓	
		601-036-00-5	205-916-6	207-08-9									
27		TPH (C6 to C40) petroleum group				28	mg/kg		28	mg/kg	0.0028 %	✓	
				TPH									
										Total:	0.133 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because The absence of a free draining liquid and the relatively low concentration of short-chain hydrocarbons reported indicate that this hazard property is not applicable to this waste.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0028%)

Classification of sample: TP101

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
TP101
Moisture content:
1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 1% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.5	pH		8.5	pH	8.5 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		28	mg/kg	1.32	36.599	mg/kg	0.00366 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		34	mg/kg	1.462	49.196	mg/kg	0.00492 %	✓	
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		160	mg/kg	1.126	178.341	mg/kg	0.0178 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	79	mg/kg		78.21	mg/kg	0.00782 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
9	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		44	mg/kg	1.579	68.803	mg/kg	0.00688 %	✓	
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
11	zinc { zinc chromate }	024-007-00-3				170	mg/kg	2.774	466.889	mg/kg	0.0467 %	✓	
12	naphthalene	601-052-00-2	202-049-5	91-20-3		0.18	mg/kg		0.178	mg/kg	0.0000178 %	✓	
13	acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
16		phenanthrene				1	mg/kg		0.99	mg/kg	0.000099 %	✓	
			201-581-5	85-01-8									
17		anthracene				0.39	mg/kg		0.386	mg/kg	0.0000386 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				3.8	mg/kg		3.762	mg/kg	0.000376 %	✓	
			205-912-4	206-44-0									
19		pyrene				3.6	mg/kg		3.564	mg/kg	0.000356 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				1.5	mg/kg		1.485	mg/kg	0.000149 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				1.3	mg/kg		1.287	mg/kg	0.000129 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[a]pyrene; benzo[def]chrysene				1.8	mg/kg		1.782	mg/kg	0.000178 %	✓	
		601-032-00-3	200-028-5	50-32-8									
23		indeno[123-cd]pyrene				0.49	mg/kg		0.485	mg/kg	0.0000485 %	✓	
			205-893-2	193-39-5									
24		dibenz[a,h]anthracene				1.4	mg/kg		1.386	mg/kg	0.000139 %	✓	
		601-041-00-2	200-181-8	53-70-3									
25		benzo[ghi]perylene				0.52	mg/kg		0.515	mg/kg	0.0000515 %	✓	
			205-883-8	191-24-2									
26		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
27		benzo[k]fluoranthene				0.54	mg/kg		0.535	mg/kg	0.0000535 %	✓	
		601-036-00-5	205-916-6	207-08-9									
28		TPH (C6 to C40) petroleum group				199	mg/kg		197.01	mg/kg	0.0197 %	✓	
				TPH									
										Total:	0.11 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because The absence of a free draining liquid and the relatively low concentration of short-chain hydrocarbons reported indicate that this hazard property is not applicable to this waste.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0197%)

Classification of sample: TP101-A

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
TP101-A
Moisture content:
1.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 1.6% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
								Total:	0%		

Key

User supplied data

Classification of sample: TP101-B

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
TP101-B
Moisture content:
0.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0.8% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
								Total:	0%		

Key

User supplied data

Appendix A: Classifier defined and non CLP determinands

- **pH** (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

- **chromium(III) oxide** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Conversion factor: 1.462
Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Repr. 1B H360FD , Skin Sens. 1 H317 , Resp. Sens. 1 H334 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302 , Acute Tox. 4 H332

- **lead compounds with the exception of those specified elsewhere in this Annex (worst case)**

CLP index number: 082-001-00-6
Description/Comments: Worst Case: IARC considers lead compounds Group 1; Carcinogenic to humans; Lead REACH Consortium considers some lead compounds Carcinogenic category 1A
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)
Additional Hazard Statement(s): Carc. 1A H350
Reason for additional Hazards Statement(s)/Risk Phrase(s):
03 Jun 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

- **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 1 H310 , Acute Tox. 1 H330 , Acute Tox. 4 H302

- **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Aquatic Chronic 2 H411 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319

- **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

- **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Skin Irrit. 2 H315 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Carc. 2 H351 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302

- **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319

- **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Acute Tox. 4 H302

- **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Skin Irrit. 2 H315

- **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2 H351

- **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

- **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Aquatic Chronic 2 H411 , Repr. 2 H361d , Carc. 1B H350 , Muta. 1B H340 , STOT RE 2 H373 , Asp. Tox. 1 H304 , Flam. Liq. 3 H226

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on hazard statements

cadmium {cadmium sulfide}

Worst case species based on hazard statements

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case species based on hazard statements

chromium in chromium(III) compounds {chromium(III) oxide}

Worst case species based on hazard statements

copper {dicopper oxide; copper (I) oxide}

Most likely common species

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

The absence of chromium VI within the soil samples indicates that lead chromate could not be present within the site soils. Given this, the next most conservative insoluble lead species has been selected.

mercury {mercury dichloride}

Worst case species based on hazard statements

nickel {nickel dihydroxide}

Worst case species based on hazard statements

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Worst case species based on hazard statements

zinc {zinc chromate}

Worst case species based on hazard statements

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018
HazWasteOnline Classification Engine Version: 2019.71.3826.7799 (14 Mar 2019)
HazWasteOnline Database: 2019.71.3826.7799 (14 Mar 2019)

This classification utilises the following guidance and legislation:
WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Wastes 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004
1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010
2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

APPENDIX C

Waste Transfer Notes

DUTY OF CARE: CONTROLLED WASTE TRANSFER NOTE

A — Description of the waste

1 Description of the waste being transferred:
BROWN/GREY SANDY, GRAVELLY CLAYS AND SUBSOILS

List of Waste Regulations code(s): 17 · 05 · 04

2 How is the waste contained? ☑ Loose ☐ Sacks ☐ Skip ☐ Drum ☐ Other (specify) 8WV

3 How much waste? For example, number of sacks, weight CIRCA 150 loads

4 Analysis ~~attached~~ / ~~not attached~~ / **sent separately** (delete as appropriate)

B — Producer / holder of the waste

Current holder of the waste – Transferor: *By signing in Section D or F below I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011* **Yes** ☑

1 Full name (print): SALFORD EXCAVATIONS CONSTRUCTION LIMITED

2 Company name, address and postcode: SALFORD EXCAVATIONS CONSTRUCTION LIMITED

3 SIC code (2007): 38110 The Pilkingtons Site 346 Rake Lane, Clifton, Manchester, M27 8LJ

4 Which of the following are you? (please tick one or more boxes)

A ☑ Waste producer ☐ Waste importer ☐ Collection/Disposal authority ☐ Broker

B ☐ Env Permit holder (ref number): ..... ☐ Registered waste carrier (ref number): .....

C ☐ Waste exemption holder (exemption registration number): .....

☐ Exempt from carrier registration (give reason): .....

C — Carrier of the waste

1 Full name (print): DHI EXCAVATIONS LTD.,

2 Company name, address and postcode: DHI EXCAVATIONS LTD., THE OLD CO-OP BUILDING,

3 SIC code (2007): 43120 177 WALKDEN RD., WORSLEY, MCR., M28 7QH

4 Which of the following are you? (tick one box)

A ☐ Waste collection authority

B ☑ Registered waste carrier (ref number): CBDU181466

C ☐ Exempt from carrier registration (give reason): .....

D — First transfer (holder to carrier)

1 Place of transfer: East Manchester Youth Zone, 2 Date of transfer: 05/03/2019-05/09/2019

3 Time(s) of transfer: Hyde Rd, Gorton, Manchester Contract No: .....
(for multiple transfers give date range)

4 Name and address of broker arranging transfer (if applicable):
.....

5 Holder's representatives	Carrier's representatives
Name (print): WESLEY LAWRENCE	Name (print): Sean Kingston
Signed:	Signed:

E — Disposer / recoverer of the waste

1 Full name (print): ASTLEY SAND & AGGREGATES LIMITED

2 Company name, address and postcode:
ASTLEY SAND & AGGREGATES, RYDINGS ROAD, ROCHDALE, OL12 9PS

3 Which of the following are you? (tick one box)

☑ Holder of an Environmental Permit (ref number): EPR/LP3597SR

☐ Holder of a valid waste exemption (ref number): .....

F — Second transfer (carrier to disposer / recoverer)

1 Place of transfer: MORLEY'S QUARRY, TYLDSLEY 2 Date of transfer: 05/03/2019-05/09/2019

3 Time(s) of transfer: MANCHESTER, M29 7EW Contract No: .....
(for multiple transfers give date range)

4 Name and address of broker arranging transfer (if applicable):
N/A

5 Holder's representatives	Disposer's / Recoverer's representatives
Name (print): Sean Kingston	Name (print): Lucy Bradley
Signed:	Signed:

This note must be retained by you and held for at least two years (or longer period specified in your Environmental Permit) from the date of the last transfer to which this note applies.

DUTY OF CARE: CONTROLLED WASTE TRANSFER NOTE

A — Description of the waste

1 Description of the waste being transferred:
BROWN/GREY SANDY, GRAVELLY CLAYS AND SUBSOILS

List of Waste Regulations code(s): 17 · 05 · 04

2 How is the waste contained? ☑ Loose ☐ Sacks ☐ Skip ☐ Drum ☐ Other (specify) 8WV

3 How much waste? For example, number of sacks, weight. CIRCA 2000m3

4 Analysis **attached / not attached / sent separately** (delete as appropriate)

B — Producer / holder of the waste

Current holder of the waste – Transferor: *By signing in Section D or F below I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011* **Yes** ☑

1 Full name (print): SALFORD EXCAVATIONS CONSTRUCTION LIMITED

2 Company name, address and postcode: SALFORD EXCAVATIONS CONSTRUCTION LIMITED, The Pilkingtons Site 346 Rake Lane, Clifton, Manchester, M27 8LJ

3 SIC code (2007): 38110

4 Which of the following are you? (please tick one or more boxes)

A ☑ Waste producer ☐ Waste importer ☐ Collection/Disposal authority ☐ Broker

B ☐ Env Permit holder (ref number): ..... ☐ Registered waste carrier (ref number): .....

C ☐ Waste exemption holder (exemption registration number): .....

☐ Exempt from carrier registration (give reason): .....

C — Carrier of the waste

1 Full name (print): ROY BRAIDWOOD & SONS TRANSPORT LIMITED

2 Company name, address and postcode: ROY BRAIDWOOD & SONS TRANSPORT LIMITED, Lester Road Garage, Worsley Trading Estate, Little Hulton, Manchester, M38 0PT

3 SIC code (2007): 49410

4 Which of the following are you? (tick one box)

A ☐ Waste collection authority

B ☑ Registered waste carrier (ref number): CBDU91464

C ☐ Exempt from carrier registration (give reason): .....

D — First transfer (holder to carrier)

1 Place of transfer: East Manchester Youth Zone, Hyde Rd, Gorton, Manchester 2 Date of transfer: 25/02/2019-25/08/2019

3 Time(s) of transfer: ..... Contract No: .....
(for multiple transfers give date range)

4 Name and address of broker arranging transfer (if applicable):
.....

5 Holder's representatives	Carrier's representatives
Name (print): ROGER VALENTINE	Name (print): Matt Braidwood
Signed:	Signed:

E — Disposer / recoverer of the waste

1 Full name (print): ASTLEY SAND & AGGREGATES LIMITED

2 Company name, address and postcode:
ASTLEY SAND & AGGREGATES, RYDINGS ROAD, ROCHDALE, OL12 9PS

3 Which of the following are you? (tick one box)

☑ Holder of an Environmental Permit (ref number): EPR/LP3597SR

☐ Holder of a valid waste exemption (ref number): .....

F — Second transfer (carrier to disposer / recoverer)

1 Place of transfer: MORLEY'S QUARRY, TYLDSLEY 2 Date of transfer: 25/02/2019-25/08/2019

3 Time(s) of transfer: MANCHESTER, M29 7EW Contract No: .....
(for multiple transfers give date range)

4 Name and address of broker arranging transfer (if applicable):
N/A

5 Holder's representatives	Disposer's / Recoverer's representatives
Name (print): Matt Braidwood	Name (print): Lucy Bradley
Signed:	Signed:

This note must be retained by you and held for at least two years (or longer period specified in your Environmental Permit) from the date of the last transfer to which this note applies.

APPENDIX D

Imported Soil Criteria

Quality Control Methodology for Imported and Re-used Soils

Prior to Importation and Re-use

Reliable testing results should be provided or samples should be tested at the source prior to importation to the subject site or re-use. An inspection of the soils should also be carried out to confirm no deleterious matter is present.

The frequency and scope of testing will vary depending on the source, the required testing for possible sources is provided below. These rates are based on professional judgement and acceptance of similar criteria used on similar sites to the satisfaction of the local regulatory authority. Results should be compared to the acceptance criteria provided to the rear of Appendix B:

Re-used Crushed Hardcore/Concrete (for use below hardstanding only)

For re-use of hardcore/concrete (Grade 6) on the site of origin, BSL proposes the following inspection criteria:

- no visual contamination (oil staining etc).
- limited deleterious material (organics, wood, etc).
- limited metal.
- no visible asbestos containing material (ACM).
- asbestos <0.001 w/w% (min 5 samples, 1 per every 500m^3)

Production of grade 6 materials should ideally be done under WRAP quality protocols or similar. Inspections and sampling would need to be carried out by a qualified geo-environmental engineer. If the above criteria for asbestos is exceeded, then further consideration and assessment will be required. Works would need to be undertaken in compliance with the Control of Asbestos Regulations (CAR) 2012 and an Asbestos Plan of Works may be required.

Imported Stone/Aggregate to be placed below hardstanding or clean cover soils system:

Quarried Source (first generation) – for protection of Human Health
Certificate of provenance only.
Brownfield or Recycled Source (Minimum 3 samples per source and 1 sample per every extra 500m^3) – for protection of Human Health
Arsenic, cadmium, copper, chromium, hexavalent chromium, lead, nickel, mercury, selenium, zinc, Speciated PAHs, Speciated TPH, asbestos and Ph (BSL Default Suite plus asbestos screen and TPH CWG).

Imported or Re-used Topsoil/Subsoil (applies to all soils in top 450mm in soft landscaping area):

Greenfield Source (Minimum 3 samples per source and 1 sample per every extra 500m^3) – for protection of Human Health
Arsenic, cadmium, copper, chromium, hexavalent chromium, lead, nickel, mercury, selenium, zinc, benzo(a)pyrene and pH. (BSL Suite A)

Brownfield or Recycled Source (Minimum 3 samples per source and 1 sample per every extra 250m^3) – for protection of Human Health
Arsenic, cadmium, copper, chromium, hexavalent chromium, lead, nickel, mercury, selenium, zinc, Speciated PAHs, Speciated TPH, asbestos and pH.

Re-used naturally occurring soils from a brownfield site (i.e. clays/sands/bedrock) on site of origin (applies to soils to be re-used in top 450mm for soft landscaping subsoils only):

Naturally occurring soils on brownfield site (Minimum 3 samples per source and 1 sample per every extra 500m^3) – for protection of Human Health
Arsenic, cadmium, copper, chromium, hexavalent chromium, lead, nickel, mercury, selenium, zinc, benzo(a)pyrene and pH. No visual contamination (oil staining etc) or hydrocarbon odours.

The testing should be undertaken at a UKAS accredited laboratory and be MCERTS accredited and all results should be below existing residential SGV/GAC guideline values which are given below. Asbestos fibres should not be present.

The above specification is to determine if material is chemically clean, for suitability as a growing medium reference should be made to BS3882:2015 Specification for Topsoil. For geotechnical performance, reference should be made to Series 600 Earthworks Guidance.

For imported soils, approval should be obtained from the Local Authority prior to importing to site.

Post Importation

The imported soils should be inspected on site to confirm it is the same material inspected at source and it is suitable for use. If materials are imported from a brownfield or recycled source then tests should also be undertaken once imported to confirm the batch is suitable prior to use.

A management plan should be in place on site for storage and transportation. The material should be stockpiled separately and well segregated on site to prevent cross contamination.

Accurate records of movement of soils should be kept to be incorporated in the final verification report.

Approval should be obtained from the Local Authority prior to use on site.

Validation and Verification Report

Site
A final verification report should be issued to the Local Authority/NHBC detailing records of the re-use and importation of soils, alongside their use on the site.

Cover Layer
Once the chemical suitability of soils used for a cover system in soft landscaping and garden areas has been confirmed, the material can be placed in these areas.

The depth of the cover layer should be recorded and photographs taken as evidence to be issued to the Local Authority/NHBC in the verification report.

Approval for the placement of the cover layer should be obtained from the Local Authority.

BROWNFIELD SOLUTIONS LTD

Human Health Remediation Targets			Human health Screening criteria - Applies to imported soils and soils for re-use within top 300m of finished site levels (i.e. clean cover)
Source	**Contaminant**	**Unit**	
LQM S4UL	Arsenic	mg/kg	40
LQM S4UL	Cadmium	mg/kg	85
LQM S4UL	Chromium (III)	mg/kg	910
LQM S4UL	Chromium (VI)	mg/kg	6
LQM S4UL	Copper	mg/kg	7100
C4SL	Lead	mg/kg	330
LQM S4UL	Mercury, Elemental	mg/kg	1.2
LQM S4UL	Nickel	mg/kg	180
LQM S4UL	Selenium	mg/kg	430
LQM S4UL	Zinc	mg/kg	40000
LQM S4UL	Phenol (total)	mg/kg	750
LQM S4UL	Acenaphthene	mg/kg	3000
LQM S4UL	Acenaphthylene	mg/kg	2900
LQM S4UL	Anthracene	mg/kg	31000
LQM S4UL	Benz(a)anthracene	mg/kg	11
LQM S4UL / DEFRA C4SL	Benzo(a)pyrene	mg/kg	3.2
LQM S4UL	Benzo(b)fluoranthene	mg/kg	3.9
LQM S4UL	Benzo(ghi)perylene	mg/kg	360
LQM S4UL	Benzo(k)fluoranthene	mg/kg	110
LQM S4UL	Chrysene	mg/kg	30
LQM S4UL	Dibenz(a,h)anthracene	mg/kg	0.31
LQM S4UL	Fluoranthene	mg/kg	1500
LQM S4UL	Fluorene	mg/kg	2800
LQM S4UL	Indeno(1,2,3,cd)pyrene	mg/kg	45
LQM S4UL	Naphthalene	mg/kg	2.3
LQM S4UL	Phenanthrene	mg/kg	1300
LQM S4UL	Pyrene	mg/kg	3700
LQM S4UL	TPH Aliphatic EC 5 - 6*	mg/kg	42
LQM S4UL	TPH Aliphatic EC 6 - 8*	mg/kg	100
LQM S4UL	TPH Aliphatic EC 8 - 10*	mg/kg	27
LQM S4UL	TPH Aliphatic EC 10 - 12*	mg/kg	130
LQM S4UL	TPH Aliphatic EC 12 - 16*	mg/kg	1100
LQM S4UL	TPH Aliphatic EC 16 - 35*	mg/kg	65000
LQM S4UL	TPH Aliphatic EC 35 - 44*	mg/kg	65000
LQM S4UL	TPH Aromatic EC 5 - 7*	mg/kg	370
LQM S4UL	TPH Aromatic EC 7 - 8*	mg/kg	860
LQM S4UL	TPH Aromatic EC 8 - 10*	mg/kg	47
LQM S4UL	TPH Aromatic EC 10 - 12*	mg/kg	250
LQM S4UL	TPH Aromatic EC 12 -16*	mg/kg	1800
LQM S4UL	TPH Aromatic EC 16 - 21*	mg/kg	1900
LQM S4UL	TPH Aromatic EC 21 - 35*	mg/kg	1900
LQM S4UL	TPH Aromatic EC 35 - 44*	mg/kg	1900
LQM S4UL	Benzene	mg/kg	0.38
LQM S4UL	Toluene	mg/kg	880
LQM S4UL	Ethyl Benzene	mg/kg	83
LQM S4UL	Xylene - o	mg/kg	88
LQM S4UL	Xylene - m	mg/kg	82
LQM S4UL	Xylene - p	mg/kg	79
CL:AIRE 2010	MTBE (methyl tert-butyl ether)	mg/kg	49
NA	Asbestos (No visual ACM)**	% w/w	No Asbestos Detected
pH	BS3882	pH Units	NA

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See LQM/CIEH S4ULs Human Health Risk Assessment document for notes regarding derivation.

Criteria for PAH and TPH assumes an SOM of 1%.

Criteria for soft landscaping areas are based on Residential **WITHOUT** homegrown produce S4ULs for conservatism.

*Soil matrix should contain no free product.

All imported material to have chemical concentrations less than the above levels for the site, with the exception of pH which is a range.

Test results to be provided to the engineer prior to placing soils, where appropriate.

All tests result to be undertaken by a UKAS Laboratory holding accrediation for the relevant tests.

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