



Validation Completion Report
Hilltop Park, Rochdale

Reference: 11-367-R1-1
Date: November 2022



VALIDATION COMPLETION REPORT

Hilltop Park
Hilltop Drive
Kirkholt
Rochdale
Greater Manchester

Prepared for:

Gleeson Homes Ltd

Report Ref: 11-367-R1-1

Date Issued: 10th November 2022

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QUALITY ASSURANCE

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1. INTRODUCTION

1.1. BACKGROUND

E3P Ltd has been commissioned by Gleeson Homes Ltd to produce a Validation Completion Report in relation to the validation of the garden plot cover system installations at their newly constructed site off Hilltop Drive, Kirkholt, Rochdale (known as Hilltop Park); herein referred to as the site.

Patrick Parsons Limited previously completed a Remediation Strategy and Method Statement (Report Ref: H13077/RSMS), dated April 2016.

Rochdale Borough Council confirmed their acceptance of the remediation works and subsequent validation works for the residential development, pending the following information:

- Validation of the 600mm cover system in private (rear) gardens.

Interim validation letters (CMLs) pertaining to the above have been produced previously for each plot, however all outstanding information is included within this report.

The individual CML letters provided to date have all been approved by the NHBC.

1.2. OBJECTIVES

E3P have been instructed to develop a detailed Validation Completion Report associated with the validation of the residential development that will incorporate the following:

- Overview of the validation works undertaken within the private garden areas; and
- Chemical laboratory analysis undertaken of the site generated and imported material.

1.3. LIMITATIONS

The limitations of this report are presented in Appendix I.

1.4. CONFIDENTIALITY

E3P has prepared this report solely for the use of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from E3P; a charge may be levied against such approval.



2. GARDEN VALIDATION

The Remediation Strategy confirmed that where Made Ground was absent, the gardens could be installed with a 150mm of topsoil as a growing medium. These plots did not require validation.

Where Made Ground remained and was to be left in-situ, a full 600mm cover system was required. The full cover system was required in gardens predominantly within the southern portion of the site.

Based on the agreed strategy, an independent validation of c. 97 plots was undertaken between 16th May 2017 and 15th September 2022 by E3P.

In total, twenty-two visits were made during which the depth of the cover system was measured to confirm the installation of 450mm subsoil (site sourced) and 150mm topsoil (site sourced and imported) with photographs taken by way of validation.

All material used for the cover system was confirmed chemically suitable for use through chemical analysis, discussed further in Section 3.0. All validation works have been completed in strict accordance with the specification previously agreed with Rochdale Borough Council.

Table 2.1 below shows the Garden Validation reference and date of validation for each garden area.

TABLE 2.1 SUMMARY OF GARDEN VALIDATIONS (MAY 2017 TO SEPTEMBER 2022)

DATE	REPORT NUMBER	PLOT NUMBER
16 th May 2017	V1	196 to 201
1 st June 2017	V3	207 to 211
7 th June 2017	V2 / V4	204 to 206
18 th August 2017	V5	194 & 195
9 th October 2017	V6	192 & 193
23 rd October 2017	V7	121 to 126, 167 & 168
30 th November 2017	V8	120, 165 & 166
21 st March 2018	V9	162 to 164, 169, 170 & 173
19 th June 2018	V10	171 & 172
25 th June 2018	V11	212 to 214
23 rd July 2018	V12	215
15 th August 2018	V13	174 to 177, 191
28 th August 2018	V14	187 to 190
10 th October 2018	V15	184 to 186
7 th December 2018	V16	1 to 6, 218
13 th February 2019	V17	7 & 8
7 th March 2019	V18	216 & 217
22 nd March 2019	V19	9 & 10
30 th April 2019	V20	243 to 246
30 th April 2019	V21	11 to 21, 247 to 249
1 st October 2019	V22	22 & 23, 250 to 252
14 th January 2021	V23	182 & 183
7 th June 2022	V24	203 & 206
15 th September 2022	V25	180



The full details of the cover system depths of each plot garden area are detailed within the individual letters issued, as per the report reference listed within Table 2.1 above.

3. CHEMICAL VALIDATION

3.1. PLACEMENT AND INSPECTION

All gardens and landscaped areas require a 600 mm chemically suitable cover system comprising at least 450 mm subsoil and 150mm topsoil or 600 mm topsoil.

E3P can confirm that the subsoil and topsoil materials were tested prior to use within the proposed cover system and all samples were analysed in accordance with the regulatory approved Remediation Strategy.

Furthermore, E3P inspected the materials intended for topsoil and subsoil and the material was observed to be visually suitable for use, comprising clean natural soils with no deleterious or anthropogenic constituents.

3.1.1. TOPSOIL

E3P understands Patrick Parsons Ltd undertook a sampling across the site prior to the topsoil being stripped, to confirm the suitability of the topsoil material for re-use. In total, 24 No. samples were collected and analysed, and the material was deemed suitable for re-use within the private gardens.

Unfortunately, Patrick Parsons Ltd have since ceased trading and E3P were not provided with the topsoil analysis results. However, we trust their professional judgement in respect to these samples.

The site won topsoil from the site strip was stockpiled in the northwestern portion of the site for use within the upper 150mm cover system.

For completeness, E3P attended site on four occasions between May 2017 and March 2019 to collect a further 12 No. topsoil samples. The dates and number of samples are listed below:

 8 th May 2017	3 No. Samples (Ref: 17-47696)
 3 rd August 2018	3 No. Samples (Ref: 18-95659)
 31 st October 2018	3 No. Samples (Ref: 18-16778); and
 6 th March 2019	3 No. Samples (Ref: 19-31981)

The results confirmed that the material is suitable for use within the 600mm cover system within the residential development.

The above-mentioned laboratory certificates are appended to this letter.

3.1.2. SUBSOIL

Patrick Parsons Ltd stated that site won subsoil derived primarily from foundations excavation arisings and wider earthworks has been assessed as suitable for re-use within the cover system.

However, E3P is not aware that Patrick Parsons Ltd undertook any further specific subsoil analysis, other than samples collected from the site investigation which informed the Remediation Strategy.



Therefore, E3P attended site on three occasions between April 2017 and October 2018 to collect a further 11 No. subsoil samples. The dates and number of samples are listed below:

✳ 26 th April 2017	3 No. Samples (Ref: 17-46824)
✳ 8 th May 2017	2 No. Samples (Ref: 17-47696); and
✳ 31 st October 2018	6 No. Samples (Ref: 18-16778)

Three samples of subsoil (SS101-SS103) were collected from the stockpile in April 2017 and analysed in accordance with the regulatory approved Remediation Strategy. Chemical analysis identified trace fibres of asbestos in SS103; and as such the subsoil material from this portion of the stockpile was segregated and not utilised within the cover system.

Further analysis was completed in May 2017 and October 2018. Within the latter analysis, elevated PAHs were recorded in S6. As such, again this portion of material was segregated and not utilised for subsoil within the cover system.

The results confirmed that (other than the two exceptions) the material was suitable for use as subsoil within the 600mm cover system within the residential development.

E3P is therefore of the opinion that the requirements of the specification for importation (and site won), analysis and placement of topsoil and subsoil as a cover system within the residential garden have been met and as such the site is suitable for the intended use.

4. CONCLUSIONS

On completion of the validation works undertaken in relation to the installation of a chemically suitable cover system, E3P can confirm that all works were undertaken in strict accordance with the agreed Remediation Strategy and therefore would deem the site suitable for use as a residential development.

END OF REPORT



APPENDIX I

LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between E3P and the client as indicated in Section 1.3.
2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information it has been assumed it is correct. No attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
4. During the site walkover, reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover, no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.
5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and do not constitute or replace full and proper surveys.
8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
9. E3P cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by E3P is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by E3P in this connection without their explicit written agreement there to by E3P.
10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.



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Analytical Report Number : 17-46824

Project / Site name:	Hilltop Drive	Samples received on:	27/04/2017
Your job number:	11-397	Samples instructed on:	27/04/2017
Your order number:	11367-5891-NS	Analysis completed by:	05/05/2017
Report Issue Number:	1	Report issued on:	05/05/2017
Samples Analysed:	3 soil samples		

Signed:

Rexona Rahman
Reporting 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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Analytical Report Number: 17-46824

Project / Site name: Hilltop Drive

Your Order No: 11367-5891-NS

Lab Sample Number				740830	740831	740832		
Sample Reference				SS101	SS102	SS103		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				26/04/2017	26/04/2017	26/04/2017		
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	12	12	10		
Total mass of sample received	kg	0.001	NONE	0.49	0.44	0.45		

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile- Loose Fibres		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected		

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2	7.5	7.8		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Total Sulphate as SO ₄	mg/kg	50	MCERTS	520	190	710		
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	270	100	410		
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.13	0.052	0.20		
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	134	52.1	204		
Sulphide	mg/kg	1	MCERTS	1.8	< 1.0	1.7		
Total Sulphur	mg/kg	50	MCERTS	220	77	310		

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	0.18	< 0.05	0.15		
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	0.80	< 0.05	0.68		
Pyrene	mg/kg	0.05	MCERTS	0.63	< 0.05	0.67		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.27	< 0.05	0.35		
Chrysene	mg/kg	0.05	MCERTS	0.32	< 0.05	0.25		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.35	< 0.05	0.29		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.17	< 0.05	0.12		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.28	< 0.05	0.21		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	3.00	< 0.80	2.72		
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Analytical Report Number: 17-46824

Project / Site name: Hilltop Drive

Your Order No: 11367-5891-NS

Lab Sample Number				740830	740831	740832		
Sample Reference				SS101	SS102	SS103		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				26/04/2017	26/04/2017	26/04/2017		
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	8.8	3.0	11		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	24	21		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	24	23		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	17	13	26		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	25	22		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	44	47	60		

Petroleum Hydrocarbons

TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0		
TPH (C6 - C8)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1		
TPH (C8 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1		
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	4.3	< 4.0		
TPH (C16 - C21)	mg/kg	1	MCERTS	7.5	4.0	3.5		
TPH (C21 - C35)	mg/kg	1	MCERTS	28	5.3	20		



Analytical Report Number : 17-46824

Project / Site name: Hilltop Drive

* 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 *
740830	SS101	None Supplied	None Supplied	Light brown clay and loam with gravel.
740831	SS102	None Supplied	None Supplied	Light brown clay with gravel.
740832	SS103	None Supplied	None Supplied	Brown loam and clay with gravel.

Analytical Report Number : 17-46824

Project / Site name: Hilltop Drive

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

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
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine 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
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	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
Sulphate, water soluble, in soil by Gallery 16hr	Determination of water soluble Sulphate by discrete analyser (precipitation method).	In house method based on BS1377-3: 1990.	L082B-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L076-PL	D	NONE

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.

**Gregor Hirst**

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Analytical Report Number : 17-47696

Project / Site name:	Hill Top Park	Samples received on:	08/05/2017
Your job number:	11-367	Samples instructed on:	08/05/2017
Your order number:	11367-9544-GH	Analysis completed by:	15/05/2017
Report Issue Number:	1	Report issued on:	15/05/2017
Samples Analysed:	5 soil samples		

Signed:

Rexona Rahman
Reporting 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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Analytical Report Number: 17-47696

Project / Site name: Hill Top Park

Your Order No: 11367-9544-GH

Lab Sample Number	745366	745367	745368	745369	745370
Sample Reference	TS101	TS102	TS103	SS103	SS103
Sample Number	None Supplied	None Supplied	None Supplied	S1	S2
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Time Taken	None Supplied	None Supplied	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
Moisture Content	%	N/A	NONE	7.4	9.6
Total mass of sample received	kg	0.001	NONE	0.43	0.44

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
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General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	8.2	8.4	8.2	8.9
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	260	260	250	740	660
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	100	110	110	390	350
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.050	0.056	0.057	0.19	0.18
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	50.0	56.2	57.0	193	177
Sulphide	mg/kg	1	MCERTS	1.6	3.5	1.8	3.0	1.9
Total Sulphur	mg/kg	50	MCERTS	390	280	340	460	300

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.73	< 0.05	0.12	0.27	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.15	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.0	0.20	0.20	0.52	0.28
Pyrene	mg/kg	0.05	MCERTS	0.82	0.19	0.19	0.46	0.29
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.42	0.10	0.08	0.25	0.17
Chrysene	mg/kg	0.05	MCERTS	0.34	0.10	0.10	0.21	0.14
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.45	0.13	0.13	0.21	0.17
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.23	0.07	0.06	0.16	0.14
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.38	0.12	0.12	0.21	0.18
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.18	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.27	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	5.11	0.91	1.00	2.29	1.37
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.0	2.4	2.9	5.5	5.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	7.9	8.4	8.4	17	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	17	14	17	26	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	13	12	15	14	15
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	8.9	8.1	8.9	20	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	37	35	43	42	39



Analytical Report Number: 17-47696

Project / Site name: Hill Top Park

Your Order No: 11367-9544-GH

Lab Sample Number				745366	745367	745368	745369	745370
Sample Reference				TS101	TS102	TS103	SS103	SS103
Sample Number				None Supplied	None Supplied	None Supplied	S1	S2
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Petroleum Hydrocarbons

TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	2.5	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	6.5	< 4.0	7.0	< 4.0	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	19	3.1	16	5.6	6.2
TPH (C21 - C35)	mg/kg	1	MCERTS	140	40	110	46	49



Analytical Report Number : 17-47696

Project / Site name: Hill Top Park

* 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 *
745366	TS101	None Supplied	None Supplied	Brown sandy loam with gravel.
745367	TS102	None Supplied	None Supplied	Brown sandy loam with gravel.
745368	TS103	None Supplied	None Supplied	Brown sandy loam with gravel.
745369	SS103	S1	None Supplied	Light brown gravelly sand.
745370	SS103	S2	None Supplied	Light brown gravelly sand.

Analytical Report Number : 17-47696

Project / Site name: Hill Top Park

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
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine 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
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	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
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L076-PL	D	NONE

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 : 18-95659

Project / Site name:	Hill Top	Samples received on:	06/08/2018
Your job number:	11367	Samples instructed on:	09/08/2018
Your order number:		Analysis completed by:	16/08/2018
Report Issue Number:	1	Report issued on:	16/08/2018
Samples Analysed:	3 soil samples		

Signed:

Jordan Hill
Reporting 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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Analytical Report Number: 18-95659

Project / Site name: Hill Top

Lab Sample Number				1018790	1018791	1018792		
Sample Reference				TS101	TS102	TS103		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				03/08/2018	03/08/2018	03/08/2018		
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	10	9.3	9.7		
Total mass of sample received	kg	0.001	NONE	0.46	0.47	0.45		

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
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General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.6	7.3	7.3		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	1		
Total Sulphate as SO ₄	mg/kg	50	MCERTS	290	290	330		
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	69	63	66		
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.035	0.031	0.033		
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	34.6	31.4	32.8		
Sulphide	mg/kg	1	MCERTS	< 1.0	1.0	1.1		
Total Sulphur	mg/kg	50	MCERTS	270	250	310		

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80		
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Analytical Report Number: 18-95659

Project / Site name: Hill Top

Lab Sample Number				1018790	1018791	1018792		
Sample Reference				TS101	TS102	TS103		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				03/08/2018	03/08/2018	03/08/2018		
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	1.9	2.5	1.4		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	30	29	33		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.56	0.51	0.54		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	9.6	7.6	8.9		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	10	10		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	11	11		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.4	6.2	7.0		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	13	13	14		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	29	28	34		

Petroleum Hydrocarbons

TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0		
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C10 - C12)	mg/kg	2	MCERTS	3.0	< 2.0	< 2.0		
TPH (C12 - C16)	mg/kg	4	MCERTS	9.0	< 4.0	< 4.0		
TPH (C16 - C21)	mg/kg	1	MCERTS	31	< 1.0	12		
TPH (C21 - C35)	mg/kg	1	MCERTS	190	< 1.0	76		
TPH (C35 - C40)	mg/kg	10	MCERTS	79	< 10	19		
TPH Total C5 - C40	mg/kg	10	MCERTS	320	< 10	110		



Analytical Report Number : 18-95659

Project / Site name: Hill Top

* 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 *
1018790	TS101	None Supplied	None Supplied	Brown loam.
1018791	TS102	None Supplied	None Supplied	Brown loam.
1018792	TS103	None Supplied	None Supplied	Brown loam with vegetation.

Analytical Report Number : 18-95659

Project / Site name: Hill Top

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
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine 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
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	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
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L076-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 : 18-16778

Project / Site name:	Hill Top	Samples received on:	01/11/2018
Your job number:		Samples instructed on:	01/11/2018
Your order number:		Analysis completed by:	08/11/2018
Report Issue Number:	1	Report issued on:	08/11/2018
Samples Analysed:	9 soil samples		

Signed

Jordan Hill
Reporting 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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Analytical Report Number: 18-16778

Project / Site name: Hill Top

Lab Sample Number				1081589	1081590	1081591	1081592	1081593
Sample Reference				S1	S2	S3	S4	S5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				31/10/2018	31/10/2018	31/10/2018	31/10/2018	31/10/2018
Time Taken				None Supplied	None Supplied	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	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	15	17	9.2	12	12
Total mass of sample received	kg	0.001	NONE	0.53	0.59	0.57	0.48	0.46

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
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General Inorganics

Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.26
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.22
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.0	2.6
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.26	0.82
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	3.1	9.2
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	2.6	8.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.7	5.4
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.3	4.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.2	4.1
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.89	2.9
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.5	5.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.52	2.2
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.81
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.81	2.2

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	14.7	48.4
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Analytical Report Number: 18-16778

Project / Site name: Hill Top

Lab Sample Number				1081589	1081590	1081591	1081592	1081593
Sample Reference				S1	S2	S3	S4	S5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				31/10/2018	31/10/2018	31/10/2018	31/10/2018	31/10/2018
Time Taken				None Supplied	None Supplied	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	7.5	2.1	2.1	3.5	9.3
Barium (aqua regia extractable)	mg/kg	1	MCERTS	100	61	34	74	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.94	0.59	0.55	0.72	0.96
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18	14	13	18	24
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	12	6.3	22	40
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	12	13	16	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.9	< 1.0	< 1.0	2.7
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	17	16	24	29
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	42	21	25	35	50

Petroleum Hydrocarbons

TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	4.7	4.1	< 4.0	4.4	9.4
TPH (C16 - C21)	mg/kg	1	MCERTS	6.4	3.4	< 1.0	32	78
TPH (C21 - C35)	mg/kg	1	MCERTS	19	31	< 1.0	150	270
TPH (C35 - C40)	mg/kg	10	MCERTS	11	< 10	< 10	64	78
TPH Total C5 - C40	mg/kg	10	MCERTS	44	40	< 10	260	440

Analytical Report Number: 18-16778

Project / Site name: Hill Top

Lab Sample Number	1081594	1081595	1081596	1081597	
Sample Reference	S6	TS1	TS2	TS3	
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled	31/10/2018	31/10/2018	31/10/2018	31/10/2018	
Time Taken	None Supplied	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
Moisture Content	%	N/A	NONE	8.4	17
Total mass of sample received	kg	0.001	NONE	0.49	0.47

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	
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General Inorganics

Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	1.2	0.80	0.60	
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.24	0.23	< 0.05	
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	2.3	2.5	0.83	
Pyrene	mg/kg	0.05	MCERTS	< 0.05	2.1	2.3	0.72	
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	1.2	1.4	0.51	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	1.3	1.2	0.41	
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	1.1	1.2	0.31	
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.75	0.85	0.19	
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	1.2	1.3	0.40	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.49	0.56	< 0.05	
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.60	0.60	< 0.05	

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	12.3	12.9	3.97	
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Analytical Report Number: 18-16778

Project / Site name: Hill Top

Lab Sample Number				1081594	1081595	1081596	1081597	
Sample Reference				S6	TS1	TS2	TS3	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled				31/10/2018	31/10/2018	31/10/2018	31/10/2018	
Time Taken				None Supplied	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	1.5	9.8	10	11	
Barium (aqua regia extractable)	mg/kg	1	MCERTS	41	97	97	60	
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.55	0.67	0.78	0.54	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	30	32	25	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	8.1	51	54	51	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	11	15	18	12	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.7	
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	17	24	25	23	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	25	59	57	59	

Petroleum Hydrocarbons

TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	2.5	< 2.0	< 2.0	
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	4.4	
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	15	11	11	
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	63	53	45	
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	14	< 10	< 10	
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10	98	68	63	



Analytical Report Number : 18-16778

Project / Site name: Hill Top

* 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 *
1081589	S1	None Supplied	None Supplied	Brown clay.
1081590	S2	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1081591	S3	None Supplied	None Supplied	Brown sandy clay with gravel.
1081592	S4	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1081593	S5	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1081594	S6	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1081595	TS1	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1081596	TS2	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1081597	TS3	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 18-16778

Project / Site name: Hill Top

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
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine 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
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
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-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 : 19-31981

Project / Site name: Hilltop

Samples received on: 07/03/2019

Your job number: 11-367

Samples instructed on: 07/03/2019

Your order number:

Analysis completed by: 14/03/2019

Report Issue Number: 1

Report issued on: 14/03/2019

Samples Analysed: 3 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

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Analytical Report Number: 19-31981

Project / Site name: Hilltop

Lab Sample Number				1172164	1172165	1172166		
Sample Reference				TS101	TS102	TS103		
Sample Number				TS	TS	TS		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				06/03/2019	06/03/2019	06/03/2019		
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
Moisture Content				%	N/A	NONE	17	14
Total mass of sample received				kg	0.001	NONE	0.51	0.52

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
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General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.4	7.1	6.6		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Total Sulphate as SO ₄	mg/kg	50	MCERTS	630	490	660		
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	53	71	81		
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.027	0.035	0.041		
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	26.7	35.3	40.5		
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Total Sulphur	mg/kg	50	MCERTS	350	290	320		

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	0.30	0.24	0.31		
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	0.52	0.45	0.69		
Pyrene	mg/kg	0.05	MCERTS	0.45	0.40	0.61		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.29	0.19	0.32		
Chrysene	mg/kg	0.05	MCERTS	0.26	0.25	0.37		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.21	< 0.05	0.37		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.19	< 0.05	0.16		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.24	< 0.05	0.29		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.46	1.53	3.12		
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Analytical Report Number: 19-31981

Project / Site name: Hilltop

Lab Sample Number				1172164	1172165	1172166		
Sample Reference				TS101	TS102	TS103		
Sample Number				TS	TS	TS		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				06/03/2019	06/03/2019	06/03/2019		
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	8.5	10	10		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	17	15		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	26	24	26		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	42	38	48		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	13	14		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	49	42	54		

Petroleum Hydrocarbons

TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0		
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
TPH (C16 - C21)	mg/kg	1	MCERTS	12	8.9	5.3		
TPH (C21 - C35)	mg/kg	1	MCERTS	29	27	22		
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH Total C5 - C40	mg/kg	10	MCERTS	43	38	29		



Analytical Report Number : 19-31981

Project / Site name: Hilltop

* 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 *
1172164	TS101	TS	None Supplied	Brown loam and sand with gravel and vegetation.
1172165	TS102	TS	None Supplied	Brown loam and sand with gravel and vegetation.
1172166	TS103	TS	None Supplied	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 19-31981

Project / Site name: Hilltop

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
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine 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
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	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
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-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 300C.