



Groundwork and Leisure Services Ltd
The Offices
Oak Villa
Horseman's Green
Whitchurch
SY13 3DZ

Attention: Andrew Aird

CERTIFICATE OF ANALYSIS

Date: 01 April 2011
Customer: H_GROUNDWLS_WHC
Sample Delivery Group (SDG): 110322-120
Your Reference: G439
Location: Coedpath-Encasa
Report No: 123520

This report directly supersedes report 122785 in its entirety.

We received 3 samples on Tuesday March 22, 2011 and 3 of these samples were scheduled for analysis which was completed on Friday April 01, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:

Sonia McWhan

Operations Manager



1291
GROUP



CERTIFICATE OF ANALYSIS

SDG: 110322-120
Job: H_GROUNDWLS_WHC-1
Client Reference: G439

Location: Coedpath-Encasa
Customer: Groundwork and Leisure Services Ltd
Attention: Andrew Aird

Order Number: G439
Report Number: 123520
Superseded Report: 122785

SOLID Results Legend X Test N No Determination Possible	Lab Sample No(s)		3132477	3132478	3132479
	Customer Sample Reference		G439 1'	G439 2'	G439 3'
	AGS Reference				
	Depth (m)				
	Container		250g Amber Jar 1kg TUB	250g Amber Jar 1kg TUB	250g Amber Jar 1kg TUB
ANC at pH4 and ANC at pH 6	All	NDPs: 0 Tests: 3	X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 3	X	X	X
CEN 2:1 Readings	All	NDPs: 0 Tests: 3	X	X	X
CEN 8:1 Readings	All	NDPs: 0 Tests: 3	X	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 3	X	X	X
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 3	X	X	X
Fluoride	All	NDPs: 0 Tests: 3	X	X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 3		X	X
Loss on Ignition in soils	All	NDPs: 0 Tests: 3	X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 3	X	X	X
Mineral Oil	All	NDPs: 0 Tests: 3	X	X	X
PAH Value of soil	All	NDPs: 0 Tests: 3	X	X	X
PCBs by GCMS	All	NDPs: 0 Tests: 3	X	X	X
pH	All	NDPs: 0 Tests: 3	X	X	X
Phenols by HPLC (W)	All	NDPs: 0 Tests: 3	X	X	X



CERTIFICATE OF ANALYSIS

SDG:	110322-120	Location:	Coedpath-Encasa	Order Number:	G439
Job:	H_GROUNDWLS_WHC-1	Customer:	Groundwork and Leisure Services Ltd	Report Number:	123520
Client Reference:	G439	Attention:	Andrew Aird	Superseded Report:	122785

SOLID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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SDG:	110322-120	Location:	Coedpath-Encasa	Order Number:	G439
Job:	H_GROUNDWLS_WHC-1	Customer:	Groundwork and Leisure Services Ltd	Report Number:	123520
Client Reference:	G439	Attention:	Andrew Aird	Superseded Report:	122785

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2		
3132477	G439 '1'		Dark Brown	Sandy Silt Loam	0.1 - 2 mm	Stones	Vegetation		
3132478	G439 '2'		Dark Brown	Sand	0.1 - 2 mm	Stones	Vegetation		
3132479	G439 '3'		Dark Brown	Sand	0.1 - 2 mm	Stones	Vegetation		

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.



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Order Number: G439
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Results Legend		Customer Sample R	G439 '1'	G439 '2'	G439 '3'			
# M § aq diss.filt tot.unfilt * **	ISO17025 accredited. mCERTS accredited. Non-conforming work. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. subcontracted test. % recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.							
Component	LOD/Units	Method						
Moisture	%	PM114	28.5	23.3	25.7			
Moisture content ratio	%	PM114	39.9	30.3	34.7			
Dry matter content ratio	%	PM114	71.5	76.7	74.3			
Loss on ignition	<0.7 %	TM018	15.5 M	17.1 M	22.6 M			
Mineral oil >C10-C40	<1 mg/kg	TM061	58.7 #	41 #	77.8 #			
Organic Carbon, Total	<0.2 %	TM132	6.54 #	6.05 #	8.38 #			
pH	1 pH Units	TM133	7.54 M	7.31 M	7.32 M			
PCB congener 28	<3 µg/kg	TM168	<3 M	<3 M	<3 M			
PCB congener 52	<3 µg/kg	TM168	<3 M	<3 M	<3 M			
PCB congener 101	<3 µg/kg	TM168	<3 M	<3 M	<3 M			
PCB congener 118	<3 µg/kg	TM168	<3 M	<3 M	<3 M			
PCB congener 138	<3 µg/kg	TM168	<3 M	<3 M	<3 M			
PCB congener 153	<3 µg/kg	TM168	<3 M	<3 M	<3 M			
PCB congener 180	<3 µg/kg	TM168	<3 M	<3 M	<3 M			
PCBs, Total ICES 7	<3 µg/kg	TM168	<3	<3	<3			
ANC @ pH 4	<0.03 mol/kq	TM182	0.333 #	0.128 #	0.187 #			
ANC @ pH 6	<0.03 mol/kq	TM182	0.0419 #	<0.03 #	<0.03 #			
Polyaromatic hydrocarbons, Total 17	<10 mg/kq	TM213	30.7	23.5	54.7			

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CEN 10:1 CUMULATIVE TWO STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/3

Client Reference		Site Location	Coedpath-Encasa
Mass Sample taken (kg)	0.245	Moisture Content Ratio (%)	39.9
Mass of dry sample (kg)	0.175	Dry Matter Content Ratio (%)	71.5
Particle Size <4mm	>95%		

Case	Landfill Waste Acceptance Criteria Limits		
SDG	110322-120		
Lab Sample Number(s)	3132477		
Sampled Date	23-Mar-2011		
Customer Sample Ref.	G439 '1'		
Depth (m)			
Solid Waste Analysis			
Total Organic Carbon (%)	6.54		
Loss on Ignition (%)	15.5		
Sum of BTEX (mg/kg)	<0.01		
Sum of 7 PCBs (mg/kg)	<0.003		
Mineral Oil (mg/kg)	58.7		
PAH Sum of 17 (mg/kg)	30.7		
pH (pH Units)	7.54		
ANC to pH 6 (mol/kg)	0.0419		
ANC to pH 4 (mol/kg)	0.333		
		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill
			Hazardous Waste Landfill
		3	5
		-	10
		6	-
		1	-
		500	-
		100	-
		-	<6 or >9
		-	-
		-	-

Eluate Analysis	C ₂	C ₈	A ₂	A ₂₋₁₀	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	Conc ⁿ in 2:1 eluate	Conc ⁿ in 8:1 eluate	2:1 conc ⁿ leached	Cumulative conc ⁿ leached			
	mg/l		mg/kg				
Arsenic	0.00531	0.00346	0.0106	0.0366	0.5	2	25
Barium	0.0121	0.00706	0.0241	0.0761	20	100	300
Cadmium	0.000225	0.000194	0.00045	0.00197	0.04	1	5
Chromium	0.00232	0.00234	0.00464	0.0234	0.5	10	70
Copper	0.0123	0.00376	0.0246	0.0468	2	50	100
Mercury Dissolved (CVAf)	0.0000258	<0.00001	0.0000516	<0.0001	0.01	0.2	2
Molybdenum	0.00297	0.00108	0.00593	0.0128	0.5	10	30
Nickel	0.00207	0.00119	0.00414	0.0128	0.4	10	40
Lead	0.00619	0.00383	0.0124	0.0409	0.5	10	50
Antimony	0.00166	0.000793	0.00333	0.00887	0.06	0.7	5
Selenium	0.00183	0.0011	0.00367	0.0118	0.1	0.5	7
Zinc	0.0323	0.0268	0.0645	0.274	4	50	200
Chloride	2.6	-	5.2	-	800	15000	25000
Fluoride	<0.5	-	<1	-	10	150	500
Sulphate (soluble)	<2	-	<4	-	1000	20000	50000
Total Dissolved Solids	103	66.7	206	706	4000	60000	100000
Total Monohydric Phenols (W)	<0.008	<0.008	<0.016	<0.08	1	-	-
Dissolved Organic Carbon	15.1	6.74	30.1	76.4	500	800	1000

Leach Test Information	2:1	8:1
Date Prepared	23-Mar-2011	24-Mar-2011
pH (pH Units)	7.984	7.823
Conductivity (µS/cm)	132.30	76.80
Temperature (°C)	16.40	7.80
Volume Leachant (Litres)	0.280	1.400
Volume of Eluate VE1 (Litres)	0.190	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
01/04/2011 12:14:29



CERTIFICATE OF ANALYSIS

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Job:	H_GROUNDWLS_WHC-1	Customer:	Groundwork and Leisure Services Ltd	Report Number:	123520
Client Reference:	G439	Attention:	Andrew Aird	Superseded Report:	122785

CEN 10:1 CUMULATIVE TWO STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/3

Client Reference		Site Location	Coedpath-Encasa
Mass Sample taken (kg)	0.228	Moisture Content Ratio (%)	30.3
Mass of dry sample (kg)	0.175	Dry Matter Content Ratio (%)	76.7
Particle Size <4mm	>95%		

Case SDG110322-120 Lab Sample Number(s)3132478 Sampled Date23-Mar-2011 Customer Sample Ref.G439 '2' Depth (m)		Landfill Waste Acceptance Criteria Limits		
		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Solid Waste Analysis				
Total Organic Carbon (%)	6.05	3	5	6
Loss on Ignition (%)	17.1	-	-	10
Sum of BTEX (mg/kg)	<0.01	6	-	-
Sum of 7 PCBs (mg/kg)	<0.003	1	-	-
Mineral Oil (mg/kg)	41.0	500	-	-
PAH Sum of 17 (mg/kg)	23.5	100	-	-
pH (pH Units)	7.31	-	<6 or >9	-
ANC to pH 6 (mol/kg)	<0.0300	-	-	-
ANC to pH 4 (mol/kg)	0.128	-	-	-

Eluate Analysis	C2	C8	A2	A2-10	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	Conc ⁿ in 2:1 eluate	Conc ⁿ in 8:1 eluate	2:1 conc ⁿ leached	Cumulative conc ⁿ leached			
	mg/l		mg/kg				
Arsenic	0.00663	0.00443	0.0133	0.0465	0.5	2	25
Barium	0.0214	0.0111	0.0427	0.121	20	100	300
Cadmium	0.0001	<0.0001	0.0002	<0.001	0.04	1	5
Chromium	0.00272	0.003	0.00544	0.0297	0.5	10	70
Copper	0.0223	0.00504	0.0446	0.0677	2	50	100
Mercury Dissolved (CVAf)	0.0000336	<0.00001	0.0000672	<0.0001	0.01	0.2	2
Molybdenum	0.00371	0.00112	0.00741	0.0138	0.5	10	30
Nickel	0.0026	0.00122	0.0052	0.0136	0.4	10	40
Lead	0.00501	0.0118	0.01	0.111	0.5	10	50
Antimony	0.00239	0.00094	0.00477	0.0109	0.06	0.7	5
Selenium	0.00269	0.00324	0.00539	0.0318	0.1	0.5	7
Zinc	0.0201	0.0166	0.0402	0.169	4	50	200
Chloride	4.6	-	9.2	-	800	15000	25000
Fluoride	<0.5	-	<1	-	10	150	500
Sulphate (soluble)	<2	-	<4	-	1000	20000	50000
Total Dissolved Solids	110	75.3	219	788	4000	60000	100000
Total Monohydric Phenols (W)	<0.008	<0.008	<0.016	<0.08	1	-	-
Dissolved Organic Carbon	19.1	6.54	38.2	77.9	500	800	1000

Leach Test Information	2:1	8:1
Date Prepared	23-Mar-2011	24-Mar-2011
pH (pH Units)	7.943	7.394
Conductivity (µS/cm)	141.60	99.50
Temperature (°C)	16.30	18.90
Volume Leachant (Litres)	0.297	1.400
Volume of Eluate VE1 (Litres)	0.175	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
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01/04/2011 12:14:29



CERTIFICATE OF ANALYSIS

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Client Reference: G439

Location: Coedpath-Encasa
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Attention: Andrew Aird

Order Number: G439
Report Number: 123520
Superseded Report: 122785

CEN 10:1 CUMULATIVE TWO STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/3

Client Reference

Mass Sample taken (kg) 0.235

Mass of dry sample (kg) 0.175

Particle Size <4mm >95%

Site Location

Coedpath-Encasa

Moisture Content Ratio (%) 34.7

Dry Matter Content Ratio (%) 74.3

Case

SDG 110322-120

Lab Sample Number(s) 3132479

Sampled Date 23-Mar-2011

Customer Sample Ref. G439 '3'

Depth (m)

Landfill Waste Acceptance
Criteria LimitsInert Waste
LandfillStable
Non-reactive
Hazardous
Waste in Non-
Hazardous
LandfillHazardous
Waste Landfill

Solid Waste Analysis

Total Organic Carbon (%)

8.38

Loss on Ignition (%)

22.6

Sum of BTEX (mg/kg)

<0.01

Sum of 7 PCBs (mg/kg)

<0.003

Mineral Oil (mg/kg)

77.8

PAH Sum of 17 (mg/kg)

54.7

pH (pH Units)

7.32

ANC to pH 6 (mol/kg)

<0.0300

ANC to pH 4 (mol/kg)

0.187

3

5

6

-

-

10

6

-

-

1

-

-

500

-

-

100

-

-

-

<6 or >9

-

-

-

-

-

-

-

Eluate Analysis

C₂Concⁿ in 2:1
eluateC₈Concⁿ in 8:1
eluateA₂2:1 concⁿ
leachedA₂₋₁₀Cumulative
concⁿ
leachedLimit values for compliance leaching test
using BS EN 12457-3 at L/S 10 l/kg

	mg/l		mg/kg				
Arsenic	0.0061	0.0042	0.0122	0.0438	0.5	2	25
Barium	0.0253	0.0236	0.0505	0.238	20	100	300
Cadmium	<0.0001	0.000113	<0.0002	0.00103	0.04	1	5
Chromium	0.0032	0.00243	0.00639	0.025	0.5	10	70
Copper	0.018	0.00975	0.0359	0.105	2	50	100
Mercury Dissolved (CVAF)	0.0000396	<0.00001	0.0000792	<0.0001	0.01	0.2	2
Molybdenum	0.00329	0.00176	0.00657	0.019	0.5	10	30
Nickel	0.00182	0.000976	0.00363	0.0105	0.4	10	40
Lead	0.00426	0.00173	0.00851	0.0196	0.5	10	50
Antimony	0.00239	0.00153	0.00478	0.0161	0.06	0.7	5
Selenium	0.00313	<0.00039	0.00625	<0.0039	0.1	0.5	7
Zinc	0.0727	0.0265	0.145	0.308	4	50	200
Chloride	6.1	<2	12.2	<20	800	15000	25000
Fluoride	<0.5	<0.5	<0.999	<5	10	150	500
Sulphate (soluble)	4.5	<2	8.99	<20	1000	20000	50000
Total Dissolved Solids	114	63.7	228	683	4000	60000	100000
Total Monohydric Phenols (W)	<0.008	<0.008	<0.016	<0.08	1	-	-
Dissolved Organic Carbon	11.6	6.2	23.2	66.9	500	800	1000

Leach Test Information

2:1

8:1

Date Prepared	23-Mar-2011	24-Mar-2011
pH (pH Units)	8.054	7.673
Conductivity (µS/cm)	145.70	82.90
Temperature (°C)	17.50	18.20
Volume Leachant (Litres)	0.289	1.400
Volume of Eluate VE1 (Litres)	0.160	

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

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12:13:57 01/04/2011



SDG:	110322-120	Location:	Coedpath-Encasa	Order Number:	G439
Job:	H_GROUNDWLS_WHC-1	Customer:	Groundwork and Leisure Services Ltd	Report Number:	123520
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Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10 ⁻⁷							
NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
PM114		Leaching Procedure for CEN Two Stage BatchTest 2:1/8:1 Cumulative		
TM018	BS 1377: Part 3 1990	Determination of Loss on Ignition		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM123	BS 2690: Part 121:1981	The Determination of Total Dissolved Solids in Water		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		
TM182	CEN/TC 292 - WI 292046-chacterization of waste-leaching Behaviour Tests- Acid and Base Neutralization Capacity Test	Determination of Acid Neutralisation Capacity (ANC) Using Autotitration in Soils		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM213	In-house Method	Rapid Determination of PAHs by GC-FID		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.



SDG:	110322-120	Location:	Coedpath-Encasa	Order Number:	G439
Job:	H_GROUNDWLS_WHC-1	Customer:	Groundwork and Leisure Services Ltd	Report Number:	123520
Client Reference:	G439	Attention:	Andrew Aird	Superseded Report:	122785

Test Completion Dates

Lab Sample No(s)	3132477	3132478	3132479
Customer Sample Ref.	G439 '1'	G439 '2'	G439 '3'
AGS Ref.			
Depth			
Type	SOLID	SOLID	SOLID
ANC at pH4 and ANC at pH 6	27-Mar-2011	27-Mar-2011	27-Mar-2011
Anions by Kone (w)	29-Mar-2011	29-Mar-2011	30-Mar-2011
CEN 2:1 Leachate (2 Stage)	24-Mar-2011	24-Mar-2011	24-Mar-2011
CEN 2:1 Readings	25-Mar-2011	25-Mar-2011	25-Mar-2011
CEN 8:1 Leachate (2 Stage)	25-Mar-2011	25-Mar-2011	25-Mar-2011
CEN 8:1 Readings	29-Mar-2011	29-Mar-2011	28-Mar-2011
Dissolved Metals by ICP-MS	28-Mar-2011	28-Mar-2011	29-Mar-2011
Dissolved Organic/Inorganic Carbon	28-Mar-2011	28-Mar-2011	29-Mar-2011
Fluoride	28-Mar-2011	28-Mar-2011	31-Mar-2011
GRO by GC-FID (S)	01-Apr-2011	01-Apr-2011	01-Apr-2011
Loss on Ignition in soils	31-Mar-2011	31-Mar-2011	31-Mar-2011
Mercury Dissolved	28-Mar-2011	28-Mar-2011	29-Mar-2011
Mineral Oil	26-Mar-2011	26-Mar-2011	26-Mar-2011
PAH Value of soil	25-Mar-2011	25-Mar-2011	25-Mar-2011
PCBs by GCMS	26-Mar-2011	26-Mar-2011	26-Mar-2011
pH	29-Mar-2011	29-Mar-2011	29-Mar-2011
Phenols by HPLC (W)	29-Mar-2011	29-Mar-2011	30-Mar-2011
Sample description	23-Mar-2011	23-Mar-2011	23-Mar-2011
Total Dissolved Solids	28-Mar-2011	28-Mar-2011	29-Mar-2011
Total Organic Carbon	25-Mar-2011	25-Mar-2011	25-Mar-2011



SDG: 110322-120
Job: H_GROUNDWLS_WHC-1
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Appendix

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH₄ by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C₄ -C₁₀ range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR VET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DOM	SOX THERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOX THERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DOM	SOX THERM	ATROSCAN
ELEMENTAL SULPHUR	D&C	DOM	SOX THERM	HPLC
PHENOLSBY GCMS	VET	DOM	SOX THERM	GCMS
HERBICIDES	D&C	HEXANEACETONE	SOX THERM	GCMS
PESTICIDES	D&C	HEXANEACETONE	SOX THERM	GCMS
EPH (DRO)	D&C	HEXANEACETONE	END OVEREND	GC FID
EPH (MINOIL)	D&C	HEXANEACETONE	END OVEREND	GC FID
EPH (CLEANED UP)	D&C	HEXANEACETONE	END OVEREND	GC FID
EPH OVG BY GC	D&C	HEXANEACETONE	END OVEREND	GC FID
PCB TOT / PCB CON	D&C	HEXANEACETONE	END OVEREND	GCMS
POLYAROMATIC HYDROCARBONS (MS)	VET	HEXANEACETONE	MICROWAVE TM218.	GCMS
C8-C40(C8-C40) EZ FLASH	VET	HEXANEACETONE	SHAKER	GCEZ
POLYAROMATIC HYDROCARBONS RAPID GC	VET	HEXANEACETONE	SHAKER	GCEZ
SEM VOLATILE ORGANIC COMPOUNDS	VET	DOMACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH OVG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DOM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DOM	SOLID PHASE EXTRACTION	HPLC
PEST COP/OPP	DOM	LIQUID/LIQUID SHAKE	GCMS
TRAZINE HERBS	DOM	LIQUID/LIQUID SHAKE	GCMS
PHENOLSMS	DOM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (R)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-