Appendix B

Gas and Groundwater Monitoring Results

MLM

www.mlm.uk.com

Soil-Gas & Groundwater Monitoring / Sampling Site Data

Project	Ruabon Park, Wrexham			**Project Number**	773135
Date of Monitoring	05/1015	**Time**		**Equipment Used**	
Technician	MM	**Weather**	Overcast	GA5000, Dip Meter	

Notes:

Well No. / Location	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Pressure (mbar)	Flow (l/hr)	VOC (ppm)	Height of Casing (m)	Depth to Water (mb casing)	Depth to Water (mbgl)	Depth to Base (mbgl)	Sample Collected (Y/N)	Comments and Visual/Olfactory Description of Sample Collected
WS01	<0.1	1.4	19.6	992	<0.1	N/A	0.4	3.3	2.9	4.10	Y	
WS02	0.5	6.5	14.3	993	0.1	N/A	0.4	2.8	2.4	4.60	Y	
WS03	<0.1	3.5	16.7	991	0.2	N/A	0.4	2.7	2.3	3.60	Y	
WS04	<0.1	2.7	16.9	993	0.3	N/A	0.4	2.2	1.8	3.45	Y	
WS07	<0.1	2.4	19.4	993	0.5	N/A	0.4	3.0	2.6	3.67	Y	
WS09	<0.1	2.0	15.1	994	0.1	N/A	0.4	3.4	3.0	4.35	Y	
WS11	<0.1	2.3	19.9	994	0.2	N/A	0.4	3.8	3.4	3.9	Y	
WS13	<0.1	1.9	19.1	994	0.4	N/A	0.4	2.1	1.7	5.1	Y	
WS14	<0.1	2.4	18.7	995	0.3	N/A	0.4	2.0	1.6	2.9	Y	
WS15	<0.1	1.9	19.7	995	0.5	N/A	0.4	2.2	1.8	4.8	Y	

Appendix C

Geotechnical Test Results

PSL
Professional Soils Laboratory

LABORATORY REPORT

UKAS TESTING
4043

Contract Number: PSL15/4944

Client's Reference: 773135 Report Date: 19 October 2015

Client Name: MLM
Building 7200
Cambridge Research Park
Cambridge
CB25 9TL

For the attention of: Hugh Dyer

Contract Title: Ruabon Park, Wrexham, Wales

Date Received: 8/10/2015
Date Commenced: 8/10/2015
Date Completed: 19/10/2015

Notes: **Opinions and Interpretations are outside the UKAS Accreditation**

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

[redacted]

R Gunson (Director)
A Watkins (Director)
M Beastall (Laboratory Manager)

D Lambe (Senior Technician)
S Royle (Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: rgunson@prosoils.co.uk
awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Depth m	Description of Sample
TP01	1	B	1.00	Brown gravelly sandy CLAY.
TP07	1	B	2.00	Brown very gravelly very sandy CLAY.
TP08	1	B	0.50	Brown very gravelly very sandy CLAY.
TP10	1	B	2.50	Brown very sandy CLAY.
TP14	1	B	1.50	Brown slightly gravelly sandy CLAY.
TP16	1	B	2.00	Brown gravelly very sandy CLAY.
TP19	1	B	2.70	Grey very silty CLAY.
TP24	1	B	1.20	Brown very sandy very clayey GRAVEL.
TP25	1	B	1.50	Brown slightly gravelly very sandy CLAY.
TP28	1	B	0.50	Brown very gravelly very sandy CLAY.
TP29	1	B	2.00	Brown gravelly sandy CLAY.
TP34	1	B	2.20	Brown gravelly slightly clayey SAND.
TP36	1	B	0.80	Brown slightly gravelly very silty SAND
TP37	1	B	2.00	Brown very gravelly very clayey SAND.
TP39	1	B	1.50	Grey very sandy CLAY.
TP40	1	B	2.30	Brown very gravelly very sandy CLAY.
TP46	1	B	1.50	Brown very sandy CLAY.
TP48	1	B	2.20	Brown slightly gravelly slightly clayey SAND.
TP50	1	B	2.80	Brown gravelly very sandy CLAY.

PSL
Professional Soils Laboratory

Compiled by	Date	Checked by	Date	Approved by	Date
[redacted]	19/10/15	[redacted]	19/10/15	[redacted]	19/10/15

RUABON PARK, WREXHAM, WALES

Contract No: PSL15/4944

Client Ref: 773135

SUMMARY OF SOIL CLASSIFICATION TESTS

(B.S. 1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Depth m	Moisture Content % Clause 3.2	Bulk Density Mg/m^3 Clause 7.2	Dry Density Mg/m^3 Clause 7.2	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4.4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	% Passing .425mm	Remarks
TP01	1	B	1.00	14								
TP07	1	B	2.00	9.2								
TP08	1	B	0.50	9.1								
TP10	1	B	2.50	23				38	19	19	100	Intermediate plasticity CI.
TP14	1	B	1.50	30				40	20	20	95	Low plasticity CL.
TP16	1	B	2.00	11								
TP19	1	B	2.70	24				43	22	21	100	Intermediate plasticity CI.
TP24	1	B	1.20	11								
TP25	1	B	1.50	12				29	17	12	81	Low plasticity CL.
TP28	1	B	0.50	11								
TP29	1	B	2.00	17								
TP34	1	B	2.20	10								
TP36	1	B	0.80	9.1								
TP37	1	B	2.00	14								
TP39	1	B	1.50	20				30	17	13	100	Low plasticity CL.
TP40	1	B	2.30	10				26	14	12	65	Low plasticity CL.
TP46	1	B	1.50	10								
TP48	1	B	2.20	10								
TP50	1	B	2.80	12				32	16	16	80	Low plasticity CL.

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

PSL
Professional Soils Laboratory

Compiled by	Date	Checked by	Date	Approved by	Date
[redacted]	19/10/15	[redacted]	19/10/15	[redacted]	19/10/15

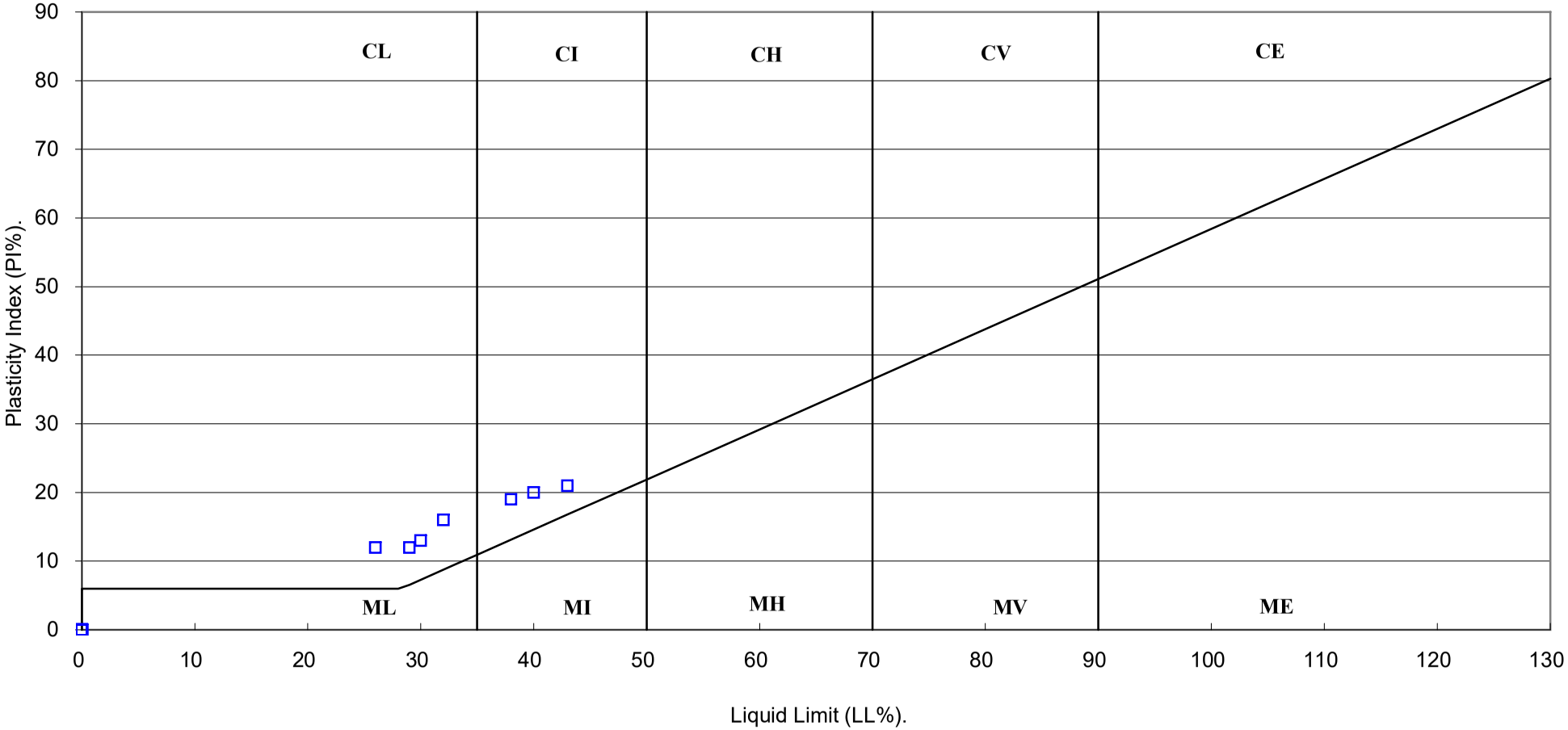
RUABON PARK, WREXHAM, WALES

Contract No: **PSL15/4944**

Client Ref: **773135**

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(B.S.5930 : 1999)



PSL Professional Soils Laboratory	Compiled by	Date	Checked by	Date	Approved by	Date
	[redacted]	19/10/15	[redacted]	19/10/15	[redacted]	19/10/15
	RUABON PARK, WREXHAM, WALES				Contract No:	PSL15/4944
					Client Ref:	773135

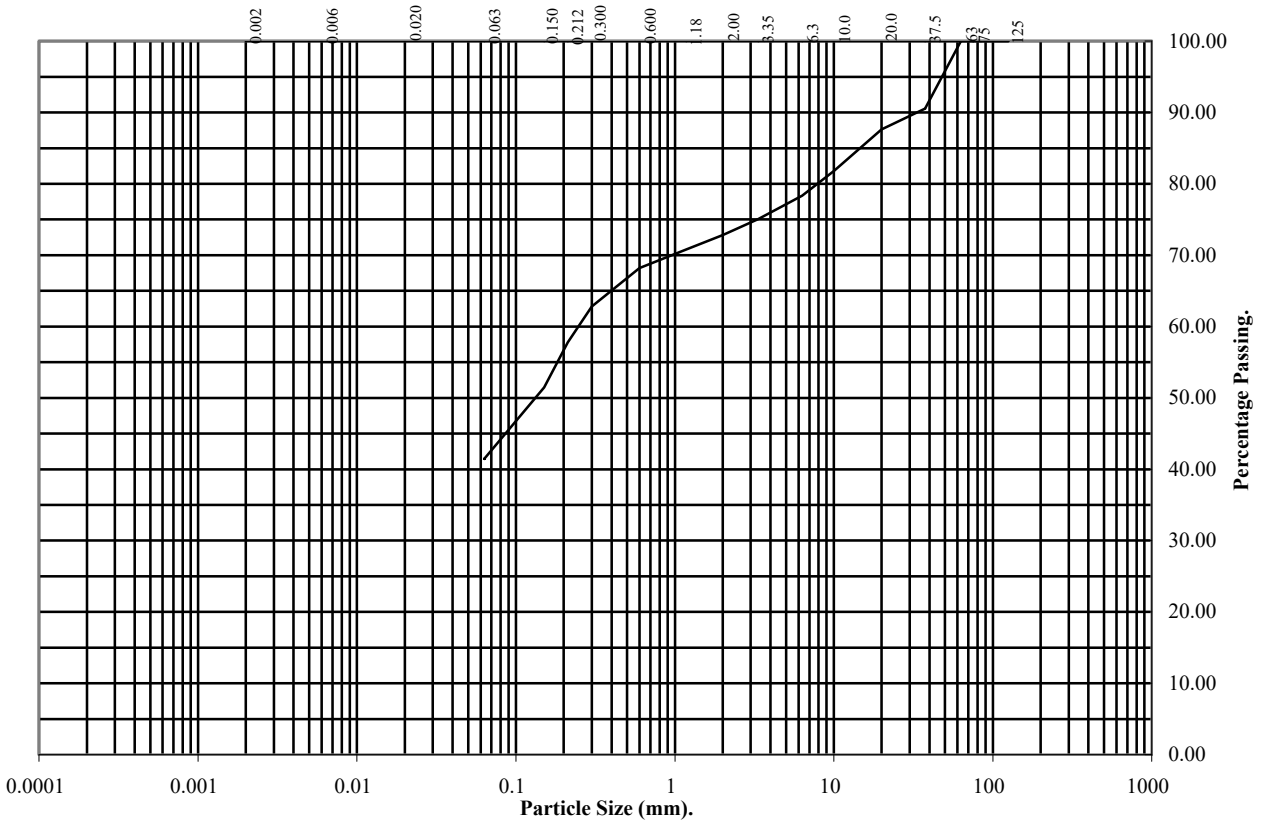
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP08 **Depth (m):** 0.50

Sample Number: 1 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	91
20	88
10	82
6.3	78
3.35	75
2	73
1.18	71
0.6	68
0.3	63
0.212	58
0.15	51
0.063	41

Soil Fraction	Total Percentage
Cobbles	0
Gravel	27
Sand	32
Silt / Clay	41

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
[redacted]	19/10/15	[redacted]	19/10/15

PSL Professional Soils Laboratory	**RUABON PARK, WREXHAM, WALES.**	**Contract No.: PSL15/4944**

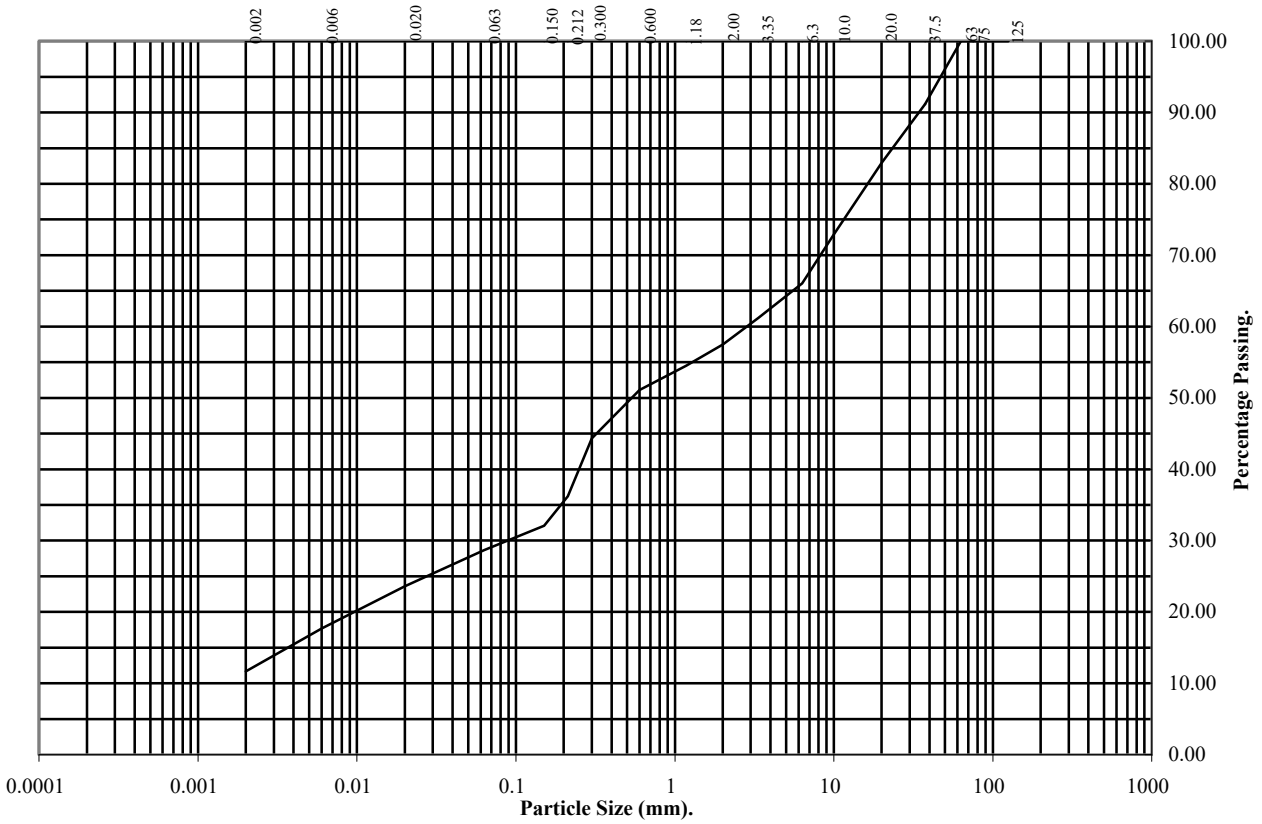
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP24 **Depth (m):** 1.20

Sample Number: 1 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	91
20	83
10	73
6.3	66
3.35	61
2	57
1.18	55
0.6	51
0.3	44
0.212	36
0.15	32
0.063	29

Particle Diameter	Percentage Passing
0.02	24
0.006	18
0.002	12

Soil Fraction	Total Percentage
Cobbles	0
Gravel	43
Sand	28
Silt	17
Clay	12

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
[redacted]	19/10/15	[redacted]	19/10/15

PSL Professional Soils Laboratory	**RUABON PARK, WREXHAM, WALES.**	**Contract No.: PSL15/4944**

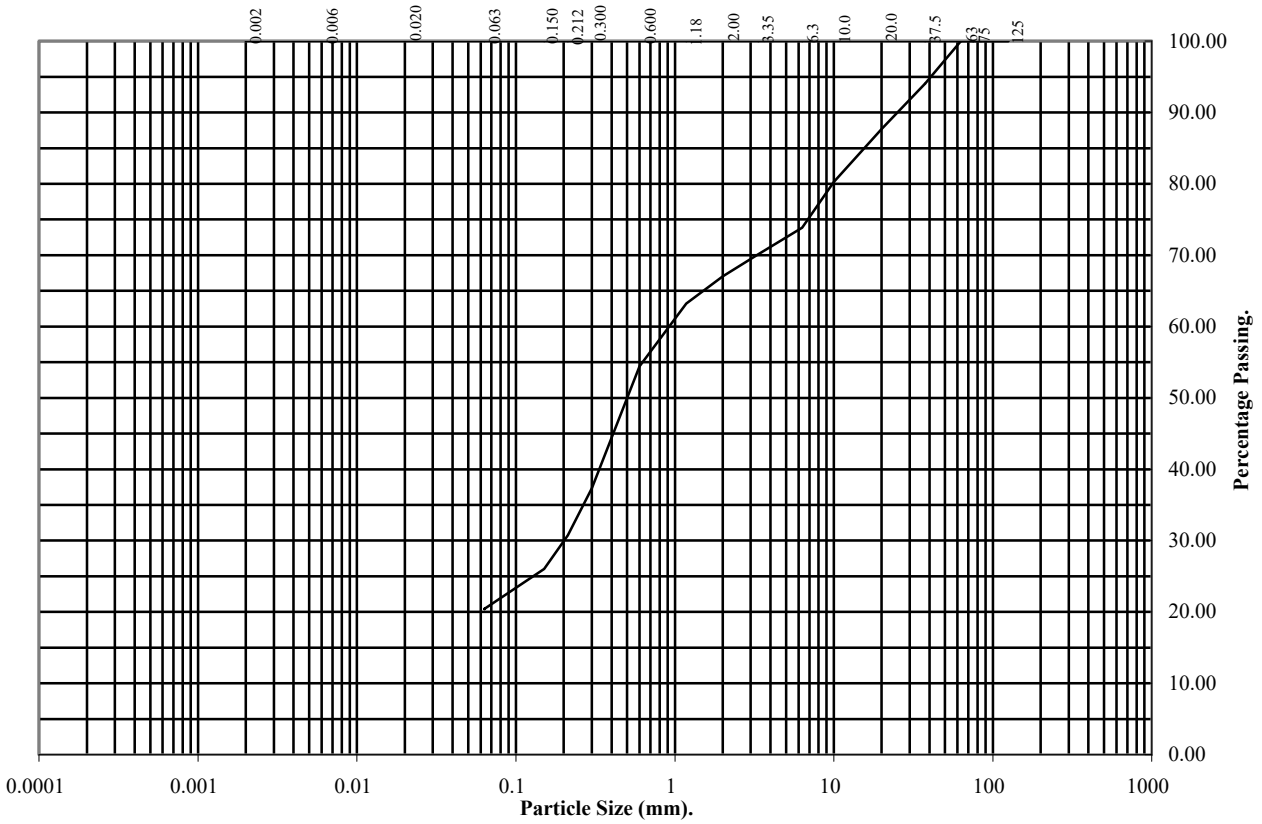
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP37 **Depth (m):** 2.00

Sample Number: 1 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	94
20	88
10	80
6.3	74
3.35	70
2	67
1.18	63
0.6	54
0.3	37
0.212	31
0.15	26
0.063	20

Soil Fraction	Total Percentage
Cobbles	0
Gravel	33
Sand	47
Silt / Clay	20

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
[redacted]	19/10/15	[redacted]	19/10/15

PSL Professional Soils Laboratory	**RUABON PARK, WREXHAM, WALES.**	**Contract No.: PSL15/4944**

Chemtest
The right chemistry to deliver results
Chemtest Ltd.
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.co.uk

2183

Final Report

Report No.:	15-23878-1
Initial Date of Issue:	16-Oct-2015
Client	Professional Soils Laboratory
Client Address:	5/7 Hexthorpe Road Doncaster South Yorkshire DN4 0AR
Contact(s):	Anthony Watkins Mark Beastall Russell Gunson Sean Royle
Project	PSL15/4944 - Ruabon Park, Wrexham, Wales

Quotation No.:		**Date Received:**	13-Oct-2015
Order No.:		**Date Instructed:**	12-Oct-2015
No. of Samples:	5	**Target Date:**	16-Oct-2015
Turnaround (Wkdays):	5	**Results Due:**	16-Oct-2015
Date Approved:	16-Oct-2015		

Approved By:

[redacted]

Details: Keith Jones, Technical Manager

Chemtest
The right chemistry to deliver results

Results - Soil

Project: PSL15/4944 - Ruabon Park, Wrexham, Wales

Client: Professional Soils Laboratory				Chemtest Job No.:	15-23878	15-23878	15-23878	15-23878	15-23878
Quotation No.:				Chemtest Sample ID.:	204195	204196	204197	204198	204199
Order No.:				Client Sample Ref.:	TP08	TP25	TP50	TP39	TP37
				Client Sample ID.:	B1(x3)	B1(x3)	B1(x3)	B1(x3)	B1(x3)
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.5	1.5	2.8	1.5	2.0
				Bottom Depth (m):					
				Date Sampled:					
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Moisture	N	2030	%	0.020	10	10	9.4	16	13
pH	U	2010		N/A	7.8	8.7	8.6	8.6	8.6
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	0.042	< 0.010
Sulphate (Total)	U	2430	%	0.010	0.017	0.017	0.044	0.18	0.023

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Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis
The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols
For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at our Coventry laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.co.uk

Appendix D

Results of Chemical Analysis

Chemtest
The right chemistry to deliver results
Chemtest Ltd.
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.co.uk

2183

Final Report

Report No.:	15-22938-1
Initial Date of Issue:	09-Oct-2015
Client	MLM
Client Address:	55 Charlotte Street Birmingham B3 1PX
Contact(s):	Hugh Dyer
Project	773135 - Ruabon Park, Wrexham

Quotation No.:		**Date Received:**	01-Oct-2015
Order No.:		**Date Instructed:**	05-Oct-2015
No. of Samples:	164	**Target Date:**	09-Oct-2015
Turnaround (Wkdays):	5	**Results Due:**	09-Oct-2015
Date Approved:	09-Oct-2015		

Approved By:

[redacted]

Details: Darrell Hall, Laboratory Director

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM					Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:					Chemtest Sample ID.:	200052	200053	200055	200058	200061	200065	200066	200068
Order No.:					Client Sample Ref.:	TP1	TP1	TP2	TP3	TP4	TP6	TP6	TP7
					Client Sample ID.:	D1	D2	D1	D2	D2	D1	D2	D1
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	0.3	1.0	0.8	1.2	2.0	0.5	1.5	0.8
					Bottom Depth (m):								
					Date Sampled:	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A			-	-					
Asbestos Identification	U	2192		N/A			No Asbestos Detected	No Asbestos Detected					
Moisture	N	2030	%	0.020		12			10	9.5	5.1	8.0	5.5
Chromatogram (AA Split)	N			N/A		See Attached					See Attached		
pH	U	2010		N/A		7.1			8.0	8.0	8.6	8.5	8.2
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010		0.012			0.025	< 0.010	0.13	0.023	0.024
Cyanide (Total)	U	2300	mg/kg	0.50		< 0.50					< 0.50		
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50		4.7					3.1		
Sulphate (Total)	U	2430	%	0.010					0.094	0.011		0.088	0.045
Arsenic	U	2450	mg/kg	1.0		13			8.3	9.2	11	10	10
Boron	N	2450	mg/kg	0.40		6.2					3.6		
Cadmium	U	2450	mg/kg	0.10		0.81			0.26	0.25	0.82	0.29	0.28
Chromium	U	2450	mg/kg	1.0		31			16	15	18	21	23
Copper	U	2450	mg/kg	0.50		32			15	21	21	20	19
Mercury	U	2450	mg/kg	0.10		0.20			< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	U	2450	mg/kg	0.50		20			16	26	23	25	24
Lead	U	2450	mg/kg	0.50		120			72	55	72	51	62
Selenium	U	2450	mg/kg	0.20		< 0.20			< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	U	2450	mg/kg	0.50		130			64	46	110	72	73
Chromium (Hexavalent)	N	2490	mg/kg	0.50		< 0.50			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40		7.6					1.5		
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Total Aliphatic Hydrocarbons	U	2680	mg/kg	5.0		< 5.0					< 5.0		
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0		< 1.0					< 1.0		

Chemtest
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Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM					Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:					Chemtest Sample ID.:	200052	200053	200055	200058	200061	200065	200066	200068
Order No.:					Client Sample Ref.:	TP1	TP1	TP2	TP3	TP4	TP6	TP6	TP7
					Client Sample ID.:	D1	D2	D1	D2	D2	D1	D2	D1
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	0.3	1.0	0.8	1.2	2.0	0.5	1.5	0.8
					Bottom Depth (m):								
					Date Sampled:	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Total Aromatic Hydrocarbons	U	2680	mg/kg	5.0		< 5.0					< 5.0		
Total Petroleum Hydrocarbons	U	2680	mg/kg	10		< 10					< 10		
Naphthalene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Acenaphthylene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Acenaphthene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Fluorene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Phenanthrene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Anthracene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Fluoranthene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Pyrene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Benzo[a]anthracene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Chrysene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Benzo[b]fluoranthene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Benzo[k]fluoranthene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Benzo[a]pyrene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10		< 0.10					< 0.10		
Total Of 16 PAH's	U	2700	mg/kg	2.0		< 2.0					< 2.0		
Total Phenols	U	2920	mg/kg	0.30		< 0.30					< 0.30		

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM				Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:				Chemtest Sample ID.:	200071	200073	200074	200076	200078	200080	200081	200085	200088
Order No.:				Client Sample Ref.:	TP8	TP9	TP9	TP10	TP11	TP12	TP13	TP14	TP16
				Client Sample ID.:	D1	D1	D2	D1	D1	D1	D1	D2	D1
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	1.0	0.2	1.5	1.0	0.5	1.0	1.0	2.0	0.5
				Bottom Depth (m):									
				Date Sampled:	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	24-Sep-2015	21-Sep-2015	21-Sep-2015	23-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A									
Asbestos Identification	U	2192		N/A									
Moisture	N	2030	%	0.020	6.6	8.1	7.3	6.2	4.9	7.9	7.1	9.7	7.7
Chromatogram (AA Split)	N			N/A	See Attached								
pH	U	2010		N/A	7.5		8.6	8.3	8.7	7.6	7.3	8.2	7.4
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010		0.013	0.25	0.069	< 0.010	< 0.010	0.011	< 0.010
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50								
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50	1.3								
Sulphate (Total)	U	2430	%	0.010			0.013	0.18	0.064	0.032	0.027	< 0.010	0.040
Arsenic	U	2450	mg/kg	1.0	8.9		8.4	9.8	10	6.3	7.8	11	6.7
Boron	N	2450	mg/kg	0.40	2.3								
Cadmium	U	2450	mg/kg	0.10	0.20		0.18	0.53	0.39	0.13	0.19	0.21	0.20
Chromium	U	2450	mg/kg	1.0	17		16	16	14	16	25	33	19
Copper	U	2450	mg/kg	0.50	21		19	20	18	11	12	28	15
Mercury	U	2450	mg/kg	0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	U	2450	mg/kg	0.50	24		26	19	19	12	26	41	19
Lead	U	2450	mg/kg	0.50	58		90	47	75	56	34	37	70
Selenium	U	2450	mg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	U	2450	mg/kg	0.50	48		47	83	70	43	47	71	51
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40	1.7	6.9							
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0								
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0								
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0	< 1.0								
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0	< 1.0								
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0	< 1.0								
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0								
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0	< 1.0								
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0								
Total Aliphatic Hydrocarbons	U	2680	mg/kg	5.0	< 5.0								
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0								
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0								
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0	< 1.0								
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0	< 1.0								
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0	< 1.0								
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0								
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0								

Chemtest
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Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM					Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:					Chemtest Sample ID.:	200071	200073	200074	200076	200078	200080	200081	200085	200088
Order No.:					Client Sample Ref.:	TP8	TP9	TP9	TP10	TP11	TP12	TP13	TP14	TP16
					Client Sample ID.:	D1	D1	D2	D1	D1	D1	D1	D2	D1
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	1.0	0.2	1.5	1.0	0.5	1.0	1.0	2.0	0.5
					Bottom Depth (m):									
					Date Sampled:	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	21-Sep-2015	24-Sep-2015	21-Sep-2015	21-Sep-2015	23-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**										
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0									
Total Aromatic Hydrocarbons	U	2680	mg/kg	5.0	< 5.0									
Total Petroleum Hydrocarbons	U	2680	mg/kg	10	< 10									
Naphthalene	U	2700	mg/kg	0.10	< 0.10									
Acenaphthylene	U	2700	mg/kg	0.10	< 0.10									
Acenaphthene	U	2700	mg/kg	0.10	< 0.10									
Fluorene	U	2700	mg/kg	0.10	< 0.10									
Phenanthrene	U	2700	mg/kg	0.10	< 0.10									
Anthracene	U	2700	mg/kg	0.10	< 0.10									
Fluoranthene	U	2700	mg/kg	0.10	< 0.10									
Pyrene	U	2700	mg/kg	0.10	< 0.10									
Benzo[a]anthracene	U	2700	mg/kg	0.10	< 0.10									
Chrysene	U	2700	mg/kg	0.10	< 0.10									
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	< 0.10									
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	< 0.10									
Benzo[a]pyrene	U	2700	mg/kg	0.10	< 0.10									
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	< 0.10									
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	< 0.10									
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	< 0.10									
Total Of 16 PAH's	U	2700	mg/kg	2.0	< 2.0									
Total Phenols	U	2920	mg/kg	0.30	< 0.30									

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM				Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:				Chemtest Sample ID.:	200091	200093	200094	200095	200099	200104	200106	200109	200110
Order No.:				Client Sample Ref.:	TP17	TP18	TP19	TP19	TP20	TP22	TP23	TP24	TP25
				Client Sample ID.:	D2	D1	D1	D2	D2	D2	D1	D2	D1
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	1.5	0.5	0.5	1.2	1.0	2.0	1.0	1.0	1.0
				Bottom Depth (m):									
				Date Sampled:	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A						-			
Asbestos Identification	U	2192		N/A						No Asbestos Detected			
Moisture	N	2030	%	0.020	6.6	8.0	9.0	9.2	9.7		6.7	8.2	7.5
Chromatogram (AA Split)	N			N/A				See Attached				See Attached	
pH	U	2010		N/A	8.2	7.5	7.4	8.7	7.9		7.8	8.7	8.1
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010		< 0.010	< 0.010	0.013
Cyanide (Total)	U	2300	mg/kg	0.50				< 0.50				< 0.50	
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50				1.7				1.3	
Sulphate (Total)	U	2430	%	0.010	< 0.010	0.037	0.037		0.012		< 0.010		0.032
Arsenic	U	2450	mg/kg	1.0	10	9.3	7.9	10	9.7		7.0	8.5	11
Boron	N	2450	mg/kg	0.40				2.6				11	
Cadmium	U	2450	mg/kg	0.10	0.37	0.28	0.33	0.18	0.27		0.11	0.15	0.24
Chromium	U	2450	mg/kg	1.0	21	31	32	18	31		13	28	27
Copper	U	2450	mg/kg	0.50	28	19	17	19	23		18	22	19
Mercury	U	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.13		< 0.10	< 0.10	< 0.10
Nickel	U	2450	mg/kg	0.50	33	31	33	26	38		21	33	31
Lead	U	2450	mg/kg	0.50	78	36	54	56	64		49	44	36
Selenium	U	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20		< 0.20	< 0.20	< 0.20
Zinc	U	2450	mg/kg	0.50	61	55	71	54	66		35	60	55
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40				0.95				0.62	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0				< 1.0				< 1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0				< 1.0				< 1.0	
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0				< 1.0				< 1.0	
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0				< 1.0				< 1.0	
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0				< 1.0				< 1.0	
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0				< 1.0				< 1.0	
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0				< 1.0				< 1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0				< 1.0				< 1.0	
Total Aliphatic Hydrocarbons	U	2680	mg/kg	5.0				< 5.0				< 5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0				< 1.0				< 1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0				< 1.0				< 1.0	
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0				< 1.0				< 1.0	
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0				< 1.0				< 1.0	
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0				< 1.0				< 1.0	
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0				< 1.0				< 1.0	
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0				< 1.0				< 1.0	

Chemtest
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Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM					Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:					Chemtest Sample ID.:	200091	200093	200094	200095	200099	200104	200106	200109	200110
Order No.:					Client Sample Ref.:	TP17	TP18	TP19	TP19	TP20	TP22	TP23	TP24	TP25
					Client Sample ID.:	D2	D1	D1	D2	D2	D2	D1	D2	D1
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	1.5	0.5	0.5	1.2	1.0	2.0	1.0	1.0	1.0
					Bottom Depth (m):									
					Date Sampled:	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**										
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0				< 1.0				< 1.0		
Total Aromatic Hydrocarbons	U	2680	mg/kg	5.0				< 5.0				< 5.0		
Total Petroleum Hydrocarbons	U	2680	mg/kg	10				< 10				< 10		
Naphthalene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Acenaphthylene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Acenaphthene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Fluorene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Phenanthrene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Anthracene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Fluoranthene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Pyrene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Benzo[a]anthracene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Chrysene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Benzo[b]fluoranthene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Benzo[k]fluoranthene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Benzo[a]pyrene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10				< 0.10				< 0.10		
Total Of 16 PAH's	U	2700	mg/kg	2.0				< 2.0				< 2.0		
Total Phenols	U	2920	mg/kg	0.30				< 0.30				< 0.30		

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM				Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:				Chemtest Sample ID.:	200112	200114	200116	200118	200120	200124	200126	200128	200130
Order No.:				Client Sample Ref.:	TP26	TP27	TP28	TP29	TP30	TP31	TP32	TP33	TP34
				Client Sample ID.:	D1	D1	D1	D1	D1	D2	D1	D1	D1
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	1.0	1.5	0.5	1.5	1.0	1.0	0.5	0.5	0.6
				Bottom Depth (m):									
				Date Sampled:	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	24-Sep-2015	24-Sep-2015	24-Sep-2015	24-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A	-								
Asbestos Identification	U	2192		N/A	No Asbestos Detected								
Moisture	N	2030	%	0.020	7.0	7.9	9.7	7.3	7.5	5.4	5.4	4.9	7.1
Chromatogram (AA Split)	N			N/A			See Attached						
pH	U	2010		N/A	8.1	8.7	7.7	8.7	7.6	7.8	8.1	7.8	7.9
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.010
Cyanide (Total)	U	2300	mg/kg	0.50			< 0.50						
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50			1.4						
Sulphate (Total)	U	2430	%	0.010	0.011	< 0.010		0.018	0.011	< 0.010	0.011	< 0.010	0.028
Arsenic	U	2450	mg/kg	1.0	9.5	10	7.3	13	6.6	10	10	1.3	5.9
Boron	N	2450	mg/kg	0.40			6.5						
Cadmium	U	2450	mg/kg	0.10	0.15	0.17	0.19	0.20	0.13	0.13	0.36	< 0.10	0.28
Chromium	U	2450	mg/kg	1.0	25	13	24	19	18	25	26	18	14
Copper	U	2450	mg/kg	0.50	23	19	14	22	15	21	21	4.4	15
Mercury	U	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	U	2450	mg/kg	0.50	31	20	25	28	16	26	35	19	14
Lead	U	2450	mg/kg	0.50	66	49	41	67	41	45	63	30	64
Selenium	U	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	U	2450	mg/kg	0.50	54	43	50	47	31	61	59	40	67
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40			1.0						
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0			< 1.0						
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0			< 1.0						
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0			< 1.0						
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0			< 1.0						
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0			< 1.0						
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0			< 1.0						
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0			< 1.0						
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0			< 1.0						
Total Aliphatic Hydrocarbons	U	2680	mg/kg	5.0			< 5.0						
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0			< 1.0						
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0			< 1.0						
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0			< 1.0						
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0			< 1.0						
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0			< 1.0						
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0			< 1.0						
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0			< 1.0						

Chemtest
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Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM				Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:				Chemtest Sample ID.:	200112	200114	200116	200118	200120	200124	200126	200128	200130
Order No.:				Client Sample Ref.:	TP26	TP27	TP28	TP29	TP30	TP31	TP32	TP33	TP34
				Client Sample ID.:	D1	D1	D1	D1	D1	D2	D1	D1	D1
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	1.0	1.5	0.5	1.5	1.0	1.0	0.5	0.5	0.6
				Bottom Depth (m):									
				Date Sampled:	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	22-Sep-2015	24-Sep-2015	24-Sep-2015	24-Sep-2015	24-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0			< 1.0						
Total Aromatic Hydrocarbons	U	2680	mg/kg	5.0			< 5.0						
Total Petroleum Hydrocarbons	U	2680	mg/kg	10			< 10						
Naphthalene	U	2700	mg/kg	0.10			< 0.10						
Acenaphthylene	U	2700	mg/kg	0.10			< 0.10						
Acenaphthene	U	2700	mg/kg	0.10			< 0.10						
Fluorene	U	2700	mg/kg	0.10			< 0.10						
Phenanthrene	U	2700	mg/kg	0.10			< 0.10						
Anthracene	U	2700	mg/kg	0.10			< 0.10						
Fluoranthene	U	2700	mg/kg	0.10			< 0.10						
Pyrene	U	2700	mg/kg	0.10			< 0.10						
Benzo[a]anthracene	U	2700	mg/kg	0.10			< 0.10						
Chrysene	U	2700	mg/kg	0.10			< 0.10						
Benzo[b]fluoranthene	U	2700	mg/kg	0.10			< 0.10						
Benzo[k]fluoranthene	U	2700	mg/kg	0.10			< 0.10						
Benzo[a]pyrene	U	2700	mg/kg	0.10			< 0.10						
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10			< 0.10						
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10			< 0.10						
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10			< 0.10						
Total Of 16 PAH's	U	2700	mg/kg	2.0			< 2.0						
Total Phenols	U	2920	mg/kg	0.30			< 0.30						

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM				Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:				Chemtest Sample ID.:	200132	200134	200137	200139	200142	200145	200147	200149
Order No.:				Client Sample Ref.:	TP35	TP36	TP37	TP38	TP39	TP40	TP41	TP42
				Client Sample ID.:	D1	D1	D1	D1	D1	D2	D1	D1
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	1.2	0.7	1.0	1.0	1.0	2.0	1.0	1.5
				Bottom Depth (m):								
				Date Sampled:	24-Sep-2015	24-Sep-2015	24-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A		-						
Asbestos Identification	U	2192		N/A		No Asbestos Detected						
Moisture	N	2030	%	0.020	3.9	3.0	7.1	5.1	5.5	11	9.1	7.5
Chromatogram (AA Split)	N			N/A		See Attached	See Attached	See Attached				
pH	U	2010		N/A	7.9	7.9	8.0	7.7	7.8	8.5	8.6	8.1
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	< 0.010	0.037	< 0.010	< 0.010	0.18	< 0.010	< 0.010
Cyanide (Total)	U	2300	mg/kg	0.50		< 0.50	< 0.50	< 0.50				
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50		0.87	0.87	0.80				
Sulphate (Total)	U	2430	%	0.010	0.016				0.039	0.64	0.019	< 0.010
Arsenic	U	2450	mg/kg	1.0	8.3	6.6	7.1	6.8	5.2	13	7.0	14
Boron	N	2450	mg/kg	0.40		2.1	2.2	2.8				
Cadmium	U	2450	mg/kg	0.10	0.19	0.28	0.33	< 0.10	0.18	0.23	0.13	0.31
Chromium	U	2450	mg/kg	1.0	15	23	16	24	20	18	14	19
Copper	U	2450	mg/kg	0.50	15	11	12	13	8.8	15	16	18
Mercury	U	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.14
Nickel	U	2450	mg/kg	0.50	15	26	14	22	15	22	22	27
Lead	U	2450	mg/kg	0.50	56	60	47	24	35	61	51	47
Selenium	U	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	U	2450	mg/kg	0.50	50	66	75	61	60	45	38	51
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40		0.79	1.5	0.76				
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Total Aliphatic Hydrocarbons	U	2680	mg/kg	5.0		< 5.0	< 5.0	< 5.0				
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0				

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM					Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:					Chemtest Sample ID.:	200132	200134	200137	200139	200142	200145	200147	200149
Order No.:					Client Sample Ref.:	TP35	TP36	TP37	TP38	TP39	TP40	TP41	TP42
					Client Sample ID.:	D1	D1	D1	D1	D1	D2	D1	D1
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	1.2	0.7	1.0	1.0	1.0	2.0	1.0	1.5
					Bottom Depth (m):								
					Date Sampled:	24-Sep-2015	24-Sep-2015	24-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0		< 1.0	< 1.0	< 1.0					
Total Aromatic Hydrocarbons	U	2680	mg/kg	5.0		< 5.0	< 5.0	< 5.0					
Total Petroleum Hydrocarbons	U	2680	mg/kg	10		< 10	< 10	< 10					
Naphthalene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Acenaphthylene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Acenaphthene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Fluorene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Phenanthrene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Anthracene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Fluoranthene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Pyrene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Benzo[a]anthracene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Chrysene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Benzo[b]fluoranthene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Benzo[k]fluoranthene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Benzo[a]pyrene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10		< 0.10	< 0.10	< 0.10					
Total Of 16 PAH's	U	2700	mg/kg	2.0		< 2.0	< 2.0	< 2.0					
Total Phenols	U	2920	mg/kg	0.30		< 0.30	< 0.30	< 0.30					

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM				Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:				Chemtest Sample ID.:	200152	200154	200157	200158	200160	200162	200163	200165
Order No.:				Client Sample Ref.:	TP43	TP44	TP45	TP45	TP46	TP47	TP47	TP48
				Client Sample ID.:	D1	D1	D1	D2	D1	D1	D2	D1
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	1.0	1.0	0.5	2.0	1.0	1.4	2.2	1.5
				Bottom Depth (m):								
				Date Sampled:	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A								
Asbestos Identification	U	2192		N/A								
Moisture	N	2030	%	0.020	4.2	7.8	5.6	7.0	6.9	5.8	7.4	8.1
Chromatogram (AA Split)	N			N/A				See Attached	See Attached		See Attached	
pH	U	2010		N/A	8.8	8.4	8.8	8.6	8.6	8.8	8.6	8.4
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Cyanide (Total)	U	2300	mg/kg	0.50				< 0.50	< 0.50		< 0.50	
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50				0.97	1.2		1.1	
Sulphate (Total)	U	2430	%	0.010	< 0.010	0.016	0.016			< 0.010		< 0.010
Arsenic	U	2450	mg/kg	1.0	11	5.8	9.8	10	9.7	10	12	8.6
Boron	N	2450	mg/kg	0.40				3.5	2.9		3.6	
Cadmium	U	2450	mg/kg	0.10	0.17	0.13	0.14	0.14	0.17	0.24	0.12	0.17
Chromium	U	2450	mg/kg	1.0	20	20	23	21	21	16	16	20
Copper	U	2450	mg/kg	0.50	18	9.0	18	21	19	18	16	21
Mercury	U	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	U	2450	mg/kg	0.50	25	17	30	27	25	23	21	27
Lead	U	2450	mg/kg	0.50	37	41	26	41	58	49	44	51
Selenium	U	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	U	2450	mg/kg	0.50	47	37	47	49	38	44	41	44
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40				0.78	0.76		0.95	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Total Aliphatic Hydrocarbons	U	2680	mg/kg	5.0				< 5.0	< 5.0		< 5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM		Chemtest Job No.:			15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:		Chemtest Sample ID.:			200152	200154	200157	200158	200160	200162	200163	200165
Order No.:		Client Sample Ref.:			TP43	TP44	TP45	TP45	TP46	TP47	TP47	TP48
		Client Sample ID.:			D1	D1	D1	D2	D1	D1	D2	D1
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			1.0	1.0	0.5	2.0	1.0	1.4	2.2	1.5
		Bottom Depth (m):										
		Date Sampled:			23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015	23-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0				< 1.0	< 1.0		< 1.0	
Total Aromatic Hydrocarbons	U	2680	mg/kg	5.0				< 5.0	< 5.0		< 5.0	
Total Petroleum Hydrocarbons	U	2680	mg/kg	10				< 10	< 10		< 10	
Naphthalene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Acenaphthylene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Acenaphthene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Fluorene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Phenanthrene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Anthracene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Fluoranthene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Pyrene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Benzo[a]anthracene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Chrysene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Benzo[b]fluoranthene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Benzo[k]fluoranthene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Benzo[a]pyrene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10				< 0.10	< 0.10		< 0.10	
Total Of 16 PAH's	U	2700	mg/kg	2.0				< 2.0	< 2.0		< 2.0	
Total Phenols	U	2920	mg/kg	0.30				< 0.30	< 0.30		< 0.30	

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM				Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:				Chemtest Sample ID.:	200167	200170	200172	200173	200175	200178	200181	200185	200187
Order No.:				Client Sample Ref.:	TP49	TP50	WS01	WS01	WS02	WS03	WS04	WS05	WS06
				Client Sample ID.:	D1	D2	D1	D2	D1	D1	D1	D2	D1
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	1.5	1.5	0.9	1.5	0.7	0.9	0.9	1.2	0.9
				Bottom Depth (m):									
				Date Sampled:	23-Sep-2015	23-Sep-2015	25-Sep-2015	25-Sep-2015	25-Sep-2015	25-Sep-2015	24-Sep-2015	25-Sep-2015	28-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A		-		-					
Asbestos Identification	U	2192		N/A		No Asbestos Detected		No Asbestos Detected					
Moisture	N	2030	%	0.020	6.8		5.4		5.7	6.0	11	5.7	9.7
Chromatogram (AA Split)	N			N/A									
pH	U	2010		N/A	8.7		8.9			8.2	8.6	8.3	8.6
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010		0.035			< 0.010	< 0.010	< 0.010	< 0.010
Cyanide (Total)	U	2300	mg/kg	0.50									
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50									
Sulphate (Total)	U	2430	%	0.010	0.026		0.033			< 0.010	< 0.010	< 0.010	< 0.010
Arsenic	U	2450	mg/kg	1.0	12		8.7			6.5	11	9.5	9.3
Boron	N	2450	mg/kg	0.40									
Cadmium	U	2450	mg/kg	0.10	0.26		0.24			0.19	0.23	0.21	0.18
Chromium	U	2450	mg/kg	1.0	16		14			14	28	18	29
Copper	U	2450	mg/kg	0.50	19		13			16	24	24	27
Mercury	U	2450	mg/kg	0.10	< 0.10		< 0.10			< 0.10	< 0.10	< 0.10	< 0.10
Nickel	U	2450	mg/kg	0.50	23		17			22	38	29	38
Lead	U	2450	mg/kg	0.50	60		76			50	45	78	56
Selenium	U	2450	mg/kg	0.20	< 0.20		< 0.20			< 0.20	< 0.20	< 0.20	< 0.20
Zinc	U	2450	mg/kg	0.50	44		40			31	63	50	67
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50		< 0.50			< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40					1.5				
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0									
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0									
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0									
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0									
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0									
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0									
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0									
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0									
Total Aliphatic Hydrocarbons	U	2680	mg/kg	5.0									
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0									
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0									
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0									
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0									
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0									
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0									
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0									

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM													
			Chemtest Job No.:		15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:			Chemtest Sample ID.:		200167	200170	200172	200173	200175	200178	200181	200185	200187
Order No.:			Client Sample Ref.:		TP49	TP50	WS01	WS01	WS02	WS03	WS04	WS05	WS06
			Client Sample ID.:		D1	D2	D1	D2	D1	D1	D1	D2	D1
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		1.5	1.5	0.9	1.5	0.7	0.9	0.9	1.2	0.9
			Bottom Depth (m):										
			Date Sampled:		23-Sep-2015	23-Sep-2015	25-Sep-2015	25-Sep-2015	25-Sep-2015	25-Sep-2015	24-Sep-2015	25-Sep-2015	28-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0									
Total Aromatic Hydrocarbons	U	2680	mg/kg	5.0									
Total Petroleum Hydrocarbons	U	2680	mg/kg	10									
Naphthalene	U	2700	mg/kg	0.10									
Acenaphthylene	U	2700	mg/kg	0.10									
Acenaphthene	U	2700	mg/kg	0.10									
Fluorene	U	2700	mg/kg	0.10									
Phenanthrene	U	2700	mg/kg	0.10									
Anthracene	U	2700	mg/kg	0.10									
Fluoranthene	U	2700	mg/kg	0.10									
Pyrene	U	2700	mg/kg	0.10									
Benzo[a]anthracene	U	2700	mg/kg	0.10									
Chrysene	U	2700	mg/kg	0.10									
Benzo[b]fluoranthene	U	2700	mg/kg	0.10									
Benzo[k]fluoranthene	U	2700	mg/kg	0.10									
Benzo[a]pyrene	U	2700	mg/kg	0.10									
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10									
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10									
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10									
Total Of 16 PAH's	U	2700	mg/kg	2.0									
Total Phenols	U	2920	mg/kg	0.30									

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM				Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:				Chemtest Sample ID.:	200190	200195	200196	200198	200201	200204	200207	200210	200211
Order No.:				Client Sample Ref.:	WS07	WS09	WS09	WS10	WS11	WS12	WS13	WS14	WS14
				Client Sample ID.:	D1	D1	D2	D1	D1	D1	D1	D1	D2
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.9	0.9	1.9	0.9	0.9	0.2	0.9	0.9	1.9
				Bottom Depth (m):									
				Date Sampled:	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A									
Asbestos Identification	U	2192		N/A									
Moisture	N	2030	%	0.020	8.0	6.6	6.4	4.3	3.4	9.5	4.9	8.0	9.9
Chromatogram (AA Split)	N			N/A									
pH	U	2010		N/A	7.4	8.4		8.0	8.2		8.7		8.5
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	< 0.010		< 0.010	< 0.010		< 0.010		< 0.010
Cyanide (Total)	U	2300	mg/kg	0.50									
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50									
Sulphate (Total)	U	2430	%	0.010	< 0.010	0.019		< 0.010	< 0.010		0.017		0.022
Arsenic	U	2450	mg/kg	1.0	9.5	7.5		9.0	10	9.1		8.4	
Boron	N	2450	mg/kg	0.40									
Cadmium	U	2450	mg/kg	0.10	0.28	0.17		0.12	0.38	0.92		0.20	
Chromium	U	2450	mg/kg	1.0	18	13		20	19	25		17	
Copper	U	2450	mg/kg	0.50	35	15		16	17	22		20	
Mercury	U	2450	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	0.16		0.13	
Nickel	U	2450	mg/kg	0.50	36	17		30	26	14		22	
Lead	U	2450	mg/kg	0.50	75	40		87	93	110		53	
Selenium	U	2450	mg/kg	0.20	< 0.20	< 0.20		< 0.20	< 0.20	< 0.20		< 0.20	
Zinc	U	2450	mg/kg	0.50	57	42		62	52	140		39	
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50		< 0.50	
Organic Matter	U	2625	%	0.40			0.71						
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0									
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0									
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0									
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0									
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0									
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0									
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0									
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0									
Total Aliphatic Hydrocarbons	U	2680	mg/kg	5.0									
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0									
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0									
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0									
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0									
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0									
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0									
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0									

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

Client: MLM				Chemtest Job No.:	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938	15-22938
Quotation No.:				Chemtest Sample ID.:	200190	200195	200196	200198	200201	200204	200207	200210	200211
Order No.:				Client Sample Ref.:	WS07	WS09	WS09	WS10	WS11	WS12	WS13	WS14	WS14
				Client Sample ID.:	D1	D1	D2	D1	D1	D1	D1	D1	D2
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.9	0.9	1.9	0.9	0.9	0.2	0.9	0.9	1.9
				Bottom Depth (m):									
				Date Sampled:	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0									
Total Aromatic Hydrocarbons	U	2680	mg/kg	5.0									
Total Petroleum Hydrocarbons	U	2680	mg/kg	10									
Naphthalene	U	2700	mg/kg	0.10									
Acenaphthylene	U	2700	mg/kg	0.10									
Acenaphthene	U	2700	mg/kg	0.10									
Fluorene	U	2700	mg/kg	0.10									
Phenanthrene	U	2700	mg/kg	0.10									
Anthracene	U	2700	mg/kg	0.10									
Fluoranthene	U	2700	mg/kg	0.10									
Pyrene	U	2700	mg/kg	0.10									
Benzo[a]anthracene	U	2700	mg/kg	0.10									
Chrysene	U	2700	mg/kg	0.10									
Benzo[b]fluoranthene	U	2700	mg/kg	0.10									
Benzo[k]fluoranthene	U	2700	mg/kg	0.10									
Benzo[a]pyrene	U	2700	mg/kg	0.10									
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10									
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10									
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10									
Total Of 16 PAH's	U	2700	mg/kg	2.0									
Total Phenols	U	2920	mg/kg	0.30									

Results - Soil

Project: 773135 - Ruabon Park, Wrexham

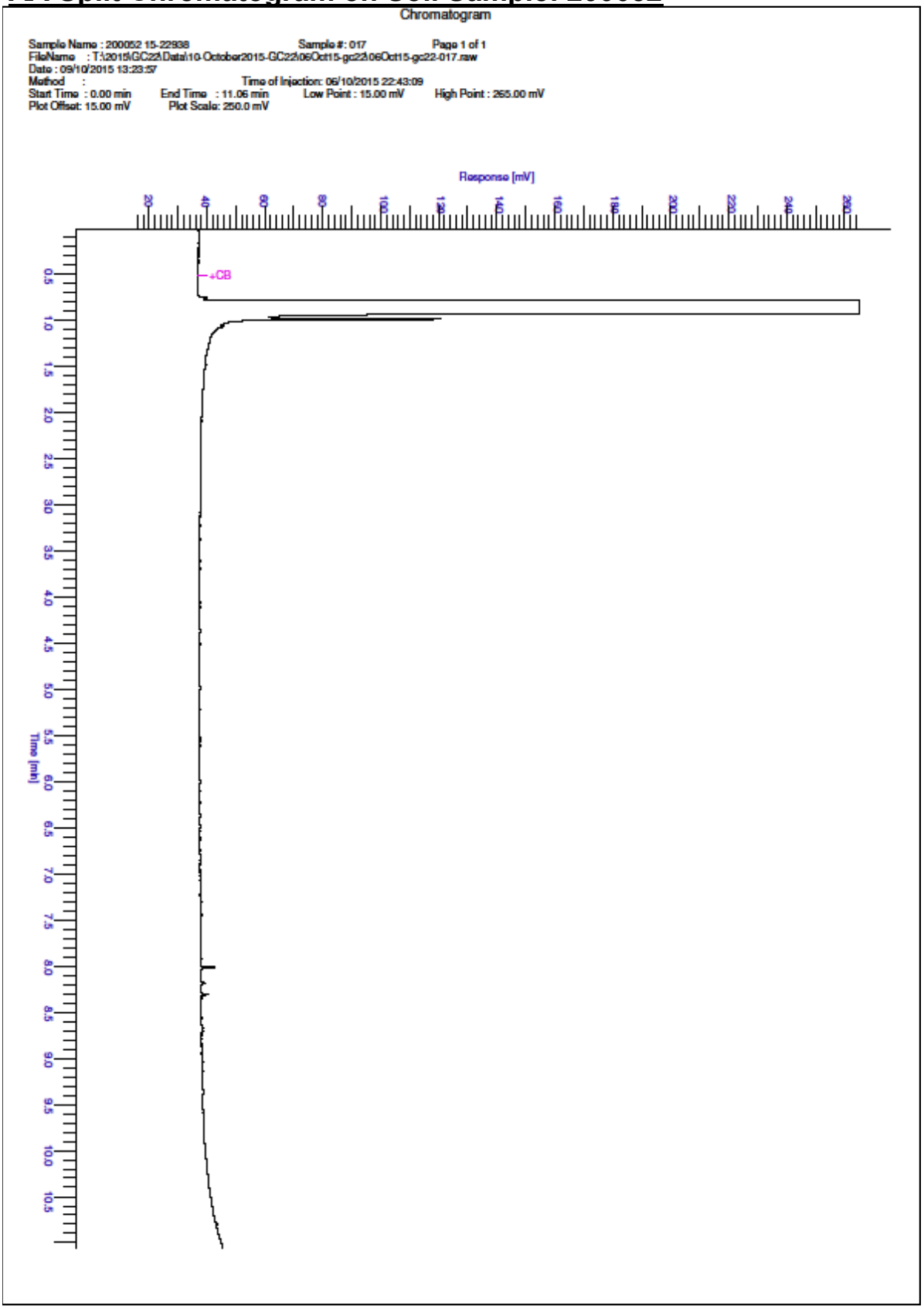
Client: MLM			Chemtest Job No.:		15-22938
Quotation No.:			Chemtest Sample ID.:		200213
Order No.:			Client Sample Ref.:		WS15
			Client Sample ID.:		D1
			Sample Type:		SOIL
			Top Depth (m):		0.9
			Bottom Depth (m):		
			Date Sampled:		28-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
ACM Type	U	2192		N/A	
Asbestos Identification	U	2192		N/A	
Moisture	N	2030	%	0.020	13
Chromatogram (AA Split)	N			N/A	
pH	U	2010		N/A	
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	
Cyanide (Total)	U	2300	mg/kg	0.50	
Sulphide (Easily Liberatable)	U	2325	mg/kg	0.50	
Sulphate (Total)	U	2430	%	0.010	
Arsenic	U	2450	mg/kg	1.0	7.3
Boron	N	2450	mg/kg	0.40	
Cadmium	U	2450	mg/kg	0.10	0.22
Chromium	U	2450	mg/kg	1.0	21
Copper	U	2450	mg/kg	0.50	21
Mercury	U	2450	mg/kg	0.10	< 0.10
Nickel	U	2450	mg/kg	0.50	29
Lead	U	2450	mg/kg	0.50	37
Selenium	U	2450	mg/kg	0.20	< 0.20
Zinc	U	2450	mg/kg	0.50	50
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50
Organic Matter	U	2625	%	0.40	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0	
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0	
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0	
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0	
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	
Total Aliphatic Hydrocarbons	U	2680	mg/kg	5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0	
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0	
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0	
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	

Results - Soil

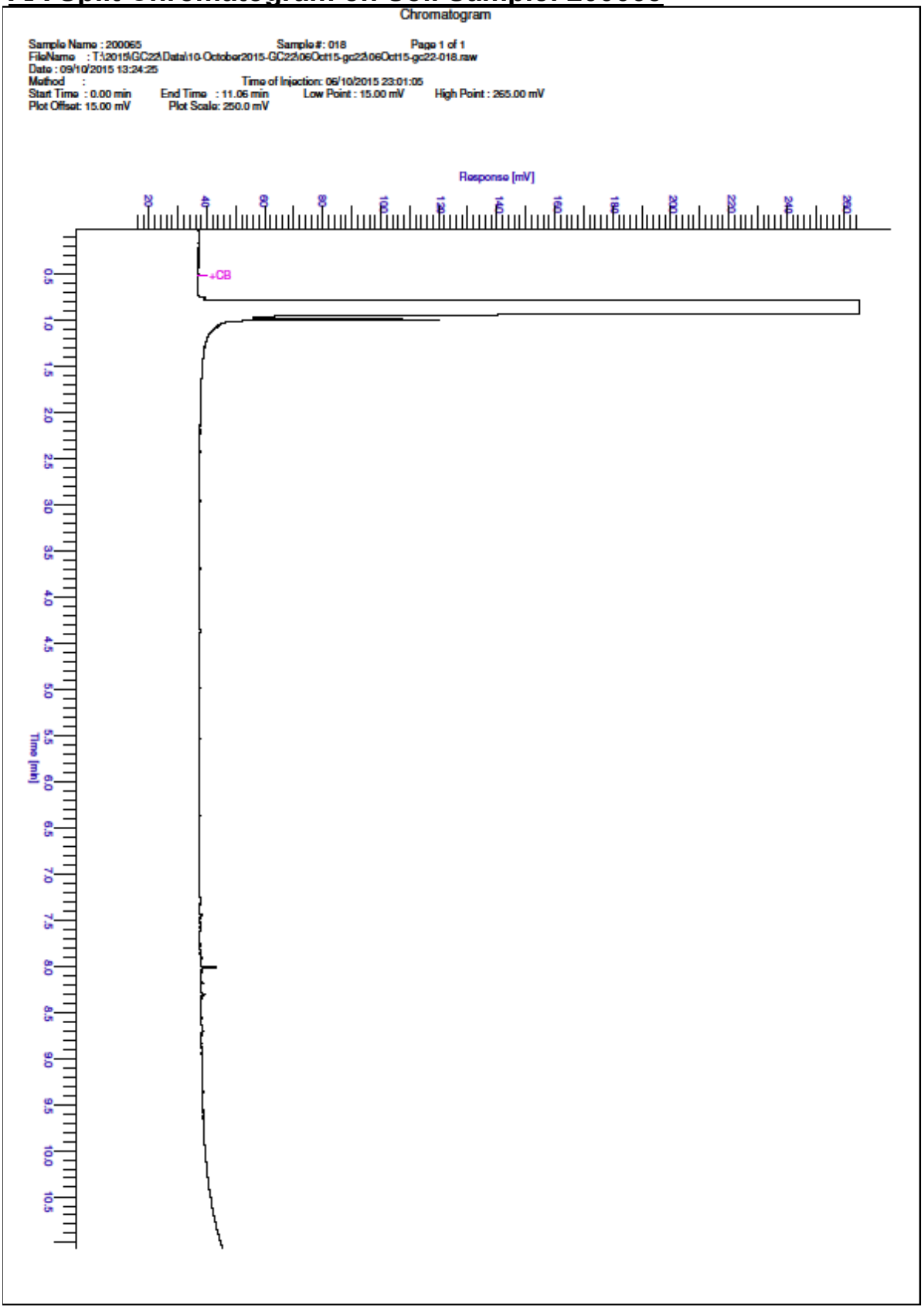
Project: 773135 - Ruabon Park, Wrexham

Client: MLM			Chemtest Job No.:		15-22938
Quotation No.:			Chemtest Sample ID.:		200213
Order No.:			Client Sample Ref.:		WS15
			Client Sample ID.:		D1
			Sample Type:		SOIL
			Top Depth (m):		0.9
			Bottom Depth (m):		
			Date Sampled:		28-Sep-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	
Total Aromatic Hydrocarbons	U	2680	mg/kg	5.0	
Total Petroleum Hydrocarbons	U	2680	mg/kg	10	
Naphthalene	U	2700	mg/kg	0.10	
Acenaphthylene	U	2700	mg/kg	0.10	
Acenaphthene	U	2700	mg/kg	0.10	
Fluorene	U	2700	mg/kg	0.10	
Phenanthrene	U	2700	mg/kg	0.10	
Anthracene	U	2700	mg/kg	0.10	
Fluoranthene	U	2700	mg/kg	0.10	
Pyrene	U	2700	mg/kg	0.10	
Benzo[a]anthracene	U	2700	mg/kg	0.10	
Chrysene	U	2700	mg/kg	0.10	
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	
Benzo[a]pyrene	U	2700	mg/kg	0.10	
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	
Total Of 16 PAH's	U	2700	mg/kg	2.0	
Total Phenols	U	2920	mg/kg	0.30	

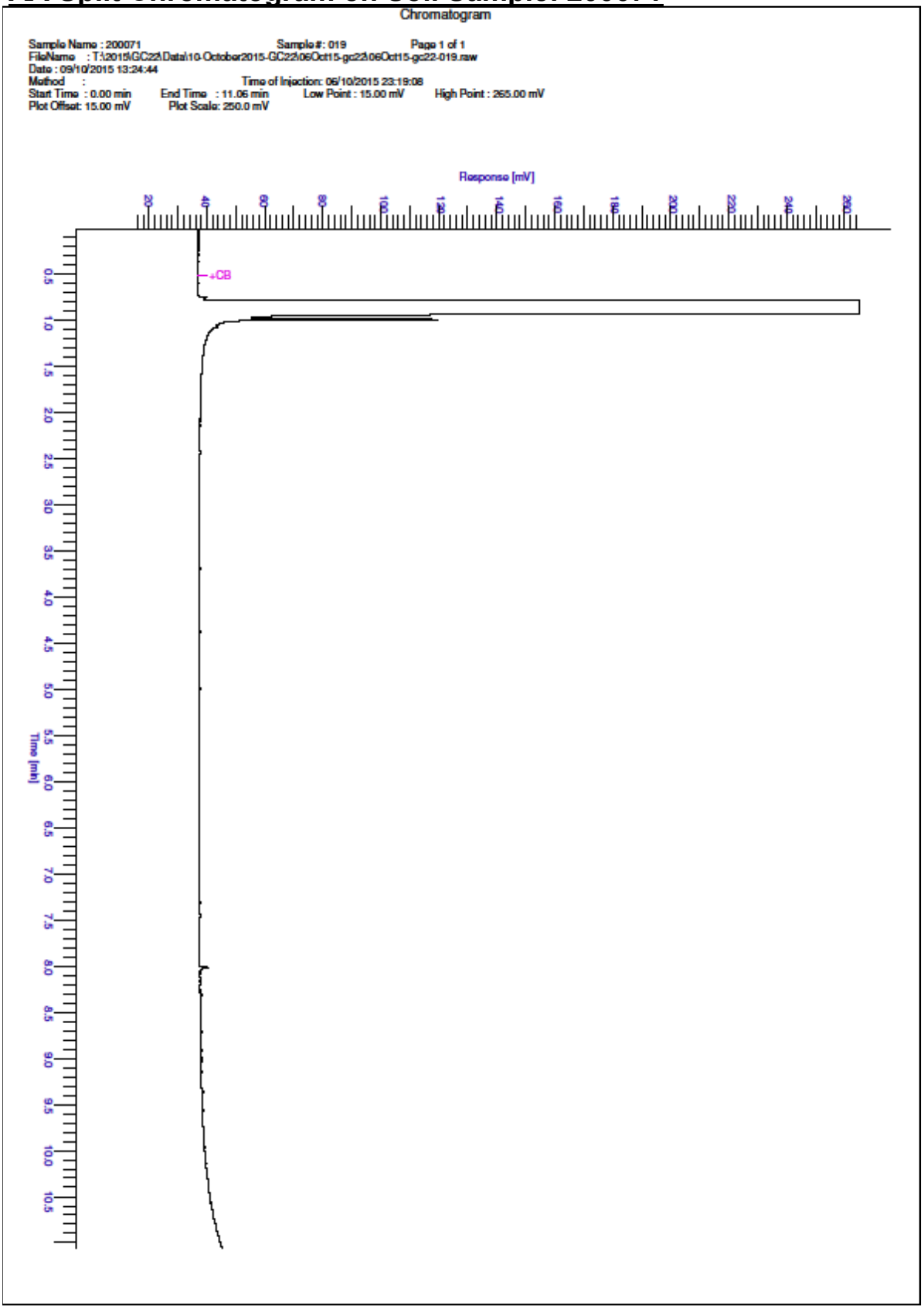
AA-Split Chromatogram on Soil Sample: 200052



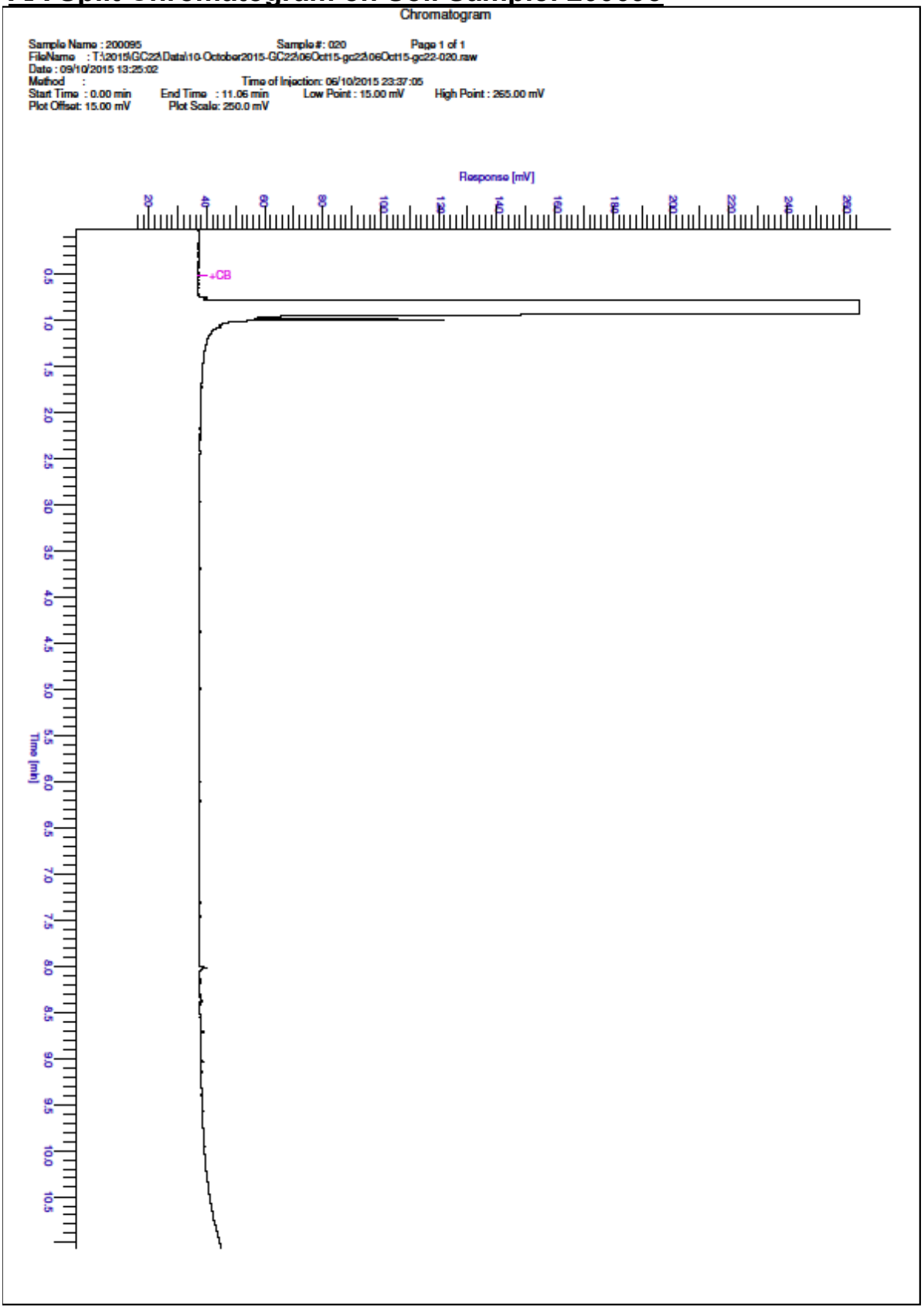
AA-Split Chromatogram on Soil Sample: 200065



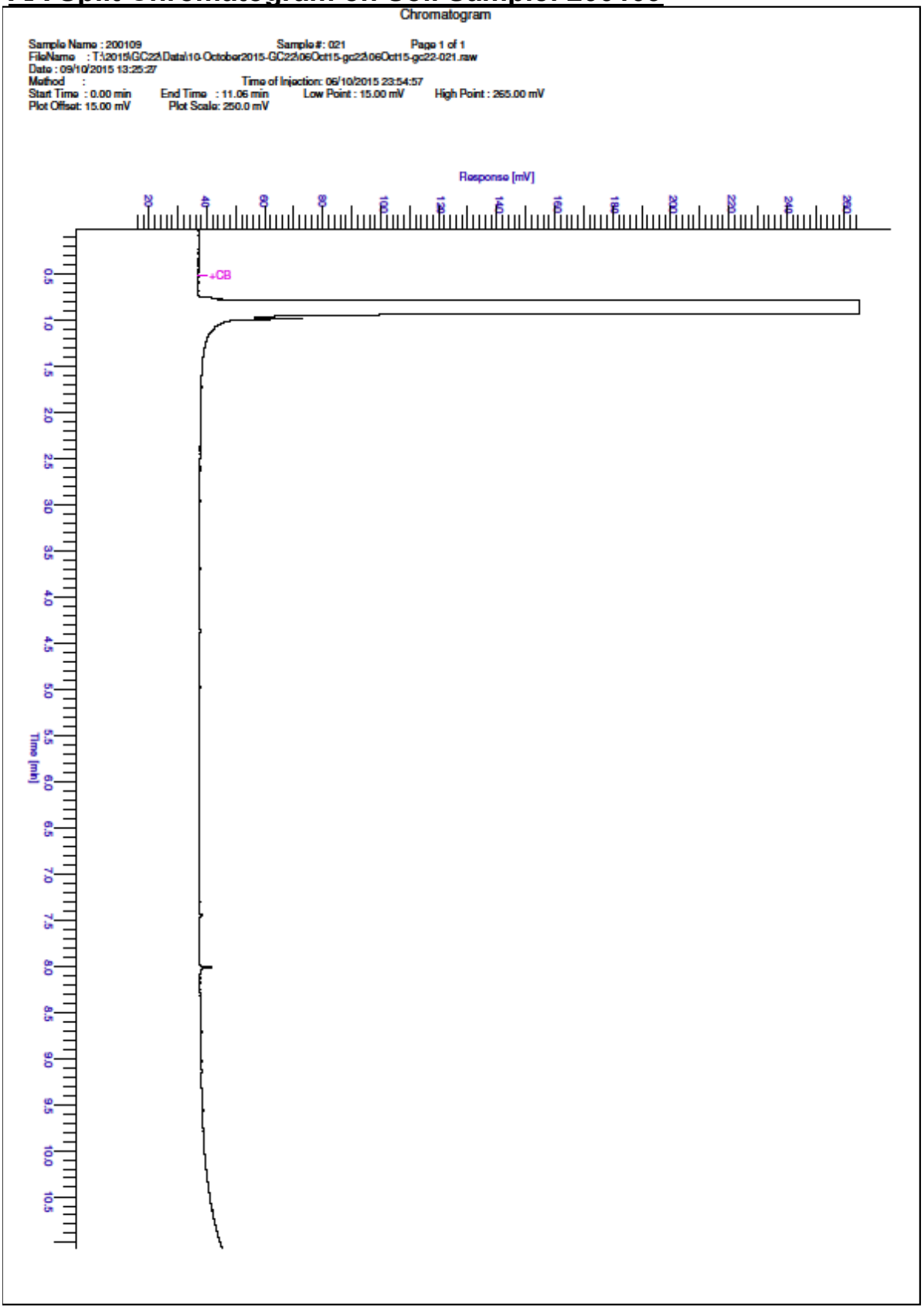
AA-Split Chromatogram on Soil Sample: 200071



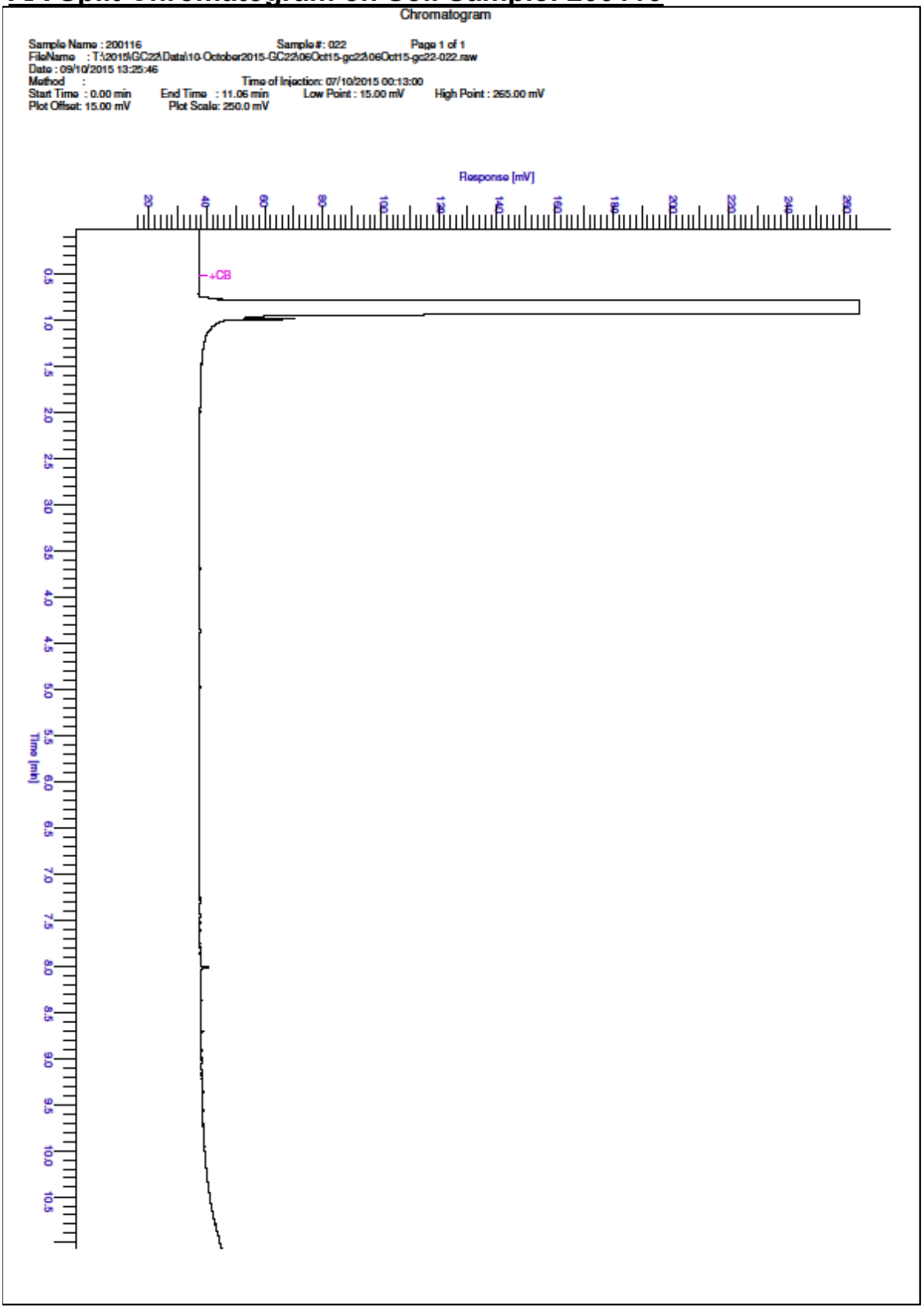
AA-Split Chromatogram on Soil Sample: 200095



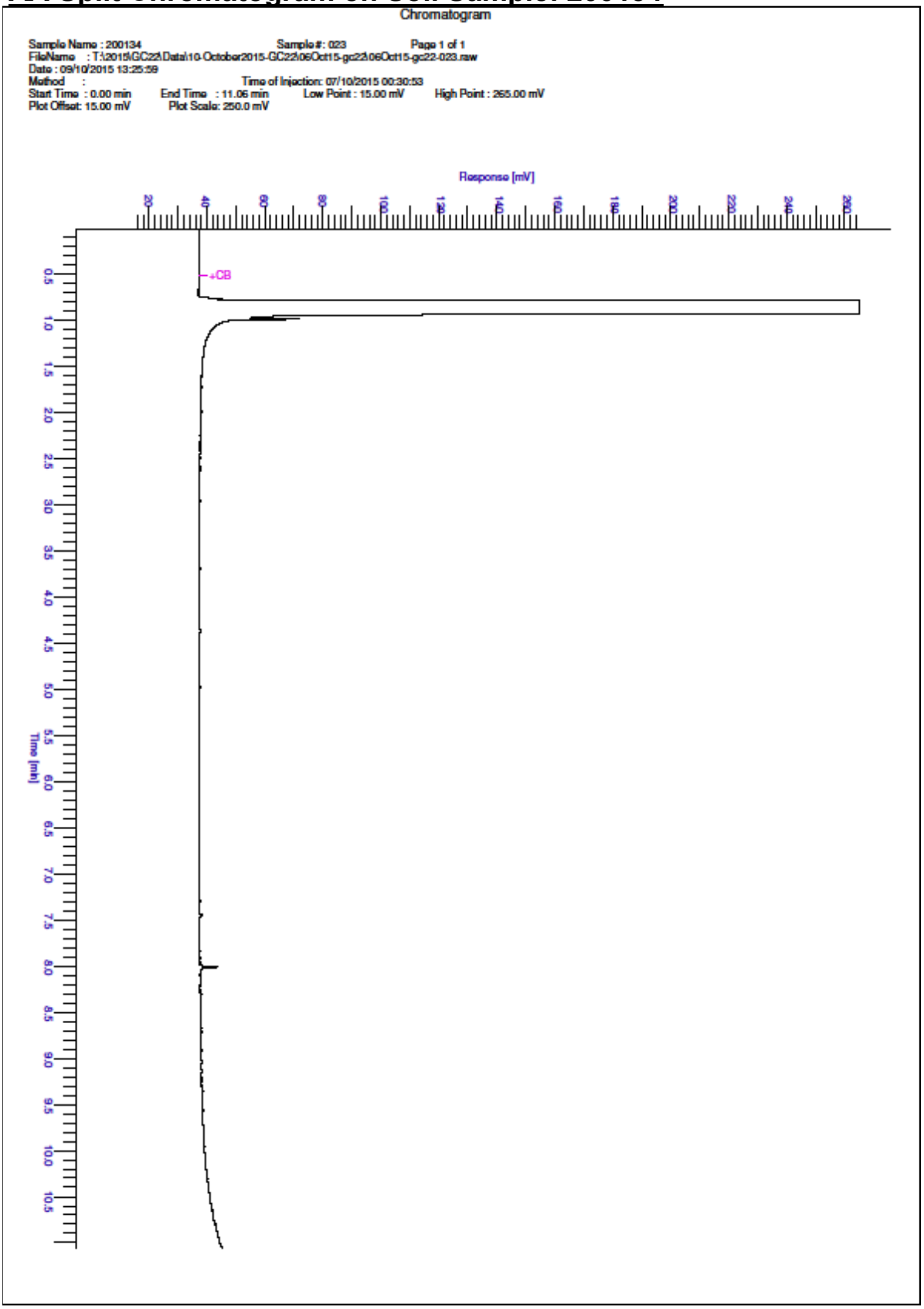
AA-Split Chromatogram on Soil Sample: 200109



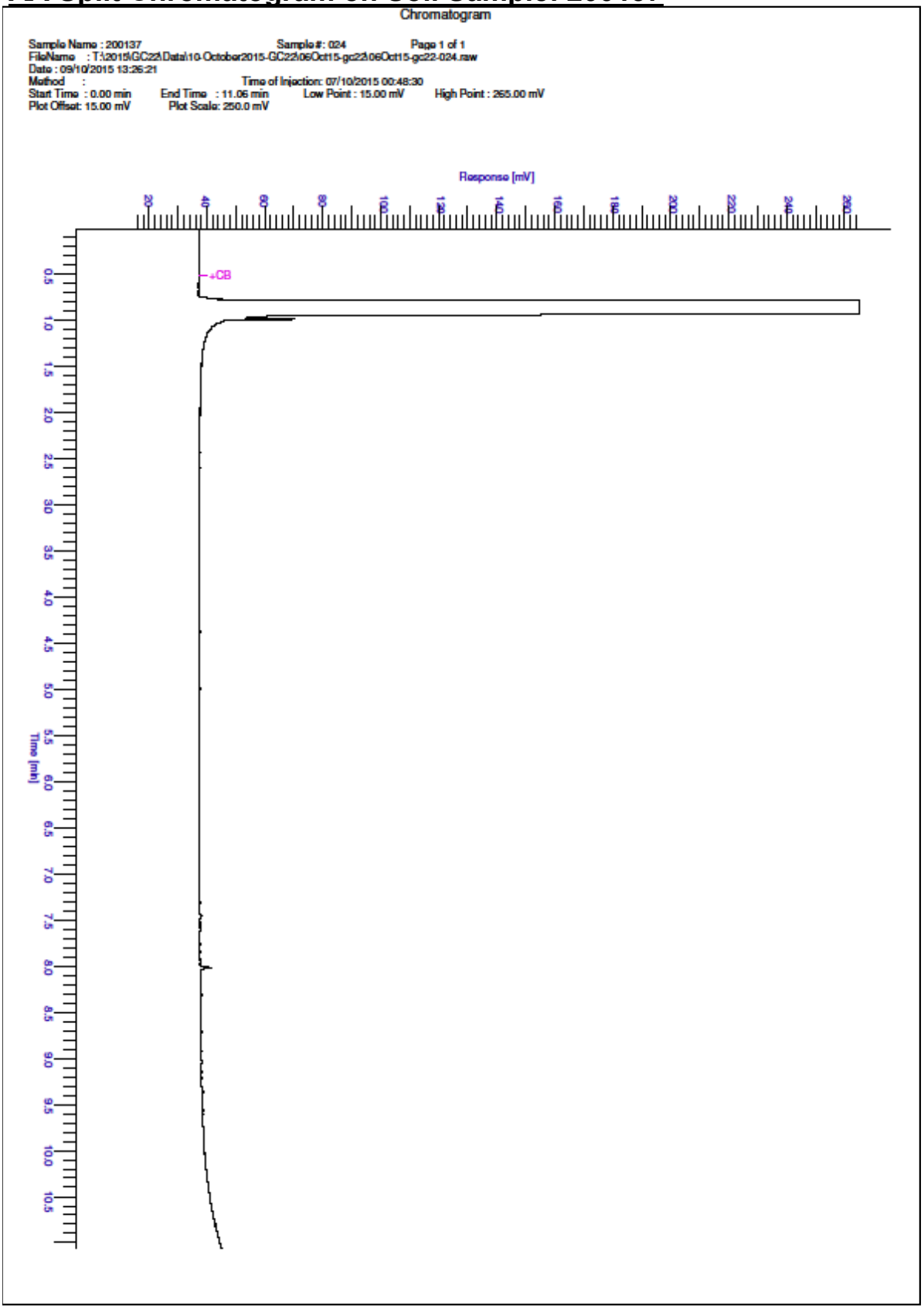
AA-Split Chromatogram on Soil Sample: 200116



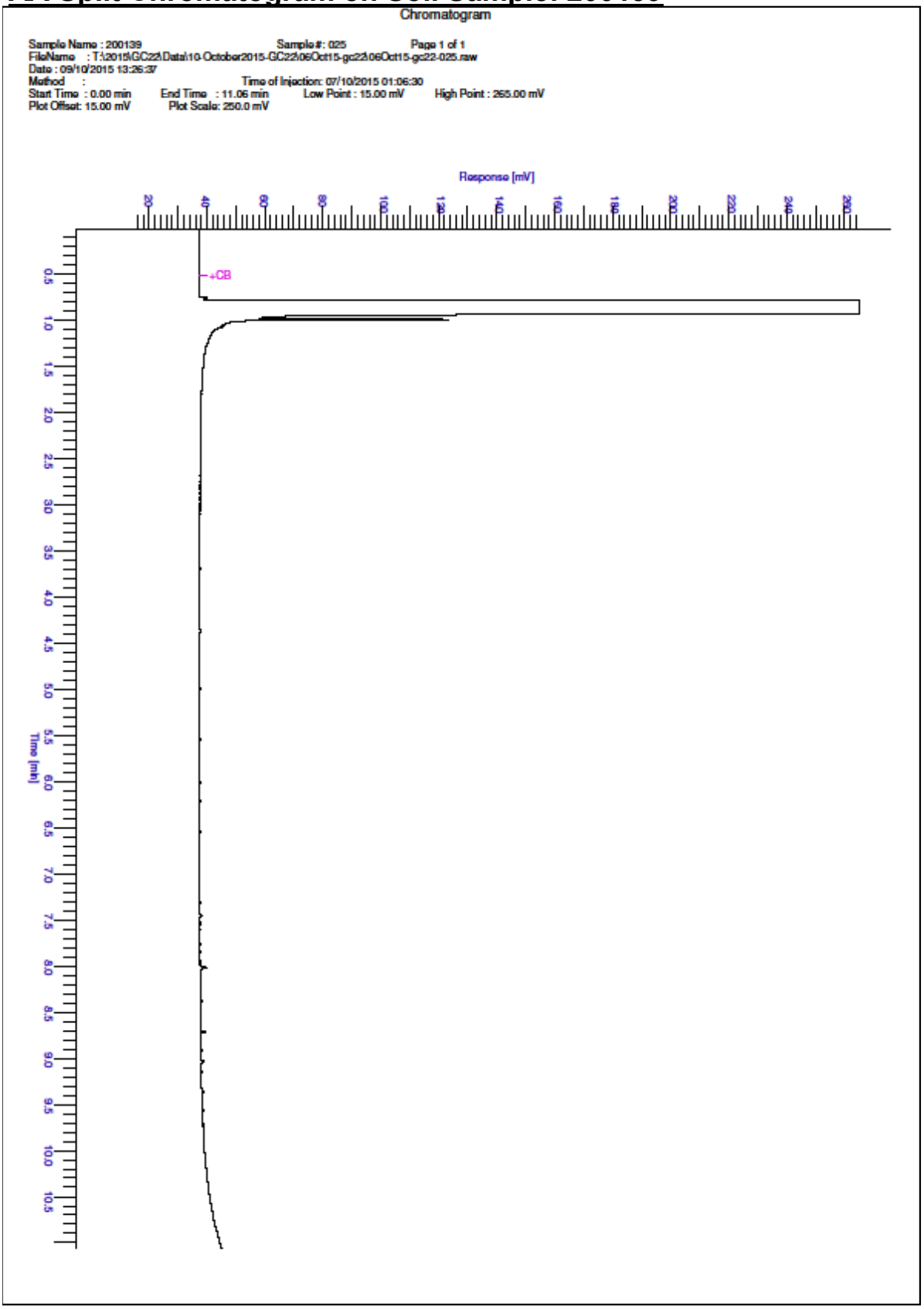
AA-Split Chromatogram on Soil Sample: 200134



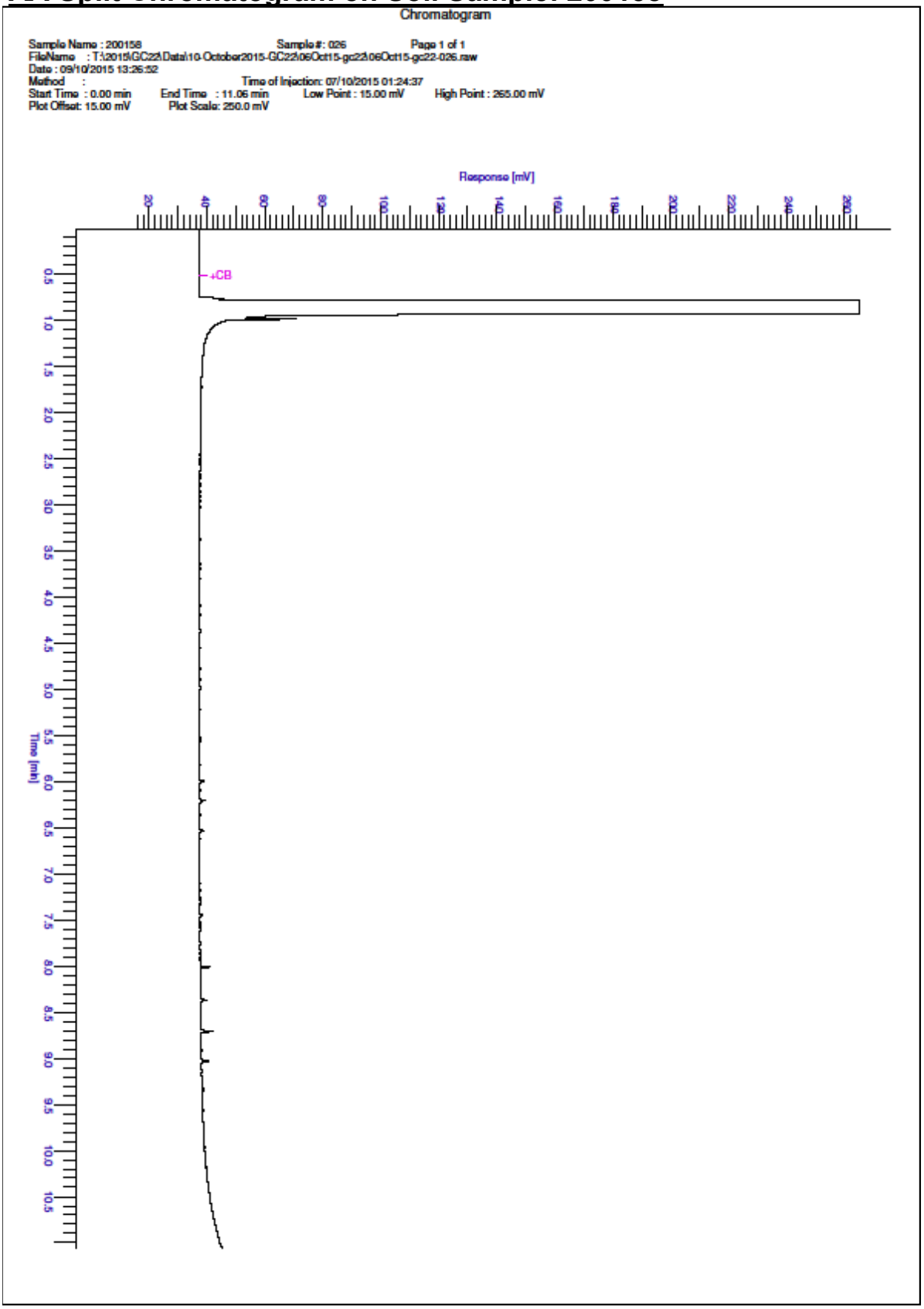
AA-Split Chromatogram on Soil Sample: 200137



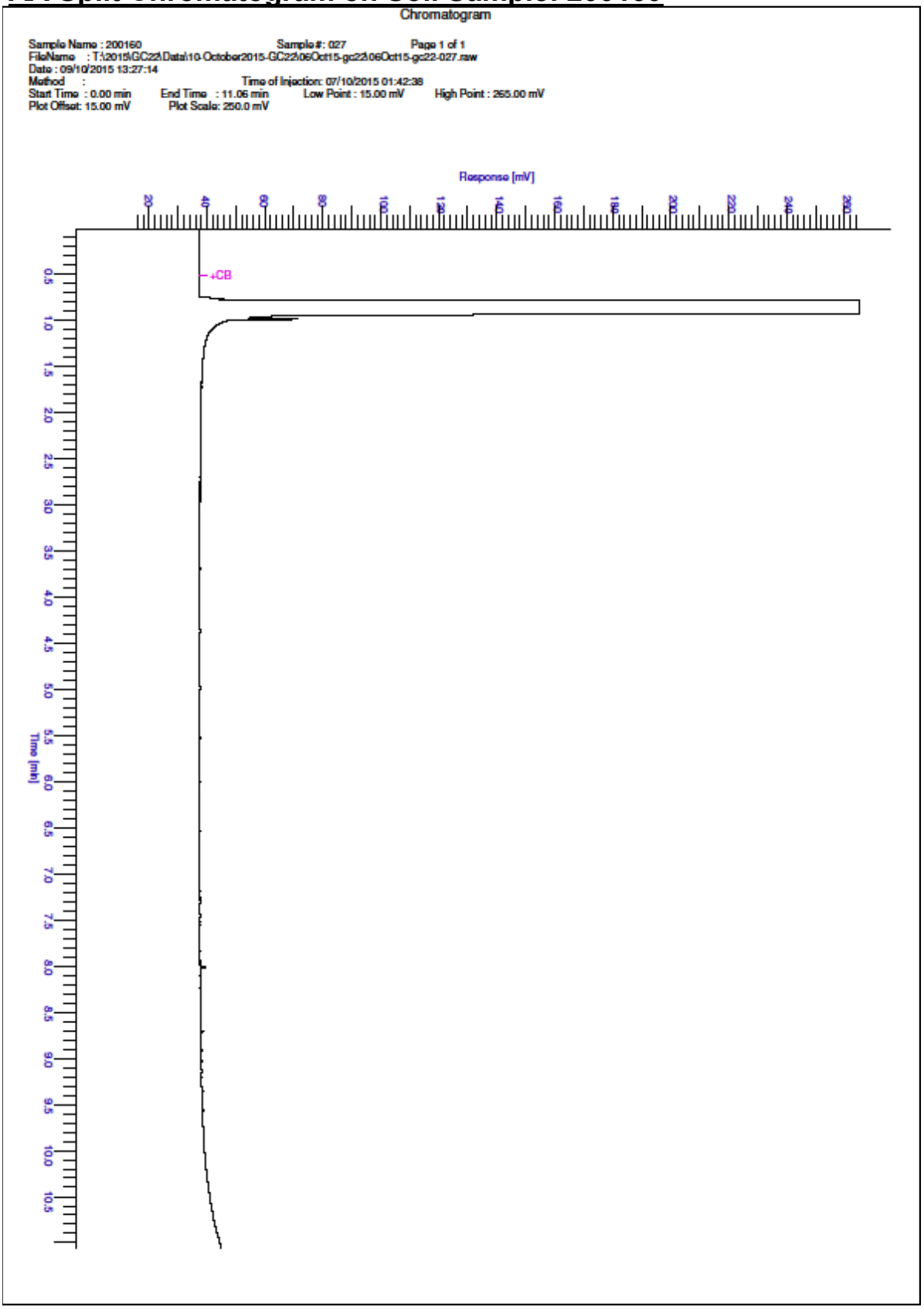
AA-Split Chromatogram on Soil Sample: 200139



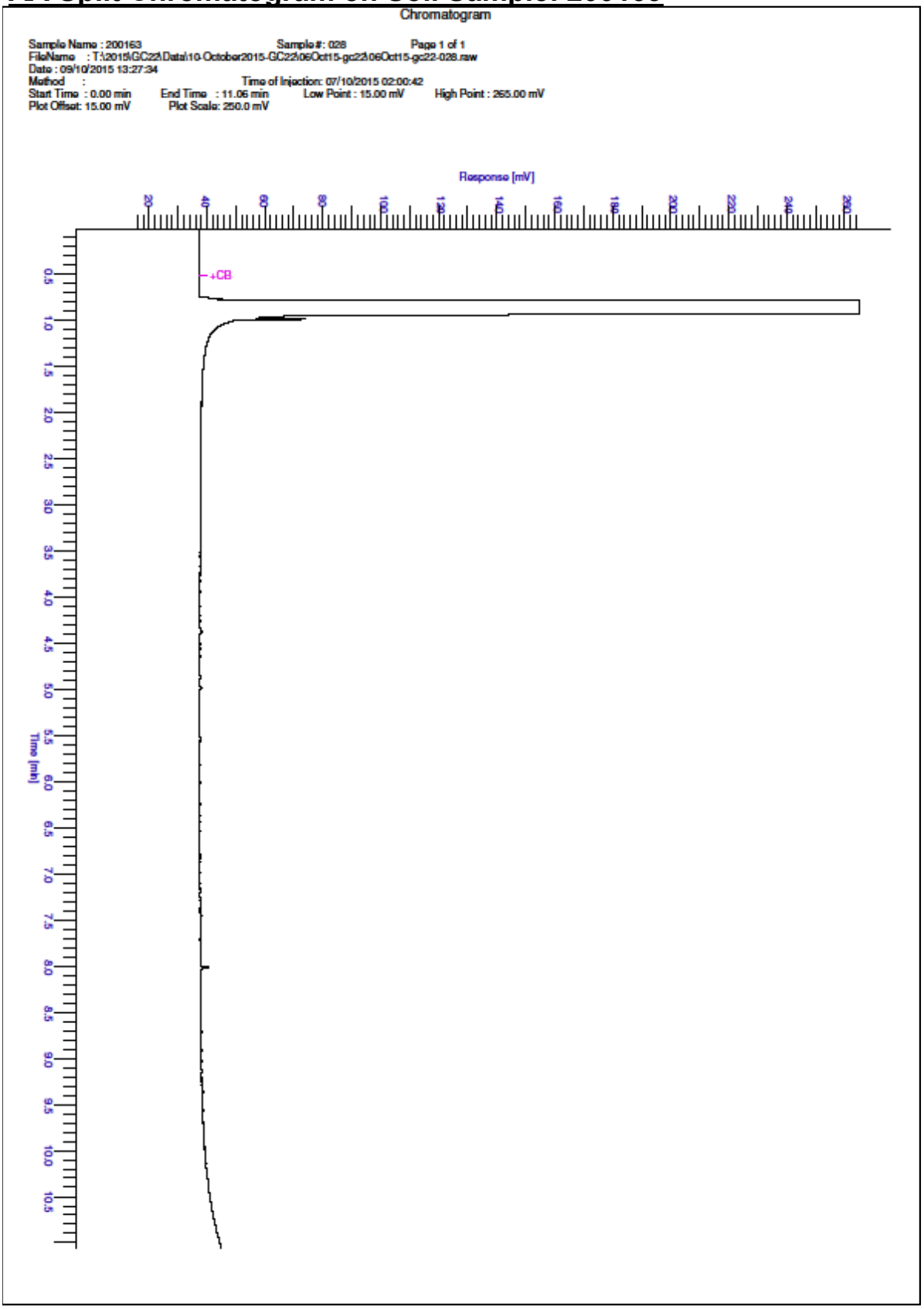
AA-Split Chromatogram on Soil Sample: 200158



AA-Split Chromatogram on Soil Sample: 200160



AA-Split Chromatogram on Soil Sample: 200163



Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis
The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols
For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at our Coventry laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.co.uk

Chemtest
The right chemistry to deliver results
Chemtest Ltd.
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.co.uk

2183

Final Report

Report No.:	15-23813-1
Initial Date of Issue:	15-Oct-2015
Client	MLM
Client Address:	55 Charlotte Street Birmingham B3 1PX
Contact(s):	Michael Maynard
Project	773135 - Ruabon Park

Quotation No.:		**Date Received:**	12-Oct-2015
Order No.:		**Date Instructed:**	12-Oct-2015
No. of Samples:	10	**Target Date:**	16-Oct-2015
Turnaround (Wkdays):	5	**Results Due:**	16-Oct-2015
Date Approved:	15-Oct-2015		

Approved By:

[redacted]

Details: Phil Hellier, Project Director

Chemtest
The right chemistry to deliver results

Results - Water

Project: 773135 - Ruabon Park

Client: MLM				Chemtest Job No.:	15-23813	15-23813	15-23813	15-23813	15-23813	15-23813	15-23813	15-23813	15-23813
Quotation No.:				Chemtest Sample ID.:	203888	203889	203890	203891	203892	203893	203894	203895	203896
Order No.:				Client Sample Ref.:	WS01	WS02	WS03	WS04	WS07	WS09	WS11	WS13	WS14
				Client Sample ID.:	W1	W1	W1	W1	W1	W1	W1	W1	W1
				Sample Type:	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
				Top Depth (m):	3.25	2.79	2.65	2.2	3.0	3.44	3.80	2.10	2.04
				Bottom Depth (m):									
				Date Sampled:	07-May-2015	07-May-2015	07-May-2015	07-May-2015	07-May-2015	07-May-2015	07-May-2015	07-May-2015	07-May-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
pH	U	1010		N/A	8.0	7.2	8.0	8.1	8.0	8.1	8.2	8.3	8.2
Sulphate	U	1220	mg/l	1.0	71	58	170	97	45	66	42	66	47
Hardness	U	1415	mg/l	15	410	670	490	420	370	390	320	320	360
Arsenic (Dissolved)	U	1450	µg/l	1.0	< 1.0	1.3	< 1.0	1.4	< 1.0	1.2	< 1.0	< 1.0	< 1.0
Cadmium (Dissolved)	U	1450	µg/l	0.080	0.17	0.29	0.11	0.18	< 0.080	0.13	< 0.080	< 0.080	< 0.080
Chromium (Dissolved)	U	1450	µg/l	1.0	1.8	3.9	2.3	1.8	1.5	2.1	2.5	< 1.0	4.2
Copper (Dissolved)	U	1450	µg/l	1.0	< 1.0	3.9	1.0	< 1.0	< 1.0	2.2	1.1	1.1	1.5
Mercury (Dissolved)	U	1450	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nickel (Dissolved)	U	1450	µg/l	1.0	5.3	9.9	2.4	2.4	2.0	2.0	< 1.0	1.5	1.3
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Selenium (Dissolved)	U	1450	µg/l	1.0	< 1.0	5.6	< 1.0	< 1.0	1.5	< 1.0	1.1	< 1.0	< 1.0
Zinc (Dissolved)	U	1450	µg/l	1.0	8.3	21	7.4	5.5	2.1	3.9	2.1	3.2	20
Chromium (Hexavalent)	U	1490	µg/l	20	[B] < 20	[B] < 20	[B] < 20	[B] < 20	[B] < 20	[B] < 20	[B] < 20	[B] < 20	[B] < 20
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0
Total Petroleum Hydrocarbons	N	1675	µg/l	10	[B] < 10	[B] < 10	[B] < 10	[B] < 10	[B] < 10	[B] < 10	[B] < 10	[B] < 10	[B] < 10
Naphthalene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

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Results - Water

Project: 773135 - Ruabon Park

Client: MLM					Chemtest Job No.:	15-23813	15-23813	15-23813	15-23813	15-23813	15-23813	15-23813	15-23813	15-23813
Quotation No.:					Chemtest Sample ID.:	203888	203889	203890	203891	203892	203893	203894	203895	203896
Order No.:					Client Sample Ref.:	WS01	WS02	WS03	WS04	WS07	WS09	WS11	WS13	WS14
					Client Sample ID.:	W1	W1	W1	W1	W1	W1	W1	W1	W1
					Sample Type:	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
					Top Depth (m):	3.25	2.79	2.65	2.2	3.0	3.44	3.80	2.10	2.04
					Bottom Depth (m):									
					Date Sampled:	07-May-2015	07-May-2015	07-May-2015	07-May-2015	07-May-2015	07-May-2015	07-May-2015	07-May-2015	07-May-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**										
Fluoranthene	U	1700	µg/l	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	U	1700	µg/l	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	U	1700	µg/l	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	U	1700	µg/l	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	U	1700	µg/l	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	U	1700	µg/l	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	U	1700	µg/l	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	1700	µg/l	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	U	1700	µg/l	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	1700	µg/l	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	U	1700	µg/l	2.0		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Chemtest
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Results - Water

Project: 773135 - Ruabon Park

Client: MLM			Chemtest Job No.:		15-23813
Quotation No.:			Chemtest Sample ID.:		203897
Order No.:			Client Sample Ref.:		WS15
			Client Sample ID.:		W1
			Sample Type:		WATER
			Top Depth (m):		2.18
			Bottom Depth (m):		
			Date Sampled:		07-May-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
pH	U	1010		N/A	8.1
Sulphate	U	1220	mg/l	1.0	79
Hardness	U	1415	mg/l	15	450
Arsenic (Dissolved)	U	1450	µg/l	1.0	1.0
Cadmium (Dissolved)	U	1450	µg/l	0.080	0.095
Chromium (Dissolved)	U	1450	µg/l	1.0	2.2
Copper (Dissolved)	U	1450	µg/l	1.0	1.6
Mercury (Dissolved)	U	1450	µg/l	0.50	< 0.50
Nickel (Dissolved)	U	1450	µg/l	1.0	1.5
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0
Selenium (Dissolved)	U	1450	µg/l	1.0	< 1.0
Zinc (Dissolved)	U	1450	µg/l	1.0	6.1
Chromium (Hexavalent)	U	1490	µg/l	20	[B] < 20
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	[B] < 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	[B] < 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	[B] < 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	[B] < 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	[B] < 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	[B] < 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	[B] < 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	[B] < 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	[B] < 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	[B] < 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	[B] < 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	[B] < 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	[B] < 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	[B] < 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	[B] < 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	[B] < 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	[B] < 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	[B] < 5.0
Total Petroleum Hydrocarbons	N	1675	µg/l	10	[B] < 10
Naphthalene	U	1700	µg/l	0.10	< 0.10
Acenaphthylene	U	1700	µg/l	0.10	< 0.10
Acenaphthene	U	1700	µg/l	0.10	< 0.10
Fluorene	U	1700	µg/l	0.10	< 0.10
Phenanthrene	U	1700	µg/l	0.10	< 0.10
Anthracene	U	1700	µg/l	0.10	< 0.10

Chemtest
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Results - Water

Project: 773135 - Ruabon Park

Client: MLM			Chemtest Job No.:		15-23813
Quotation No.:			Chemtest Sample ID.:		203897
Order No.:			Client Sample Ref.:		WS15
			Client Sample ID.:		W1
			Sample Type:		WATER
			Top Depth (m):		2.18
			Bottom Depth (m):		
			Date Sampled:		07-May-2015
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Fluoranthene	U	1700	µg/l	0.10	< 0.10
Pyrene	U	1700	µg/l	0.10	< 0.10
Benzo[a]anthracene	U	1700	µg/l	0.10	< 0.10
Chrysene	U	1700	µg/l	0.10	< 0.10
Benzo[b]fluoranthene	U	1700	µg/l	0.10	< 0.10
Benzo[k]fluoranthene	U	1700	µg/l	0.10	< 0.10
Benzo[a]pyrene	U	1700	µg/l	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	1700	µg/l	0.10	< 0.10
Dibenz(a,h)Anthracene	U	1700	µg/l	0.10	< 0.10
Benzo[g,h,i]perylene	U	1700	µg/l	0.10	< 0.10
Total Of 16 PAH's	U	1700	µg/l	2.0	< 2.0

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Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample ID:	Sample Ref:	Sample ID:	Sampled Date:	Deviation Code(s):	Containers Received:
203888	WS01	W1	07-May-2015	B	Coloured Winchester 1000ml
203888	WS01	W1	07-May-2015	B	Plastic Bottle 1000ml
203889	WS02	W1	07-May-2015	B	Coloured Winchester 1000ml
203889	WS02	W1	07-May-2015	B	Plastic Bottle 1000ml
203890	WS03	W1	07-May-2015	B	Coloured Winchester 1000ml
203890	WS03	W1	07-May-2015	B	Plastic Bottle 1000ml
203891	WS04	W1	07-May-2015	B	Coloured Winchester 1000ml
203891	WS04	W1	07-May-2015	B	Plastic Bottle 1000ml
203892	WS07	W1	07-May-2015	B	Coloured Winchester 1000ml
203892	WS07	W1	07-May-2015	B	Plastic Bottle 1000ml
203893	WS09	W1	07-May-2015	B	Coloured Winchester 1000ml
203893	WS09	W1	07-May-2015	B	Plastic Bottle 1000ml
203894	WS11	W1	07-May-2015	B	Coloured Winchester 1000ml
203895	WS13	W1	07-May-2015	B	Coloured Winchester 1000ml
203895	WS13	W1	07-May-2015	B	Plastic Bottle 1000ml
203896	WS14	W1	07-May-2015	B	Coloured Winchester 1000ml
203896	WS14	W1	07-May-2015	B	Plastic Bottle 1000ml
203897	WS15	W1	07-May-2015	B	Coloured Winchester 1000ml
203897	WS15	W1	07-May-2015	B	Plastic Bottle 1000ml

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis
The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols
For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at our Coventry laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.co.uk

Appendix E

Soakaway Test Results

SOAKAWAY TEST RESULTS

Based on BRE Digest 365: Soakaway Design (2007)

MLM
www.mlm.uk.com

Project Name: Ruabon Park, Wrexham
Location: Wrexham, Wales
Project Ref: 773135

Test Location: **TP21**

Soil Infiltration Rate (m/sec)	**Test Failed**

Readings:

Time (mins)	Water Level (m bgl)
1	0.40
2	0.41
3	0.41
4	0.42
5	0.42
10	0.44
16	0.46
20	0.48
25	0.49
30	0.50
60	0.58
120	0.67
180	0.80
240	0.83
300	0.90
360	0.96

Trial Pit Dimensions (m)

Length	2.90
Width	0.75
Depth	2.20

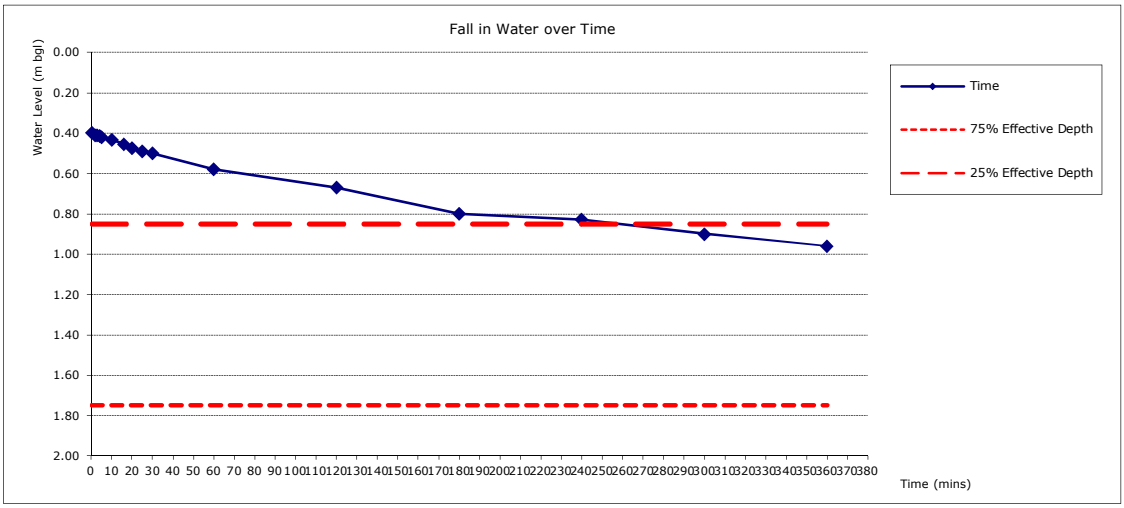
Assumed Invert Level (m bgl)	0.40

Ground Conditions:

	Refer to engineers logs

Was trial pit filled with gravel (Yes/No):	No

Remarks:



Soil Infiltration Rate (m/sec) $f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$

Fill Porosity	Assumed porosity of granular fill material based on CIRIA 156 (%)	0.35
V_{p75-25}	Effective depth storage volume of water in the trial pit between 75% and 25% effective depth	1.96
Revised V_{p75-25}	Reduced effective storage volume as a result of gravel fill	0.69
a_{p50}	The internal surface area of the trial pit up to 50% effective depth and including the base area	8.75
t_{p75-25}	The time for the water level to fall from 75% to 25% effective depth	

Soil Infiltration Rate (m/sec) f 1.958

f **Test Failed**

SOAKAWAY TEST RESULTS

Based on BRE Digest 365: Soakaway Design (2007)

MLM
www.mlm.uk.com

Project Name: Ruabon Park, Wrexham
Location: Wrexham, Wales
Project Ref: 773135

Test Location: **TP12**

Soil Infiltration Rate (m/sec)	**Test Failed**

Readings:

Time (mins)	Water Level (m bgl)
1	0.31
2	0.33
3	0.36
4	0.37
5	0.38
10	0.44
16	0.51
20	0.55
25	0.58
30	0.62
60	0.72
120	0.76
180	1.00
240	1.05
300	1.13
360	1.20

Trial Pit Dimensions (m)

Length	2.80
Width	0.75
Depth	2.00

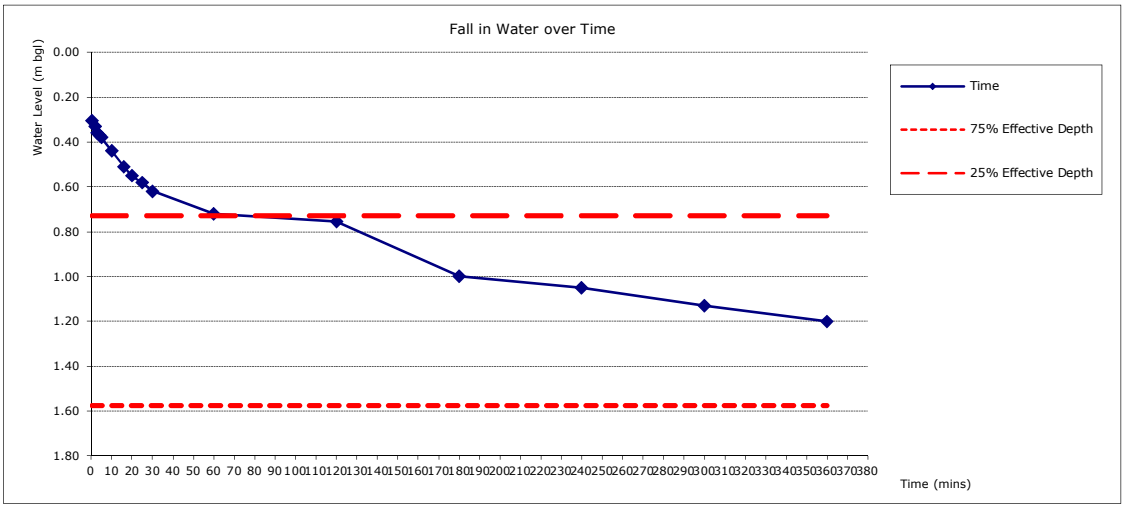
Assumed Invert Level (m bgl)	0.31

Ground Conditions:

	Refer to engineers logs

Was trial pit filled with gravel (Yes/No):	No

Remarks:



Soil Infiltration Rate (m/sec) $f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$

Fill Porosity	Assumed porosity of granular fill material based on CIRIA 156 (%)	0.35
V_{p75-25}	Effective depth storage volume of water in the trial pit between 75% and 25% effective depth	1.78
Revised V_{p75-25}	Reduced effective storage volume as a result of gravel fill	0.62
a_{p50}	The internal surface area of the trial pit up to 50% effective depth and including the base area	8.12
t_{p75-25}	The time for the water level to fall from 75% to 25% effective depth	

Soil Infiltration Rate (m/sec) f 1.780

f **Test Failed**

SOAKAWAY TEST RESULTS

Based on BRE Digest 365: Soakaway Design (2007)

www.mlm.uk.com

Project Name: Ruabon Park, Wrexham
Location: Wrexham, Wales
Project Ref: 773135

Test Location: **TP33**

Soil Infiltration Rate (m/sec)	**Test Failed**

Readings:

Time (mins)	Water Level (m bgl)
1	0.35
2	0.37
3	0.39
4	0.41
5	0.42
10	0.45
16	0.47
20	0.50
25	0.53
40	0.58
50	0.65
60	0.67
90	0.71
120	0.79
150	0.85
180	0.87
240	1.02
300	1.15

Trial Pit Dimensions (m)

Length	3.30
Width	0.70
Depth	1.90

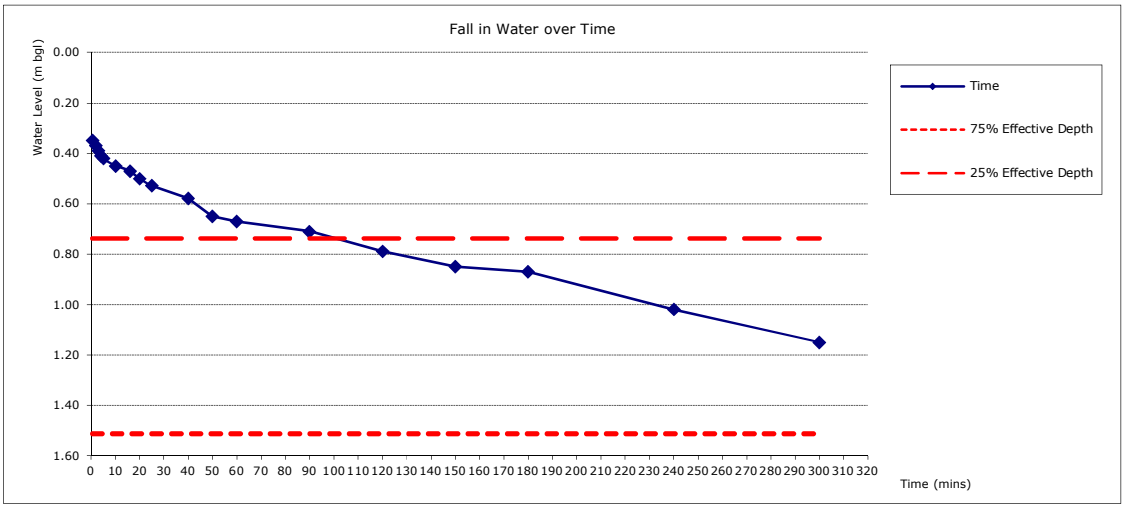
Assumed Invert Level (m bgl)	0.35

Ground Conditions:

	Refer to engineers logs

Was trial pit filled with gravel (Yes/No):	No

Remarks:



Soil Infiltration Rate (m/sec) $f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$

Fill Porosity	Assumed porosity of granular fill material based on CIRIA 156 (%)	0.35
V_{p75-25}	Effective depth storage volume of water in the trial pit between 75% and 25% effective depth	1.79
Revised V_{p75-25}	Reduced effective storage volume as a result of gravel fill	0.63
a_{p50}	The internal surface area of the trial pit up to 50% effective depth and including the base area	8.51
t_{p75-25}	The time for the water level to fall from 75% to 25% effective depth	

Soil Infiltration Rate (m/sec) f 1.790

f **Test Failed**

SOAKAWAY TEST RESULTS

Based on BRE Digest 365: Soakaway Design (2007)

MLM
www.mlm.uk.com

Project Name: Ruabon Park, Wrexham
Location: Wrexham, Wales
Project Ref: 773135

Test Location: **TP32**

Soil Infiltration Rate (m/sec)	**2.96E-04**

Readings:

Time (mins)	Water Level (m bgl)
1	1.34
2	1.37
3	1.40
4	1.42
5	1.49
6	1.51
7	1.53
8	1.58
9	1.62
10	1.67
11	1.71
12	1.76
13	1.80

Trial Pit Dimensions (m)

Length	3.30
Width	0.70
Depth	1.90

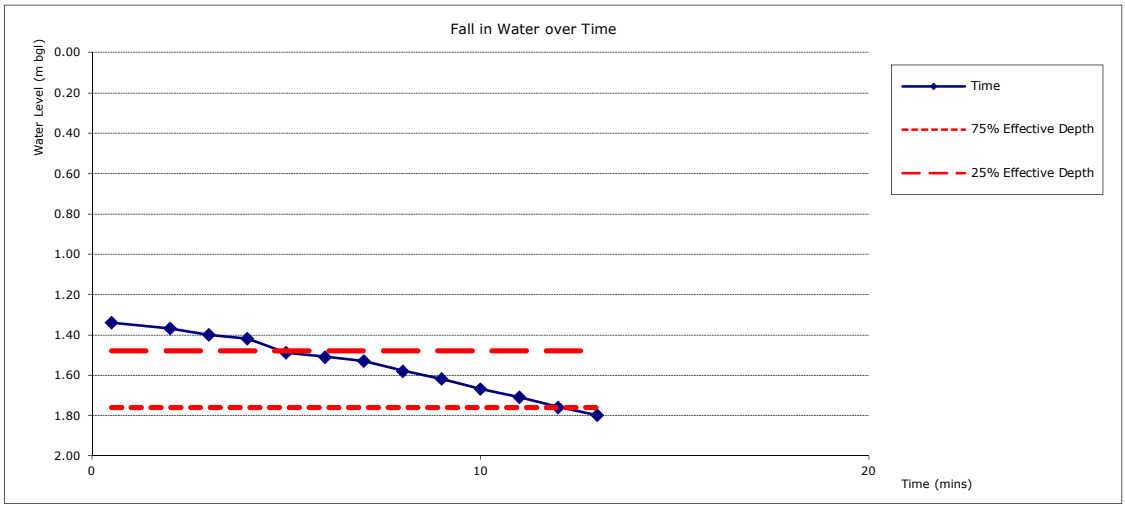
Assumed Invert Level (m bgl)	1.34

Ground Conditions:

	Refer to engineers logs

Was trial pit filled with gravel (Yes/No):	No

Remarks:



Soil Infiltration Rate (m/sec) $f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$

Fill Porosity	Assumed porosity of granular fill material based on CIRIA 156 (%)	0.35
V_{p75-25}	Effective depth storage volume of water in the trial pit between 75% and 25% effective depth	0.65
Revised V_{p75-25}	Reduced effective storage volume as a result of gravel fill	0.23
a_{p50}	The internal surface area of the trial pit up to 50% effective depth and including the base area	4.55
t_{p75-25}	The time for the water level to fall from 75% to 25% effective depth	8.00

Soil Infiltration Rate (m/sec) $f = \frac{0.647}{2184}$

f **2.96E-04**

Appendix F

Generic Assessment Criteria

Screening Levels – Human Health (soil)

LQM/CIEH S4UL (except allotments)	Residential		Allotments	Commercial	Public Open Space (residential)	Public Open Space (park)
	With homegrown produce	Without homegrown produce				
	Metals and semi-metals (based on sandy loam soil with SOM 6%)					
Arsenic (inorganic)	37	40	43	640	79	170
Beryllium	1.7	1.7	35	12	2.2	63
Boron	290	1.1e+4	45	2.4e+5	2.1e+4	4.6e+4
Cadmium	11	85	1.9	190	120	532
Chromium III (or total)	910	910	18000	8600	1500	3.3e+4
Chromium VI (hexavalent)	6	6	1.8	33	7.7	220
Copper	2400	7100	520	6.8e+4	1.2e+4	4.4e+4
Mercury (inorganic)	40	56	19	1100	120	240
Nickel	180	180	230	980	230	3400
Selenium	250	430	88	1.2e+4	1100	1800
Vanadium	410	1200	91	9000	2000	5000
Zinc	3700	4.0e+4	620	7.3e+5	8.1e+4	1.7e+5
Lead (Defra C4SL used in the absence of a published S4UL)	200	310	80	2330	630	1300
	Polycyclic Aromatic Hydrocarbons (based on sandy loam soil with SOM 1%, 2.5% or 6%)					
Acenaphthene	210 510 1100	3000 4700 6000	34 85 200	8.4e+4 9.7e+4 1.0e+5	1.5e+4	2.9e+4 3.0e+4 3.0e+4
Acenaphthylene	170 420 920	2900 4600 6000	28 69 160	8.3e+4 9.7e+4 1.0e+5	1.5e+4	2.9e+4 3.0e+4 3.0e+4
Anthracene	2400 5400 1.1e+4	3.1e+4[vap (1.17)] 3.5e+4 3.7e+4	380 950 2200	5.2e+5 5.4e+5 5.4e+5	7.4e+4	1.5e+5
Benzo[a]anthracene	7.2 11 13	11 14 15	2.9 6.5 13	170 170 180	29	49 56 62
Benzo[a]pyrene	2.2 2.7 3.0	3.2	0.97 2.0 3.5	35 35 36	5.7	11 12 13
Benzo[b]fluoranthene	2.6 3.3 3.7	3.9 4.0 4.0	0.99 2.1 3.9	44 44 45	7.1 7.2 7.2	13 15 16
Benzo[ghi]perylene	320 340 350	360	290 470 640	3900 4000 4000	640	1400 1500 1600
Benzo[k]fluoranthene	77 93 100	110	37 75 130	1200	190	370 410 440
Chrysene	15 22 27	30 31 32	4.1 9.4 19	350	57	93 110 120
Dibenzo[ah]anthracene	0.24 0.28 0.30	0.31 0.32 0.32	0.14 0.27 0.43	3.5 3.6 3.6	0.57 0.57 0.58	1.1 1.3 1.4
Fluoranthene	280 560 890	1500 1600 1600	52 130 290	2.3e+4	3100	6300 6300 6400
Fluorene	170 400 860	2800 3800 4500	27 67 160	6.3+4 6.8e+4 7.1e+4	9900	2.0e+4
Indeno[123-cd]pyrene	27 36 41	45 46 46	9.5 21 39	500 510 510	82	150 170 180
Naphthalene	2.3 5.6 13	2.3 5.6 13	4.1 10 24	190 460 1100	4900	1200 1900 3000
Phenanthrene	95 220 440	1300 1500 1500	15 38 90	2.2e+4 2.2e+4 2.3e+4	3100	6200 6200 6300
Pyrene	620 1200 2000	3700 3800 3800	110 270 620	5.4e+4	7400	1.5e+4

Screening Levels – Human Health (soil)

LQM/CIEH S4UL (except allotments)	**Residential**		**Allotments**	**Commercial**	**Public Open Space (residential)**	**Public Open Space (park)**
	With homegrown produce	**Without homegrown produce**				
	BTEX (based on sandy loam soil with SOM 1%, 2.5% or 6%)					
Benzene	0.087 0.17 0.37	0.38 0.7 1.4	0.017 0.034 0.075	27 47 90	72 72 73	90 100 110
Toluene	130 290 660	880 (vap 869) 1900 3900	22 51 120	5.6e+4 (vap (869)) 1.1e+5 (vap (1920)) 1.8e+5 (vap (4360))	5.6e+4 5.6e+4 5.6e+4	8.7e+4 (vap (869)) 9.5e+4 (vap (1920)) 1.0e+5 (vap (4360))
Ethylbenzene	47 110 260	83 190 440	16 39 91	5700 (vap (518)) 1.3e+4 (vap (1220)) 2.7e+4 (vap (2840))	2.4e+4 2.4e+4 2.5e+4	1.7e+4 (vap (518)) 2.2e+4 (vap (1220)) 2.7e+4 (vap (2840))
m- & p-xylene	56 130 310	79 180 430	29 69 160	5900 1.4e+4 3.0e+4	4.1e+4 4.2e+4 4.3e+4	1.7e+4 2.3e+4 3.1e+4
o-xylene	60 140 330	88 210 480	28 67 160	6600 1.5e+4 3.3e+4	4.1e+4 4.2e+4 4.3e+4	1.7e+4 2.3e+4 3.3e+4
	Petroleum Hydrocarbons (based on sandy loam soil with SOM 1%, 2.5% or 6%)					
TPH aliphatic EC>5-6	42 78 160	42 78 160	730 1700 3900	3200 5900 1.2e+4	5.7e+5 5.9e+5 6.0e+5	9.5e+4 1.3e+5 1.8e+5
TPH aliphatic EC>6-8	100 230 530	100 230 530	2300 5600 1.3e+4	7800 1.7e+4 4.0e+4	6.0e+5 6.1e+5 6.2e+5	1.5e+5 2.2e+5 3.2e+5
TPH aliphatic EC>8-10	27 65 150	27 65 150	320 770 1700	2000 4800 (vap (190)) 1.1e+4 (vap (451))	1.3e+4	1.4e+4 1.8e+4 (vap (190)) 2.1e+4 (vap (451))
TPH aliphatic EC>10-12	130 (vap (48)) 330 (vap (118)) 760 (vap (283))	130 (vap (48)) 330 (vap (118)) 770 (vap (283))	2200 4400 7300	9700 2.3e+4 (vap (118)) 4.7e+4 (vap (283))	1.3e+4	2.1e+4 2.3e+4 (vap (118)) 2.4e+4 (vap (283))
TPH aliphatic EC>12-16	1100 2400 4300	1100 2400 4400	1.1e+4 1.3e+4 1.3e+4	5.9e+4 8.2e+4 9.0e+4 [s]	1.3e+4	2.5e+4 2.5e+4 2.6e+4
TPH aliphatic EC>16-35	6.5e+4 9.2e+4 1.1e+5	6.5e+4 9.2e+4 1.1e+5	2.6e+5 2.7e+5 2.7e+5	1.6e+6 1.7e+6 1.8e+6	2.5e+5	4.5e+5 4.8e+5 4.9e+5
TPH aliphatic EC>35-44	6.5e+4 9.2e+4 1.1e+5	6.5e+4 9.2e+4 1.1e+5	2.6e+5 2.7e+5 2.7e+5	1.6e+6 1.7e+6 1.8e+6	2.5e+5	4.5e+5 4.8e+5 4.9e+5
TPH aromatic EC>5-7	70 140 300	370 690 1400	13 27 57	2.6e+4 4.6e+4 8.6e+4	5.6e+4	7.6e+4 8.4e+4 9.2e+4 [s]
TPH aromatic EC>7-8	130 290 660	860 1800 3900	22 51 120	5.6e+4 (vap (869)) 1.1e+5 1.8e+5 (vap (4360))	5.6e+4	8.7e+4 (vap (869)) 9.5e+4 1.0e+5 (vap (4360))
TPH aromatic EC>8-10	34 83 190	47 110 270	8.6 21 51	3500 (vap (613)) 8100 (vap (1500)) 1.7e+4 (vap (3580))	5000	7200 (vap (613)) 8500 (vap (1500)) 9300 (vap (3580))
TPH aromatic EC>10-12	74 180 380	250 590 1200	13 31 74	1.6e+4 2.8e+4 3.4e+4	5000	9200 9700 1.0e+4
TPH aromatic EC>12-16	140 330 660	1800 2300 2500	23 57 130	3.6e+4 3.7e+4 3.8e+4	5100 5100 5000	1.0e+4
TPH aromatic EC>16-21	260 540 930	1900	46 110 260	2.8e+4	3800	7600 7700 7800
TPH aromatic EC>21-35	1100 1500 1700	1900	370 820 1600	2.8e+4	3800	7800 7800 7900
TPH aromatic EC>35-44	1100 1500 1700	1900	370 820 1600	2.8e+4	3800	7800 7800 7900
	Phenols (based on sandy loam soil with SOM 1%, 2.5% or 6%)					
Phenol	120 200 380	440 690 1200	23 42 83	440 690 1300	440 690 1300	440 690 1300
Chlorophenols (except pentachlorophenol)	0.87 2.0 4.5	94 150 210	0.13 0.30 0.70	3500 4000 4300	620	1100
Pentachlorophenol	0.22 0.52 1.2	27 (vap (16.4)) 29 31	0.03 0.08 0.19	400	60	110 120 120

Screening Levels – Human Health (soil)

LQM/CIEH S4UL (except allotments)	**Residential**		**Allotment**	**Commercial**	**Public Open Space (residential)**	**Public Open Space (park)**
	With homegrown produce	**Without homegrown produce**				
	Volatile Organic Compounds (based on sandy loam soil with SOM 1%, 2.5% or 6%)					
1,2-Dichloroethane	0.0071 0.011 0.019	0.0092 0.013 0.023	0.0046 0.0083 0.016	0.67 0.97 1.7	29	21 24 28
1,1,1-Trichloroethane	8.8 18 39	9.0 18 40	48 110 240	660 1300 3000	1.4e+5	5.7e+4 vap (1425) 7.6e+4 vap (2915) 1.0e+5 vap (6392)
1,1,2,2-Tetrachloroethane	1.6 3.4 7.5	3.9 8.0 17	0.41 0.89 2.0	270 550 1100	1400	1800 2100 2300
1,1,1,2-Tetrachloroethane	1.2 2.8 6.4	1.5 3.5 8.2	0.79 1.9 4.4	110 250 560	1400	1500 1800 2100
Tetrachloroethene (PCE)	0.18 0.39 0.90	0.18 0.40 0.92	0.65 1.5 3.6	19 42 95	1400	810 1100 1500
Tetrachloromethane	0.026 0.056 0.13	0.026 0.056 0.13	0.45 1.0 2.4	2.9 6.3 14	890 920 950	190 270 400
Trichloroethene (TCE)	0.016 0.034 0.075	0.017 0.036 0.080	0.041 0.091 0.21	1.2 2.6 5.7	120	70 91 120
Trichloromethane (chloroform)	0.91 1.7 3.4	1.2 2.1 4.2	0.42 0.83 1.7	99 170 350	2500	2600 2800 3100
Chloroethene (vinyl chloride)	0.00064 0.00087 0.0014	0.00077 0.0010 0.0015	0.00055 0.0010 0.0018	0.059 0.077 0.12	3.5	4.8 5.0 5.4
Chlorobenzene	0.46 1.0 2.4	0.46 1.0 2.4	5.9 14 32	56 130 290	1.1e+4 1.3e+4 1.4e+4	1300 2000 2900
1,2-Dichlorobenzene	23 55 130	24 57 130	94 230 540	2000 4800 1.1e+4	9.0e+4 9.5e+4 9.8e+4	2.4e+4 3.6e+4 5.1e+4
1,3-Dichlorobenzene	0.4 1.0 2.3	0.44 1.1 2.5	0.25 0.6 1.5	30 73 170	300	390 440 470
1,4-Dichlorobenzene	61 150 350	61 150 350	15 37 88	4400 vap (224) 1.0e+4 vap (540) 2.5e+4 vap (1280)	1.7e+4	3.6e+4 vap (224) 3.6e+4 vap (540) 3.6e+4 vap (1280)
1,2,3-Trichlorobenzene	1.5 3.6 8.6	1.5 3.7 8.8	4.7 12 28	102 250 590	1800	770 vap (134) 1100 vap (330) 1600 vap (789)
1,2,4-Trichlorobenzene	2.6 6.4 15	2.6 6.4 15	55 140 320	220 530 1300	1.5e+4 1.7e+4 1.9e+4	1700 vap (318) 2600 vap (786) 4000 vap (1880)
1,3,5-Trichlorobenzene	0.33 0.81 1.9	0.33 0.81 1.9	4.7 12 28	23 55 130	1700 1700 1800	380 vap (37) 580 vap (91) 860 vap (217)
1,2,3,4-Tetrachlorobenzene	15 36 78	24 56 120	4.4 11 26	1700 vap (122) 3080 vap (304) 4400 vap (728)	830	1500 vap (122) 1600 1600
1,2,3,5-Tetrachlorobenzene	0.66 1.6 3.7	0.75 1.9 4.3	0.38 0.90 2.2	49 vap (39) 120 vap (98) 240 vap (235)	78 79 79	110 vap (39) 120 130
1,2,4,5-Tetrachlorobenzene	0.33 0.77 1.6	0.73 1.7 3.5	0.06 0.16 0.37	42 72 96	13	25 26 26
Pentachlorobenzene	5.8 12 22	19 30 38	1.2 3.1 7.0	640 770 830	100	190
Hexachlorobenzene	1.8 vap (0.2) 3.3 vap (0.5) 4.9	4.1 vap (0.2) 5.7 vap (0.5) 6.7	0.47 1.1 2.5	110 vap (0.2) 120 vap (0.5) 120	16	30
Carbon disulphide	0.14 0.29 0.62	0.14 0.29 0.62	4.8 10 23	11 22 47	1.1e+4 1.1e+4 1.2e+4	1300 1900 2700
Hexachlorobutadiene	0.29 0.7 1.6	0.32 0.78 1.8	0.25 0.61 1.4	31 66 120	25	48 50 51

Screening Levels – Human Health (soil)

	Pesticides (based on sandy loam soil with SOM 1%, 2.5% or 6%)					
Aldrin	5.7 6.6 7.1	7.3 7.4 7.5	3.2 6.1 9.6	170	18	30 31 31
Dieldrin	0.97 2.0 3.5	7.0 7.3 7.4	0.17 0.41 0.96	170	18	30 30 31
Atrazine	3.3 7.6 17.4	610 620 620	0.50 1.2 2.7	9300 9400 9400	1200	2300 2400 2400
Dichlorvos	0.032 0.066 0.14	6.4 6.5 6.6	0.0049 0.010 0.022	140	16	26 26 27
Endosulfan	7.4 18 41	160 280 410	1.2 2.9 6.8	5600 7400 8400	1200	2400 2400 2500
HCH (including Lindane)	0.23 0.55 1.2	6.9 9.2 11	0.035 0.087 0.21	170 180 180	24	47 48 48
	Explosives (based on sandy loam soil with SOM 1%, 2.5% or 6%)					
2,4,6-Trinitrotoluene	1.6 3.7 8.1	65 66 66	0.24 0.58 1.40	1000	130	260 270 270
RDX	120 250 540	1.3e+4	17 38 85	2.1e+5	2.6e+4 2.6e+4 2.7e+4	4.9e+4 5.1e+4 5.3e+4
HMX	5.7 13 26	6700	0.86 1.9 3.9	1.1e+5	1.3e+4	2.3e+4 vap (0.35) 2.3e+4 vap (0.39) 2.4e+4 vap (0.48)

Assessment Criteria – Controlled Waters

Substance	EQS			DWS	Substance	EQS	DWS
List 1							
	Fresh	Estuary	Marine				
Mercury	1	0.5	0.3	1	Endrin	0.005	0.1
Cadmium	5	5	2.5	5	Total 'Drins	0.03	-
Hexachlorocyclohexane	0.1	0.02	0.02	-	Hexachlorobenzene	0.03	-
Carbon tetrachloride	12			-	Hexachlorobutadiene	0.1	-
Total DDT	0.025			0.5	Chloroform	12	-
pp DDT	0.01			-	1,2-dichloroethane	10	-
Pentachlorophenol	2			0.1	Trichlorethylene	10	-
Dieldrin	0.01			0.03	Perchlorethylene	10	-
Isodrin	0.005			0.1	Trichlorobenzene	0.4	-
Aldrin	0.01			0.03			
List 2							
1,1,1-Trichloroethane	100			-	Fenitrothion	0.01	0.1
1,1,2-Trichloroethane	400			-	Flucofuron	1	0.1
2,4-D (ester)	1			-	Iron	1000	200
2,4-D (non-ester)	40			-	Linuron	2	0.1
2,4-Dichlorophenol	20			-	Malathion	0.01	0.1
2-Chlorophenol	50			-	Mecoprop	20	0.1
4-Chloro-3-methyl-phenol	40			-	Mevinphos	0.02	0.1
Arsenic	50			10	Naphthalene	10	0.1
Atrazine &Simazine	2			0.1	Omethoate	0.01	0.1
Azinphos-methyl	0.01			0.1	PCSDs	0.05	0.1
Bentazone	500			0.1	Permethrin	0.01	0.1
Benzene	30			1	pH	6 - 9	6.5 - 10
Biphenyl	25			-	Sulcofuron	25	0.1
Boron	2000			1000	Toluene	50	0.1
Chloronitrotoluenes	10			-	Triazaphos	0.005	0.1
Cyfluthrin	0.001			0.1	Tributyltin	0.02	0.1
Demeton	0.5			0.1	Trifluralin	0.1	0.1
Dichlorvos	0.001			0.1	Triphenyltin	0.02	0.1
Dimethoate	1			0.1	Xylene (m and p, o)	30	-
Endosulphan	0.003			0.1	TPH	30	10

List 2 (hardness related)							
Hardness (mg/l $CaCO_3$)	0-50	>50 -100	>100 -150	>150 -200	>200 -250	>250	
Suitable for all fish							
Copper	1	6	10	10	10	28	2000
Nickel	50	100	150	150	200	200	20
Vanadium	20	20	20	20	60	60	-
Suitable for salmonid (game) fish							
Chromium	5	10	20	20	50	50	50
Lead	4	10	10	20	20	20	25
Zinc	8	50	75	75	75	125	-
Suitable for Cyprinid (coarse) fish							
Chromium	150	175	200	200	250	250	50
Lead	20	125	125	250	250	250	25
Zinc	75	175	250	250	250	500	-

Other Compounds			
Acrylamide	0.1	Tetrachloroethene and Trichloroethene	10
Antimony	5	Trihalomethanes(ii)	100
Benzo(a)pyrene	0.01	Vinyl chloride	0.5
Bromate	10	Aluminium	200
Cyanide	50	Iron	200
1, 2-dichloroethane	3	Manganese	50
Epichlorohydrin	0.1	Sodium	200
Fluoride	1.5	Tetrachloromethane	3
Heptachlor	0.03	Ammonium	0.5 mg/l
Heptachlor epoxide (iii)	0.03	Nitrate	50 mg/l
Other pesticides	0.1	Nitrite	0.5 mg/l
Pesticides (total)	0.5	Chloride	250 mg/l
PAHs(i)	0.1	Sulphate	250 mg/l
Selenium	10	TPH (1989 Regs)	10

Notes:
i. Specified compounds are benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[g,h,i]-perylene, indeno[1,2,3-c,d]pyrene.
ii. Specified compounds are chloroform, bromoform, dibromochloromethane, bromodichloro-methane.

Unless stated otherwise all units µg l^{-1}

Assessment Criteria –Water Supply Pipes

Substance [1]	WRAS (withdrawn)	Anglian Water	UK WIR	
			PE	PVC
Organic compounds				
TPH	50	50 – 1000 [2]	-	
TPH >C5-C10	-	-	2	1.4
TPH >C11-C20	-	-	10	NL
TPH >C21-C40	-	-	500	NL
Extended VOC suite	-	-	0.5	0.125
Extended SVOC suite	-	-	2	1.4
BTEX + MTBE	-	-	0.1	0.03
Chlorinated hydrocarbons				
Dichloromethane	-	1	-	-
1,2-dichloroethane	-	0.2	-	-
1,1,1-trichloroethane	-	8	-	-
1,2-dichloropropane	-	0.1	-	-
Tetrachloromethane	-	0.15	-	-
Trichloroethene	-	1.5	-	-
Tetrachloroethene	-	0.5	-	-
Vinyl chloride	-	0.1	-	-
Methyl bromide	-	10	-	-
Total	-	7	-	-
Aromatic hydrocarbons				
Benzene	-	0.5	0.1	0.03
Ethylbenzene	-	0.5	0.1	0.03
Trimethyl benzene	-	0.1	-	-
Propylbenzene	-	2	-	-
Toluene	-	0.25	0.1	0.03
Xylenes	-	0.5	0.1	0.03
Phenol	5	1	2	0.4
Cresol	-	1	2	0.04
Total	-	7	-	-
Chlorinated phenols				
Chlorophenols	-	0.5	-	-
Dichlorophenols	-	0.5	-	-
Trichlorophenols	-	0.5	-	-
2,4,6-trichlorophenol	-	0.5	-	-
Pentachlorophenol	-	0.5	-	-
Total	-	1	2	0.04
Chlorinated aromatic hydrocarbons				
Chlorobenzene	-	0.5	-	-
Dichlorobenzene	-	0.5	-	-
Trichlorobenzene	-	0.5	-	-
Pentachlorobenzene	-	0.5	-	-
Total	-	1	-	-
Polyaromatic hydrocarbons				
Naphthalene	-	5	-	-
Anthracene	-	10	-	-
Phenanthrene	-	10	-	-
Fluoranthene	-	10	-	-
Pyrene	-	10	-	-
Benzo[a]pyrene	-	1	-	-
Total	50	20	2	1.4
Other organic compounds				
Tetrahydrafurane	-	4	-	-
Styrene	-	5	-	-
Pyridine	-	2	-	-
Ethers	-	-	0.5	1
Nitrobenzene	-	-	0.5	0.4
Ketones	-	-	0.5	0.02
Aldehydes	-	-	0.5	0.02
Amines	-	-	Detected	NL

Notes:
1. All units mg/kg in soil.
2 The threshold for TPH is 1000mg/kg provided no other organic compounds are present. If the TPH level exceeds 50mg/kg then the sum of TPH plus other organic compounds must not be greater than the upper threshold. If the other compounds are not tested for then the threshold for TPH must be set at the lower threshold.
3. All UKWIR TV's (except BTEX and MTBE) are based on taste and odour detection threshold.
4. PE – polyethylene; PVC – polyvinyl chloride

Appendix G

Defining Risk

Identification of Unacceptable Risk

The method for risk evaluation is qualitative and is developed from the model provided in CIRIA C552 *Contaminated Land Risk Assessment – a guide to good practice* (DETR 2001). It involves classifying risk in terms of (a) magnitude of the potential consequence (severity) of occurrence and (b) the probability (likelihood) of occurrence. The risk rating derived is used to determine what action, if any, is needed to further investigate that risk and/or remediate to reduce risk to an acceptable level.

Task 1: Classification of Consequence

Classification	Definition	Examples
Severe	• Short-term (acute) risk to human health likely to result in "significant harm" (as defined in EPA90 Part 2a). • Short-term (acute) risk of pollution of sensitive water resource. • Short-term (acute) risk to an ecosystem, or organism forming part of an ecosystem.	Unusually high concentration of toxic substance on the surface of a garden or recreation area. Major spillage of contamination from the site into controlled waters. EA Category 1 pollution incident. Closure of an abstraction point. Explosion, causing building collapse (and death if occupied).
Medium	• Chronic damage to human health likely to result in "significant harm". • Pollution of sensitive water resource. • Significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentration of contaminant from site exceeds generic or site-specific assessment criteria for human health or water supply pipes. Presence of asbestos. Leaching of contaminants from a site to a principal or secondary (A) aquifer. Concentration exceeds DWS or EQS in Inner Source Protection Zone (SPZ1). EA Category 2 pollution incident. Death of a species or loss of habitat within an area of national importance.
Mild	• Exposure is unlikely to result in "significant harm" to human health. • Pollution of non-sensitive water resource. • Damage to sensitive buildings, structures and services or the environment.	Concentration of contaminant from site below generic or site-specific assessment criteria. Pollution of secondary (B or undifferentiated) aquifer. EA Category 3 pollution incident. Damage to a building rendering it unsafe to occupy. Death of a species or loss of habitat within an area of local importance. Loss of plants in garden or landscape areas (BS3882 limits exceeded).
Minor	• Harm (but not significant harm) resulting in a financial loss or expenditure to resolve. • Non-permanent human health effects. • Easily repairable damage to buildings, structures and services.	Pollution of unproductive strata.

Task 2: Classification of Probability

Classification	Definition
High Likelihood	There is a pollution linkage and an event appears very likely in the short term and almost inevitable over the long term or there is actual evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur in the very long term.

Task 3: Risk Estimation

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	**Very high risk**	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Low risk
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Low risk	Very low risk	Very low risk
	No linkage	No risk			

Task 4: Description of the Estimated Risks and Likely Action Required

Risk	Action
Very high risk	There is a high probability that severe harm could arise or there is evidence that severe harm is currently happening. This risk, if realised, is likely to result in substantial liability. **Urgent investigation and remediation are required for the site in its existing state and for development.**
High risk	Harm is likely to arise. Realisation of the risk is likely to present a significant liability. **Urgent investigation is required and remedial works may be necessary in the short term and are likely over the long term. Remediation will be required for development.**
Moderate risk	A potential linkage is identifiable. However, it is either relatively unlikely that harm would be severe or, if any harm were to occur, it is more likely that the harm would be relatively mild. **Investigation is required to quantify the risk and determine potential liability. Remediation will be required for development.**
Low risk	It is possible that harm could arise but it is likely that this harm, if realised, would at worst normally be mild. **Investigation is not normally required but could be useful to confirm a preliminary assessment. Remedial works are unlikely to be required or will be limited.**
Very low risk	There is a low possibility that harm could arise. In the event of such harm being realised it is not likely to be severe. Site is not capable of being determined under Part 2a. **No further action recommended.**