



2139

Certificate of Analysis

Date: 09/01/2014

Certificate Number: 13-93333-1

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-93333-1

Client Reference: 13627

Contract Title: Wrexham

Description: 4 soil samples

Date Received: 27 November 2013

Date Started: 24 December 2013

Date Completed: 09 January 2014

Test Procedures: Identified by prefix DETSn (details on request), Asbestos Analysis (DETS 082).

Notes: **This report supersedes 13-93333, Asbestos Quantification added**
Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93333-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581148	581149	581150	581151
				Sample ID	TP15	TP16	TP17	BH1
				Depth	0.60	1.30	1.30	2.00
				Sample Ref				
				Sample Type				
				Sampling Date	/ /	/ /	/ /	/ /
				Sampling Time				
Test	Units	DETSxx	LOD					
Stones >2mm	% m/m	DETSC 1003*	1		2.5	4.4	5.1	6.0
Moisture Content	%	DETS 046*	0.1		14	17	14	13
Arsenic	mg/kg	DETSC2301#	0.2		13	6.2	13	5.6
Boron (water soluble)	mg/kg	DETSC2123#	0.2		0.8	1.7	2.2	0.4
Cadmium	mg/kg	DETSC2301#	0.1		0.8	0.7	1.1	0.8
Chromium	mg/kg	DETSC2301#	0.15		21	21	32	18
Copper	mg/kg	DETSC2301#	0.2		84	14	64	14
Lead	mg/kg	DETSC2301#	0.3		45	38	120	16
Mercury	mg/kg	DETSC 2325#	0.05		0.06	< 0.05	1.2	< 0.05
Nickel	mg/kg	DETSC2301#	1		51	18	77	22
Selenium	mg/kg	DETSC2301#	0.5		0.7	< 0.5	0.5	< 0.5
Zinc	mg/kg	DETSC2301#	1		48	58	150	49
Loss on ignition	%	DETSC 2003#	0.01		5.1	3.2	5.8	0.89
pH		DETSC 2008#			7.0	7.5	7.6	10.1
Cyanide total	mg/kg	DETSC 2130#	0.1		2.5	4.0	35	2.7
Cyanide free	mg/kg	DETSC 2130#	0.1		< 0.1	0.6	1.7	0.3
Cyanide complex	mg/kg	DETSC 2130	0.2		2.5	3.4	34	2.5
Thiocyanate	mg/kg	DETSC 2130#	0.6		< 0.6	2.6	2.8	0.9
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		< 0.50	11	1.5	2.1
Chloride Aqueous Extract	mg/l	DETSC 2055	1		20	12	12	15
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		79	260	1400	240
Sulphur (free)	mg/kg	DETSC 3049#	0.75		30	110	20	77
EPH (C10-C40)	mg/kg	DETSC 3311#	10		470	47	1500	62
Benzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	0.01
Ethylbenzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	0.01
Toluene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	0.01
Xylene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	0.03

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93333-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581148	581149	581150	581151
				Sample ID	TP15	TP16	TP17	BH1
				Depth	0.60	1.30	1.30	2.00
				Sample Ref				
				Sample Type				
				Sampling Date	/ /	/ /	/ /	/ /
				Sampling Time				
Test	Units	DETSxx	LOD					
Acenaphthene	mg/kg	DETSC 3301	0.1		0.2	< 0.1	1.0	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1		0.3	< 0.1	4.7	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1		0.9	< 0.1	8.8	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1		3.4	< 0.1	13	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1		5.5	< 0.1	12	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1		3.5	< 0.1	7.6	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1		2.1	< 0.1	5.0	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1		4.9	< 0.1	6.5	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1		4.8	< 0.1	14	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1		0.2	< 0.1	0.7	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1		9.8	0.6	24	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1		0.1	< 0.1	4.6	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1		4.6	< 0.1	5.7	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1		0.3	< 0.1	3.0	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1		3.6	< 0.1	20	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1		12	0.4	21	< 0.1
PAH	mg/kg	DETSC 3301	1.6		56	< 1.6	150	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	16	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	16	< 0.50

Summary of Asbestos Analysis

Soil Samples

Our Ref: 13-93333-1

Client Ref: 13627

Contract Title: Wrexham

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
581148	TP15 0.60	Soil	Amosite	Loose bundles	Keith Wilson
581149	TP16 1.30	Soil	NAD	na	Keith Wilson
581150	TP17 1.30	Soil	Amosite Chrysotile	Board debris & loose bundles	Keith Wilson
581151	BH1 2.00	Soil	NAD	na	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Summary of Asbestos Analysis Soil Samples

Our Ref: 13-93333-1

Client Ref: 13627

Contract Title: Wrexham

		Lab No.	581148	581150
		Sample Ref	TP15	TP17
		Depth	0.60	1.30
		Other Ref		
		Sample Type	Soil	Soil
Test	Units	DETSxx		
Total Mass% Asbestos (i+ii)	Mass %		<0.001	<0.001
Quantification by Phase Contrast Optical Microscopy (i)	Mass %	DETSC 1102	<0.001	<0.001
Gravimetric Quantification (ii)	Mass %	DETSC 1102	na	na
Breakdown of Gravimetric Analysis				
Mass of Sample	g		423.52	413.53
ACMs present*				
Mass of ACM in sample	g			
% ACM by mass	%			
% asbestos in ACM	%			
% asbestos in sample	%			
Potentially Respirable Fibres	Fibres/g	DETSC 1102	not requested	not requested

* Denotes test or material description outside of UKAS accreditation.

% asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264.

Recommended sample size for quantification is approximately 1kg

denotes deviating sample

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
581148	TP15 0.60 SOIL		Glass Jar 1L (1 litre), Glass Jar 250ml (250ml), Plastic Tub 1L (1kg)	Sample is deviating (no sampled date supplied)		
581149	TP16 1.30 SOIL		Glass Jar 1L (1 litre), Glass Jar 250ml (250ml), Plastic Tub 1L (1kg)	Sample is deviating (no sampled date supplied)		
581150	TP17 1.30 SOIL		Glass Jar 1L (1 litre), Glass Jar 250ml (250ml), Plastic Tub 1L (1kg)	Sample is deviating (no sampled date supplied)		
581151	BH1 2.00 SOIL		Glass Jar 1L (1 litre), Glass Jar 250ml (250ml), Plastic Tub 1L (1kg)	Sample is deviating (no sampled date supplied)		



Certificate of Analysis

Certificate Number 14-96170

24-Jan-14

Client I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference 14-96170

Client Reference 13627

Contract Title Wrexham

Description 10 Water samples.

Date Received 10-Jan-14

Date Started 16-Jan-14

Date Completed 24-Jan-14

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. 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. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read 'Rob Brown'.

Rob Brown
Business Manager



Summary of Chemical Analysis

Water Samples

Our Ref 14-96170

Client Ref 13627

Contract Title Wrexham

Lab No	595053	595054	595055	595056
Sample ID	SS11-06-1	SS11-06-1D	SS11-07-1	SS11-07-1D
Depth				
Other ID				
Sample Type	WATER	WATER	WATER	WATER
Sampling Date	09/01/14	09/01/14	09/01/14	09/01/14
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Metals							
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.2	1.2	0.68	0.76
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	0.06	0.07
Chromium, Dissolved	DETSC 2306	0.25	ug/l	7.4	7.0	6.4	6.7
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.5	3.1	5.5	5.7
Iron, Dissolved	DETSC 2306	5.5	ug/l	190	140	230	280
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.83	0.38	0.33	0.58
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.2	1.1	3.0	3.1
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.58	0.56	0.61	0.74
Zinc, Dissolved	DETSC 2306	1.25	ug/l	36.6	44.1	32.0	55.1
Inorganics							
Conductivity	DETSC 2009	1	uS/cm	704	699	1180	1190
pH	DETSC 2008			7.6	7.5	7.4	7.2
Cyanide total	DETSC 2130	40	ug/l	110	110	230	240
Cyanide free	DETSC 2130	20	ug/l	< 20	< 20	< 20	< 20
Cyanide complex	DETSC 2130	40	ug/l	110	110	230	240
Thiocyanate	DETSC 2130	40	ug/l	< 40	570	< 40	48
Suspended Solids	DETSC 2034	5	mg/l	450	440	280	300
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	0.015	1.9	3.0
Chloride	DETSC 2055	0.1	mg/l	20	22	35	35
Sulphate as SO4	DETSC 2055	0.1	mg/l	130	140	340	350
Sulphide	DETSC 2208	10	ug/l	< 10.0	15	11	< 10.0
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84
Total Organic Carbon	DETSC 2033	2	mg/l	20	29	30	31
Petroleum Hydrocarbons							
EPH (C10-C40)	DETSC 3311	10	ug/l	280	320	390	350
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis

Water Samples

Our Ref 14-96170

Client Ref 13627

Contract Title Wrexham

Lab No	595053	595054	595055	595056
Sample ID	SS11-06-1	SS11-06-1D	SS11-07-1	SS11-07-1D
Depth				
Other ID				
Sample Type	WATER	WATER	WATER	WATER
Sampling Date	09/01/14	09/01/14	09/01/14	09/01/14
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
PAHs							
Acenaphthene	DETS 074*	0.01	ug/l	0.02	< 0.01	< 0.01	0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.02
Benzo(a)anthracene	DETS 074*	0.01	ug/l	0.01	< 0.01	0.02	0.04
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	0.05	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.03
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	DETS 074*	0.01	ug/l	0.03	< 0.01	< 0.01	0.05
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.07
Pyrene	DETS 074*	0.01	ug/l	0.02	0.01	< 0.01	0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	0.24
Phenols							
Catechol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
Resorcinol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10

Summary of Chemical Analysis

Water Samples

Our Ref 14-96170

Client Ref 13627

Contract Title Wrexham

Lab No	595057	595058	595059	595060	595061
Sample ID	UPSTREAM	DOWNSTREAM	OX-BOW	SW1	SW1D
Depth					
Other ID					
Sample Type	WATER	WATER	WATER	WATER	WATER
Sampling Date	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Metals								
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.69	0.72	0.91	0.69	0.59
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.15	0.15	0.18	0.13	0.12
Chromium, Dissolved	DETSC 2306	0.25	ug/l	6.6	8.2	7.7	0.39	0.39
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.7	4.0	5.1	1.9	2.6
Iron, Dissolved	DETSC 2306	5.5	ug/l	110	110	85	43	65
Lead, Dissolved	DETSC 2306	0.09	ug/l	3.2	2.3	1.7	0.42	0.55
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.5	1.7	2.0	1.1	1.2
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	0.28	0.25	0.72	0.59
Zinc, Dissolved	DETSC 2306	1.25	ug/l	81.6	104	62.2	70.9	115
Inorganics								
Conductivity	DETSC 2009	1	uS/cm	359	356	448	476	484
pH	DETSC 2008			7.6	7.7	7.7	7.2	7.2
Cyanide total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40
Cyanide free	DETSC 2130	20	ug/l	< 20	< 20	< 20	< 20	< 20
Cyanide complex	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40
Thiocyanate	DETSC 2130	40	ug/l	< 40	< 40	< 40	64	45
Suspended Solids	DETSC 2034	5	mg/l	58	48	44	100	68
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	1.5	0.43	0.29	0.19	0.16
Chloride	DETSC 2055	0.1	mg/l	25	23	24	28	28
Sulphate as SO4	DETSC 2055	0.1	mg/l	29	31	56	43	45
Sulphide	DETSC 2208	10	ug/l	13	< 10.0	< 10.0	< 10.0	12
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84	< 84
Total Organic Carbon	DETSC 2033	2	mg/l	9.8	10	10	9.7	8.3
Petroleum Hydrocarbons								
EPH (C10-C40)	DETSC 3311	10	ug/l	300	97	190	220	290
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis

Water Samples

Our Ref 14-96170

Client Ref 13627

Contract Title Wrexham

Lab No	595057	595058	595059	595060	595061
Sample ID	UPSTREAM	DOWNSTREAM	OX-BOW	SW1	SW1D
Depth					
Other ID					
Sample Type	WATER	WATER	WATER	WATER	WATER
Sampling Date	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
PAHs								
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	0.03	< 0.01	< 0.01	< 0.01	0.02
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	0.02	< 0.01	0.01	0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenols								
Catechol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Resorcinol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Summary of Chemical Analysis

Water Samples

Our Ref 14-96170

Client Ref 13627

Contract Title Wrexham

Lab No	595062
Sample ID	SW2
Depth	
Other ID	
Sample Type	WATER
Sampling Date	09/01/14
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.95
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.07
Chromium, Dissolved	DETSC 2306	0.25	ug/l	6.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.3
Iron, Dissolved	DETSC 2306	5.5	ug/l	210
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.41
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.41
Zinc, Dissolved	DETSC 2306	1.25	ug/l	79.0
Inorganics				
Conductivity	DETSC 2009	1	uS/cm	659
pH	DETSC 2008			7.4
Cyanide total	DETSC 2130	40	ug/l	90
Cyanide free	DETSC 2130	20	ug/l	< 20
Cyanide complex	DETSC 2130	40	ug/l	90
Thiocyanate	DETSC 2130	40	ug/l	< 40
Suspended Solids	DETSC 2034	5	mg/l	1300
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.094
Chloride	DETSC 2055	0.1	mg/l	23
Sulphate as SO4	DETSC 2055	0.1	mg/l	110
Sulphide	DETSC 2208	10	ug/l	11
Sulphur (free)	DETSC 3049	84	ug/l	< 84
Total Organic Carbon	DETSC 2033	2	mg/l	48
Petroleum Hydrocarbons				
EPH (C10-C40)	DETSC 3311	10	ug/l	2500
Benzene	DETSC 3322	1	ug/l	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0

Summary of Chemical Analysis

Water Samples

Our Ref 14-96170

Client Ref 13627

Contract Title Wrexham

Lab No	595062
Sample ID	SW2
Depth	
Other ID	
Sample Type	WATER
Sampling Date	09/01/14
Sampling Time	n/s

Test	Method	LOD	Units	
PAHs				
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01
Naphthalene	DETS 074*	0.01	ug/l	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	0.03
Pyrene	DETS 074*	0.01	ug/l	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20
Phenols				
Catechol	DETSC 3422*	0.1	ug/l	< 0.10
Cresols	DETSC 3422*	0.1	ug/l	< 0.10
Naphthols	DETSC 3422*	0.1	ug/l	< 0.10
Phenol	DETSC 3422*	0.1	ug/l	< 0.10
Resorcinol	DETSC 3422*	0.1	ug/l	< 0.10
Trimethylphenol	DETSC 3422*	0.1	ug/l	< 0.10
Xylenols & Ethylphenols	DETSC 3422*	0.1	ug/l	< 0.10
Total Phenols	DETSC 3422*	0.1	ug/l	< 0.10

Information in Support of the Analytical Results

Our Ref 14-96170
 Client Ref 13627
 Contract Wrexham

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
595053	SS11-06-1 WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		
595054	SS11-06-1D WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		
595055	SS11-07-1 WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		
595056	SS11-07-1D WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		
595057	UPSTREAM WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		
595058	DOWNSTREAM WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		
595059	OX-BOW WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		
595060	SW1 WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		
595061	SW1D WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		
595062	SW2 WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		
595063	BH2 WATER	09/01/14	GJ 1L (1L), GV (40ml), PB 1L (1L)		

Key: G-Glass P-Plastic J-Jar B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months



Certificate of Analysis

Certificate Number 14-95968

20-Jan-14

Client I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference 14-95968

Client Reference 13627

Contract Title Wrexham

Description 2 Soil samples, 7 Water samples.

Date Received 13-Jan-14

Date Started 13-Jan-14

Date Completed 20-Jan-14

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. 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. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read 'Rob Brown'.

Rob Brown
Business Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 14-95968

Client Ref 13627

Contract Title Wrexham

Lab No	593984	593986
Sample ID	SD3	SD CULV-UP
Depth		
Other ID		
Sample Type	SOIL	SOIL
Sampling Date	09/01/14	09/01/14
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Preparation					
Stones >2mm	DETSC 1003*	1	% m/m	2.9	5.0
Moisture Content	DETS 046*	0.1	%	81	79
Metals					
Arsenic	DETSC2301#	0.2	mg/kg	21	9.5
Boron (water soluble)	DETSC2123#	0.2	mg/kg	0.8	2.4
Cadmium	DETSC2301#	0.1	mg/kg	2.3	1.1
Chromium	DETSC2301#	0.15	mg/kg	26	23
Copper	DETSC2301#	0.2	mg/kg	48	24
Lead	DETSC2301#	0.3	mg/kg	84	740
Mercury	DETSC 2325#	0.05	mg/kg	0.06	0.05
Nickel	DETSC2301#	1	mg/kg	31	23
Selenium	DETSC2301#	0.5	mg/kg	5.3	< 0.5
Zinc	DETSC2301#	1	mg/kg	1400	260
Inorganics					
Loss on ignition	DETSC 2003#	0.01	%	5.9	8.0
pH	DETSC 2008#			8.1	7.5
Cyanide total	DETSC 2130#	0.1	mg/kg	1.3	0.2
Cyanide free	DETSC 2130#	0.1	mg/kg	0.1	< 0.1
Cyanide complex	DETSC 2130	0.2	mg/kg	1.2	< 0.2
Thiocyanate	DETSC 2130#	0.6	mg/kg	< 0.6	1.4
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	6.1	13
Chloride Aqueous Extract	DETSC 2055	1	mg/l	15	19
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	86	120
Sulphur (free)	DETSC 3049#	0.75	mg/kg	13	3.6
Petroleum Hydrocarbons					
EPH (C10-C40)	DETSC 3311#	10	mg/kg	2200	65
Benzene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01
Xylene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01
PAHs					
Acenaphthene	DETSC 3301	0.1	mg/kg	1.5	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	4.9	0.1
Anthracene	DETSC 3301	0.1	mg/kg	3.3	0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	14	0.4
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	14	0.3
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	9.1	0.2
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	6.7	0.3
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	9.0	1.3
Chrysene	DETSC 3301	0.1	mg/kg	14	0.4

Summary of Chemical Analysis

Soil Samples

Our Ref 14-95968

Client Ref 13627

Contract Title Wrexham

Lab No	593984	593986
Sample ID	SD3	SD CULV-UP
Depth		
Other ID		
Sample Type	SOIL	SOIL
Sampling Date	09/01/14	09/01/14
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Dibenzo(a,h)anthracene	DESTC 3301	0.1	mg/kg	1.7	0.8
Fluoranthene	DETSC 3301	0.1	mg/kg	19	0.9
Fluorene	DETSC 3301	0.1	mg/kg	3.8	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	8.1	0.6
Naphthalene	DETSC 3301	0.1	mg/kg	1.9	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	3.4	0.1
Pyrene	DETSC 3301	0.1	mg/kg	18	0.6
PAH	DETSC 3301	1.6	mg/kg	130	6.3
Phenols					
Catechol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50
Cresols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50
Naphthols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50
Phenol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50
Resorcinol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50
Trimethylphenol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50
Xylenols & Ethylphenols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50
Total Phenols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50

Summary of Chemical Analysis

Water Samples

Our Ref 14-95968

Client Ref 13627

Contract Title Wrexham

Lab No	593983	593985	593987	593988	593989	593990	593991
Sample ID	SS11-03-1	CULV-UP	MW11-08B	MW11-07	MW11-07D	MW11-05	MW11-05D
Depth							
Other ID							
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units							
Metals										
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.93	1.1	7.9	2.9	2.3	0.77	0.63
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.10	0.03	< 0.03	< 0.03	0.04	0.11	0.04
Chromium, Dissolved	DETSC 2306	0.25	ug/l	5.3	7.2	0.41	< 0.25	0.33	< 0.25	< 0.25
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.6	6.3	1.4	1.6	1.8	0.9	0.4
Iron, Dissolved	DETSC 2306	5.5	ug/l	100	180	780	67	81	70	120
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.79	0.95	0.95	0.37	0.64	0.35	0.15
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.1	2.5	7.6	6.4	6.6	5.4	3.9
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.87	0.30	0.63	1.1	1.1	0.31	0.86
Zinc, Dissolved	DETSC 2306	1.25	ug/l	142	71.0	44.5	19.1	30.0	20.4	35.7
Inorganics										
Conductivity	DETSC 2009	1	uS/cm	369	363	833	268	268	567	2070
pH	DETSC 2008			7.6	7.7	7.2	7.6	7.7	7.5	7.3
Cyanide total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Cyanide free	DETSC 2130	20	ug/l	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Cyanide complex	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Thiocyanate	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	91	90
Suspended Solids	DETSC 2034	5	mg/l	33	33	3500	660	820	2100	1100
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.057	0.43	1.5	0.46	0.39	3.5	5.8
Chloride	DETSC 2055	0.1	mg/l	20	31	44	11	9.9	130	140
Sulphate as SO4	DETSC 2055	0.1	mg/l	26	24	63	9.8	9.7	890	970
Sulphide	DETSC 2208	10	ug/l	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84	< 84	< 84	< 84
Total Organic Carbon	DETSC 2033	2	mg/l	4.5	18	150	23	33	8.5	6.1
Petroleum Hydrocarbons										
EPH (C10-C40)	DETSC 3311	10	ug/l	260	170	80000000	1000	510	250	250
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	14	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0	1.7	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	47	< 1.0	< 1.0	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0	74	< 1.0	< 1.0	< 1.0	< 1.0
PAHs										
Acenaphthene	DETS 074*	0.01	ug/l	0.01	< 0.01	980	0.87	0.89	0.04	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	660	1.3	0.64	0.23	0.28
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	160	0.30	0.25	0.02	0.02
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	67	0.24	0.20	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	49	0.18	0.13	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	28	0.08	0.09	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	32	0.15	0.12	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	25	0.17	0.14	< 0.01	< 0.01

Summary of Chemical Analysis

Water Samples

Our Ref 14-95968

Client Ref 13627

Contract Title Wrexham

Lab No	593983	593985	593987	593988	593989	593990	593991
Sample ID	SS11-03-1	CULV-UP	MW11-08B	MW11-07	MW11-07D	MW11-05	MW11-05D
Depth							
Other ID							
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units							
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	0.04	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	520	1.8	1.4	0.28	0.22
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	640	0.94	0.60	0.21	0.14
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	68	0.19	0.20	< 0.01	< 0.01
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	0.01	4400	0.31	0.05	0.32	0.21
Phenanthrene	DETS 074*	0.01	ug/l	0.01	< 0.01	1600	0.13	0.05	0.23	0.28
Pyrene	DETS 074*	0.01	ug/l	0.02	< 0.01	470	1.7	1.6	0.33	0.23
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	9700	8.3	6.4	1.7	1.4
Phenols										
Catechol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Resorcinol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Information in Support of the Analytical Results

Our Ref 14-95968
Client Ref 13627
Contract Wrexham

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
593983	SS11-03-1 WATER	09/01/14	GJ 1L x2, GV x2, PB 1L		
593984	SD3 SOIL	09/01/14	GJ 1L, GV, PT 1L x2		
593985	CULV-UP WATER	09/01/14	GJ 1L x2, GV x2, PB 1L		
593986	SD CULV-UP SOIL	09/01/14	GJ 1L, GV, PT 1L x2		
593987	MW11-08B WATER	09/01/14	GJ 1L x2, GV x2, PB 1L		
593988	MW11-07 WATER	09/01/14	GJ 1L x2, GV x2, PB 1L		
593989	MW11-07D WATER	09/01/14	GJ 1L x2, GV x2, PB 1L		
593990	MW11-05 WATER	09/01/14	GJ 1L x2, GV x2, PB 1L		
593991	MW11-05D WATER	09/01/14	GJ 1L x2, GV x2, PB 1L		

Key: G-Glass P-Plastic J-Jar B-Bottle V-Vial T-Tub

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Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months



Certificate of Analysis

Certificate Number 14-95951

20-Jan-14

Client I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference 14-95951

Client Reference (not supplied)

Contract Title (not supplied)

Description 6 Water samples.

Date Received 13-Jan-14

Date Started 13-Jan-14

Date Completed 20-Jan-14

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. 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. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read 'Rob Brown'.

Rob Brown
Business Manager



Summary of Chemical Analysis

Water Samples

Our Ref 14-95951

Client Ref

Contract Title

Lab No	593937	593938	593939	593940	593941	593942
Sample ID	MW99-106	BH3	BH5	MW11-02	MW99-104	MW99-11-16
Depth						
Other ID						
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date	10/01/14	10/01/14	10/01/14	10/01/14	10/01/14	10/01/14
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	11	2.5	0.43	2.4	2.9	1.2
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.030	0.073	0.070	0.14	< 0.030	0.074
Chromium, Dissolved	DETSC 2306	0.25	ug/l	1.0	0.30	< 0.25	7.4	0.43	6.5
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.3	2.5	1.5	8.8	1.5	4.2
Iron, Dissolved	DETSC 2306	5.5	ug/l	580	200	200	2600	1100	220
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.42	0.82	0.24	9.7	0.39	1.2
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.76	3.0	5.3	2.5	1.9	1.9
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.41	2.0	10	3.3	0.47	2.4
Zinc, Dissolved	DETSC 2306	1.25	ug/l	22.2	28.2	28.1	30.9	41.1	115
Inorganics									
Conductivity	DETSC 2009	1	uS/cm	1670	1520	992	1080	1800	1150
pH	DETSC 2008			7.7	7.2	7.0	7.3	7.0	7.3
Cyanide total	DETSC 2130	40	ug/l	140	200	180	1100	390	140
Cyanide free	DETSC 2130	20	ug/l	< 20	< 20	< 20	58	< 20	< 20
Cyanide complex	DETSC 2130	40	ug/l	140	200	180	1100	390	140
Thiocyanate	DETSC 2130	40	ug/l	< 40	32000	210	95	18000	270
Suspended Solids	DETSC 2034	5	mg/l	76	6300	1200	2500	400	6300
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	74	77	30	4.6	49	23
Chloride	DETSC 2055	0.1	mg/l	30	23	15	10	29	18
Sulphate as SO4	DETSC 2055	0.1	mg/l	140	370	220	290	520	210
Sulphide	DETSC 2208	10	ug/l	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Sulphur (free)	DETSC 3049	84	ug/l	120	100	< 84	< 84	< 84	< 84
Total Organic Carbon	DETSC 2033	2	mg/l	31	72	15	28	24	80
Petroleum Hydrocarbons									
EPH (C10-C40)	DETSC 3311	10	ug/l	3700	430	280	490	370	490
Benzene	DETSC 3322	1	ug/l	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis

Water Samples

Our Ref 14-95951

Client Ref

Contract Title

Lab No	593937	593938	593939	593940	593941	593942
Sample ID	MW99-106	BH3	BH5	MW11-02	MW99-104	MW99-11-16
Depth						
Other ID						
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date	10/01/14	10/01/14	10/01/14	10/01/14	10/01/14	10/01/14
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
PAHs									
Acenaphthene	DETS 074*	0.01	ug/l	9.0	0.03	< 0.01	0.05	0.04	0.07
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	0.33	< 0.01	< 0.01	0.02	0.04	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	0.04	< 0.01	< 0.01	0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	0.03	< 0.01	< 0.01	0.02	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	0.32	0.01	< 0.01	0.03	0.04	< 0.01
Fluorene	DETS 074*	0.01	ug/l	0.88	0.02	< 0.01	0.02	0.05	0.02
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	0.03	< 0.01	0.08	< 0.01	0.07
Phenanthrene	DETS 074*	0.01	ug/l	0.69	0.03	< 0.01	0.04	0.11	< 0.01
Pyrene	DETS 074*	0.01	ug/l	0.27	< 0.01	< 0.01	0.04	0.05	< 0.01
PAH	DETS 074*	0.2	ug/l	12	< 0.20	< 0.20	0.35	0.34	< 0.20
Phenols									
Catechol	DETSC 3422*	0.1	ug/l	3.6	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	DETSC 3422*	0.1	ug/l	57	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	DETSC 3422*	0.1	ug/l	16	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	DETSC 3422*	0.1	ug/l	59	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Resorcinol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	DETSC 3422*	0.1	ug/l	46	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	DETSC 3422*	0.1	ug/l	28	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	DETSC 3422*	0.1	ug/l	210	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Information in Support of the Analytical Results

Our Ref 14-95951
Client Ref
Contract

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
593937	MW99-106 WATER	10/01/14	GJ 1L (1L) x2, GV (40ml) x2, PB 1L (1L)		
593938	BH3 WATER	10/01/14	GJ 1L (1L) x2, GV (40ml) x2, PB 1L (1L)		
593939	BH5 WATER	10/01/14	GJ 1L (1L) x2, GV (40ml) x2, PB 1L (1L)		
593940	MW11-02 WATER	10/01/14	GJ 1L (1L) x2, PB 1L (1L)		
593941	MW99-104 WATER	10/01/14	GJ 1L (1L) x2, PB 1L (1L)		
593942	MW99-11-16 WATER	10/01/14	GJ 1L (1L) x2, PB 1L (1L)		

Key: G-Glass P-Plastic J-Jar B-Bottle V-Vial

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Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months



Certificate of Analysis

Certificate Number 14-95950

20-Jan-14

Client I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference 14-95950

Client Reference (not supplied)

Contract Title (not supplied)

Description 2 Water samples.

Date Received 13-Jan-14

Date Started 13-Jan-14

Date Completed 20-Jan-14

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. 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. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read 'Rob Brown'.

Rob Brown
Business Manager



Summary of Chemical Analysis

Water Samples

Our Ref 14-95950

Client Ref

Contract Title

Lab No	593935	593936
Sample ID	GP1	SS11-02-3
Depth		
Other ID		
Sample Type	WATER	WATER
Sampling Date	10/01/14	10/01/14
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.1	1.2
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.030	0.065
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.63	< 0.25
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.8	1.3
Iron, Dissolved	DETSC 2306	5.5	ug/l	190	45
Lead, Dissolved	DETSC 2306	0.09	ug/l	2.8	0.56
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.2	2.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	1.1
Zinc, Dissolved	DETSC 2306	1.25	ug/l	36.1	155
Inorganics					
Conductivity	DETSC 2009	1	uS/cm	387	564
pH	DETSC 2008			7.2	7.3
Cyanide total	DETSC 2130	40	ug/l	< 40	< 40
Cyanide free	DETSC 2130	20	ug/l	< 20	< 20
Cyanide complex	DETSC 2130	40	ug/l	< 40	< 40
Thiocyanate	DETSC 2130	40	ug/l	< 40	< 40
Suspended Solids	DETSC 2034	5	mg/l	35000	110
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	28	1.1
Chloride	DETSC 2055	0.1	mg/l	27	45
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.6	70
Sulphide	DETSC 2208	10	ug/l	< 10.0	< 10.0
Sulphur (free)	DETSC 3049	84	ug/l	< 90.0	< 84
Total Organic Carbon	DETSC 2033	2	mg/l	250	13
Petroleum Hydrocarbons					
EPH (C10-C40)	DETSC 3311	10	ug/l	42000	430
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis

Water Samples

Our Ref 14-95950

Client Ref

Contract Title

Lab No	593935	593936
Sample ID	GP1	SS11-02-3
Depth		
Other ID		
Sample Type	WATER	WATER
Sampling Date	10/01/14	10/01/14
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
PAHs					
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	1.2
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	0.32
Benzo(a)anthracene	DETS 074*	0.01	ug/l	0.02	0.04
Benzo(a)pyrene	DETS 074*	0.01	ug/l	0.06	0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	0.03	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	0.02	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	0.02	0.27
Fluorene	DETS 074*	0.01	ug/l	< 0.01	0.67
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	0.09	< 0.01
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	0.19
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	0.08
Pyrene	DETS 074*	0.01	ug/l	0.06	0.31
PAH	DETS 074*	0.2	ug/l	0.37	3.1
Phenols					
Catechol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Cresols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Naphthols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Phenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Resorcinol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Trimethylphenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Xylenols & Ethylphenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Total Phenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10

Information in Support of the Analytical Results

Our Ref 14-95950
Client Ref
Contract

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
593935	GP1 WATER	10/01/14	GJ 1L (1L) x2, GJ 250ml (250ml), PB 1L (1L)		
593936	SS11-02-3 WATER	10/01/14	GJ 1L (1L) x2, GJ 250ml (250ml), PB 1L (1L)		

Key: G-Glass P-Plastic J-Jar B-Bottle

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Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months



Certificate of Analysis

Certificate Number 14-95686

16-Jan-14

Client I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference 14-95686

Client Reference 13627

Contract Title Wrexham

Description 3 Soil samples, 3 Water samples.

Date Received 10-Jan-14

Date Started 10-Jan-14

Date Completed 16-Jan-14

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. 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. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read 'Rob Brown'.

Rob Brown
Business Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 14-95686

Client Ref 13627

Contract Title Wrexham

Lab No	593358	593359	593360
Sample ID	SD 1	SD 4	SD 2
Depth			
Other ID			
Sample Type	SOIL	SOIL	SOIL
Sampling Date	09/01/14	09/01/14	09/01/14
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Preparation						
Stones >2mm	DETSC 1003*	1	% m/m	4.7	5.1	4.4
Moisture Content	DETS 046*	0.1	%	56	47	140
Metals						
Arsenic	DETSC2301#	0.2	mg/kg	6.9	9.1	11
Boron (water soluble)	DETSC2123#	0.2	mg/kg	2.5	1.9	4.0
Cadmium	DETSC2301#	0.1	mg/kg	0.8	0.9	1.2
Chromium	DETSC2301#	0.15	mg/kg	18	19	22
Copper	DETSC2301#	0.2	mg/kg	20	23	26
Lead	DETSC2301#	0.3	mg/kg	400	980	630
Mercury	DETSC 2325#	0.05	mg/kg	0.24	0.11	0.18
Nickel	DETSC2301#	1	mg/kg	25	20	27
Selenium	DETSC2301#	0.5	mg/kg	< 0.5	< 0.5	0.5
Zinc	DETSC2301#	1	mg/kg	170	270	280
Inorganics						
Loss on ignition	DETSC 2003#	0.01	%	7.3	6.9	12
pH	DETSC 2008#			7.7	7.6	7.4
Cyanide total	DETSC 2130#	0.1	mg/kg	1.5	0.6	0.9
Cyanide free	DETSC 2130#	0.1	mg/kg	0.2	< 0.1	0.1
Cyanide complex	DETSC 2130	0.2	mg/kg	1.4	0.6	0.7
Thiocyanate	DETSC 2130#	0.6	mg/kg	0.7	1.3	2.0
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	31	21	48
Chloride Aqueous Extract	DETSC 2055	1	mg/l	22	18	35
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	63	280	230
Sulphur (free)	DETSC 3049#	0.75	mg/kg	< 0.75	5.8	25
Petroleum Hydrocarbons						
EPH (C10-C40)	DETSC 3311#	10	mg/kg	290	190	1000
Benzene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Xylene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PAHs						
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	0.4	3.2
Acenaphthylene	DETSC 3301	0.1	mg/kg	1.0	0.8	4.3
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	0.9	4.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	1.4	0.8	5.8
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	1.4	0.9	6.0
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	1.1	1.0	3.8
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.7	0.4	2.9
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	0.6	< 0.1	2.0
Chrysene	DETSC 3301	0.1	mg/kg	1.1	0.8	4.0
Dibenzo(a,h)anthracene	DESTC 3301	0.1	mg/kg	0.6	< 0.1	1.2

Summary of Chemical Analysis

Soil Samples

Our Ref 14-95686

Client Ref 13627

Contract Title Wrexham

Lab No	593358	593359	593360
Sample ID	SD 1	SD 4	SD 2
Depth			
Other ID			
Sample Type	SOIL	SOIL	SOIL
Sampling Date	09/01/14	09/01/14	09/01/14
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Fluoranthene	DETSC 3301	0.1	mg/kg	2.5	2.4	9.7
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	0.6	3.5
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	1.3	0.6	4.4
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	0.4	0.4
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	2.4	7.8
Pyrene	DETSC 3301	0.1	mg/kg	2.0	1.8	7.8
PAH	DETSC 3301	1.6	mg/kg	14	14	71
Phenols						
Catechol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50
Cresols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50
Naphthols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50
Phenol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50
Resorcinol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50
Trimethylphenol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50
Total Phenols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50

Summary of Chemical Analysis

Water Samples

Our Ref 14-95686

Client Ref 13627

Contract Title Wrexham

Lab No	593361	593362	593363
Sample ID	SS11-08-1	SS11-02-1	SS11-01-1
Depth			
Other ID			
Sample Type	WATER	WATER	WATER
Sampling Date	09/01/14	09/01/14	09/01/14
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Metals						
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.0	1.1	0.98
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.034	0.041	0.045
Chromium, Dissolved	DETSC 2306	0.25	ug/l	7.3	7.0	10
Copper, Dissolved	DETSC 2306	0.4	ug/l	5.6	5.5	2.6
Iron, Dissolved	DETSC 2306	5.5	ug/l	500	220	51
Lead, Dissolved	DETSC 2306	0.09	ug/l	3.9	2.1	0.47
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.010	< 0.010	< 0.010
Nickel, Dissolved	DETSC 2306	0.5	ug/l	5.2	3.4	2.0
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.25	0.33	0.61
Zinc, Dissolved	DETSC 2306	1.25	ug/l	65.5	29.2	37.2
Inorganics						
Conductivity	DETSC 2009	1	uS/cm	343	352	385
pH	DETSC 2008			8.4	8.1	7.9
Cyanide total	DETSC 2130	40	ug/l	< 40	< 40	< 40
Cyanide free	DETSC 2130	20	ug/l	< 20	< 20	< 20
Cyanide complex	DETSC 2130	40	ug/l	< 40	< 40	< 40
Thiocyanate	DETSC 2130	40	ug/l	< 40	250	< 40
Suspended Solids	DETSC 2034	5	mg/l	46	31	7.0
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.16	0.21	0.058
Chloride	DETSC 2055	0.1	mg/l	130	44	19
Sulphate as SO4	DETSC 2055	0.1	mg/l	41	33	36
Sulphide	DETSC 2208	10	ug/l	10	15	< 10.0
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84
Total Organic Carbon	DETSC 2033	2	mg/l	20	19	3.4
Petroleum Hydrocarbons						
EPH (C10-C40)	DETSC 3311	10	ug/l	550	200	200
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
PAHs						
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Water Samples

Our Ref 14-95686

Client Ref 13627

Contract Title Wrexham

Lab No	593361	593362	593363
Sample ID	SS11-08-1	SS11-02-1	SS11-01-1
Depth			
Other ID			
Sample Type	WATER	WATER	WATER
Sampling Date	09/01/14	09/01/14	09/01/14
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20
Phenols						
Catechol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10
Cresols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10
Naphthols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10
Phenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10
Resorcinol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10
Trimethylphenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10
Total Phenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10

Information in Support of the Analytical Results

Our Ref 14-95686
 Client Ref 13627
 Contract Wrexham

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
593358	SD 1 SOIL	09/01/14	GJ 1L (1L), GV (40ml), PT 1L (1kg) x2		
593359	SD 4 SOIL	09/01/14	GJ 1L (1L), GV (40ml), PT 1L (1kg) x2		
593360	SD 2 SOIL	09/01/14	GJ 1L (1L), GV (40ml), PT 1L (1kg) x2		
593361	SS11-08-1 WATER	09/01/14	GJ 1L (1L) x2, GV (40ml), PB 1L (1L) x2		
593362	SS11-02-1 WATER	09/01/14	GJ 1L (1L) x2, GV (40ml), PB 1L (1L) x2		
593363	SS11-01-1 WATER	09/01/14	GJ 1L (1L) x2, GV (40ml), PB 1L (1L) x2		

Key: G-Glass P-Plastic J-Jar V-Vial T-Tub B-Bottle

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months



Certificate of Analysis

Certificate Number 14-95669

16-Jan-14

Client I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference 14-95669

Client Reference (not supplied)

Contract Title (not supplied)

Description One Water sample.

Date Received 10-Jan-14

Date Started 10-Jan-14

Date Completed 16-Jan-14

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. 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. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager



Summary of Chemical Analysis

Water Samples

Our Ref 14-95669

Client Ref

Contract Title

Lab No	593290
Sample ID	BH1
Depth	
Other ID	
Sample Type	WATER
Sampling Date	08/01/14
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.6
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.22
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.0
Iron, Dissolved	DETSC 2306	5.5	ug/l	71
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.24
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.010
Nickel, Dissolved	DETSC 2306	0.5	ug/l	4.1
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.81
Zinc, Dissolved	DETSC 2306	1.25	ug/l	161
Inorganics				
Conductivity	DETSC 2009	1	uS/cm	455
pH	DETSC 2008			8.1
Cyanide total	DETSC 2130	40	ug/l	43
Cyanide free	DETSC 2130	20	ug/l	< 20
Cyanide complex	DETSC 2130	40	ug/l	43
Thiocyanate	DETSC 2130	40	ug/l	< 40
Suspended Solids	DETSC 2034	5	mg/l	8600
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.30
Chloride	DETSC 2055	0.1	mg/l	43
Sulphate as SO4	DETSC 2055	0.1	mg/l	100
Sulphide	DETSC 2208	10	ug/l	< 10.0
Sulphur (free)	DETSC 3049	84	ug/l	< 84
Total Organic Carbon	DETSC 2033	2	mg/l	36
Petroleum Hydrocarbons				
EPH (C10-C40)	DETSC 3311	10	ug/l	3300
Benzene	DETSC 3322	1	ug/l	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0
PAHs				
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01
Anthracene	DETS 074*	0.01	ug/l	0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01

Summary of Chemical Analysis

Water Samples

Our Ref 14-95669

Client Ref

Contract Title

Lab No	593290
Sample ID	BH1
Depth	
Other ID	
Sample Type	WATER
Sampling Date	08/01/14
Sampling Time	n/s

Test	Method	LOD	Units	
Fluoranthene	DETS 074*	0.01	ug/l	0.09
Fluorene	DETS 074*	0.01	ug/l	0.02
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01
Naphthalene	DETS 074*	0.01	ug/l	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01
Pyrene	DETS 074*	0.01	ug/l	0.05
PAH	DETS 074*	0.2	ug/l	< 0.20
Phenols				
Catechol	DETSC 3422*	0.1	ug/l	< 0.10
Cresols	DETSC 3422*	0.1	ug/l	< 0.10
Naphthols	DETSC 3422*	0.1	ug/l	< 0.10
Phenol	DETSC 3422*	0.1	ug/l	< 0.10
Resorcinol	DETSC 3422*	0.1	ug/l	< 0.10
Trimethylphenol	DETSC 3422*	0.1	ug/l	< 0.10
Xylenols & Ethylphenols	DETSC 3422*	0.1	ug/l	< 0.10
Total Phenols	DETSC 3422*	0.1	ug/l	< 0.10

Information in Support of the Analytical Results

Our Ref 14-95669
Client Ref
Contract

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
593290	BH1 WATER	08/01/14	GJ 1L (1L) x2, GV (40ml) x2, PB 1L (1L)		
Key: G-Glass P-Plastic J-Jar B-Bottle V-Vial DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.					

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :- Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months
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Certificate of Analysis

Certificate Number 14-95593

15-Jan-14

Client I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference 14-95593

Client Reference (not supplied)

Contract Title (not supplied)

Description 2 Water samples.

Date Received 09-Jan-14

Date Started 09-Jan-14

Date Completed 15-Jan-14

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. 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. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read 'Rob Brown'.

Rob Brown
Business Manager



Summary of Chemical Analysis

Water Samples

Our Ref 14-95593

Client Ref

Contract Title

Lab No	592956	592957
Sample ID	R2TB1	R2FB1
Depth		
Other ID		
Sample Type	WATER	WATER
Sampling Date	08/01/14	08/01/14
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	< 0.16	0.24
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.030	0.055
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.47	0.59
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.98	0.97
Iron, Dissolved	DETSC 2306	5.5	ug/l	21	25
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.39	0.30
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.010	< 0.010
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.50	1.3
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Zinc, Dissolved	DETSC 2306	1.25	ug/l	26.1	22.1
Inorganics					
Conductivity	DETSC 2009	1	uS/cm	8.8	8.3
pH	DETSC 2008			6.0	2.5
Cyanide total	DETSC 2130	40	ug/l	< 40	< 40
Cyanide free	DETSC 2130	20	ug/l	< 20	< 20
Cyanide complex	DETSC 2130	40	ug/l	< 40	< 40
Thiocyanate	DETSC 2130	40	ug/l	< 40	< 40
Suspended Solids	DETSC 2034	5	mg/l	7.0	< 5.0
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	1.4	0.34
Chloride	DETSC 2055	0.1	mg/l	4.0	6.0
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.4	1.3
Sulphide	DETSC 2208	10	ug/l	< 10.0	< 10.0
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84
Total Organic Carbon	*	2	mg/l	< 2.0	< 2.0
Petroleum Hydrocarbons					
EPH (C10-C40)	DETSC 3311	10	ug/l	240	270
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis

Water Samples

Our Ref 14-95593

Client Ref

Contract Title

Lab No	592956	592957
Sample ID	R2TB1	R2FB1
Depth		
Other ID		
Sample Type	WATER	WATER
Sampling Date	08/01/14	08/01/14
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
PAHs					
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20
Phenols					
Catechol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Cresols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Naphthols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Phenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Resorcinol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Trimethylphenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Xylenols & Ethylphenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10
Total Phenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10

Information in Support of the Analytical Results

Our Ref 14-95593
Client Ref
Contract

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
592956	R2TB1 WATER	08/01/14	GJ 1L (1L) x2, PB 1L (1L)		
592957	R2FB1 WATER	08/01/14	GJ 1L (1L) x2, PB 1L (1L)		

Key: G-Glass P-Plastic J-Jar B-Bottle

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months



2139

Certificate of Analysis

Date: 02/01/2014

Certificate Number: 13-94687

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-94687

Client Reference: 13627

Contract Title: Wrexham

Description: 7 soil samples

Date Received: 17 December 2013

Date Started: 17 December 2013

Date Completed: 02 January 2014

Test Procedures: Identified by prefix DETSn (details on request), Asbestos Analysis (DETS 082).

Notes: Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94687

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	588612	588613	588614	588615	588616
				Sample ID	TP8	TP8	TP9	TP9	BH16
				Depth	0.80	2.40	1.00	2.70	0.30
				Sample Ref					
				Sample Type					
				Sampling Date	27/11/2013	27/11/2013	27/11/2013	27/11/2013	27/11/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Stones >2mm	% m/m	DETSC 1003*	1	4.9	6.1	4.5	7.1	6.4	
Moisture Content	%	DETS 046*	0.1	17	32	21	15	30	
Arsenic	mg/kg	DETSC2301#	0.2	4.6	5.8	10	6.1	9.8	
Boron (water soluble)	mg/kg	DETSC2123#	0.2	0.2	< 0.2	< 0.2	< 0.2	0.2	
Cadmium	mg/kg	DETSC2301#	0.1	0.3	0.3	0.4	0.3	0.4	
Chromium	mg/kg	DETSC2301#	0.15	18	12	26	19	30	
Copper	mg/kg	DETSC2301#	0.2	14	7.3	21	18	12	
Lead	mg/kg	DETSC2301#	0.3	18	14	26	17	52	
Mercury	mg/kg	DETSC 2325#	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Nickel	mg/kg	DETSC2301#	1	20	13	32	23	20	
Selenium	mg/kg	DETSC2301#	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Zinc	mg/kg	DETSC2301#	1	150	49	67	53	68	
Loss on ignition	%	DETSC 2003#	0.01	1.2	0.95	2.3	0.87	6.6	
pH		DETSC 2008#		7.8	7.6	7.9	8.2	7.4	
Cyanide total	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	
Cyanide free	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Cyanide complex	mg/kg	DETSC 2130	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Thiocyanate	mg/kg	DETSC 2130#	0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	16	9.3	13	6.2	6.1	
Chloride Aqueous Extract	mg/l	DETSC 2055	1	7.7	11	3.6	8.9	3.3	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	20	22	15	< 10	12	
Sulphur (free)	mg/kg	DETSC 3049#	0.75	12	< 0.75	< 0.75	< 0.75	< 0.75	
EPH (C10-C40)	mg/kg	DETSC 3311#	10	240	61	< 10	< 10	< 10	
Benzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	
Toluene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Xylene	mg/kg	DETS 062#	0.01	0.27	< 0.01	< 0.01	< 0.01	< 0.01	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94687

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	588612	588613	588614	588615	588616
				Sample ID	TP8	TP8	TP9	TP9	BH16
				Depth	0.80	2.40	1.00	2.70	0.30
				Sample Ref					
				Sample Type					
				Sampling Date	27/11/2013	27/11/2013	27/11/2013	27/11/2013	27/11/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Acenaphthene	mg/kg	DETSC 3301	0.1	1.0	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1	0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1	64	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PAH	mg/kg	DETSC 3301	1.6	65	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5	3.5	< 0.50	4.5	3.8	3.3	
Cresols	mg/kg	DETSC 3421*	0.5	10	< 0.50	27	16	4.8	
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5	14	< 0.50	36	21	4.1	
Resorcinol	mg/kg	DETSC 3421*	0.5	17	< 0.50	7.8	13	18	
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5	45	< 0.50	75	54	30	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94687

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	588617	588618
				Sample ID	BH16	BH13
				Depth	2.00	0.50
				Sample Ref		
				Sample Type		
				Sampling Date	27/11/2013	27/11/2013
				Sampling Time		
Test	Units	DETSxx	LOD			
Stones >2mm	% m/m	DETSC 1003*	1	5.3	5.0	
Moisture Content	%	DETS 046*	0.1	18	16	
Arsenic	mg/kg	DETSC2301#	0.2	9.4	13	
Boron (water soluble)	mg/kg	DETSC2123#	0.2	< 0.2	0.3	
Cadmium	mg/kg	DETSC2301#	0.1	0.4	0.4	
Chromium	mg/kg	DETSC2301#	0.15	29	26	
Copper	mg/kg	DETSC2301#	0.2	20	30	
Lead	mg/kg	DETSC2301#	0.3	20	31	
Mercury	mg/kg	DETSC 2325#	0.05	< 0.05	< 0.05	
Nickel	mg/kg	DETSC2301#	1	33	32	
Selenium	mg/kg	DETSC2301#	0.5	< 0.5	< 0.5	
Zinc	mg/kg	DETSC2301#	1	57	61	
Loss on ignition	%	DETSC 2003#	0.01	1.9	6.6	
pH		DETSC 2008#		8.6	7.6	
Cyanide total	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	
Cyanide free	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	
Cyanide complex	mg/kg	DETSC 2130	0.2	< 0.2	< 0.2	
Thiocyanate	mg/kg	DETSC 2130#	0.6	< 0.6	< 0.6	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	4.4	7.8	
Chloride Aqueous Extract	mg/l	DETSC 2055	1	3.2	11	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	48	24	
Sulphur (free)	mg/kg	DETSC 3049#	0.75	< 0.75	3.9	
EPH (C10-C40)	mg/kg	DETSC 3311#	10	< 10	< 10	
Benzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	
Toluene	mg/kg	DETS 062#	0.01	< 0.01	0.01	
Xylene	mg/kg	DETS 062#	0.01	0.02	0.01	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94687

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	588617	588618
				Sample ID	BH16	BH13
				Depth	2.00	0.50
				Sample Ref		
				Sample Type		
				Sampling Date	27/11/2013	27/11/2013
				Sampling Time		
Test	Units	DETSxx	LOD			
Acenaphthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1		< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
PAH	mg/kg	DETSC 3301	1.6		< 1.6	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5		12	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5		15	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5		27	< 0.50

Summary of Asbestos Analysis

Soil Samples

Our Ref: 13-94687

Client Ref: 13627

Contract Title: Wrexham

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
588612	TP8 0.80	Soil	NAD	na	Andrew Little
588613	TP8 2.40	Soil	NAD	na	Andrew Little
588614	TP9 1.00	Soil	NAD	na	Andrew Little
588615	TP9 2.70	Soil	NAD	na	Andrew Little
588616	BH16 0.30	Soil	NAD	na	Andrew Little
588617	BH16 2.00	Soil	NAD	na	Andrew Little
588618	BH13 0.50	Soil	NAD	na	Andrew Little

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
588612	TP8 0.80 SOIL	27/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	BTEX Solid (14 days), BTEX Solid (calc) (14 days), Naphthalene (14 days), PAH FID Solid (14 days), PAH FID Solid (calc) (14 days), EPH/TPH Solid (14 days), EPH/TPH Solid (calc) (14 days)		
588613	TP8 2.40 SOIL	27/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	BTEX Solid (14 days), BTEX Solid (calc) (14 days), Naphthalene (14 days), PAH FID Solid (14 days), PAH FID Solid (calc) (14 days), EPH/TPH Solid (14 days), EPH/TPH Solid (calc) (14 days)		
588614	TP9 1.00 SOIL	27/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	BTEX Solid (14 days), BTEX Solid (calc) (14 days), Naphthalene (14 days), PAH FID Solid (14 days), PAH FID Solid (calc) (14 days), EPH/TPH Solid (14 days), EPH/TPH Solid (calc) (14 days)		

588615	TP9 2.70 SOIL	27/11/2013	Glass Jar 1L (1 litre), Plastic Tub 1L (1kg)	BTEX Solid (14 days), BTEX Solid (calc) (14 days), Naphthalene (14 days), PAH FID Solid (14 days), PAH FID Solid (calc) (14 days), EPH/TPH Solid (14 days), EPH/TPH Solid (calc) (14 days)	BTEX Solid
588616	BH16 0.30 SOIL	27/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	BTEX Solid (14 days), BTEX Solid (calc) (14 days), Naphthalene (14 days), PAH FID Solid (14 days), PAH FID Solid (calc) (14 days), EPH/TPH Solid (14 days), EPH/TPH Solid (calc) (14 days)	
588617	BH16 2.00 SOIL	27/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	BTEX Solid (14 days), BTEX Solid (calc) (14 days), Naphthalene (14 days), PAH FID Solid (14 days), PAH FID Solid (calc) (14 days), EPH/TPH Solid (14 days), EPH/TPH Solid (calc) (14 days)	
588618	BH13 0.50 SOIL	27/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	BTEX Solid (14 days), BTEX Solid (calc) (14 days), Naphthalene (14 days), PAH FID Solid (14 days), PAH FID Solid (calc) (14 days), EPH/TPH Solid (14 days), EPH/TPH Solid (calc) (14 days)	



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Certificate of Analysis

Date: 10/01/2014

Certificate Number: 13-93782-1

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-93782-1

Client Reference: 13627

Contract Title: Wrexham

Description: 15 soil samples

Date Received: 04 December 2013

Date Started: 24 December 2013

Date Completed: 10 January 2014

Test Procedures: Identified by prefix DETSn (details on request), Asbestos Analysis (DETS 082).

Notes: **This report supersedes 13-93782, additional testing carried out**
Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583602	583603	583604	583605	583606
				Sample ID	TP3	TP3	TP2	TP2	TP1
				Depth	0.50	2.00	0.50	1.00	0.40
				Sample Ref					
				Sample Type					
				Sampling Date	29/11/2013	29/11/2013	29/11/2013	29/11/2013	29/11/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Stones >2mm	% m/m	DETSC 1003*	1		2.3	6.3	4.0	8.3	4.9
Moisture Content	%	DETS 046*	0.1		15	24	11	12	18
Arsenic	mg/kg	DETSC2301#	0.2		13	8.7	20	13	54
Boron (water soluble)	mg/kg	DETSC2123#	0.2		1.5	< 0.2	0.4	0.3	1.6
Cadmium	mg/kg	DETSC2301#	0.1		0.7	0.7	1.3	0.8	0.8
Chromium	mg/kg	DETSC2301#	0.15		17	32	30	22	28
Copper	mg/kg	DETSC2301#	0.2		18	22	45	23	81
Lead	mg/kg	DETSC2301#	0.3		77	23	100	43	48
Mercury	mg/kg	DETSC 2325#	0.05		< 0.05	< 0.05	0.26	0.09	0.07
Nickel	mg/kg	DETSC2301#	1		69	37	56	49	67
Selenium	mg/kg	DETSC2301#	0.5		< 0.5	< 0.5	0.7	< 0.5	< 0.5
Zinc	mg/kg	DETSC2301#	1		59	65	140	72	72
Loss on ignition	%	DETSC 2003#	0.01		2.4	2.0	4.9	1.9	7.4
pH		DETSC 2008#			9.2	8.5	8.3	8.4	8.6
Cyanide total	mg/kg	DETSC 2130#	0.1		3.8	0.1	29	16	0.5
Cyanide free	mg/kg	DETSC 2130#	0.1		1.2	0.1	2.2	0.5	0.2
Cyanide complex	mg/kg	DETSC 2130	0.2		2.6	< 0.2	26	15	0.3
Thiocyanate	mg/kg	DETSC 2130#	0.6		< 0.6	< 0.6	5.1	1.5	< 0.6
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		55	71	19	20	7.4
Chloride Aqueous Extract	mg/l	DETSC 2055	1		12	10	13	11	15
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		190	22	200	74	150
Sulphur (free)	mg/kg	DETSC 3049#	0.75		110	< 0.75	750	160	4.2
Aliphatic C5-C6	mg/kg	DETSC 3321*	0.01		0.05				
Aliphatic C6-C8	mg/kg	DETSC 3321*	0.01		2.0				
Aliphatic C8-C10	mg/kg	DETSC 3321*	0.01		14				
Aliphatic C10-C12	mg/kg	DETSC 3072#	1.5		260				
Aliphatic C12-C16	mg/kg	DETSC 3072#	1.2		1200				
Aliphatic C16-C21	mg/kg	DETSC 3072#	1.5		880				
Aliphatic C21-C35	mg/kg	DETSC 3072#	3.4		320				
Aliphatic C5-C35	mg/kg	DETSC 3072*	10		2600				
Aromatic C5-C7	mg/kg	DETSC 3321*	0.01		0.16				
Aromatic C7-C8	mg/kg	DETSC 3321*	0.01		0.46				
Aromatic C8-C10	mg/kg	DETSC 3321*	0.01		28				
Aromatic C10-C12	mg/kg	DETSC 3072#	0.9		120				
Aromatic C12-C16	mg/kg	DETSC 3072#	0.5		930				
Aromatic C16-C21	mg/kg	DETSC 3072#	0.6		1100				
Aromatic C21-C35	mg/kg	DETSC 3072#	1.4		670				
Aromatic C5-C35	mg/kg	DETSC 3072*	10		2900				
TPH Ali/Aro	mg/kg	DETSC 3072*	10		5500				

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583602	583603	583604	583605	583606
				Sample ID	TP3	TP3	TP2	TP2	TP1
				Depth	0.50	2.00	0.50	1.00	0.40
				Sample Ref					
				Sample Type					
				Sampling Date	29/11/2013	29/11/2013	29/11/2013	29/11/2013	29/11/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
EPH (C10-C40)	mg/kg	DETSC 3311#	10	8600	< 10	18000	7400	< 10	
Benzene	mg/kg	DETS 062#	0.01	0.16	< 0.01	0.02	0.13	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	4.9	0.12	0.95	2.7	0.02	
Toluene	mg/kg	DETS 062#	0.01	0.46	< 0.01	0.08	0.03	< 0.01	
Xylene	mg/kg	DETS 062#	0.01	8.3	< 0.01	2.2	4.3	0.04	
Acenaphthene	mg/kg	DETSC 3301	0.1	53	< 0.1	17	20	< 0.1	
Acenaphthylene	mg/kg	DETSC 3301	0.1	71	< 0.1	150	73	0.1	
Anthracene	mg/kg	DETSC 3301	0.1	43	< 0.1	21	11	< 0.1	
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	29	< 0.1	11	8.7	< 0.1	
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	25	< 0.1	16	8.7	< 0.1	
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	17	< 0.1	8.5	4.7	< 0.1	
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	9.8	< 0.1	4.6	2.4	< 0.1	
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	11	< 0.1	11	5.9	< 0.1	
Chrysene	mg/kg	DETSC 3301	0.1	28	< 0.1	13	9.3	< 0.1	
Dibenzo(a,h)anthracene	mg/kg	DETC 3301	0.1	1.9	< 0.1	1.1	1.0	< 0.1	
Fluoranthene	mg/kg	DETSC 3301	0.1	68	< 0.1	45	40	< 0.1	
Fluorene	mg/kg	DETSC 3301	0.1	58	< 0.1	21	18	< 0.1	
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	12	< 0.1	11	6.5	< 0.1	
Naphthalene	mg/kg	DETSC 3301	0.1	160	< 0.1	99	40	0.1	
Phenanthrene	mg/kg	DETSC 3301	0.1	100	< 0.1	45	29	< 0.1	
Pyrene	mg/kg	DETSC 3301	0.1	62	< 0.1	51	42	< 0.1	
PAH	mg/kg	DETSC 3301	1.6	750	< 1.6	530	320	< 1.6	
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583607	583608	583609	583610	583611
				Sample ID	TP1	TP23	BH4	TP24	TP24D
				Depth	1.50	1.50	2.20	1.90	1.90
				Sample Ref					
				Sample Type					
				Sampling Date	29/11/2013	29/11/2013	29/11/2013	02/12/2013	02/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Stones >2mm	% m/m	DETSC 1003*	1	4.2	5.1	6.1	3.8	6.5	
Moisture Content	%	DETS 046*	0.1	9.6	14	13	9.5	11	
Arsenic	mg/kg	DETSC2301#	0.2	12	8.6	4.2	6.8	6.5	
Boron (water soluble)	mg/kg	DETSC2123#	0.2	< 0.2	0.3	0.4	0.2	< 0.2	
Cadmium	mg/kg	DETSC2301#	0.1	0.7	0.9	0.6	0.5	0.5	
Chromium	mg/kg	DETSC2301#	0.15	23	37	14	15	13	
Copper	mg/kg	DETSC2301#	0.2	22	28	15	17	19	
Lead	mg/kg	DETSC2301#	0.3	20	42	26	45	54	
Mercury	mg/kg	DETSC 2325#	0.05	< 0.05	0.07	< 0.05	0.10	0.15	
Nickel	mg/kg	DETSC2301#	1	28	31	11	13	12	
Selenium	mg/kg	DETSC2301#	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Zinc	mg/kg	DETSC2301#	1	61	100	58	57	56	
Loss on ignition	%	DETSC 2003#	0.01	1.5	3.6	3.2	2.9	2.5	
pH		DETSC 2008#		8.1	8.7	8.7	8.4	8.2	
Cyanide total	mg/kg	DETSC 2130#	0.1	1.3	0.3	1.4	0.4	0.5	
Cyanide free	mg/kg	DETSC 2130#	0.1	0.3	0.1	0.1	< 0.1	0.2	
Cyanide complex	mg/kg	DETSC 2130	0.2	1.0	0.2	1.2	0.4	0.3	
Thiocyanate	mg/kg	DETSC 2130#	0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	13	6.1	8.9	6.8	6.3	
Chloride Aqueous Extract	mg/l	DETSC 2055	1	16	9.4	14	11	10	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	64	24	42	39	31	
Sulphur (free)	mg/kg	DETSC 3049#	0.75	100	1.1	1.1	< 0.75	2.9	
Aliphatic C5-C6	mg/kg	DETSC 3321*	0.01						
Aliphatic C6-C8	mg/kg	DETSC 3321*	0.01						
Aliphatic C8-C10	mg/kg	DETSC 3321*	0.01						
Aliphatic C10-C12	mg/kg	DETSC 3072#	1.5						
Aliphatic C12-C16	mg/kg	DETSC 3072#	1.2						
Aliphatic C16-C21	mg/kg	DETSC 3072#	1.5						
Aliphatic C21-C35	mg/kg	DETSC 3072#	3.4						
Aliphatic C5-C35	mg/kg	DETSC 3072*	10						
Aromatic C5-C7	mg/kg	DETSC 3321*	0.01						
Aromatic C7-C8	mg/kg	DETSC 3321*	0.01						
Aromatic C8-C10	mg/kg	DETSC 3321*	0.01						
Aromatic C10-C12	mg/kg	DETSC 3072#	0.9						
Aromatic C12-C16	mg/kg	DETSC 3072#	0.5						
Aromatic C16-C21	mg/kg	DETSC 3072#	0.6						
Aromatic C21-C35	mg/kg	DETSC 3072#	1.4						
Aromatic C5-C35	mg/kg	DETSC 3072*	10						
TPH Ali/Aro	mg/kg	DETSC 3072*	10						

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583607	583608	583609	583610	583611
				Sample ID	TP1	TP23	BH4	TP24	TP24D
				Depth	1.50	1.50	2.20	1.90	1.90
				Sample Ref					
				Sample Type					
				Sampling Date	29/11/2013	29/11/2013	29/11/2013	02/12/2013	02/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
EPH (C10-C40)	mg/kg	DETSC 3311#	10	8400	600	1200	310	60	
Benzene	mg/kg	DETS 062#	0.01	0.28	< 0.01	< 0.01	< 0.01	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	7.6	< 0.01	< 0.01	< 0.01	< 0.01	
Toluene	mg/kg	DETS 062#	0.01	0.71	< 0.01	< 0.01	< 0.01	< 0.01	
Xylene	mg/kg	DETS 062#	0.01	26	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthene	mg/kg	DETSC 3301	0.1	50	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	DETSC 3301	0.1	120	< 0.1	< 0.1	< 0.1	< 0.1	
Anthracene	mg/kg	DETSC 3301	0.1	7.7	< 0.1	0.7	0.2	< 0.1	
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	1.4	< 0.1	1.3	0.4	< 0.1	
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	1.0	0.7	1.4	0.7	< 0.1	
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	0.5	< 0.1	0.8	0.6	< 0.1	
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	0.3	< 0.1	0.8	0.4	< 0.1	
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	0.7	< 0.1	0.5	0.4	< 0.1	
Chrysene	mg/kg	DETSC 3301	0.1	1.6	< 0.1	0.9	0.6	< 0.1	
Dibenzo(a,h)anthracene	mg/kg	DETSC 3301	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	
Fluoranthene	mg/kg	DETSC 3301	0.1	11	0.7	2.6	1.4	< 0.1	
Fluorene	mg/kg	DETSC 3301	0.1	130	< 0.1	< 0.1	< 0.1	< 0.1	
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	1.1	< 0.1	1.3	1.0	< 0.1	
Naphthalene	mg/kg	DETSC 3301	0.1	280	< 0.1	0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	DETSC 3301	0.1	21	< 0.1	1.2	0.5	< 0.1	
Pyrene	mg/kg	DETSC 3301	0.1	6.9	0.6	2.1	1.2	< 0.1	
PAH	mg/kg	DETSC 3301	1.6	640	1.9	14	7.3	< 1.6	
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583612	583613	583614	583615
				Sample ID	TP22	TP22D	BH6	TP32
				Depth	0.30	0.30	2.00	2.00-2.50
				Sample Ref				
				Sample Type				
				Sampling Date	02/12/2013	02/12/2013	02/12/2013	02/12/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
Stones >2mm	% m/m	DETSC 1003*	1		4.8	4.1	4.8	7.3
Moisture Content	%	DETS 046*	0.1		17	22	25	
Arsenic	mg/kg	DETSC2301#	0.2		9.9	8.2	11	
Boron (water soluble)	mg/kg	DETSC2123#	0.2		1.0	1.1	0.8	
Cadmium	mg/kg	DETSC2301#	0.1		0.5	0.5	0.6	
Chromium	mg/kg	DETSC2301#	0.15		20	18	19	
Copper	mg/kg	DETSC2301#	0.2		19	16	39	
Lead	mg/kg	DETSC2301#	0.3		45	48	80	
Mercury	mg/kg	DETSC 2325#	0.05		0.05	< 0.05	< 0.05	
Nickel	mg/kg	DETSC2301#	1		19	17	26	
Selenium	mg/kg	DETSC2301#	0.5		< 0.5	< 0.5	< 0.5	
Zinc	mg/kg	DETSC2301#	1		61	61	75	
Loss on ignition	%	DETSC 2003#	0.01		4.3	4.8	4.0	
pH		DETSC 2008#			7.3	7.1	8.6	
Cyanide total	mg/kg	DETSC 2130#	0.1		1.6	0.9	9.6	
Cyanide free	mg/kg	DETSC 2130#	0.1		< 0.1	0.1	0.3	
Cyanide complex	mg/kg	DETSC 2130	0.2		1.6	0.7	9.3	
Thiocyanate	mg/kg	DETSC 2130#	0.6		1.8	1.8	7.0	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		49	70	110	
Chloride Aqueous Extract	mg/l	DETSC 2055	1		7.0	5.6	9.7	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		26	17	360	
Sulphur (free)	mg/kg	DETSC 3049#	0.75		45	64	110	
Aliphatic C5-C6	mg/kg	DETSC 3321*	0.01					
Aliphatic C6-C8	mg/kg	DETSC 3321*	0.01					
Aliphatic C8-C10	mg/kg	DETSC 3321*	0.01					
Aliphatic C10-C12	mg/kg	DETSC 3072#	1.5					
Aliphatic C12-C16	mg/kg	DETSC 3072#	1.2					
Aliphatic C16-C21	mg/kg	DETSC 3072#	1.5					
Aliphatic C21-C35	mg/kg	DETSC 3072#	3.4					
Aliphatic C5-C35	mg/kg	DETSC 3072*	10					
Aromatic C5-C7	mg/kg	DETSC 3321*	0.01					
Aromatic C7-C8	mg/kg	DETSC 3321*	0.01					
Aromatic C8-C10	mg/kg	DETSC 3321*	0.01					
Aromatic C10-C12	mg/kg	DETSC 3072#	0.9					
Aromatic C12-C16	mg/kg	DETSC 3072#	0.5					
Aromatic C16-C21	mg/kg	DETSC 3072#	0.6					
Aromatic C21-C35	mg/kg	DETSC 3072#	1.4					
Aromatic C5-C35	mg/kg	DETSC 3072*	10					
TPH Ali/Aro	mg/kg	DETSC 3072*	10					

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583612	583613	583614	583615
				Sample ID	TP22	TP22D	BH6	TP32
				Depth	0.30	0.30	2.00	2.00-2.50
				Sample Ref				
				Sample Type				
				Sampling Date	02/12/2013	02/12/2013	02/12/2013	02/12/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
EPH (C10-C40)	mg/kg	DETSC 3311#	10	< 10	34	< 10		
Benzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	0.04		
Ethylbenzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	0.09		
Toluene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	0.04		
Xylene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	0.04		
Acenaphthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Acenaphthylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Chrysene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Dibenzo(a,h)anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	0.5		
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Naphthalene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Phenanthrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1		
Pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	0.3		
PAH	mg/kg	DETSC 3301	1.6	< 1.6	< 1.6	< 1.6		
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50		
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50		
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50		
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50		
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50		
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50		
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50		
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50		

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583616
				Sample ID	TP32
				Depth	2.00
				Sample Ref	
				Sample Type	
				Sampling Date	02/12/2013
				Sampling Time	
Test	Units	DETSxx	LOD		
Stones >2mm	% m/m	DETSC 1003*	1	5.2	
Moisture Content	%	DETS 046*	0.1	23	
Arsenic	mg/kg	DETSC2301#	0.2	37	
Boron (water soluble)	mg/kg	DETSC2123#	0.2	0.7	
Cadmium	mg/kg	DETSC2301#	0.1	1.1	
Chromium	mg/kg	DETSC2301#	0.15	35	
Copper	mg/kg	DETSC2301#	0.2	64	
Lead	mg/kg	DETSC2301#	0.3	300	
Mercury	mg/kg	DETSC 2325#	0.05	< 0.05	
Nickel	mg/kg	DETSC2301#	1	35	
Selenium	mg/kg	DETSC2301#	0.5	2.6	
Zinc	mg/kg	DETSC2301#	1	290	
Loss on ignition	%	DETSC 2003#	0.01	8.6	
pH		DETSC 2008#		10.1	
Cyanide total	mg/kg	DETSC 2130#	0.1	3.2	
Cyanide free	mg/kg	DETSC 2130#	0.1	0.6	
Cyanide complex	mg/kg	DETSC 2130	0.2	2.7	
Thiocyanate	mg/kg	DETSC 2130#	0.6	1.1	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	15	
Chloride Aqueous Extract	mg/l	DETSC 2055	1	15	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	300	
Sulphur (free)	mg/kg	DETSC 3049#	0.75	360	
Aliphatic C5-C6	mg/kg	DETSC 3321*	0.01	1.3	
Aliphatic C6-C8	mg/kg	DETSC 3321*	0.01	0.81	
Aliphatic C8-C10	mg/kg	DETSC 3321*	0.01	24	
Aliphatic C10-C12	mg/kg	DETSC 3072#	1.5	180	
Aliphatic C12-C16	mg/kg	DETSC 3072#	1.2	1100	
Aliphatic C16-C21	mg/kg	DETSC 3072#	1.5	1400	
Aliphatic C21-C35	mg/kg	DETSC 3072#	3.4	580	
Aliphatic C5-C35	mg/kg	DETSC 3072*	10	3300	
Aromatic C5-C7	mg/kg	DETSC 3321*	0.01	< 0.01	
Aromatic C7-C8	mg/kg	DETSC 3321*	0.01	0.55	
Aromatic C8-C10	mg/kg	DETSC 3321*	0.01	170	
Aromatic C10-C12	mg/kg	DETSC 3072#	0.9	2300	
Aromatic C12-C16	mg/kg	DETSC 3072#	0.5	12000	
Aromatic C16-C21	mg/kg	DETSC 3072#	0.6	18000	
Aromatic C21-C35	mg/kg	DETSC 3072#	1.4	8300	
Aromatic C5-C35	mg/kg	DETSC 3072*	10	41000	
TPH Ali/Aro	mg/kg	DETSC 3072*	10	44000	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583616
				Sample ID	TP32
				Depth	2.00
				Sample Ref	
				Sample Type	
				Sampling Date	02/12/2013
				Sampling Time	
Test	Units	DETSxx	LOD		
EPH (C10-C40)	mg/kg	DETSC 3311#	10	2000	
Benzene	mg/kg	DETS 062#	0.01	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	6.1	
Toluene	mg/kg	DETS 062#	0.01	0.55	
Xylene	mg/kg	DETS 062#	0.01	14	
Acenaphthene	mg/kg	DETSC 3301	0.1	83	
Acenaphthylene	mg/kg	DETSC 3301	0.1	17	
Anthracene	mg/kg	DETSC 3301	0.1	30	
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	11	
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	13	
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	6.9	
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	3.9	
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	17	
Chrysene	mg/kg	DETSC 3301	0.1	12	
Dibenzo(a,h)anthracene	mg/kg	DETSC 3301	0.1	0.4	
Fluoranthene	mg/kg	DETSC 3301	0.1	70	
Fluorene	mg/kg	DETSC 3301	0.1	34	
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	9.5	
Naphthalene	mg/kg	DETSC 3301	0.1	67	
Phenanthrene	mg/kg	DETSC 3301	0.1	120	
Pyrene	mg/kg	DETSC 3301	0.1	88	
PAH	mg/kg	DETSC 3301	1.6	590	
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	

Summary of Chemical Analysis

Leachate Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	591842
				Sample ID	TP32
				Depth	2.00
				Sample Ref	
				Sample Type	
				Sampling Date	02/12/2013
				Sampling Time	
Test	Units	DETSxx	LOD		
BS EN 12457 10:1		DETS 036*		Y	
Arsenic, Dissolved	ug/l	DETSC 2306	0.16	3.4	
Cadmium, Dissolved	ug/l	DETSC 2306	0.03	< 0.030	
Chromium, Dissolved	ug/l	DETSC 2306	0.25	< 0.25	
Copper, Dissolved	ug/l	DETSC 2306	0.4	< 0.40	
Iron, Dissolved	ug/l	DETSC 2306	5.5	8.4	
Lead, Dissolved	ug/l	DETSC 2306	0.09	0.12	
Mercury, Dissolved	ug/l	DETSC 2306	0.01	< 0.010	
Nickel, Dissolved	ug/l	DETSC 2306	0.5	0.93	
Selenium, Dissolved	ug/l	DETSC 2306	0.25	< 0.25	
Zinc, Dissolved	ug/l	DETSC 2306	1.25	3.57	
Conductivity	uS/cm	DETSC 2009	1	55.8	
pH		DETSC 2008		8.4	
Cyanide total	ug/l	DETSC 2130	40	< 40	
Cyanide free	ug/l	DETSC 2130	20	< 20	
Cyanide complex	ug/l	DETSC 2130	40	< 40	
Thiocyanate	ug/l	DETSC 2130	40	< 40	
Ammoniacal Nitrogen as N	mg/l	DETSC 2207	0.015	1.4	
Chloride	mg/l	DETSC 2055	0.1	2.1	
Sulphate as SO4	mg/l	DETSC 2055	0.1	8.0	
Sulphide	ug/l	DETSC 2208	10	< 10	
Sulphur (free)	ug/l	DETSC 3049	84	< 84	
Total Organic Carbon	mg/l	DETSC 2033	2	7.5	
EPH (C10-C40)	ug/l	DETSC 3311	10	2400	
Benzene	ug/l	DETSC 3322	1	2.0	
Toluene	ug/l	DETSC 3322	1	2.0	
Ethylbenzene	ug/l	DETSC 3322	1	11	
Xylene	ug/l	DETSC 3322	1	24	

Summary of Chemical Analysis

Leachate Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	591842
				Sample ID	TP32
				Depth	2.00
				Sample Ref	
				Sample Type	
				Sampling Date	02/12/2013
				Sampling Time	
Test	Units	DETSxx	LOD		
Acenaphthene	ug/l	DETS 074*	0.01	240	
Acenaphthylene	ug/l	DETS 074*	0.01	< 0.01	
Anthracene	ug/l	DETS 074*	0.01	22	
Benzo(a)anthracene	ug/l	DETS 074*	0.01	1.4	
Benzo(a)pyrene	ug/l	DETS 074*	0.01	1.4	
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01	0.85	
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01	0.37	
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01	1.2	
Chrysene	ug/l	DETS 074*	0.01	0.98	
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01	< 0.01	
Fluoranthene	ug/l	DETS 074*	0.01	23	
Fluorene	ug/l	DETS 074*	0.01	67	
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01	1.3	
Naphthalene	ug/l	DETS 074*	0.01	31	
Phenanthrene	ug/l	DETS 074*	0.01	110	
Pyrene	ug/l	DETS 074*	0.01	23	
PAH	ug/l	DETS 074*	0.2	520	
Catechol	ug/l	DETSC 3422*	0.1	< 0.10	
Cresols	ug/l	DETSC 3422*	0.1	< 0.10	
Naphthols	ug/l	DETSC 3422*	0.1	< 0.10	
Phenol	ug/l	DETSC 3422*	0.1	< 0.10	
Resorcinol	ug/l	DETSC 3422*	0.1	< 0.10	
Trimethylphenol	ug/l	DETSC 3422*	0.1	< 0.10	
Xylenols & Ethylphenols	ug/l	DETSC 3422*	0.1	< 0.10	
Total Phenols	ug/l	DETSC 3422*	0.1	< 0.10	

Summary of Asbestos Analysis

Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
583602	TP3 0.50	Soil	Amosite	Loose Amosite fibres present	Andrew Little
583603	TP3 2.00	Soil	NAD	na	Andrew Little
583604	TP2 0.50	Soil	Amosite	Loose Amosite fibres present	Andrew Little
583605	TP2 1.00	Soil	Amosite	Loose Amosite fibres present	Andrew Little
583606	TP1 0.40	Soil	Amosite	Loose Amosite fibres present	Andrew Little
583607	TP1 1.50	Soil	NAD	na	Andrew Little
583608	TP23 1.50	Soil	NAD	na	Andrew Little
583609	BH4 2.20	Soil	Amosite	na	Andrew Little
583610	TP24 1.90	Soil	NAD	na	Andrew Little
583611	TP24D 1.90	Soil	NAD	na	Andrew Little
583612	TP22 0.30	Soil	NAD	na	Andrew Little
583613	TP22D 0.30	Soil	NAD	na	Andrew Little
583614	BH6 2.00	Soil	NAD	na	Andrew Little
583615	TP32 2.00-2.50	Soil	NAD	na	Andrew Little
583616	TP32 2.00	Soil	NAD	na	Andrew Little

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Summary of Asbestos Analysis Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

		Lab No.	583602	583604	583605
		Sample Ref	TP3	TP2	TP2
		Depth	0.50	0.5	1
		Other Ref			
		Sample Type	Soil	Soil	Soil
Test	Units	DETSxx			
Total Mass% Asbestos (i+ii)	Mass %		<0.001	<0.001	0.001
Quantification by Phase Contrast Optical Microscopy (i)	Mass %	DETSC 1102	<0.001	<0.001	<0.001
Gravimetric Quantification (ii)	Mass %	DETSC 1102	na	na	0.000
Breakdown of Gravimetric Analysis					
Mass of Sample	g		1225.95	1167.59	1538.10
ACMs present*					Loose Bundle
Mass of ACM in sample	g				0.01
% ACM by mass	%				0.000
% asbestos in ACM	%				100
% asbestos in sample	%				0.000
Potentially Respirable Fibres	Fibres/g	DETSC 1102	not requested	not requested	not requested

* Denotes test or material description outside of UKAS accreditation.

% asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264.

Recommended sample size for quantification is approximately 1kg

denotes deviating sample

Summary of Asbestos Analysis Soil Samples

Our Ref: 13-93782-1

Client Ref: 13627

Contract Title: Wrexham

		Lab No.	583606	583609
		Sample Ref	TP1	BH4
		Depth	0.4	2.2
		Other Ref		
		Sample Type	Soil	Soil
Test	Units	DETSxx		
Total Mass% Asbestos (i+ii)	Mass %		<0.001	<0.001
Quantification by Phase Contrast Optical Microscopy (i)	Mass %	DETSC 1102	<0.001	<0.001
Gravimetric Quantification (ii)	Mass %	DETSC 1102	na	na
Breakdown of Gravimetric Analysis				
Mass of Sample	g		849.10	1579.94
ACMs present*				
Mass of ACM in sample	g			
% ACM by mass	%			
% asbestos in ACM	%			
% asbestos in sample	%			
Potentially Respirable Fibres	Fibres/g	DETSC 1102	not requested	not requested

* Denotes test or material description outside of UKAS accreditation.

% asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264.

Recommended sample size for quantification is approximately 1kg

denotes deviating sample

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
583602	TP3 0.50 SOIL	29/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583603	TP3 2.00 SOIL	29/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583604	TP2 0.50 SOIL	29/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583605	TP2 1.00 SOIL	29/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583606	TP1 0.40 SOIL	29/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583607	TP1 1.50 SOIL	29/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583608	TP23 1.50 SOIL	29/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583609	BH4 2.20 SOIL	29/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			

583610	TP24 1.90 SOIL	02/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
583611	TP24D 1.90 SOIL	02/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
583612	TP22 0.30 SOIL	02/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
583613	TP22D 0.30 SOIL	02/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
583614	BH6 2.00 SOIL	02/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
583615	TP32 2.00-2.50 SOIL	02/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
583616	TP32 2.00 SOIL	02/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
591842	TP32 2.00 LEACHATE	02/12/2013	Glass Jar 1L (1 litre)



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Certificate of Analysis

Date: 10/01/2014

Certificate Number: 14-95242

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 14-95242

Client Reference: 13627

Contract Title: Wrexham

Description: 1 soil sample

Date Received: 24 December 2013

Date Started: 06 January 2014

Date Completed: 10 January 2014

Test Procedures: Identified by prefix DETSn, details available upon request.

Notes: Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 14-95242

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	591851
				Sample ID	TP1
				Depth	1.70
				Sample Ref	
				Sample Type	
				Sampling Date	05/12/2013
				Sampling Time	
Test	Units	DETSxx	LOD		
Aliphatic C5-C6	mg/kg	DETSC 3321*	0.01	< 0.01	
Aliphatic C6-C8	mg/kg	DETSC 3321*	0.01	< 0.01	
Aliphatic C8-C10	mg/kg	DETSC 3321*	0.01	< 0.01	
Aliphatic C10-C12	mg/kg	DETSC 3072#	1.5	360	
Aliphatic C12-C16	mg/kg	DETSC 3072#	1.2	1100	
Aliphatic C16-C21	mg/kg	DETSC 3072#	1.5	910	
Aliphatic C21-C35	mg/kg	DETSC 3072#	3.4	350	
Aliphatic C5-C35	mg/kg	DETSC 3072*	10	2700	
Aromatic C5-C7	mg/kg	DETSC 3321*	0.01	< 0.01	
Aromatic C7-C8	mg/kg	DETSC 3321*	0.01	< 0.01	
Aromatic C8-C10	mg/kg	DETSC 3321*	0.01	< 0.01	
Aromatic C10-C12	mg/kg	DETSC 3072#	0.9	290	
Aromatic C12-C16	mg/kg	DETSC 3072#	0.5	950	
Aromatic C16-C21	mg/kg	DETSC 3072#	0.6	970	
Aromatic C21-C35	mg/kg	DETSC 3072#	1.4	330	
Aromatic C5-C35	mg/kg	DETSC 3072*	10	2500	
TPH Ali/Aro	mg/kg	DETSC 3072*	10	5300	

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
591851	TP1 1.70 SOIL	05/12/2013	Plastic Tub 1L (1kg)	Aliphatics/Aromatics Solid (14 days), Aliphatics/Aromatics Solid (calc) (14 days), BTEX Solid (14 days), BTEX Solid (calc) (14 days), Chromium (14 days)	Aliphatics/Aromatics Solid, BTEX Solid, Chromium	



2139

Certificate of Analysis

Date: 10/01/2014

Certificate Number: 13-94416-1

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-94416-1

Client Reference:

Contract Title:

Description: 4 soil samples, 4 water samples

Date Received: 12 December 2013

Date Started: 12 December 2013

Date Completed: 10 January 2014

Test Procedures: Identified by prefix DETSn, details available upon request.

Notes: Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94416-1

Client Ref:

Contract Title:

				Lab No.	587078	587079	587080	587085
				Sample ID	SD1	SD2	SD4	RB1
				Depth				
				Sample Ref				
				Sample Type				
				Sampling Date	10/12/2013	10/12/2013	10/12/2013	10/12/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
Stones >2mm	% m/m	DETSC 1003*	1		4.7	6.2	5.3	3.5
Moisture Content	%	DETS 046*	0.1		26	39	68	65
Arsenic	mg/kg	DETSC2301#	0.2		13	8.7	8.4	32
Boron (water soluble)	mg/kg	DETSC2123#	0.2		0.7	1.3	2.2	0.8
Cadmium	mg/kg	DETSC2301#	0.1		1.2	0.9	1.1	2.3
Chromium	mg/kg	DETSC2301#	0.15		19	16	24	20
Copper	mg/kg	DETSC2301#	0.2		20	18	23	14
Lead	mg/kg	DETSC2301#	0.3		1800	690	660	220
Mercury	mg/kg	DETSC 2325#	0.05		< 0.05	0.09	0.15	< 0.05
Nickel	mg/kg	DETSC2301#	1		110	19	22	19
Selenium	mg/kg	DETSC2301#	0.5		< 0.5	< 0.5	< 0.5	< 0.5
Zinc	mg/kg	DETSC2301#	1		300	210	260	140
Loss on ignition	%	DETSC 2003#	0.01		2.3	5.1	9.9	9.9
pH		DETSC 2008#			8.5	7.9	7.3	7.8
Cyanide total	mg/kg	DETSC 2130#	0.1		0.6	0.7	1.5	4.1
Cyanide free	mg/kg	DETSC 2130#	0.1		< 0.1	0.1	0.2	0.4
Cyanide complex	mg/kg	DETSC 2130	0.2		0.6	0.6	1.3	3.7
Thiocyanate	mg/kg	DETSC 2130#	0.6		< 0.6	< 0.6	< 0.6	< 0.6
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		6.2	6.0	18	8.1
Chloride Aqueous Extract	mg/l	DETSC 2055	1		19	18	19	6.6
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		51	42	190	170
Sulphur (free)	mg/kg	DETSC 3049#	0.75		< 0.75	2.5	13	< 0.75
Aliphatic C5-C6	mg/kg	DETSC 3321*	0.01			< 0.01	< 0.01	
Aliphatic C6-C8	mg/kg	DETSC 3321*	0.01			< 0.01	< 0.01	
Aliphatic C8-C10	mg/kg	DETSC 3321*	0.01			< 0.01	< 0.01	
Aliphatic C10-C12	mg/kg	DETSC 3072#	1.5			< 1.5	< 1.5	
Aliphatic C12-C16	mg/kg	DETSC 3072#	1.2			< 1.2	3.8	
Aliphatic C16-C21	mg/kg	DETSC 3072#	1.5			< 1.5	3.5	
Aliphatic C21-C35	mg/kg	DETSC 3072#	3.4			< 3.4	< 3.4	
Aliphatic C5-C35	mg/kg	DETSC 3072*	10			< 10	< 10	
Aromatic C5-C7	mg/kg	DETSC 3321*	0.01			< 0.01	< 0.01	
Aromatic C7-C8	mg/kg	DETSC 3321*	0.01			< 0.01	< 0.01	
Aromatic C8-C10	mg/kg	DETSC 3321*	0.01			< 0.01	0.24	
Aromatic C10-C12	mg/kg	DETSC 3072#	0.9			< 0.9	1.4	
Aromatic C12-C16	mg/kg	DETSC 3072#	0.5			5.8	15	
Aromatic C16-C21	mg/kg	DETSC 3072#	0.6			21	31	
Aromatic C21-C35	mg/kg	DETSC 3072#	1.4			37	43	
Aromatic C5-C35	mg/kg	DETSC 3072*	10			64	90	
TPH Ali/Aro	mg/kg	DETSC 3072*	10			64	97	
EPH (C10-C40)	mg/kg	DETSC 3311#	10		< 10	190	2900	< 10

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94416-1

Client Ref:

Contract Title:

				Lab No.	587078	587079	587080	587085
				Sample ID	SD1	SD2	SD4	RB1
				Depth				
				Sample Ref				
				Sample Type				
				Sampling Date	10/12/2013	10/12/2013	10/12/2013	10/12/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
Benzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01
Toluene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01
Xylene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	6.8	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1		< 0.1	0.6	14	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1		< 0.1	0.3	28	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1		< 0.1	0.9	27	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	0.9	21	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	0.8	14	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	0.5	9.3	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1		< 0.1	0.3	9.3	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1		< 0.1	0.8	24	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1		< 0.1	0.3	2.7	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	1.6	55	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	13	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	1.0	11	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1		< 0.1	0.2	5.7	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1		< 0.1	0.4	56	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1		< 0.1	1.3	47	< 0.1
PAH	mg/kg	DETSC 3301	1.6		< 1.6	10	340	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94416-1

Client Ref:

Contract Title:

				Lab No.	587081	587082	587083	587084
				Sample ID	SS11-02-1	SS11-02-3	SS11-01-1	SS11-08-1
				Depth				
				Sample Ref				
				Sample Type				
				Sampling Date	10/12/2013	10/12/2013	10/12/2013	10/12/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
Arsenic, Dissolved	ug/l	DETSC 2306	0.16	1.1	2.0	1.7	1.3	
Cadmium, Dissolved	ug/l	DETSC 2306	0.03	< 0.030	< 0.030	0.080	0.050	
Chromium, Dissolved	ug/l	DETSC 2306	0.25	0.33	< 0.25	0.48	0.35	
Copper, Dissolved	ug/l	DETSC 2306	0.4	2.9	0.90	1.7	2.9	
Iron, Dissolved	ug/l	DETSC 2306	5.5	73	70	35	70	
Lead, Dissolved	ug/l	DETSC 2306	0.09	0.64	0.38	0.10	0.69	
Mercury, Dissolved	ug/l	DETSC 2306	0.01	< 0.010	< 0.010	< 0.010	< 0.010	
Nickel, Dissolved	ug/l	DETSC 2306	0.5	2.1	1.7	1.7	2.3	
Selenium, Dissolved	ug/l	DETSC 2306	0.25	0.25	0.45	0.27	0.25	
Zinc, Dissolved	ug/l	DETSC 2306	1.25	28.0	10.0	16.0	62.0	
Conductivity	uS/cm	DETSC 2009	1	588	503	514	597	
pH		DETSC 2008		8.1	8.0	7.8	8.0	
Cyanide total	ug/l	DETSC 2130	40	< 40	< 40	< 40	< 40	
Cyanide free	ug/l	DETSC 2130	20	< 20	< 20	< 20	< 20	
Cyanide complex	ug/l	DETSC 2130	40	< 40	< 40	< 40	< 40	
Thiocyanate	ug/l	DETSC 2130	40	< 40	< 40	< 40	< 40	
Suspended Solids	mg/l	DETSC 2034	5	31	140	19	< 5.0	
Ammoniacal Nitrogen as N	mg/l	DETSC 2207	0.015	0.16	0.45	0.48	0.17	
Chloride	mg/l	DETSC 2055	0.1	38	46	46	49	
Sulphate as SO4	mg/l	DETSC 2055	0.1	55	60	54	41	
Sulphide	ug/l	DETSC 2208	10	< 10	< 10	< 10	< 10	
Sulphur (free)	ug/l	DETSC 3049	84	< 84	< 84	< 84	< 84	
Total Organic Carbon	mg/l	DETSC 2033	2	13	13	6.7	11	
EPH (C10-C40)	ug/l	DETSC 3311	10	120	130	130	140	
Benzene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	
Xylene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94416-1

Client Ref:

Contract Title:

				Lab No.	587081	587082	587083	587084
				Sample ID	SS11-02-1	SS11-02-3	SS11-01-1	SS11-08-1
				Depth				
				Sample Ref				
				Sample Type				
				Sampling Date	10/12/2013	10/12/2013	10/12/2013	10/12/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
Acenaphthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	DETS 074*	0.01	< 0.01	0.04	< 0.01	0.07	
Benzo(a)anthracene	ug/l	DETS 074*	0.01	0.02	0.02	0.02	0.01	
Benzo(a)pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	DETS 074*	0.01	0.12	0.09	0.09	< 0.01	< 0.01
Fluorene	ug/l	DETS 074*	0.01	0.01	0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/l	DETS 074*	0.01	0.03	0.01	< 0.01	0.03	
Phenanthrene	ug/l	DETS 074*	0.01	< 0.01	0.09	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	DETS 074*	0.01	0.12	0.08	0.11	0.06	
PAH	ug/l	DETS 074*	0.2	0.35	0.36	0.26	< 0.20	
Catechol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Resorcinol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
587078	SD1 SOIL	10/12/2013	Glass Jar 1L (1 litre), Glass Jar 250ml (250ml), Glass Vial (40ml), Plastic Tub 1L (1kg)			
587079	SD2 SOIL	10/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
587080	SD4 SOIL	10/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
587081	SS11-02-1 WATER	10/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587082	SS11-02-3 WATER	10/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587083	SS11-01-1 WATER	10/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587084	SS11-08-1 WATER	10/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587085	RB1 SOIL	10/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			



2139

Certificate of Analysis

Date:08/01/2014

Certificate Number: 13-93391-2

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-93391-2

Client Reference: 13627

Contract Title: Wrexham

Description: 9 soil samples

Date Received: 28 November 2013

Date Started: 28 November 2013

Date Completed: 06 December 2013

Test Procedures: Identified by prefix DETSn (details on request), Asbestos Analysis (DETS 082).

Notes: **This report supersedes 13-93391-1, Asbestos Quantification added**
Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93391-2

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581493	581494	581495	581496	581497
				Sample ID	BH2	TP11	TP13	TP12	TP21
				Depth	3.80	0.30	1.30	2.20	2.00
				Sample Ref					
				Sample Type					
				Sampling Date	26/11/2013	26/11/2013	26/11/2013	26/11/2013	26/11/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Stones >2mm	% m/m	DETSC 1003*	1	3.2	6.5	4.2	6.8	5.4	
Moisture Content	%	DETS 046*	0.1	10	34	33	16	16	
Arsenic	mg/kg	DETSC2301#	0.2	8.3	18	8.7	6.3	7.1	
Boron (water soluble)	mg/kg	DETSC2123#	0.2	0.3	0.3	0.9	< 0.2	< 0.2	
Cadmium	mg/kg	DETSC2301#	0.1	0.5	0.7	0.7	0.3	0.4	
Chromium	mg/kg	DETSC2301#	0.15	22	32	26	23	9.4	
Copper	mg/kg	DETSC2301#	0.2	17	70	12	9.0	100	
Lead	mg/kg	DETSC2301#	0.3	44	29	59	18	12	
Mercury	mg/kg	DETSC 2325#	0.05	< 0.05	0.11	0.06	< 0.05	0.39	
Nickel	mg/kg	DETSC2301#	1	18	52	19	17	27	
Selenium	mg/kg	DETSC2301#	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Zinc	mg/kg	DETSC2301#	1	58	59	76	43	32	
Loss on ignition	%	DETSC 2003#	0.01	0.68	5.1	6.3	2.0	4.7	
pH		DETSC 2008#		8.0	8.3	8.2	8.1	7.9	
Cyanide total	mg/kg	DETSC 2130#	0.1	0.2	13	1.8	0.6	3.2	
Cyanide free	mg/kg	DETSC 2130#	0.1	< 0.1	0.2	0.2	0.1	< 0.1	
Cyanide complex	mg/kg	DETSC 2130	0.2	0.2	13	1.7	0.5	3.2	
Thiocyanate	mg/kg	DETSC 2130#	0.6	< 0.6	12	8.7	0.9	< 0.6	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	4.9	2.9	540	350	20	
Chloride Aqueous Extract	mg/l	DETSC 2055	1	8.4	13	6.1	5.5	12	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	71	150	290	97	37	
Sulphur (free)	mg/kg	DETSC 3049#	0.75	51	3.5	660	45	300	
EPH (C10-C40)	mg/kg	DETSC 3311#	10	< 10	< 10	20	< 10	< 10	
Benzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Toluene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Xylene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93391-2

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581493	581494	581495	581496	581497
				Sample ID	BH2	TP11	TP13	TP12	TP21
				Depth	3.80	0.30	1.30	2.20	2.00
				Sample Ref					
				Sample Type					
				Sampling Date	26/11/2013	26/11/2013	26/11/2013	26/11/2013	26/11/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Acenaphthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PAH	mg/kg	DETSC 3301	1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93391-2

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581498	581499	581500	581501
				Sample ID	TP21	BH13	BH12	BH12
				Depth	1.00	2.00	0.50	5.00
				Sample Ref				
				Sample Type				
				Sampling Date	26/11/2013	26/11/2013	26/11/2013	26/11/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
Stones >2mm	% m/m	DETSC 1003*	1		4.2		5.3	1.6
Moisture Content	%	DETS 046*	0.1		18		3.6	21
Arsenic	mg/kg	DETSC2301#	0.2		12		16	8.5
Boron (water soluble)	mg/kg	DETSC2123#	0.2		< 0.2		0.4	0.4
Cadmium	mg/kg	DETSC2301#	0.1		0.7		0.8	0.7
Chromium	mg/kg	DETSC2301#	0.15		51		36	46
Copper	mg/kg	DETSC2301#	0.2		24		41	22
Lead	mg/kg	DETSC2301#	0.3		24		81	25
Mercury	mg/kg	DETSC 2325#	0.05		< 0.05		< 0.05	< 0.05
Nickel	mg/kg	DETSC2301#	1		41		40	37
Selenium	mg/kg	DETSC2301#	0.5		< 0.5		< 0.5	< 0.5
Zinc	mg/kg	DETSC2301#	1		71		150	72
Loss on ignition	%	DETSC 2003#	0.01		3.0		3.8	2.5
pH		DETSC 2008#			8.5		7.9	8.8
Cyanide total	mg/kg	DETSC 2130#	0.1		< 0.1		0.1	< 0.1
Cyanide free	mg/kg	DETSC 2130#	0.1		< 0.1		< 0.1	< 0.1
Cyanide complex	mg/kg	DETSC 2130	0.2		< 0.2		< 0.2	< 0.2
Thiocyanate	mg/kg	DETSC 2130#	0.6		< 0.6		< 0.6	< 0.6
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		0.96		< 0.50	0.87
Chloride Aqueous Extract	mg/l	DETSC 2055	1		5.6		6.0	7.4
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		97		34	42
Sulphur (free)	mg/kg	DETSC 3049#	0.75		< 0.75		< 0.75	< 0.75
EPH (C10-C40)	mg/kg	DETSC 3311#	10		< 10		< 10	< 10
Benzene	mg/kg	DETS 062#	0.01		< 0.01		0.01	< 0.01
Ethylbenzene	mg/kg	DETS 062#	0.01		< 0.01		< 0.01	< 0.01
Toluene	mg/kg	DETS 062#	0.01		< 0.01		0.01	< 0.01
Xylene	mg/kg	DETS 062#	0.01		< 0.01		< 0.01	< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93391-2

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581498	581499	581500	581501
				Sample ID	TP21	BH13	BH12	BH12
				Depth	1.00	2.00	0.50	5.00
				Sample Ref				
				Sample Type				
				Sampling Date	26/11/2013	26/11/2013	26/11/2013	26/11/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
Acenaphthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
PAH	mg/kg	DETSC 3301	1.6		< 1.6	< 1.6	< 1.6	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50

Summary of Asbestos Analysis

Soil Samples

Our Ref: 13-93391-2

Client Ref: 13627

Contract Title: Wrexham

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
581493	BH2 3.80	Soil	NAD	na	Andrew Little
581494	TP11 0.30	Soil	NAD	na	Andrew Little
581495	TP13 1.30	Soil	NAD	na	Andrew Little
581496	TP12 2.20	Soil	NAD	na	Andrew Little
581497	TP21 2.00	Soil	Amosite Chrysotile	na	Andrew Little
581498	TP21 1.00	Soil	NAD	na	Andrew Little
581499	BH13 2.00	Soil	NAD	na	Andrew Little
581500	BH12 0.50	Soil	NAD	na	Andrew Little
581501	BH12 5.00	Soil	NAD	na	Andrew Little

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Summary of Asbestos Analysis Soil Samples

Our Ref: 13-93391-2

Client Ref: 13627

Contract Title: Wrexham

		Lab No.	581497
		Sample Ref	TP21
		Depth	2.00
		Other Ref	
		Sample Type	Soil
Test	Units	DETSxx	
Total Mass% Asbestos (i+ii)	Mass %		<0.001
Quantification by Phase Contrast Optical Microscopy (i)	Mass %	DETSC 1102	<0.001
Gravimetric Quantification (ii)	Mass %	DETSC 1102	na
Breakdown of Gravimetric Analysis			
Mass of Sample	g		729.70
ACMs present*			
Mass of ACM in sample	g		
% ACM by mass	%		
% asbestos in ACM	%		
% asbestos in sample	%		
Potentially Respirable Fibres	Fibres/g	DETSC 1102	not requested

* Denotes test or material description outside of UKAS accreditation.

% asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264.

Recommended sample size for quantification is approximately 1kg

denotes deviating sample

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
581493	BH2 3.80 SOIL	26/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
581494	TP11 0.30 SOIL	26/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
581495	TP13 1.30 SOIL	26/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
581496	TP12 2.20 SOIL	26/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
581497	TP21 2.00 SOIL	26/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
581498	TP21 1.00 SOIL	26/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
581499	BH13 2.00 SOIL	26/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
581500	BH12 0.50 SOIL	26/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			



581501 BH12 5.00 SOIL

26/11/2013 Glass Jar 1L (1 litre), Glass Vial
(40ml), Plastic Tub 1L (1kg)



2139

Certificate of Analysis

Date: 09/01/2014

Certificate Number: 13-94538-1

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-94538-1

Client Reference: 13627

Contract Title: Wrexham

Description: 2 soil samples, 8 water samples

Date Received: 13 December 2013

Date Started: 13 December 2013

Date Completed: 09 January 2014

Test Procedures: Identified by prefix DETSn, details available upon request.

Notes: **This report supersedes 13-94538, additional testing carried out**
Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94538-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	587744	587745
				Sample ID	OX-BSD	SD3
				Depth		
				Sample Ref		
				Sample Type		
				Sampling Date	11/12/2013	11/12/2013
				Sampling Time		
Test	Units	DETSxx	LOD			
Stones >2mm	% m/m	DETSC 1003*	1		2.8	5.3
Moisture Content	%	DETS 046*	0.1		240	140
Arsenic	mg/kg	DETSC2301#	0.2		12	8.6
Boron (water soluble)	mg/kg	DETSC2123#	0.2		3.1	2.2
Cadmium	mg/kg	DETSC2301#	0.1		8.7	0.8
Chromium	mg/kg	DETSC2301#	0.15		37	31
Copper	mg/kg	DETSC2301#	0.2		43	19
Lead	mg/kg	DETSC2301#	0.3		690	32
Mercury	mg/kg	DETSC 2325#	0.05		0.20	< 0.05
Nickel	mg/kg	DETSC2301#	1		31	28
Selenium	mg/kg	DETSC2301#	0.5		0.6	0.5
Zinc	mg/kg	DETSC2301#	1		1300	120
Loss on ignition	%	DETSC 2003#	0.01		12	9.7
pH		DETSC 2008#			8.0	7.5
Cyanide total	mg/kg	DETSC 2130#	0.1		1.1	0.2
Cyanide free	mg/kg	DETSC 2130#	0.1		0.2	< 0.1
Cyanide complex	mg/kg	DETSC 2130	0.2		0.9	< 0.2
Thiocyanate	mg/kg	DETSC 2130#	0.6		6.5	< 0.6
Total Organic Carbon	%	DETSC 2084*	0.1		7.1	4.7
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		66	51
Chloride Aqueous Extract	mg/l	DETSC 2055	1		48	20
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		670	51
Sulphur (free)	mg/kg	DETSC 3049#	0.75		59	< 0.75
Aliphatic C5-C6	mg/kg	DETSC 3321*	0.01			< 0.01
Aliphatic C6-C8	mg/kg	DETSC 3321*	0.01			< 0.01
Aliphatic C8-C10	mg/kg	DETSC 3321*	0.01			< 0.01
Aliphatic C10-C12	mg/kg	DETSC 3072#	1.5			< 1.5
Aliphatic C12-C16	mg/kg	DETSC 3072#	1.2			< 1.2
Aliphatic C16-C21	mg/kg	DETSC 3072#	1.5			< 1.5
Aliphatic C21-C35	mg/kg	DETSC 3072#	3.4			< 3.4
Aliphatic C5-C35	mg/kg	DETSC 3072*	10			< 10
Aromatic C5-C7	mg/kg	DETSC 3321*	0.01			< 0.01
Aromatic C7-C8	mg/kg	DETSC 3321*	0.01			< 0.01
Aromatic C8-C10	mg/kg	DETSC 3321*	0.01			< 0.01
Aromatic C10-C12	mg/kg	DETSC 3072#	0.9			< 0.9
Aromatic C12-C16	mg/kg	DETSC 3072#	0.5			< 0.5
Aromatic C16-C21	mg/kg	DETSC 3072#	0.6			< 0.6
Aromatic C21-C35	mg/kg	DETSC 3072#	1.4			< 1.4
Aromatic C5-C35	mg/kg	DETSC 3072*	10			< 10
TPH Ali/Aro	mg/kg	DETSC 3072*	10			< 10
EPH (C10-C40)	mg/kg	DETSC 3311#	10		< 10	< 10

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94538-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	587744	587745
				Sample ID	OX-BSD	SD3
				Depth		
				Sample Ref		
				Sample Type		
				Sampling Date	11/12/2013	11/12/2013
				Sampling Time		
Test	Units	DETSxx	LOD			
Benzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01
Ethylbenzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01
Toluene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01
Xylene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01
Acenaphthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1		< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
PAH	mg/kg	DETSC 3301	1.6		< 1.6	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94538-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	587738	587739	587740	587741	587742
				Sample ID	SS1103-1	Upstream	Downstream	OX-B	BH3
				Depth					
				Sample Ref					
				Sample Type					
				Sampling Date	11/12/2013	11/12/2013	11/12/2013	11/12/2013	11/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Arsenic, Dissolved	ug/l	DETSC 2306	0.16	0.67	0.66	0.42	0.87	2.2	
Cadmium, Dissolved	ug/l	DETSC 2306	0.03	0.058	0.28	0.29	0.21	0.17	
Chromium, Dissolved	ug/l	DETSC 2306	0.25	1.9	7.9	5.9	1.0	< 0.25	
Copper, Dissolved	ug/l	DETSC 2306	0.4	1.4	3.9	1.6	0.80	2.2	
Iron, Dissolved	ug/l	DETSC 2306	5.5	210	170	31	450	180	
Lead, Dissolved	ug/l	DETSC 2306	0.09	1.4	2.2	0.82	2.1	0.97	
Mercury, Dissolved	ug/l	DETSC 2306	0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	
Nickel, Dissolved	ug/l	DETSC 2306	0.5	< 0.50	1.3	0.67	1.2	4.2	
Selenium, Dissolved	ug/l	DETSC 2306	0.25	0.60	0.33	0.27	0.35	0.89	
Zinc, Dissolved	ug/l	DETSC 2306	1.25	67.1	48.5	52.1	63.5	47.6	
Conductivity	uS/cm	DETSC 2009	1	469	672	670	794	1670	
pH		DETSC 2008		7.3	8.2	8.2	7.4	7.0	
Cyanide total	ug/l	DETSC 2130	40	< 40	< 40	< 40	43	260	
Cyanide free	ug/l	DETSC 2130	20	< 20	< 20	< 20	< 20	< 20	
Cyanide complex	ug/l	DETSC 2130	40	< 40	< 40	< 40	43	260	
Thiocyanate	ug/l	DETSC 2130	40	< 40	< 40	< 40	< 40	250	
Suspended Solids	mg/l	DETSC 2034	5	10000	46	6.0	55	12000	
Ammoniacal Nitrogen as N	mg/l	DETSC 2207	0.015	1.6	0.75	0.17	0.66	46	
Chloride	mg/l	DETSC 2055	0.1	16	41	41	32	24	
Sulphate as SO4	mg/l	DETSC 2055	0.1	26	69	69	100	420	
Sulphide	ug/l	DETSC 2208	10	< 10	< 10	< 10	< 10	11	
Sulphur (free)	ug/l	DETSC 3049	84	< 84	< 84	< 84	< 84	< 84	
Total Organic Carbon	mg/l	DETSC 2033	2	110	4.9	3.8	18	76	
EPH (C10-C40)	ug/l	DETSC 3311	10	1900	280	360	440	730	
Benzene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Xylene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94538-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	587738	587739	587740	587741	587742
				Sample ID	SS1103-1	Upstream	Downstream	OX-B	BH3
				Depth					
				Sample Ref					
				Sample Type					
				Sampling Date	11/12/2013	11/12/2013	11/12/2013	11/12/2013	11/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Acenaphthene	ug/l	DETS 074*	0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	DETS 074*	0.01	0.01	0.11	0.01	0.02	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	DETS 074*	0.01	0.21	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	DETS 074*	0.01	0.17	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01	0.14	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01	0.10	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01	0.16	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	DETS 074*	0.01	0.09	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01	0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	DETS 074*	0.01	0.23	0.05	< 0.01	0.02	< 0.01	< 0.01
Fluorene	ug/l	DETS 074*	0.01	0.01	0.13	0.01	0.03	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01	0.23	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/l	DETS 074*	0.01	0.26	0.07	0.05	0.04	0.02	0.02
Phenanthrene	ug/l	DETS 074*	0.01	0.05	0.24	0.02	0.05	0.01	0.01
Pyrene	ug/l	DETS 074*	0.01	0.31	0.05	0.01	0.02	< 0.01	< 0.01
PAH	ug/l	DETS 074*	0.2	2.0	0.67	< 0.20	< 0.20	< 0.20	< 0.20
Catechol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Resorcinol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94538-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	587743	587746	587747
				Sample ID	BH5	MW11-16	MW99-104
				Depth			
				Sample Ref			
				Sample Type			
				Sampling Date	11/12/2013	11/12/2013	11/12/2013
				Sampling Time			
Test	Units	DETSxx	LOD				
Arsenic, Dissolved	ug/l	DETSC 2306	0.16		6.3	1.1	2.1
Cadmium, Dissolved	ug/l	DETSC 2306	0.03		0.70	0.23	0.069
Chromium, Dissolved	ug/l	DETSC 2306	0.25		1.4	4.6	< 0.25
Copper, Dissolved	ug/l	DETSC 2306	0.4		4.7	3.9	0.89
Iron, Dissolved	ug/l	DETSC 2306	5.5		1900	180	250
Lead, Dissolved	ug/l	DETSC 2306	0.09		27	1.1	0.73
Mercury, Dissolved	ug/l	DETSC 2306	0.01		< 0.010	< 0.010	< 0.010
Nickel, Dissolved	ug/l	DETSC 2306	0.5		8.1	2.3	4.3
Selenium, Dissolved	ug/l	DETSC 2306	0.25		0.39	1.9	0.35
Zinc, Dissolved	ug/l	DETSC 2306	1.25		45.7	66.8	27.1
Conductivity	uS/cm	DETSC 2009	1		1350	1490	1550
pH		DETSC 2008			6.2	6.9	6.9
Cyanide total	ug/l	DETSC 2130	40		230	250	310
Cyanide free	ug/l	DETSC 2130	20		< 20	< 20	< 20
Cyanide complex	ug/l	DETSC 2130	40		230	250	310
Thiocyanate	ug/l	DETSC 2130	40		1200	< 40	4000
Suspended Solids	mg/l	DETSC 2034	5		8400	33000	1600
Ammoniacal Nitrogen as N	mg/l	DETSC 2207	0.015		34	0.61	70
Chloride	mg/l	DETSC 2055	0.1		13	20	23
Sulphate as SO4	mg/l	DETSC 2055	0.1		450	380	330
Sulphide	ug/l	DETSC 2208	10		< 10	< 10	< 10
Sulphur (free)	ug/l	DETSC 3049	84		< 84	< 84	< 84
Total Organic Carbon	mg/l	DETSC 2033	2		78	190	31
EPH (C10-C40)	ug/l	DETSC 3311	10		2100	720	600
Benzene	ug/l	DETSC 3322	1		1.3	< 1.0	< 1.0
Toluene	ug/l	DETSC 3322	1		< 1.0	< 1.0	< 1.0
Ethylbenzene	ug/l	DETSC 3322	1		< 1.0	< 1.0	< 1.0
Xylene	ug/l	DETSC 3322	1		< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94538-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	587743	587746	587747
				Sample ID	BH5	MW11-16	MW99-104
				Depth			
				Sample Ref			
				Sample Type			
				Sampling Date	11/12/2013	11/12/2013	11/12/2013
				Sampling Time			
Test	Units	DETSxx	LOD				
Acenaphthene	ug/l	DETS 074*	0.01		0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01
Anthracene	ug/l	DETS 074*	0.01		0.03	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01
Chrysene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	DETS 074*	0.01		0.02	< 0.01	< 0.01
Fluorene	ug/l	DETS 074*	0.01		0.03	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01
Naphthalene	ug/l	DETS 074*	0.01		0.06	0.04	0.01
Phenanthrene	ug/l	DETS 074*	0.01		0.06	< 0.01	0.03
Pyrene	ug/l	DETS 074*	0.01		0.03	< 0.01	0.02
PAH	ug/l	DETS 074*	0.2		0.26	< 0.20	< 0.20
Catechol	ug/l	DETSC 3422*	0.1		< 0.10	< 0.10	< 0.10
Cresols	ug/l	DETSC 3422*	0.1		< 0.10	< 0.10	< 0.10
Naphthols	ug/l	DETSC 3422*	0.1		< 0.10	< 0.10	< 0.10
Phenol	ug/l	DETSC 3422*	0.1		< 0.10	< 0.10	< 0.10
Resorcinol	ug/l	DETSC 3422*	0.1		< 0.10	< 0.10	< 0.10
Trimethylphenol	ug/l	DETSC 3422*	0.1		< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	ug/l	DETSC 3422*	0.1		< 0.10	< 0.10	< 0.10
Total Phenols	ug/l	DETSC 3422*	0.1		< 0.10	< 0.10	< 0.10

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
587738	SS1103-1 WATER	11/12/2013	Glass Jar 1L x2, Glass Vial x2, Plastic Bottle 1L			
587739	Upstream WATER	11/12/2013	Glass Jar 1L x2, Glass Vial x2, Plastic Bottle 1L			
587740	Downstream WATER	11/12/2013	Glass Jar 1L x2, Glass Vial x2, Plastic Bottle 1L			
587741	OX-B WATER	11/12/2013	Glass Jar 1L x2, Glass Vial x2, Plastic Bottle 1L			
587742	BH3 WATER	11/12/2013	Glass Jar 1L x2, Glass Vial x2, Plastic Bottle 1L			
587743	BH5 WATER	11/12/2013	Glass Jar 1L x2, Glass Vial x2, Plastic Bottle 1L			
587744	OX-BSD SOIL	11/12/2013	Glass Jar 1L x2, Glass Vial x2, Plastic Tub 1L			
587745	SD3 SOIL	11/12/2013	Glass Jar 1L x2, Glass Vial x2, Plastic Tub 1L			
587746	MW11-16 WATER	11/12/2013	Glass Jar 1L x2, Glass Vial x2, Plastic Bottle 1L			
587747	MW99-104 WATER	11/12/2013	Glass Jar 1L x2, Glass Vial x2, Plastic Bottle 1L			



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Certificate of Analysis

Date: 08/01/2014

Certificate Number: 13-93443-1

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-93443-1

Client Reference: 13627

Contract Title: Wrexham

Description: 13 soil samples

Date Received: 29 November 2013

Date Started: 29 November 2013

Date Completed: 09 December 2013

Test Procedures: Identified by prefix DETSn (details on request), Asbestos Analysis (DETS 082).

Notes: **This report supersedes 13-93443, Asbestos Quantification added**
Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 280C +/-20C.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93443-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581819	581820	581821	581822	581823
				Sample ID	TP7	TP10	TP10	BH8	BH8
				Depth	0.80	1.80	2.00	0.50	2.00
				Sample Ref					
				Sample Type					
				Sampling Date	27/11/2013	27/11/2013	27/11/2013	27/11/2013	27/11/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Stones >2mm	% m/m	DETSC 1003*	1	3.0	8.1	6.4	7.6	5.1	
Moisture Content	%	DETS 046*	0.1	31	23	13	21	16	
Arsenic	mg/kg	DETSC2301#	0.2	3.4	10	6.7	7.4	9.6	
Boron (water soluble)	mg/kg	DETSC2123#	0.2	2.3	1.0	1.0	1.1	0.8	
Cadmium	mg/kg	DETSC2301#	0.1	0.6	0.6	0.5	0.5	0.7	
Chromium	mg/kg	DETSC2301#	0.15	42	18	17	24	39	
Copper	mg/kg	DETSC2301#	0.2	38	15	15	12	21	
Lead	mg/kg	DETSC2301#	0.3	67	15	15	290	22	
Mercury	mg/kg	DETSC 2325#	0.05	0.50	< 0.05	< 0.05	< 0.05	< 0.05	
Nickel	mg/kg	DETSC2301#	1	150	22	21	20	37	
Selenium	mg/kg	DETSC2301#	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Zinc	mg/kg	DETSC2301#	1	140	51	45	66	63	
Loss on ignition	%	DETSC 2003#	0.01	72	0.84	0.75	4.1	2.8	
pH		DETSC 2008#		10.1	7.8	8.1	6.4	8.4	
Cyanide total	mg/kg	DETSC 2130#	0.1	2.8	0.1	0.1	< 0.1	< 0.1	
Cyanide free	mg/kg	DETSC 2130#	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	
Cyanide complex	mg/kg	DETSC 2130	0.2	2.7	< 0.2	< 0.2	< 0.2	< 0.2	
Thiocyanate	mg/kg	DETSC 2130#	0.6	1.1	< 0.6	1.0	0.7	< 0.6	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	3.1	29	64	0.60	1.8	
Chloride Aqueous Extract	mg/l	DETSC 2055	1	15	13	11	6.4	18	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	150	17	16	< 10	120	
Sulphur (free)	mg/kg	DETSC 3049#	0.75	130	1.6	8.4	< 0.75	< 0.75	
EPH (C10-C40)	mg/kg	DETSC 3311#	10	12000	28	900	< 10	< 10	
Benzene	mg/kg	DETS 062#	0.01	0.01	0.23	0.02	< 0.01	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	0.01	0.10	0.06	< 0.01	< 0.01	
Toluene	mg/kg	DETS 062#	0.01	0.04	0.27	0.07	< 0.01	< 0.01	
Xylene	mg/kg	DETS 062#	0.01	0.09	0.15	0.30	< 0.01	< 0.01	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93443-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581819	581820	581821	581822	581823
				Sample ID	TP7	TP10	TP10	BH8	BH8
				Depth	0.80	1.80	2.00	0.50	2.00
				Sample Ref					
				Sample Type					
				Sampling Date	27/11/2013	27/11/2013	27/11/2013	27/11/2013	27/11/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Acenaphthene	mg/kg	DETSC 3301	0.1	100	0.4	12	< 0.1	< 0.1	
Acenaphthylene	mg/kg	DETSC 3301	0.1	99	0.3	7.5	< 0.1	< 0.1	
Anthracene	mg/kg	DETSC 3301	0.1	18	< 0.1	0.1	< 0.1	< 0.1	
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	6.3	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	9.0	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	5.5	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	5.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	3.2	< 0.1	< 0.1	< 0.1	< 0.1	
Chrysene	mg/kg	DETSC 3301	0.1	6.4	< 0.1	< 0.1	< 0.1	< 0.1	
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	1.5	< 0.1	< 0.1	< 0.1	< 0.1	
Fluoranthene	mg/kg	DETSC 3301	0.1	44	< 0.1	< 0.1	< 0.1	< 0.1	
Fluorene	mg/kg	DETSC 3301	0.1	20	< 0.1	1.1	< 0.1	< 0.1	
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	8.5	< 0.1	< 0.1	< 0.1	< 0.1	
Naphthalene	mg/kg	DETSC 3301	0.1	40	2.0	23	< 0.1	< 0.1	
Phenanthrene	mg/kg	DETSC 3301	0.1	37	< 0.1	0.5	< 0.1	< 0.1	
Pyrene	mg/kg	DETSC 3301	0.1	32	< 0.1	< 0.1	< 0.1	< 0.1	
PAH	mg/kg	DETSC 3301	1.6	440	2.7	44	< 1.6	< 1.6	
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93443-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581824	581825	581826	581827	581828
				Sample ID	BH9	BH9	BH11	BH11	BH14
				Depth	1.00	2.00	0.30	1.60	2.60
				Sample Ref					
				Sample Type					
				Sampling Date	27/11/2013	27/11/2013	27/11/2013	27/11/2013	27/11/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Stones >2mm	% m/m	DETSC 1003*	1		1.0	5.4	7.6	5.0	3.5
Moisture Content	%	DETS 046*	0.1		49	34	30	20	20
Arsenic	mg/kg	DETSC2301#	0.2		38	16	13	10	11
Boron (water soluble)	mg/kg	DETSC2123#	0.2		1.6	4.6	2.8	0.8	0.9
Cadmium	mg/kg	DETSC2301#	0.1		0.9	0.7	0.7	0.7	0.7
Chromium	mg/kg	DETSC2301#	0.15		22	36	40	46	50
Copper	mg/kg	DETSC2301#	0.2		62	15	26	22	22
Lead	mg/kg	DETSC2301#	0.3		33	110	65	20	20
Mercury	mg/kg	DETSC 2325#	0.05		0.06	< 0.05	0.07	< 0.05	< 0.05
Nickel	mg/kg	DETSC2301#	1		67	28	30	38	40
Selenium	mg/kg	DETSC2301#	0.5		2.1	1.7	< 0.5	< 0.5	0.8
Zinc	mg/kg	DETSC2301#	1		110	81	60	68	66
Loss on ignition	%	DETSC 2003#	0.01		7.8	6.2	7.1	2.7	2.5
pH		DETSC 2008#			7.4	6.7	7.0	8.5	8.6
Cyanide total	mg/kg	DETSC 2130#	0.1		< 0.1	0.3	0.1	< 0.1	< 0.1
Cyanide free	mg/kg	DETSC 2130#	0.1		< 0.1	0.1	< 0.1	< 0.1	< 0.1
Cyanide complex	mg/kg	DETSC 2130	0.2		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thiocyanate	mg/kg	DETSC 2130#	0.6		< 0.6	1.9	< 0.6	< 0.6	< 0.6
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		0.68	27	9.5	4.4	< 0.50
Chloride Aqueous Extract	mg/l	DETSC 2055	1		8.8	4.1	6.3	2.7	4.0
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		58	54	54	52	28
Sulphur (free)	mg/kg	DETSC 3049#	0.75		< 0.75	30	< 0.75	< 0.75	< 0.75
EPH (C10-C40)	mg/kg	DETSC 3311#	10		< 10	< 10	67	< 10	16
Benzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01	0.02
Ethylbenzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01	0.02
Xylene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93443-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581824	581825	581826	581827	581828
				Sample ID	BH9	BH9	BH11	BH11	BH14
				Depth	1.00	2.00	0.30	1.60	2.60
				Sample Ref					
				Sample Type					
				Sampling Date	27/11/2013	27/11/2013	27/11/2013	27/11/2013	27/11/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Acenaphthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PAH	mg/kg	DETSC 3301	1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93443-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581829	581830	581831
				Sample ID	BH14	BH10	BH15
				Depth	0.40	1.10	0.50
				Sample Ref			
				Sample Type			
				Sampling Date	27/11/2013	27/11/2013	27/11/2013
				Sampling Time			
Test	Units	DETSxx	LOD				
Stones >2mm	% m/m	DETSC 1003*	1	5.0	6.5	6.1	
Moisture Content	%	DETS 046*	0.1	8.1	18	10	
Arsenic	mg/kg	DETSC2301#	0.2	6.4	14	10	
Boron (water soluble)	mg/kg	DETSC2123#	0.2	1.6	1.5	1.4	
Cadmium	mg/kg	DETSC2301#	0.1	0.9	1.5	0.8	
Chromium	mg/kg	DETSC2301#	0.15	29	26	30	
Copper	mg/kg	DETSC2301#	0.2	21	44	26	
Lead	mg/kg	DETSC2301#	0.3	21	140	18	
Mercury	mg/kg	DETSC 2325#	0.05	< 0.05	0.13	< 0.05	
Nickel	mg/kg	DETSC2301#	1	23	35	30	
Selenium	mg/kg	DETSC2301#	0.5	< 0.5	0.6	0.5	
Zinc	mg/kg	DETSC2301#	1	41	340	53	
Loss on ignition	%	DETSC 2003#	0.01	1.3	8.2	2.0	
pH		DETSC 2008#		7.9	8.3	7.6	
Cyanide total	mg/kg	DETSC 2130#	0.1	< 0.1	0.5	< 0.1	
Cyanide free	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	< 0.1	
Cyanide complex	mg/kg	DETSC 2130	0.2	< 0.2	0.5	< 0.2	
Thiocyanate	mg/kg	DETSC 2130#	0.6	< 0.6	< 0.6	< 0.6	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	< 0.50	< 0.50	0.74	
Chloride Aqueous Extract	mg/l	DETSC 2055	1	3.4	12	3.3	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	83	35	55	
Sulphur (free)	mg/kg	DETSC 3049#	0.75	< 0.75	< 0.75	< 0.75	
EPH (C10-C40)	mg/kg	DETSC 3311#	10	< 10	58	< 10	
Benzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	
Toluene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	
Xylene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93443-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	581829	581830	581831
				Sample ID	BH14	BH10	BH15
				Depth	0.40	1.10	0.50
				Sample Ref			
				Sample Type			
				Sampling Date	27/11/2013	27/11/2013	27/11/2013
				Sampling Time			
Test	Units	DETSxx	LOD				
Acenaphthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	0.5	< 0.1	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1	< 0.1	0.2	< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1	< 0.1	0.3	< 0.1	< 0.1
PAH	mg/kg	DETSC 3301	1.6	< 1.6	< 1.6	< 1.6	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50

Summary of Asbestos Analysis

Soil Samples

Our Ref: 13-93443-1

Client Ref: 13627

Contract Title: Wrexham

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
581819	TP7 0.80	Soil	Amosite	loose bundles	Colin Patrick
581820	TP10 1.80	Soil	NAD	na	Colin Patrick
581821	TP10 2.00	Soil	NAD	na	Colin Patrick
581822	BH8 0.50	Soil	NAD	na	Colin Patrick
581823	BH8 2.00	Soil	NAD	na	Colin Patrick
581824	BH9 1.00	Soil	NAD	na	Colin Patrick
581825	BH9 2.00	Soil	NAD	na	Colin Patrick
581826	BH11 0.30	Soil	NAD	na	Colin Patrick
581827	BH11 1.60	Soil	NAD	na	Colin Patrick
581828	BH14 2.60	Soil	NAD	na	Colin Patrick
581829	BH14 0.40	Soil	NAD	na	Colin Patrick
581830	BH10 1.10	Soil	NAD	na	Colin Patrick
581831	BH15 0.50	Soil	NAD	na	Colin Patrick

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Summary of Asbestos Analysis Soil Samples

Our Ref: 13-93443-1

Client Ref: 13627

Contract Title: Wrexham

		Lab No.	581819
		Sample Ref	TP7
		Depth	0.80
		Other Ref	
		Sample Type	Soil
Test	Units	DETSxx	
Total Mass% Asbestos (i+ii)	Mass %		0.002
Quantification by Phase Contrast Optical Microscopy (i)	Mass %	DETSC 1102	0.002
Gravimetric Quantification (ii)	Mass %	DETSC 1102	na
Breakdown of Gravimetric Analysis			
Mass of Sample	g		693.68
ACMs present*			
Mass of ACM in sample	g		
% ACM by mass	%		
% asbestos in ACM	%		
% asbestos in sample	%		
Potentially Respirable Fibres	Fibres/g	DETSC 1102	not requested

* Denotes test or material description outside of UKAS accreditation.

% asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264.

Recommended sample size for quantification is approximately 1kg

denotes deviating sample

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
581819	TP7 0.80 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581820	TP10 1.80 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581821	TP10 2.00 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581822	BH8 0.50 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581823	BH8 2.00 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581824	BH9 1.00 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581825	BH9 2.00 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581826	BH11 0.30 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581827	BH11 1.60 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581828	BH14 2.60 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581829	BH14 0.40 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			
581830	BH10 1.10 SOIL	27/11/2013	Glass Jar 1L, Glass Vial, Plastic Tub 1L			



581831 BH15 0.50 SOIL

27/11/2013 Glass Jar 1L, Glass Vial, Plastic
Tub 1L



2139

Certificate of Analysis

Date: 08/01/2014

Certificate Number: 13-93702-1

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-93702-1

Client Reference: 13627

Contract Title: Wrexham

Description: 16 soil samples

Date Received: 03 December 2013

Date Started: 03 December 2013

Date Completed: 08 January 2014

Test Procedures: Identified by prefix DETSn (details on request), Asbestos Analysis (DETS 082).

Notes: Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93702-1

Client Ref: 13627

Contract Title: Wrexham

				583101	583102	583103	583104	583105	583106	583107	583108
Lab No.				TP8A	TP8A	TP5	TP5	TP6	TP6	TP4	TP4
Sample ID				1.70	2.40	0.30	1.70	0.40	0.90	0.40	1.00
Depth											
Sample Ref											
Sample Type											
Sampling Date				28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013
Sampling Time											
Test	Units	DETSxx	LOD								
Stones >2mm	% m/m	DETSC 1003*	1	2.4	5.0	3.5	6.0	7.0	6.9	6.4	5.1
Moisture Content	%	DETS 046*	0.1	16	15	7.0	20	13	22	24	14
Arsenic	mg/kg	DETSC2301#	0.2	2.8	5.0	5.6	3.7	14	10	8.9	17
Boron (water soluble)	mg/kg	DETSC2123#	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cadmium	mg/kg	DETSC2301#	0.1	1.4	0.4	0.9	0.3	1.3	0.8	0.7	0.6
Chromium	mg/kg	DETSC2301#	0.15	22	14	10	13	31	19	43	20
Copper	mg/kg	DETSC2301#	0.2	11	14	20	12	55	42	21	16
Lead	mg/kg	DETSC2301#	0.3	14	16	52	9.5	170	60	21	30
Mercury	mg/kg	DETSC 2325#	0.05	< 0.05	< 0.05	0.11	< 0.05	0.52	0.21	< 0.05	< 0.05
Nickel	mg/kg	DETSC2301#	1	29	20	15	16	61	32	36	22
Selenium	mg/kg	DETSC2301#	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	mg/kg	DETSC2301#	1	56	46	64	34	200	170	67	51
Loss on ignition	%	DETSC 2003#	0.01	1.3	1.4	1.4	0.91	4.5	2.3	1.9	1.9
pH		DETSC 2008#		8.2	8.0	9.6	8.6	8.5	8.3	8.8	8.3
Cyanide total	mg/kg	DETSC 2130#	0.1	0.2	< 0.1	1.0	< 0.1	18	6.0	0.2	0.8
Cyanide free	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.9	0.3	< 0.1	< 0.1
Cyanide complex	mg/kg	DETSC 2130	0.2	0.2	< 0.2	1.0	< 0.2	17	5.7	0.2	0.8
Thiocyanate	mg/kg	DETSC 2130#	0.6	< 0.6	< 0.6	< 0.6	< 0.6	1.4	1.1	< 0.6	< 0.6
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	8.2	5.1	< 0.50	< 0.50	9.6	6.5	550	15
Chloride Aqueous Extract	mg/l	DETSC 2055	1	4.8	9.5	9.8	8.7	9.0	11	12	10
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	20	32	140	12	140	< 10	53	46
Sulphur (free)	mg/kg	DETSC 3049#	0.75	11	< 0.75	1.2	< 0.75	110	140	2.5	160
EPH (C10-C40)	mg/kg	DETSC 3311#	10	< 10	< 10	400	< 10	6100	9500	< 10	10000
Benzene	mg/kg	DETS 062#	0.01	0.39	0.01	0.01	< 0.01	0.03	0.01	0.32	0.67
Ethylbenzene	mg/kg	DETS 062#	0.01	1.6	0.01	< 0.01	< 0.01	0.02	0.05	0.21	6.0
Toluene	mg/kg	DETS 062#	0.01	0.04	< 0.01	< 0.01	< 0.01	0.09	0.02	0.87	6.0
Xylene	mg/kg	DETS 062#	0.01	3.6	0.01	0.01	< 0.01	0.96	0.15	2.8	29
Acenaphthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	0.3	< 0.1	5.5	6.7	< 0.1	130
Acenaphthylene	mg/kg	DETSC 3301	0.1	0.2	< 0.1	0.8	< 0.1	1.6	3.4	< 0.1	93
Anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	0.4	< 0.1	2.0	4.3	< 0.1	87
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	1.4	< 0.1	3.3	6.0	< 0.1	64
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	2.0	< 0.1	3.6	5.8	< 0.1	47
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	1.1	< 0.1	2.2	4.3	< 0.1	31
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	0.6	< 0.1	1.3	2.3	< 0.1	19
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	1.0	< 0.1	1.7	2.8	< 0.1	17
Chrysene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	1.0	< 0.1	3.7	6.3	< 0.1	55
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	< 0.1	< 0.1	0.2	< 0.1	0.3	0.6	< 0.1	6.5
Fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	1.3	< 0.1	9.1	17	< 0.1	120
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	0.3	< 0.1	5.0	18	< 0.1	120
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	1.7	0.1	2.4	3.5	< 0.1	24
Naphthalene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	0.2	< 0.1	12	20	< 0.1	460
Phenanthrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	0.3	< 0.1	5.4	13	< 0.1	230
Pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	1.1	< 0.1	5.0	11	< 0.1	96
PAH	mg/kg	DETSC 3301	1.6	< 1.6	< 1.6	14	< 1.6	64	120	< 1.6	1600

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93702-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583101	583102	583103	583104	583105	583106	583107	583108
				Sample ID	TP8A	TP8A	TP5	TP5	TP6	TP6	TP4	TP4
				Depth	1.70	2.40	0.30	1.70	0.40	0.90	0.40	1.00
				Sample Ref								
				Sample Type								
				Sampling Date	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013
				Sampling Time								
Test	Units	DETSxx	LOD									
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.53
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	4.1
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	8.7
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	6.3
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	20

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93702-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583109	583110	583111	583112	583113	583114	583115	583116
				Sample ID	BH21	TP3	BH20	BH20	BH19	BH18	BH17	BH17
				Depth	0.50	5.00	0.30	2.00	0.40	0.30	0.50	4.00
				Sample Ref								
				Sample Type								
				Sampling Date	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013
				Sampling Time								
Test	Units	DETSxx	LOD									
Stones >2mm	% m/m	DETSC 1003*	1	5.6	3.0	3.0	6.3	3.8	9.0	4.6	7.3	
Moisture Content	%	DETS 046*	0.1	20	22	18	26	15	18	12	26	
Arsenic	mg/kg	DETSC2301#	0.2	18	8.7	10	6.7	13	11	11	8.3	
Boron (water soluble)	mg/kg	DETSC2123#	0.2	0.4	< 0.2	0.3	1.7	< 0.2	< 0.2	< 0.2	< 0.2	
Cadmium	mg/kg	DETSC2301#	0.1	1.4	0.8	2.9	0.6	1.3	0.8	1.2	0.7	
Chromium	mg/kg	DETSC2301#	0.15	28	42	18	38	24	24	22	33	
Copper	mg/kg	DETSC2301#	0.2	88	23	64	21	57	91	39	21	
Lead	mg/kg	DETSC2301#	0.3	220	27	230	17	220	110	200	22	
Mercury	mg/kg	DETSC 2325#	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Nickel	mg/kg	DETSC2301#	1	53	37	32	36	37	31	24	35	
Selenium	mg/kg	DETSC2301#	0.5	0.6	0.6	0.9	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Zinc	mg/kg	DETSC2301#	1	640	70	560	65	550	110	670	66	
Loss on ignition	%	DETSC 2003#	0.01	11	2.7	20	2.3	11	9.4	3.1	1.9	
pH		DETSC 2008#		7.2	8.7	6.8	8.7	7.2	6.4	6.8	8.6	
Cyanide total	mg/kg	DETSC 2130#	0.1	0.5	< 0.1	0.2	< 0.1	< 0.1	0.2	0.2	< 0.1	
Cyanide free	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Cyanide complex	mg/kg	DETSC 2130	0.2	0.5	< 0.2	< 0.2	< 0.2	< 0.2	0.2	0.2	< 0.2	
Thiocyanate	mg/kg	DETSC 2130#	0.6	0.8	< 0.6	1.2	< 0.6	< 0.6	0.9	< 0.6	< 0.6	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	2.8	3.9	6.3	3.7	2.5	4.2	2.7	3.3	
Chloride Aqueous Extract	mg/l	DETSC 2055	1	10	7.8	21	6.0	8.1	12	7.2	5.1	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	46	38	68	25	51	25	27	41	
Sulphur (free)	mg/kg	DETSC 3049#	0.75	9.3	1.1	6.5	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	
EPH (C10-C40)	mg/kg	DETSC 3311#	10	35	< 10	< 10	< 10	55	85	21	< 10	
Benzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Toluene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	
Xylene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.04	0.01	< 0.01	
Acenaphthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Chrysene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Naphthalene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	
PAH	mg/kg	DETSC 3301	1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-93702-1

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	583109	583110	583111	583112	583113	583114	583115	583116
				Sample ID	BH21	TP3	BH20	BH20	BH19	BH18	BH17	BH17
				Depth	0.50	5.00	0.30	2.00	0.40	0.30	0.50	4.00
				Sample Ref								
				Sample Type								
				Sampling Date	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013	28/11/2013
				Sampling Time								
Test	Units	DETSxx	LOD									
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Summary of Asbestos Analysis

Soil Samples

Our Ref: 13-93702-1

Client Ref: 13627

Contract Title: Wrexham

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
583101	TP8A 1.70	Soil	NAD	na	John Leeson
583102	TP8A 2.40	Soil	NAD	na	John Leeson
583103	TP5 0.30	Soil	Amosite	Amosite present as lots of fibre bundles and loose fibres	John Leeson
583104	TP5 1.70	Soil	NAD	na	John Leeson
583105	TP6 0.40	Soil	Amosite	Amosite present as lots of fibre bundles and loose fibres	John Leeson
583106	TP6 0.90	Soil	Amosite	Amosite present as lots of fibre bundles and loose fibres	John Leeson
583107	TP4 0.40	Soil	NAD	na	John Leeson
583108	TP4 1.00	Soil	NAD	na	John Leeson
583109	BH21 0.50	Soil	NAD	na	John Leeson
583110	TP3 5.00	Soil	NAD	na	John Leeson
583111	BH20 0.30	Soil	NAD	na	John Leeson
583112	BH20 2.00	Soil	NAD	na	John Leeson
583113	BH19 0.40	Soil	NAD	na	John Leeson
583114	BH18 0.30	Soil	NAD	na	John Leeson
583115	BH17 0.50	Soil	NAD	na	John Leeson
583116	BH17 4.00	Soil	NAD	na	John Leeson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Summary of Asbestos Analysis Soil Samples

Our Ref: 13-93702-1

Client Ref: 13627

Contract Title: Wrexham

		Lab No.	583103	583105	583106
		Sample Ref	TP5	TP6	TP6
		Depth	0.30	0.40	0.90
		Other Ref			
		Sample Type	Soil	Soil	Soil
Test	Units	DETSxx			
Total Mass% Asbestos (i+ii)	Mass %		0.109	0.047	<0.001
Quantification by Phase Contrast Optical Microscopy (i)	Mass %	DETSC 1102	0.002	<0.001	<0.001
Gravimetric Quantification (ii)	Mass %	DETSC 1102	0.108	0.046	na
Breakdown of Gravimetric Analysis					
Mass of Sample	g		977.27	623.55	854.72
ACMs present*			Insulation	Insulation	
Mass of ACM in sample	g		1.24	0.34	
% ACM by mass	%		0.127	0.055	
% asbestos in ACM	%		85	85	
% asbestos in sample	%		0.108	0.046	
Potentially Respirable Fibres	Fibres/g	DETSC 1102	not requested	not requested	not requested

* Denotes test or material description outside of UKAS accreditation.

% asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264.

Recommended sample size for quantification is approximately 1kg

denotes deviating sample

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
583101	TP8A 1.70 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583102	TP8A 2.40 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583103	TP5 0.30 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583104	TP5 1.70 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583105	TP6 0.40 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583106	TP6 0.90 SOIL	28/11/2013	Glass Jar 1L (1 litre)		BTEX Solid	
583107	TP4 0.40 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
583108	TP4 1.00 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			

583109	BH21 0.50 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	
583110	TP3 5.00 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	
583111	BH20 0.30 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	
583112	BH20 2.00 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	
583113	BH19 0.40 SOIL	28/11/2013	Glass Jar 1L (1 litre)	BTEX Solid
583114	BH18 0.30 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	
583115	BH17 0.50 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	
583116	BH17 4.00 SOIL	28/11/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)	



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Certificate of Analysis

Date: 02/01/2014

Certificate Number: 13-94677

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-94677

Client Reference: 13627

Contract Title: Wrexham

Description: 2 soil samples, 5 water samples

Date Received: 16 December 2013

Date Started: 17 December 2013

Date Completed: 02 January 2014

Test Procedures: Identified by prefix DETSn, details available upon request.

Notes: Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94677

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	588505	588506
				Sample ID	SED3(A)	UPCUVSD
				Depth		
				Sample Ref		
				Sample Type		
				Sampling Date	13/12/2013	13/12/2013
				Sampling Time		
Test	Units	DETSxx	LOD			
Stones >2mm	% m/m	DETSC 1003*	1		2.4	7.2
Moisture Content	%	DETS 046*	0.1		36	110
Arsenic	mg/kg	DETSC2301#	0.2		25	8.1
Boron (water soluble)	mg/kg	DETSC2123#	0.2		0.3	2.4
Cadmium	mg/kg	DETSC2301#	0.1		2.1	1.1
Chromium	mg/kg	DETSC2301#	0.15		20	24
Copper	mg/kg	DETSC2301#	0.2		44	25
Lead	mg/kg	DETSC2301#	0.3		93	440
Mercury	mg/kg	DETSC 2325#	0.05		0.05	0.07
Nickel	mg/kg	DETSC2301#	1		20	23
Selenium	mg/kg	DETSC2301#	0.5		4.3	0.8
Zinc	mg/kg	DETSC2301#	1		1200	240
Loss on ignition	%	DETSC 2003#	0.01		2.8	9.0
pH		DETSC 2008#			8.2	7.3
Cyanide total	mg/kg	DETSC 2130#	0.1		1.8	0.2
Cyanide free	mg/kg	DETSC 2130#	0.1		< 0.1	< 0.1
Cyanide complex	mg/kg	DETSC 2130	0.2		1.8	< 0.2
Thiocyanate	mg/kg	DETSC 2130#	0.6		< 0.6	1.2
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		16	52
Chloride Aqueous Extract	mg/l	DETSC 2055	1		9.6	25
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		53	86
Sulphur (free)	mg/kg	DETSC 3049#	0.75		< 0.75	< 0.75
EPH (C10-C40)	mg/kg	DETSC 3311#	10		68	< 10
Benzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01
Ethylbenzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01
Toluene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01
Xylene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01
Acenaphthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1		< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1
PAH	mg/kg	DETSC 3301	1.6		< 1.6	< 1.6

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94677

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	588505	588506
				Sample ID	SED3(A)	UPCUVSD
				Depth		
				Sample Ref		
				Sample Type		
				Sampling Date	13/12/2013	13/12/2013
				Sampling Time		
Test	Units	DETSxx	LOD			
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94677

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	588500	588501	588502	588503	588504
				Sample ID	TB1	FB1	UPCUV	SS11-03-1	BED UP
				Depth					
				Sample Ref					
				Sample Type					
				Sampling Date	13/12/2013	13/12/2013	13/12/2013	13/12/2013	13/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Arsenic, Dissolved	ug/l	DETSC 2306	0.16	0.43	< 0.16	1.1	0.73	1.2	
Cadmium, Dissolved	ug/l	DETSC 2306	0.03	< 0.030	< 0.030	< 0.030	0.056	0.038	
Chromium, Dissolved	ug/l	DETSC 2306	0.25	0.35	0.67	0.49	0.41	0.46	
Copper, Dissolved	ug/l	DETSC 2306	0.4	1.5	1.3	2.9	2.2	3.4	
Iron, Dissolved	ug/l	DETSC 2306	5.5	9.2	16	40	21	48	
Lead, Dissolved	ug/l	DETSC 2306	0.09	0.26	0.25	0.21	0.28	0.62	
Mercury, Dissolved	ug/l	DETSC 2306	0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	
Nickel, Dissolved	ug/l	DETSC 2306	0.5	0.86	1.0	3.3	2.6	1.9	
Selenium, Dissolved	ug/l	DETSC 2306	0.25	< 0.25	< 0.25	< 0.25	0.45	< 0.25	
Zinc, Dissolved	ug/l	DETSC 2306	1.25	99.6	30.9	50.4	49.0	10.0	
Conductivity	uS/cm	DETSC 2009	1	1.4	1.0	594	434	605	
pH		DETSC 2008		7.4	6.7	8.0	7.5	7.9	
Cyanide total	ug/l	DETSC 2130	40	< 40	< 40	< 40	< 40	< 40	
Cyanide free	ug/l	DETSC 2130	20	< 20	< 20	< 20	< 20	< 20	
Cyanide complex	ug/l	DETSC 2130	40	< 40	< 40	< 40	< 40	< 40	
Thiocyanate	ug/l	DETSC 2130	40	< 40	< 40	< 40	< 40	< 40	
Suspended Solids	mg/l	DETSC 2034	5	< 5.0	< 5.0	12	140	48	
Ammoniacal Nitrogen as N	mg/l	DETSC 2207	0.015	0.13	0.15	0.26	0.27	0.16	
Chloride	mg/l	DETSC 2055	0.1	1.9	1.4	36	15	35	
Sulphate as SO4	mg/l	DETSC 2055	0.1	4.9	2.7	49	32	48	
Sulphide	ug/l	DETSC 2208	10	< 10	< 10	< 10	< 10	< 10	
Sulphur (free)	ug/l	DETSC 3049	84	< 84	< 84	< 84	< 84	< 84	
Total Organic Carbon	mg/l	DETSC 2033	2	< 2.0	< 2.0	11	16	13	
EPH (C10-C40)	ug/l	DETSC 3311	10	180	160	210	1200	240	
Benzene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Xylene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Acenaphthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.06	< 0.01	0.05	
Benzo(a)anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.03	0.22	0.03	
Benzo(a)pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.01	0.30	< 0.01	
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	0.19	< 0.01	
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	0.22	< 0.01	
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	0.27	< 0.01	
Chrysene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.02	0.13	0.04	
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.08	0.28	0.10	
Fluorene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.04	< 0.01	0.03	
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	0.36	< 0.01	
Naphthalene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	
Phenanthrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.18	0.07	0.13	
Pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.14	0.63	0.14	
PAH	ug/l	DETS 074*	0.2	< 0.20	< 0.20	0.60	2.7	0.51	

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94677

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	588500	588501	588502	588503	588504
				Sample ID	TB1	FB1	UPCUV	SS11-03-1	BED UP
				Depth					
				Sample Ref					
				Sample Type					
				Sampling Date	13/12/2013	13/12/2013	13/12/2013	13/12/2013	13/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Catechol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Resorcinol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
588500	TB1 WATER	13/12/2013	Glass Jar 1L x2, Glass Vial, Plastic Bottle 1L			
588501	FB1 WATER	13/12/2013	Glass Jar 1L x2, Glass Vial, Plastic Bottle 1L			
588502	UPCUV WATER	13/12/2013	Glass Jar 1L x2, Glass Vial, Plastic Bottle 1L			
588503	SS11-03-1 WATER	13/12/2013	Glass Jar 1L x2, Glass Vial, Plastic Bottle 1L			
588504	BED UP WATER	13/12/2013	Glass Jar 1L x2, Glass Vial, Plastic Bottle 1L			
588505	SED3(A) SOIL	13/12/2013	Glass Jar 1L x2, Glass Vial, Plastic Tub 1L			
588506	UPCUVSD SOIL	13/12/2013	Glass Jar 1L x2, Glass Vial, Plastic Tub 1L			



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Certificate of Analysis

Date: 20/12/2013

Certificate Number: 13-94466

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-94466

Client Reference:

Contract Title:

Description: 10 water samples

Date Received: 13 December 2013

Date Started: 13 December 2013

Date Completed: 20 December 2013

Test Procedures: Identified by prefix DETSn, details available upon request.

Notes: Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis Water Samples

Our Ref: 13-94466

Client Ref:

Contract Title:

				Lab No.	587332	587333	587334	587335	587336	587337	587338	587339
				Sample ID	MW11-05	MW99-108	MW11-08B	MW99-202	BH1	BH2	BH17	BH12
				Depth								
				Sample Ref								
				Sample Type								
				Sampling Date	12/12/2013	12/12/2013	12/12/2013	12/12/2013	12/12/2013	12/12/2013	12/12/2013	12/12/2013
				Sampling Time								
Test	Units	DETSxx	LOD									
Arsenic, Dissolved	ug/l	DETSC 2306	0.16	1.2	8.0	15	12	4.2	4.6	0.60	17	
Cadmium, Dissolved	ug/l	DETSC 2306	0.03	0.067	0.078	0.098	4.3	0.041	< 0.030	0.037	1.2	
Chromium, Dissolved	ug/l	DETSC 2306	0.25	< 0.25	< 0.25	0.92	190	0.83	0.48	< 0.25	1.8	
Copper, Dissolved	ug/l	DETSC 2306	0.4	0.59	1.7	3.6	550	3.8	1.8	1.8	17	
Iron, Dissolved	ug/l	DETSC 2306	5.5	1400	270	7200	120000	530	290	81	1500	
Lead, Dissolved	ug/l	DETSC 2306	0.09	0.75	1.3	0.48	14	4.8	2.7	0.42	5.4	
Mercury, Dissolved	ug/l	DETSC 2306	0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	
Nickel, Dissolved	ug/l	DETSC 2306	0.5	3.7	8.4	9.0	270	3.5	3.8	3.0	5.9	
Selenium, Dissolved	ug/l	DETSC 2306	0.25	< 0.25	0.44	< 0.25	6.0	0.35	< 0.25	0.40	7.0	
Zinc, Dissolved	ug/l	DETSC 2306	1.25	28.8	111	50.6	3090	45.5	35.7	93.4	77.6	
Conductivity	uS/cm	DETSC 2009	1	2290	622	998	3760	646	623	588	1150	
pH		DETSC 2008		7.6	7.3	6.9	2.7	7.8	7.5	7.2	7.3	
Cyanide total	ug/l	DETSC 2130	40	< 40	< 40	< 40	< 40	240	< 40	< 40	< 40	
Cyanide free	ug/l	DETSC 2130	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	
Cyanide complex	ug/l	DETSC 2130	40	< 40	< 40	< 40	< 40	240	< 40	< 40	< 40	
Thiocyanate	ug/l	DETSC 2130	40	240	< 40	< 40	91	58	40	57	46	
Suspended Solids	mg/l	DETSC 2034	5	610	7100	1400	3500	44000	88000	14000	14000	
Ammoniacal Nitrogen as N	mg/l	DETSC 2207	0.015	6.4	3.1	13	7.7	2.1	1.4	0.054	0.053	
Chloride	mg/l	DETSC 2055	0.1	140	22	65	15	36	30	17	15	
Sulphate as SO4	mg/l	DETSC 2055	0.1	930	54	9.0	2400	110	60	62	160	
Sulphide	ug/l	DETSC 2208	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
Sulphur (free)	ug/l	DETSC 3049	84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	
Total Organic Carbon	mg/l	DETSC 2033	2	15	190	91	43	790	670	160	110	
EPH (C10-C40)	ug/l	DETSC 3311	10	220	1100	300000	440	19000	2500	270	190	
Benzene	ug/l	DETSC 3322	1	1.1	< 1.0	< 1.0	< 1.0	< 1.0	2.5	< 1.0	< 1.0	
Toluene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	ug/l	DETSC 3322	1	< 1.0	< 1.0	< 1.0	< 1.0	6.7	4.2	< 1.0	< 1.0	
Xylene	ug/l	DETSC 3322	1	< 1.0	< 1.0	15	< 1.0	4.7	11	< 1.0	< 1.0	
Acenaphthene	ug/l	DETS 074*	0.01	< 0.01	0.48	24	< 0.01	0.04	0.15	< 0.01	< 0.01	
Acenaphthylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Anthracene	ug/l	DETS 074*	0.01	0.03	3.9	5.1	< 0.01	0.08	0.03	0.01	< 0.01	
Benzo(a)anthracene	ug/l	DETS 074*	0.01	< 0.01	0.77	1.3	< 0.01	0.07	0.02	< 0.01	< 0.01	
Benzo(a)pyrene	ug/l	DETS 074*	0.01	< 0.01	0.42	0.49	< 0.01	0.01	0.01	< 0.01	< 0.01	
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	0.27	0.39	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	0.22	0.30	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01	< 0.01	0.28	0.17	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Chrysene	ug/l	DETS 074*	0.01	< 0.01	0.24	0.29	< 0.01	0.13	0.15	< 0.01	< 0.01	
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01	< 0.01	0.07	0.17	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Fluoranthene	ug/l	DETS 074*	0.01	0.15	3.7	3.0	0.02	0.14	0.04	< 0.01	< 0.01	
Fluorene	ug/l	DETS 074*	0.01	0.02	2.0	110	< 0.01	0.14	0.07	< 0.01	< 0.01	
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01	< 0.01	0.44	0.41	< 0.01	0.02	< 0.01	< 0.01	< 0.01	
Naphthalene	ug/l	DETS 074*	0.01	0.38	1.2	45	0.02	< 0.01	0.38	< 0.01	< 0.01	
Phenanthrene	ug/l	DETS 074*	0.01	0.02	6.1	13	0.02	0.04	0.09	< 0.01	< 0.01	
Pyrene	ug/l	DETS 074*	0.01	0.20	3.9	3.6	0.04	0.09	0.03	< 0.01	< 0.01	
PAH	ug/l	DETS 074*	0.2	0.80	24	110	< 0.20	0.78	0.98	< 0.20	< 0.20	

Summary of Chemical Analysis Water Samples

Our Ref: 13-94466

Client Ref:

Contract Title:

				Lab No.	587332	587333	587334	587335	587336	587337	587338	587339
				Sample ID	MW11-05	MW99-108	MW11-08B	MW99-202	BH1	BH2	BH17	BH12
				Depth								
				Sample Ref								
				Sample Type								
				Sampling Date	12/12/2013	12/12/2013	12/12/2013	12/12/2013	12/12/2013	12/12/2013	12/12/2013	12/12/2013
				Sampling Time								
Test	Units	DETSxx	LOD									
Catechol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	ug/l	DETSC 3422*	0.1	1.4	3.4	1.1	1.9	1.6	< 0.10	< 0.10	< 0.10	< 0.10
Resorcinol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	ug/l	DETSC 3422*	0.1	1.4	3.4	1.1	1.9	1.6	< 0.10	< 0.10	< 0.10	< 0.10

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94466

Client Ref:

Contract Title:

				Lab No.	587340	587341
				Sample ID	BH9	MW99-106
				Depth		
				Sample Ref		
				Sample Type		
				Sampling Date	12/12/2013	12/12/2013
				Sampling Time		
Test	Units	DETSxx	LOD			
Arsenic, Dissolved	ug/l	DETSC 2306	0.16	3.4	6.8	
Cadmium, Dissolved	ug/l	DETSC 2306	0.03	0.086	0.041	
Chromium, Dissolved	ug/l	DETSC 2306	0.25	< 0.25	0.81	
Copper, Dissolved	ug/l	DETSC 2306	0.4	0.76	2.6	
Iron, Dissolved	ug/l	DETSC 2306	5.5	790	710	
Lead, Dissolved	ug/l	DETSC 2306	0.09	0.52	2.7	
Mercury, Dissolved	ug/l	DETSC 2306	0.01	< 0.010	< 0.010	
Nickel, Dissolved	ug/l	DETSC 2306	0.5	16	1.1	
Selenium, Dissolved	ug/l	DETSC 2306	0.25	0.48	0.53	
Zinc, Dissolved	ug/l	DETSC 2306	1.25	48.4	28.9	
Conductivity	uS/cm	DETSC 2009	1	844	1600	
pH		DETSC 2008		6.9	7.9	
Cyanide total	ug/l	DETSC 2130	40	< 40	130	
Cyanide free	ug/l	DETSC 2130	20	< 20	< 20	
Cyanide complex	ug/l	DETSC 2130	40	< 40	130	
Thiocyanate	ug/l	DETSC 2130	40	< 40	64	
Suspended Solids	mg/l	DETSC 2034	5	40000	140	
Ammoniacal Nitrogen as N	mg/l	DETSC 2207	0.015	1.2	120	
Chloride	mg/l	DETSC 2055	0.1	6.2	38	
Sulphate as SO4	mg/l	DETSC 2055	0.1	61	87	
Sulphide	ug/l	DETSC 2208	10	< 10	13	
Sulphur (free)	ug/l	DETSC 3049	84	< 84	< 84	
Total Organic Carbon	mg/l	DETSC 2033	2	660	33	
EPH (C10-C40)	ug/l	DETSC 3311	10	120	2300	
Benzene	ug/l	DETSC 3322	1	< 1.0	< 1.0	
Toluene	ug/l	DETSC 3322	1	< 1.0	< 1.0	
Ethylbenzene	ug/l	DETSC 3322	1	< 1.0	< 1.0	
Xylene	ug/l	DETSC 3322	1	< 1.0	< 1.0	
Acenaphthene	ug/l	DETS 074*	0.01	< 0.01	0.13	
Acenaphthylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Benzo(a)anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Benzo(a)pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Chrysene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Fluoranthene	ug/l	DETS 074*	0.01	< 0.01	0.02	
Fluorene	ug/l	DETS 074*	0.01	< 0.01	0.02	
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Naphthalene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Phenanthrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	
Pyrene	ug/l	DETS 074*	0.01	< 0.01	0.04	
PAH	ug/l	DETS 074*	0.2	< 0.20	0.22	

Summary of Chemical Analysis Water Samples

Our Ref: 13-94466

Client Ref:

Contract Title:

				Lab No.	587340	587341
				Sample ID	BH9	MW99-106
				Depth		
				Sample Ref		
				Sample Type		
				Sampling Date	12/12/2013	12/12/2013
				Sampling Time		
Test	Units	DETSxx	LOD			
Catechol	ug/l	DETSC 3422*	0.1	< 0.10	33	
Cresols	ug/l	DETSC 3422*	0.1	< 0.10	29	
Naphthols	ug/l	DETSC 3422*	0.1	< 0.10	6.9	
Phenol	ug/l	DETSC 3422*	0.1	< 0.10	23	
Resorcinol	ug/l	DETSC 3422*	0.1	< 0.10	0.75	
Trimethylphenol	ug/l	DETSC 3422*	0.1	< 0.10	22	
Xylenols & Ethylphenols	ug/l	DETSC 3422*	0.1	< 0.10	22	
Total Phenols	ug/l	DETSC 3422*	0.1	< 0.10	140	

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
587332	MW11-05 WATER	12/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587333	MW99-108 WATER	12/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587334	MW11-08B WATER	12/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587335	MW99-202 WATER	12/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587336	BH1 WATER	12/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587337	BH2 WATER	12/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587338	BH17 WATER	12/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			
587339	BH12 WATER	12/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)			

587340	BH9 WATER	12/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)
587341	MW99-106 WATER	12/12/2013	Glass Jar 1L (1 litre) x2, Glass Vial (40ml) x2, Plastic Bottle 1L (1 litre)



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Certificate of Analysis

Date: 17/12/2013

Certificate Number: 13-94240

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-94240

Client Reference: 13627

Contract Title: Wrexham

Description: 19 soil samples

Date Received: 10 December 2013

Date Started: 11 December 2013

Date Completed: 17 December 2013

Test Procedures: Identified by prefix DETSn (details on request), Asbestos Analysis (DETS 082).

Notes: Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94240

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586205	586206	586207	586208	586209
				Sample ID	TP42	TP42D	TP43	TP43	TP44
				Depth	0.40	0.40	0.30	1.70	0.30
				Sample Ref					
				Sample Type					
				Sampling Date	04/12/2013	04/12/2013	04/12/2013	04/12/2013	04/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Stones >2mm	% m/m	DETSC 1003*	1		2.5	6.3	5.0	6.1	4.3
Moisture Content	%	DETS 046*	0.1		9.0	6.7	20	21	28
Arsenic	mg/kg	DETSC2301#	0.2		8.1	9.2	12	5.3	16
Boron (water soluble)	mg/kg	DETSC2123#	0.2		0.9	0.8	0.7	0.3	0.5
Cadmium	mg/kg	DETSC2301#	0.1		1.1	0.8	0.8	0.6	1.6
Chromium	mg/kg	DETSC2301#	0.15		29	25	24	14	34
Copper	mg/kg	DETSC2301#	0.2		25	21	88	12	180
Lead	mg/kg	DETSC2301#	0.3		21	15	41	18	150
Mercury	mg/kg	DETSC 2325#	0.05		0.06	< 0.05	< 0.05	< 0.05	0.11
Nickel	mg/kg	DETSC2301#	1		23	20	44	18	56
Selenium	mg/kg	DETSC2301#	0.5		< 0.5	< 0.5	< 0.5	< 0.5	0.5
Zinc	mg/kg	DETSC2301#	1		59	47	110	57	370
Loss on ignition	%	DETSC 2003#	0.01		2.8	2.7	7.7	1.1	18
pH		DETSC 2008#			7.9	7.7	6.3	7.5	6.7
Cyanide total	mg/kg	DETSC 2130#	0.1		0.2	< 0.1	0.1	< 0.1	0.1
Cyanide free	mg/kg	DETSC 2130#	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cyanide complex	mg/kg	DETSC 2130	0.2		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thiocyanate	mg/kg	DETSC 2130#	0.6		< 0.6	< 0.6	1.0	< 0.6	1.9
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		6.6	5.5	6.2	5.1	7.0
Chloride Aqueous Extract	mg/l	DETSC 2055	1		9.3	7.3	27	12	34
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		95	53	110	< 10	51
Sulphur (free)	mg/kg	DETSC 3049#	0.75		< 0.75	< 0.75	7.2	3.1	0.79
EPH (C10-C40)	mg/kg	DETSC 3311#	10		< 10	< 10	< 10	< 10	< 10
Benzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Xylene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	0.1
Phenanthrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94240

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586205	586206	586207	586208	586209
				Sample ID	TP42	TP42D	TP43	TP43	TP44
				Depth	0.40	0.40	0.30	1.70	0.30
				Sample Ref					
				Sample Type					
				Sampling Date	04/12/2013	04/12/2013	04/12/2013	04/12/2013	04/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
PAH	mg/kg	DETSC 3301	1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94240

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586210	586211	586212	586213	586214
				Sample ID	TP44D	TP44	TP44D	TP45	TP45D
				Depth	0.30	1.00	1.00	0.20	0.20
				Sample Ref					
				Sample Type					
				Sampling Date	04/12/2013	04/12/2013	04/12/2013	04/12/2013	04/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Stones >2mm	% m/m	DETSC 1003*	1	5.0	2.0	8.6	5.3	6.1	
Moisture Content	%	DETS 046*	0.1	26	29	25	17	18	
Arsenic	mg/kg	DETSC2301#	0.2	18	9.2	9.2	58	67	
Boron (water soluble)	mg/kg	DETSC2123#	0.2	1.6	0.6	< 0.2	0.9	0.7	
Cadmium	mg/kg	DETSC2301#	0.1	1.6	0.9	0.8	17	19	
Chromium	mg/kg	DETSC2301#	0.15	17	38	26	15	16	
Copper	mg/kg	DETSC2301#	0.2	150	22	20	300	280	
Lead	mg/kg	DETSC2301#	0.3	120	19	22	7800	8200	
Mercury	mg/kg	DETSC 2325#	0.05	0.13	< 0.05	< 0.05	0.14	0.15	
Nickel	mg/kg	DETSC2301#	1	41	39	31	53	50	
Selenium	mg/kg	DETSC2301#	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.2	
Zinc	mg/kg	DETSC2301#	1	290	71	63	23000	23000	
Loss on ignition	%	DETSC 2003#	0.01	19	2.2	1.6	9.5	11	
pH		DETSC 2008#		6.5	8.5	8.6	7.2	7.3	
Cyanide total	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	< 0.1	0.1	0.6	
Cyanide free	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	
Cyanide complex	mg/kg	DETSC 2130	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.3	
Thiocyanate	mg/kg	DETSC 2130#	0.6	1.9	< 0.6	< 0.6	0.8	2.2	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	6.7	7.1	6.1	6.2	6.0	
Chloride Aqueous Extract	mg/l	DETSC 2055	1	37	4.3	4.8	7.9	17	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	67	43	29	43	59	
Sulphur (free)	mg/kg	DETSC 3049#	0.75	1.1	< 0.75	< 0.75	1.4	< 0.75	
EPH (C10-C40)	mg/kg	DETSC 3311#	10	24	< 10	< 10	< 10	44	
Benzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Toluene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Xylene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthene	mg/kg	DETSC 3301	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Anthracene	mg/kg	DETSC 3301	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Chrysene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Fluoranthene	mg/kg	DETSC 3301	0.1	0.7	< 0.1	< 0.1	< 0.1	< 0.1	
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Naphthalene	mg/kg	DETSC 3301	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	DETSC 3301	0.1	0.6	< 0.1	< 0.1	< 0.1	< 0.1	
Pyrene	mg/kg	DETSC 3301	0.1	0.7	< 0.1	< 0.1	< 0.1	< 0.1	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94240

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586210	586211	586212	586213	586214
				Sample ID	TP44D	TP44	TP44D	TP45	TP45D
				Depth	0.30	1.00	1.00	0.20	0.20
				Sample Ref					
				Sample Type					
				Sampling Date	04/12/2013	04/12/2013	04/12/2013	04/12/2013	04/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
PAH	mg/kg	DETSC 3301	1.6		2.7	< 1.6	< 1.6	< 1.6	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94240

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586215	586216	586217	586218	586219
				Sample ID	TP45	TP45D	TP46	TP51	HP48
				Depth	1.30	1.30	0.30	0.90	0.30
				Sample Ref					
				Sample Type					
				Sampling Date	04/12/2013	04/12/2013	04/12/2013	04/12/2013	04/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
Stones >2mm	% m/m	DETSC 1003*	1	4.4	4.1	2.9	8.8	4.7	
Moisture Content	%	DETS 046*	0.1	24	24	26	12	17	
Arsenic	mg/kg	DETSC2301#	0.2	11	10	13	12	33	
Boron (water soluble)	mg/kg	DETSC2123#	0.2	0.5	0.5	0.6	0.8	0.7	
Cadmium	mg/kg	DETSC2301#	0.1	1.0	1.9	1.2	0.7	7.9	
Chromium	mg/kg	DETSC2301#	0.15	34	34	19	12	24	
Copper	mg/kg	DETSC2301#	0.2	24	26	69	36	260	
Lead	mg/kg	DETSC2301#	0.3	69	58	78	63	1800	
Mercury	mg/kg	DETSC 2325#	0.05	< 0.05	< 0.05	0.06	0.18	0.11	
Nickel	mg/kg	DETSC2301#	1	37	38	44	20	41	
Selenium	mg/kg	DETSC2301#	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	
Zinc	mg/kg	DETSC2301#	1	210	560	300	110	9000	
Loss on ignition	%	DETSC 2003#	0.01	2.0	2.1	14	3.4	8.1	
pH		DETSC 2008#		8.5	8.4	7.3	8.1	8.3	
Cyanide total	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	< 0.1	13	0.3	
Cyanide free	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	< 0.1	1.1	0.1	
Cyanide complex	mg/kg	DETSC 2130	0.2	< 0.2	< 0.2	< 0.2	12	< 0.2	
Thiocyanate	mg/kg	DETSC 2130#	0.6	< 0.6	< 0.6	0.7	1.8	1.6	
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5	8.8	6.8	5.8	5.4	5.3	
Chloride Aqueous Extract	mg/l	DETSC 2055	1	9.2	11	20	11	9.3	
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	42	40	33	110	79	
Sulphur (free)	mg/kg	DETSC 3049#	0.75	< 0.75	< 0.75	1.5	3.7	< 0.75	
EPH (C10-C40)	mg/kg	DETSC 3311#	10	< 10	< 10	< 10	620	1100	
Benzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Ethylbenzene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Toluene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Xylene	mg/kg	DETS 062#	0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	
Acenaphthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	0.4	< 0.1	
Acenaphthylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	1.0	< 0.1	
Anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	0.9	< 0.1	
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	2.5	< 0.1	
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	4.4	< 0.1	
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	2.4	< 0.1	
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	1.4	< 0.1	
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	2.3	< 0.1	
Chrysene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	2.6	< 0.1	
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	< 0.1	< 0.1	< 0.1	0.6	< 0.1	
Fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	3.0	< 0.1	
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	0.4	< 0.1	
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	3.7	< 0.1	
Naphthalene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	1.0	< 0.1	
Pyrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	3.2	0.1	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94240

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586215	586216	586217	586218	586219
				Sample ID	TP45	TP45D	TP46	TP51	HP48
				Depth	1.30	1.30	0.30	0.90	0.30
				Sample Ref					
				Sample Type					
				Sampling Date	04/12/2013	04/12/2013	04/12/2013	04/12/2013	04/12/2013
				Sampling Time					
Test	Units	DETSxx	LOD						
PAH	mg/kg	DETSC 3301	1.6	< 1.6	< 1.6	< 1.6	30	< 1.6	
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94240

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586220	586221	586222	586223
				Sample ID	TP47	TP47	BH22	BH4
				Depth	0.20	1.00	0.70	7.00
				Sample Ref				
				Sample Type				
				Sampling Date	04/12/2013	04/12/2013	04/12/2013	04/12/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
Stones >2mm	% m/m	DETSC 1003*	1		7.2	4.6	3.9	6.4
Moisture Content	%	DETS 046*	0.1		25	24	8.4	27
Arsenic	mg/kg	DETSC2301#	0.2		45	9.7	8.7	9.9
Boron (water soluble)	mg/kg	DETSC2123#	0.2		0.7	0.4	< 0.2	0.8
Cadmium	mg/kg	DETSC2301#	0.1		18	0.9	0.6	0.8
Chromium	mg/kg	DETSC2301#	0.15		18	35	18	30
Copper	mg/kg	DETSC2301#	0.2		490	24	14	29
Lead	mg/kg	DETSC2301#	0.3		6500	41	20	28
Mercury	mg/kg	DETSC 2325#	0.05		0.10	< 0.05	< 0.05	< 0.05
Nickel	mg/kg	DETSC2301#	1		58	37	22	36
Selenium	mg/kg	DETSC2301#	0.5		0.7	< 0.5	< 0.5	< 0.5
Zinc	mg/kg	DETSC2301#	1		18000	130	63	90
Loss on ignition	%	DETSC 2003#	0.01		9.4	2.2	1.0	2.2
pH		DETSC 2008#			7.0	8.6	9.0	8.7
Cyanide total	mg/kg	DETSC 2130#	0.1		< 0.1	< 0.1	< 0.1	18
Cyanide free	mg/kg	DETSC 2130#	0.1		< 0.1	< 0.1	< 0.1	0.5
Cyanide complex	mg/kg	DETSC 2130	0.2		< 0.2	< 0.2	< 0.2	17
Thiocyanate	mg/kg	DETSC 2130#	0.6		1.9	< 0.6	< 0.6	0.7
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		5.4	6.8	4.7	13
Chloride Aqueous Extract	mg/l	DETSC 2055	1		7.4	3.8	7.8	9.0
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		120	17	16	19
Sulphur (free)	mg/kg	DETSC 3049#	0.75		< 0.75	< 0.75	< 0.75	< 0.75
EPH (C10-C40)	mg/kg	DETSC 3311#	10		73	< 10	< 10	< 10
Benzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01
Toluene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01
Xylene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	< 0.1	< 0.1

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94240

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586220	586221	586222	586223
				Sample ID	TP47	TP47	BH22	BH4
				Depth	0.20	1.00	0.70	7.00
				Sample Ref				
				Sample Type				
				Sampling Date	04/12/2013	04/12/2013	04/12/2013	04/12/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
PAH	mg/kg	DETSC 3301	1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Summary of Asbestos Analysis

Soil Samples

Our Ref: 13-94240

Client Ref: 13627

Contract Title: Wrexham

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
586205	TP42 0.40	Soil	NAD	na	Andrew Little
586206	TP42D 0.40	Soil	NAD	na	Andrew Little
586207	TP43 0.30	Soil	NAD	na	Andrew Little
586208	TP43 1.70	Soil	NAD	na	Andrew Little
586209	TP44 0.30	Soil	NAD	na	Andrew Little
586210	TP44D 0.30	Soil	NAD	na	Andrew Little
586211	TP44 1.00	Soil	NAD	na	Andrew Little
586212	TP44D 1.00	Soil	NAD	na	Andrew Little
586213	TP45 0.20	Soil	NAD	na	Andrew Little
586214	TP45D 0.20	Soil	NAD	na	Andrew Little
586215	TP45 1.30	Soil	NAD	na	Andrew Little
586216	TP45D 1.30	Soil	NAD	na	Andrew Little
586217	TP46 0.30	Soil	NAD	na	Andrew Little
586218	TP51 0.90	Soil	Amosite	Loose Amosite fibres present	Andrew Little
586219	HP48 0.30	Soil	Amosite	Loose Amosite fibres present	Andrew Little
586220	TP47 0.20	Soil	NAD	na	Andrew Little
586221	TP47 1.00	Soil	NAD	na	Andrew Little
586222	BH22 0.70	Soil	NAD	na	Andrew Little
586223	BH4 7.00	Soil	NAD	na	Andrew Little

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
586205	TP42 0.40 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
586206	TP42D 0.40 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
586207	TP43 0.30 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
586208	TP43 1.70 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
586209	TP44 0.30 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
586210	TP44D 0.30 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
586211	TP44 1.00 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
586212	TP44D 1.00 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			

586213	TP45 0.20 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
586214	TP45D 0.20 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
586215	TP45 1.30 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
586216	TP45D 1.30 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
586217	TP46 0.30 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
586218	TP51 0.90 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
586219	HP48 0.30 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
586220	TP47 0.20 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
586221	TP47 1.00 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
586222	BH22 0.70 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)
586223	BH4 7.00 SOIL	04/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)



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Certificate of Analysis

Date: 18/12/2013

Certificate Number: 13-94289

Client: I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference: 13-94289

Client Reference: 13627

Contract Title: Wrexham

Description: 3 soil samples, 4 water samples

Date Received: 11 December 2013

Date Started: 11 December 2013

Date Completed: 18 December 2013

Test Procedures: Identified by prefix DETSn (details on request), Asbestos Analysis (DETS 082).

Notes: Observations and interpretations are outside the scope of UKAS accreditation

Approved By: 
Rob Brown, Business Manager

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 except in full, without the prior written approval of the laboratory.

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28oC +/-2oC.

Key

- * Denotes test not included in laboratory scope of accreditation
- # Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
- \$ Denotes tests completed by an approved subcontractor
- I/S Denotes insufficient sample to carry out test
- U/S Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month

Liquids - 2 weeks

Asbestos (test portion) - 6 months

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94289

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586403	586404	586405
				Sample ID	BH23	BH24	WS23
				Depth	2.00	3.00	2.60
				Sample Ref			
				Sample Type			
				Sampling Date	09/12/2013	09/12/2013	09/12/2013
				Sampling Time			
Test	Units	DETSxx	LOD				
Stones >2mm	% m/m	DETSC 1003*	1		4.7	3.8	9.1
Moisture Content	%	DETS 046*	0.1		17	17	9.7
Arsenic	mg/kg	DETSC2301#	0.2		7.7	6.0	9.6
Boron (water soluble)	mg/kg	DETSC2123#	0.2		< 0.2	< 0.2	< 0.2
Cadmium	mg/kg	DETSC2301#	0.1		0.5	0.6	0.7
Chromium	mg/kg	DETSC2301#	0.15		20	20	22
Copper	mg/kg	DETSC2301#	0.2		24	15	17
Lead	mg/kg	DETSC2301#	0.3		14	20	15
Mercury	mg/kg	DETSC 2325#	0.05		< 0.05	< 0.05	< 0.05
Nickel	mg/kg	DETSC2301#	1		18	20	22
Selenium	mg/kg	DETSC2301#	0.5		< 0.5	< 0.5	< 0.5
Zinc	mg/kg	DETSC2301#	1		43	41	51
Loss on ignition	%	DETSC 2003#	0.01		0.49	0.60	0.70
pH		DETSC 2008#			8.7	8.1	8.3
Cyanide total	mg/kg	DETSC 2130#	0.1		0.1	< 0.1	< 0.1
Cyanide free	mg/kg	DETSC 2130#	0.1		< 0.1	< 0.1	< 0.1
Cyanide complex	mg/kg	DETSC 2130	0.2		< 0.2	< 0.2	< 0.2
Thiocyanate	mg/kg	DETSC 2130#	0.6		< 0.6	< 0.6	< 0.6
Ammoniacal Nitrogen as N	mg/kg	DETSC 2119#	0.5		18	5.5	22
Chloride Aqueous Extract	mg/l	DETSC 2055	1		15	16	8.8
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		65	27	63
Sulphur (free)	mg/kg	DETSC 3049#	0.75		32	0.94	87
EPH (C10-C40)	mg/kg	DETSC 3311#	10		< 10	< 10	940
Benzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	0.02
Ethylbenzene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	0.04
Toluene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	0.03
Xylene	mg/kg	DETS 062#	0.01		< 0.01	< 0.01	0.34
Acenaphthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	16
Acenaphthylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	3.6
Anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	12
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	5.7
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	5.2
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	2.9
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	2.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	1.5
Chrysene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	5.9
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1		< 0.1	< 0.1	0.5
Fluoranthene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	16
Fluorene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	14
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	2.2
Naphthalene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	1.5
Phenanthrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	28
Pyrene	mg/kg	DETSC 3301	0.1		< 0.1	< 0.1	12
PAH	mg/kg	DETSC 3301	1.6		< 1.6	< 1.6	130

Summary of Chemical Analysis

Soil Samples

Our Ref: 13-94289

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586403	586404	586405
				Sample ID	BH23	BH24	WS23
				Depth	2.00	3.00	2.60
				Sample Ref			
				Sample Type			
				Sampling Date	09/12/2013	09/12/2013	09/12/2013
				Sampling Time			
Test	Units	DETSxx	LOD				
Catechol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50		38
Cresols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50		5.0
Naphthols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50		3.1
Phenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50		8.0
Resorcinol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50		19
Trimethylphenol	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50		210
Xylenols & Ethylphenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50		32
Total Phenols	mg/kg	DETSC 3421*	0.5	< 0.50	< 0.50		310

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94289

Client Ref: 13627

Contract Title: Wrexham

				Lab No.	586399	586400	586401	586402
				Sample ID	SS11-07-1	SS11-06-1	SS11-05-1	SS11-09-1
				Depth				
				Sample Ref				
				Sample Type				
				Sampling Date	09/12/2013	09/12/2013	09/12/2013	09/12/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
Arsenic, Dissolved	ug/l	DETSC 2306	0.16		0.98	0.85	0.91	1.4
Cadmium, Dissolved	ug/l	DETSC 2306	0.03		0.080	0.042	0.032	0.040
Chromium, Dissolved	ug/l	DETSC 2306	0.25		< 0.25	< 0.25	< 0.25	< 0.25
Copper, Dissolved	ug/l	DETSC 2306	0.4		3.6	2.5	1.1	1.4
Iron, Dissolved	ug/l	DETSC 2306	5.5		220	140	34	36
Lead, Dissolved	ug/l	DETSC 2306	0.09		0.26	0.72	0.37	0.44
Mercury, Dissolved	ug/l	DETSC 2306	0.01		< 0.010	< 0.010	< 0.010	< 0.010
Nickel, Dissolved	ug/l	DETSC 2306	0.5		3.8	2.2	1.4	1.4
Selenium, Dissolved	ug/l	DETSC 2306	0.25		0.35	< 0.25	< 0.25	0.33
Zinc, Dissolved	ug/l	DETSC 2306	1.25		37.3	49.7	30.8	40.6
Conductivity	uS/cm	DETSC 2009	1		1400	806	668	641
pH		DETSC 2008			7.2	7.6	7.3	7.6
Cyanide total	ug/l	DETSC 2130	40		250	130	< 40	< 40
Cyanide free	ug/l	DETSC 2130	20		< 20	< 20	< 20	< 20
Cyanide complex	ug/l	DETSC 2130	40		250	130	< 40	< 40
Thiocyanate	ug/l	DETSC 2130	40		< 40	< 40	< 40	< 40
Suspended Solids	mg/l	DETSC 2034	5		90	540	130	88
Ammoniacal Nitrogen as N	mg/l	DETSC 2207	0.015		14	1.6	1.1	0.42
Chloride	mg/l	DETSC 2055	0.1		4.6	5.1	8.6	12
Sulphate as SO4	mg/l	DETSC 2055	0.1		84	42	15	11
Sulphide	ug/l	DETSC 2208	10		< 10	< 10	< 10	< 10
Sulphur (free)	ug/l	DETSC 3049	84		< 84	< 84	< 84	< 84
Total Organic Carbon	mg/l	DETSC 2033	2		18	34	8.1	11
EPH (C10-C40)	ug/l	DETSC 3311	10		550	150	250	11000
Benzene	ug/l	DETSC 3322	1		< 1.0	< 1.0	< 1.0	< 1.0
Toluene	ug/l	DETSC 3322	1		< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	ug/l	DETSC 3322	1		< 1.0	< 1.0	< 1.0	< 1.0
Xylene	ug/l	DETSC 3322	1		< 1.0	< 1.0	< 1.0	< 1.0
Acenaphthene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	2.4
Acenaphthylene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	2.7
Benzo(a)anthracene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	0.67
Benzo(a)pyrene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	0.50
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	0.64
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	0.29
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	0.27
Chrysene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	0.31
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	0.27
Fluoranthene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	2.9
Fluorene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	4.9
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	0.52
Naphthalene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	3.7
Phenanthrene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	1.1
Pyrene	ug/l	DETS 074*	0.01		< 0.01	< 0.01	< 0.01	2.6
PAH	ug/l	DETS 074*	0.2		< 0.20	< 0.20	< 0.20	24

Summary of Chemical Analysis

Water Samples

Our Ref: 13-94289
 Client Ref: 13627
 Contract Title: Wrexham

				Lab No.	586399	586400	586401	586402
				Sample ID	SS11-07-1	SS11-06-1	SS11-05-1	SS11-09-1
				Depth				
				Sample Ref				
				Sample Type				
				Sampling Date	09/12/2013	09/12/2013	09/12/2013	09/12/2013
				Sampling Time				
Test	Units	DETSxx	LOD					
Catechol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Resorcinol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	ug/l	DETSC 3422*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Summary of Asbestos Analysis

Soil Samples

Our Ref: 13-94289

Client Ref: 13627

Contract Title: Wrexham

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
586403	BH23 2.00	Soil	NAD	na	Andrew Little
586404	BH24 3.00	Soil	NAD	na	Andrew Little
586405	WS23 2.60	Soil	NAD	na	Andrew Little

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test(s)	Deviating due to inappropriate container for test(s)	Deviating due to headspace presence in container for test(s)
586399	SS11-07-1 WATER	09/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Bottle 1L (1 litre)			
586400	SS11-06-1 WATER	09/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Bottle 1L (1 litre)			
586401	SS11-05-1 WATER	09/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Bottle 1L (1 litre)			
586402	SS11-09-1 WATER	09/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Bottle 1L (1 litre)			
586403	BH23 2.00 SOIL	09/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
586404	BH24 3.00 SOIL	09/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			
586405	WS23 2.60 SOIL	09/12/2013	Glass Jar 1L (1 litre), Glass Vial (40ml), Plastic Tub 1L (1kg)			



Certificate of Analysis

Certificate Number 14-01342

27-Mar-14

Client I & H Brown Limited
174 Dunkeld Road
Perth
PH1 3AA

Our Reference 14-01342

Client Reference (not supplied)

Contract Title Wrexham

Description 4 Soil samples, 5 Water samples.

Date Received 14-Mar-14

Date Started 14-Mar-14

Date Completed 27-Mar-14

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. 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. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read 'Rob Brown'.

Rob Brown
Business Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 14-01342

Client Ref

Contract Title Wrexham

Lab No	620863	620864	620865	620866
Sample ID	SS 11-02-1	SED 4	SS 11-02-3	RB1
Depth				
Other ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	12/03/14	12/03/14	12/03/14	12/03/14
Sampling Time	1200	1200	1200	1200

Test	Method	LOD	Units				
Preparation							
Stones >2mm	DETSC 1003*	1	% m/m	2.3	5.0	6.2	5.4
Moisture Content	DETS 046*	0.1	%	90	180	68	420
Metals							
Arsenic	DETSC2301#	0.2	mg/kg	10	8.0	19	45
Boron (water soluble)	DETSC2123#	0.2	mg/kg	4.3	5.5	3.2	5.6
Cadmium	DETSC2301#	0.1	mg/kg	1.5	1.0	0.7	4.1
Chromium	DETSC2301#	0.15	mg/kg	29	28	23	11
Copper	DETSC2301#	0.2	mg/kg	30	28	21	13
Lead	DETSC2301#	0.3	mg/kg	680	380	40	41
Mercury	DETSC 2325#	0.05	mg/kg	0.08	0.13	< 0.05	< 0.05
Nickel	DETSC2301#	1	mg/kg	28	22	15	7.6
Selenium	DETSC2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC2301#	1	mg/kg	450	250	110	92
Inorganics							
Loss on ignition	DETSC 2003#	0.01	%	9.8	17	9.1	35
pH	DETSC 2008#			7.6	7.4	7.6	7.7
Cyanide total	DETSC 2130#	0.1	mg/kg	0.3	0.8	2.2	29
Cyanide free	DETSC 2130#	0.1	mg/kg	< 0.1	0.2	0.2	0.5
Cyanide complex	DETSC 2130*	0.2	mg/kg	0.3	0.6	2.0	28
Thiocyanate	DETSC 2130#	0.6	mg/kg	1.4	0.9	0.7	1.4
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	3.9	7.4	3.2	4.6
Chloride Aqueous Extract	DETSC 2055	1	mg/l	20	19	30	560
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	220	100	190	68
Sulphur (free)	DETSC 3049	0.75	mg/kg	7.6	5.0	< 0.75	< 0.75
Petroleum Hydrocarbons							
EPH (C10-C40)	DETSC 3311#	10	mg/kg	20	800	< 10	620
Benzene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Xylene	DETS 062#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 14-01342

Client Ref

Contract Title Wrexham

Lab No	620863	620864	620865	620866
Sample ID	SS 11-02-1	SED 4	SS 11-02-3	RB1
Depth				
Other ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	12/03/14	12/03/14	12/03/14	12/03/14
Sampling Time	1200	1200	1200	1200

Test	Method	LOD	Units				
PAHs							
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	6.2	< 0.1	1.0
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	4.1	< 0.1	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	8.5	< 0.1	1.0
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	6.1	0.7	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	4.6	0.2	1.3
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	2.8	< 0.1	2.9
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	2.4	0.2	2.2
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	1.7	< 0.1	< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1	5.9	0.3	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	0.6	0.1	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	16	0.2	2.2
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	6.5	< 0.1	0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	2.5	< 0.1	0.7
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	3.6	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	18	< 0.1	< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1	12	0.2	0.6
PAH	DETSC 3301	1.6	mg/kg	< 1.6	100	2.0	12
Phenols							
Catechol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50
Cresols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50
Naphthols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50
Resorcinol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	DETSC 3421*	0.5	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50

Summary of Chemical Analysis

Water Samples

Our Ref 14-01342

Client Ref

Contract Title Wrexham

Lab No	620867	620868	620869	620870	620871
Sample ID	AC 4-L1	SS 11-02-1	SS 11-02-3	RB1	SS 11-08-1
Depth					
Other ID					
Sample Type	WATER	WATER	WATER	WATER	WATER
Sampling Date	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14
Sampling Time	1200	1200	1200	1200	1200

Test	Method	LOD	Units					
Metals								
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.3	1.5	2.8	2.0	1.3
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.48	0.47	0.79	0.45	0.34
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.8	4.4	1.5	1.0	3.2
Iron, Dissolved	DETSC 2306	5.5	ug/l	150	91	49	9900	120
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.34	0.58	0.21	1.7	1.0
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	2.1	2.6	2.0	5.6	2.0
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.30	0.27	0.30	0.50	0.28
Zinc, Dissolved	DETSC 2306	1.25	ug/l	37.8	27.5	47.3	59.8	74.1
Inorganics								
Conductivity	DETSC 2009	1	uS/cm	982	547	400	1490	565
pH	DETSC 2008			6.8	7.4	7.5	6.7	7.2
Cyanide total	DETSC 2130	40	ug/l	41	< 40	< 40	51	< 40
Cyanide free	DETSC 2130	20	ug/l	< 20	< 20	< 20	< 20	< 20
Cyanide complex	DETSC 2130*	40	ug/l	41	< 40	< 40	51	< 40
Thiocyanate	DETSC 2130	40	ug/l	< 40	< 40	< 40	54	44
Suspended Solids	DETSC 2034	5	mg/l	48	15	6.0	38000	15
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	1.8	0.094	0.95	3.9	0.12
Chloride	DETSC 2055	0.1	mg/l	40	34	39	15	34
Sulphate as SO4	DETSC 2055	0.1	mg/l	170	38	46	540	43
Sulphide	DETSC 2208	10	ug/l	21	17	16	16	17
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84	< 84
Total Organic Carbon	DETSC 2085*	1	mg/l	8.1	14	4.1	1000	14
Petroleum Hydrocarbons								
EPH (C10-C40)	DETSC 3311	10	ug/l	270	110	260	240	100
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis

Water Samples

Our Ref 14-01342

Client Ref

Contract Title Wrexham

Lab No	620867	620868	620869	620870	620871
Sample ID	AC 4-L1	SS 11-02-1	SS 11-02-3	RB1	SS 11-08-1
Depth					
Other ID					
Sample Type	WATER	WATER	WATER	WATER	WATER
Sampling Date	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14
Sampling Time	1200	1200	1200	1200	1200

Test	Method	LOD	Units					
PAHs								
Acenaphthene	DETS 074*	0.01	ug/l	7.0	0.01	0.01	0.16	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	0.24	0.02	< 0.01	0.13	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	0.09	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	0.07	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	0.13	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	0.05	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	0.07	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	0.44	0.23	0.34	0.15	0.02
Fluorene	DETS 074*	0.01	ug/l	2.1	< 0.01	0.03	0.18	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	0.02	< 0.01	< 0.01
Naphthalene	DETS 074*	0.01	ug/l	0.68	< 0.01	0.79	0.36	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	0.06	0.10	< 0.01	0.02	0.03
Pyrene	DETS 074*	0.01	ug/l	0.40	0.31	1.0	0.13	0.06
PAH	DETS 074*	0.2	ug/l	11	0.68	2.6	1.1	< 0.20
Phenols								
Catechol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Resorcinol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	DETSC 3422*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Information in Support of the Analytical Results

Our Ref 14-01342
 Client Ref
 Contract Wrexham

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
620863	SS 11-02-1 SOIL	12/03/14	GJ 250ml (250ml), GJ 60ml (60ml), PT 1L (1kg)		
620864	SED 4 SOIL	12/03/14	GJ 250ml (250ml), GJ 60ml (60ml), PT 1L (1kg)		
620865	SS 11-02-3 SOIL	12/03/14	GJ 250ml (250ml), GJ 60ml (60ml), PT 1L (1kg)		
620866	RB1 SOIL	12/03/14	GJ 250ml (250ml), GJ 60ml (60ml), PT 1L (1kg)		
620867	AC 4-L1 WATER	12/03/14	GJ 1L (1L) x2, GV (40ml), PB 1L (1L)		
620868	SS 11-02-1 WATER	12/03/14	GJ 1L (1L) x2, GV (40ml), PB 1L (1L)		
620869	SS 11-02-3 WATER	12/03/14	GJ 1L (250ml) x4, GV (40ml), PB 1L (1L)		
620870	RB1 WATER	12/03/14	GJ 1L (1L) x2, GV (40ml), PB 1L (1L)		
620871	SS 11-08-1 WATER	12/03/14	GJ 1L (500ml) x3, GV (40ml), PB 1L (1L)		

Key: G-Glass P-Plastic J-Jar T-Tub B-Bottle V-Vial

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Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months