

Site Investigation for land at
Trough Laithe Farm, Barrowford Road, Lancashire

Appendix 10

Chemical Test Results

Derwentside Environmental Testing Services (DETS)

(For Coopers)

Certificate reference: 14-05756

Dated: 19 May 2014

And

Casella Seal

(For Capita Symonds)

Certificate reference: 05/5460/50/C1

Dated: 15 November 2005



Certificate of Analysis

Certificate Number 14-05756

19-May-14

Client Coopers
Park House
Sandpiper Court
Chester Business Park
Chester
CH4 9QU

Our Reference 14-05756

Client Reference 5883

Contract Title (5883) Trough Laithe Farm, Barrowford

Description 20 Soil samples.

Date Received 12-May-14

Date Started 12-May-14

Date Completed 19-May-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

Matrix Descriptions

Our Ref 14-05756

Client Ref 5883

Contract Title (5883) Trough Laithe Farm, Barrowford

Sample ID	Depth	Lab No	Completed	Matrix Description
TP101	0.2	644827	19/05/2014	Brown gravelly sandy CLAY with odd rootlets
TP101	1.7	644828	19/05/2014	Grey brown sandy CLAY
TP104	0.3	644829	19/05/2014	Dark brown gravelly sandy CLAY with odd rootlets
TP105	0.8	644830	19/05/2014	Brown grey gravelly sandy CLAY
TP105	1.2	644831	19/05/2014	Grey brown gravelly sandy CLAY
TP110	0.1	644832	19/05/2014	Brown grey gravelly sandy CLAY
TP116	0.8	644833	19/05/2014	Dark brown gravelly sandy CLAY with numerous rootlets
TP123	0.1	644834	19/05/2014	Brown gravelly sandy CLAY
TP130	1.2	644835	19/05/2014	Dark brown gravelly sandy CLAY with odd rootlets
TP133	0.1	644836	19/05/2014	Brown grey gravelly sandy CLAY
TP134	0.7	644837	19/05/2014	Brown gravelly sandy CLAY
TP140	0.7	644838	19/05/2014	Dark brown gravelly sandy CLAY with odd rootlets
TP143	0.2	644839	19/05/2014	Dark brown gravelly sandy CLAY with odd rootlets
TP148	0.6	644840	19/05/2014	Brown gravelly sandy CLAY
TP153	0.4	644841	19/05/2014	Dark brown gravelly sandy CLAY with odd rootlets
TP156	0.9	644842	19/05/2014	Brown gravelly sandy CLAY
TP159	0.7	644843	19/05/2014	Brown gravelly sandy CLAY
TP160	0.1	644844	19/05/2014	Dark brown gravelly sandy CLAY with numerous rootlets
TP163	1	644845	19/05/2014	Grey brown gravelly sandy CLAY
TP166	0.1	644846	19/05/2014	Brown gravelly sandy CLAY with numerous rootlets

Summary of Chemical Analysis Soil Samples

Our Ref 14-05756

Client Ref 5883

Contract Title (5883) Trough Laithe Farm, Barrowford

Lab No	644827	644828	644829	644830	644831	644832	644833
Sample ID	TP101	TP101	TP104	TP105	TP105	TP110	TP116
Depth	0.20	1.70	0.30	0.80	1.20	0.10	0.80
Other ID							
Sample Type	B	B	B	B	B	B	B
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units							
Metals										
Arsenic	DETSC 2301#	0.2	mg/kg	16	9.3	15	8.6	5.9	9.0	4.7
Beryllium	DETSC 2301#	0.2	mg/kg	0.8	1.3	1.1	0.9	1.0	0.6	0.9
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	2.6	2.5	3.6	2.5	2.3	2.7	2.4
Cadmium	DETSC 2301#	0.1	mg/kg	1.2	1.8	2.4	1.4	1.0	0.8	0.8
Chromium	DETSC 2301#	0.15	mg/kg	62	44	46	31	30	29	39
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	32	34	27	20	20	21	19
Lead	DETSC 2301#	0.3	mg/kg	85	31	65	22	20	38	16
Mercury	DETSC 2325#	0.05	mg/kg	0.20	< 0.05	0.16	< 0.05	< 0.05	0.06	< 0.05
Nickel	DETSC 2301#	1	mg/kg	16	60	33	34	29	19	29
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	1.5	1.2	< 0.5	< 0.5	0.8	< 0.5
Vanadium	DETSC 2301	0.8	mg/kg	58	47	58	36	31	39	38
Zinc	DETSC 2301#	1	mg/kg	120	110	160	76	71	94	74
Inorganics										
pH	DETSC 2008#			5.6	6.9	5.6	6.9	7.3	6.2	5.8
Cyanide total	DETSC 2130#	0.1	mg/kg	0.6	< 0.1	0.6	< 0.1	< 0.1	0.4	< 0.1
FOC	DETSC 2002*	0.001		0.0447	0.0219	0.0567	0.0074	0.0097	0.0187	0.0053
Total Organic Carbon	DETSC 2002	0.1	%	4.4	2.2	5.7	0.7	1.0	1.9	0.5
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	27	87	22	< 10	17	13	12
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.10	0.06	0.17	0.03	0.02	0.06	< 0.01
PAHs										
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.05	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.05	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.06	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.16	< 0.03	0.06	< 0.03	< 0.03	0.08	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.12	< 0.03	0.04	< 0.03	< 0.03	0.05	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	0.14	< 0.03	0.05	< 0.03	< 0.03	0.08	< 0.03
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	0.53	< 0.10	0.11	< 0.10	< 0.10	0.21	< 0.10
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.5	1.2	0.8	< 0.3	< 0.3	< 0.3	< 0.3

Summary of Chemical Analysis Soil Samples

Our Ref 14-05756

Client Ref 5883

Contract Title (5883) Trough Laithe Farm, Barrowford

Lab No	644834	644835	644836	644837	644838	644839	644840
Sample ID	TP123	TP130	TP133	TP134	TP140	TP143	TP148
Depth	0.10	1.20	0.10	0.70	0.70	0.20	0.60
Other ID							
Sample Type	B	B	B	B	B	B	B
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units								
Metals											
Arsenic	DETSC 2301#	0.2	mg/kg	9.2	12	8.8	6.9	6.1	6.5	6.2	
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	1.4	0.5	0.9	0.7	0.7	4.8	
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	3.0	1.9	3.2	2.3	2.5	2.6	2.6	
Cadmium	DETSC 2301#	0.1	mg/kg	0.7	1.4	0.7	0.5	0.6	0.7	0.6	
Chromium	DETSC 2301#	0.15	mg/kg	35	47	29	27	32	27	24	
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Copper	DETSC 2301#	0.2	mg/kg	15	32	16	20	22	16	13	
Lead	DETSC 2301#	0.3	mg/kg	59	28	54	18	23	35	24	
Mercury	DETSC 2325#	0.05	mg/kg	0.18	< 0.05	0.07	< 0.05	< 0.05	< 0.05	< 0.05	
Nickel	DETSC 2301#	1	mg/kg	14	46	10	19	24	14	13	
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	0.9	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Vanadium	DETSC 2301	0.8	mg/kg	47	54	46	29	31	33	290	
Zinc	DETSC 2301#	1	mg/kg	100	94	66	50	89	69	66	
Inorganics											
pH	DETSC 2008#			6.1	8.2	6.3	6.9	6.4	6.1	6.0	
Cyanide total	DETSC 2130#	0.1	mg/kg	0.4	< 0.1	0.4	< 0.1	0.1	0.5	0.3	
FOC	DETSC 2002*	0.001		0.0286	0.0164	0.0318	0.0043	0.0090	0.0207	0.0098	
Total Organic Carbon	DETSC 2002	0.1	%	2.9	1.6	3.2	0.4	0.9	2.1	1.0	
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	21	11	16	< 10	< 10	11	< 10	
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.07	0.06	0.07	< 0.01	0.02	0.05	0.03	
PAHs											
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03	
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03	
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	< 0.03	0.09	< 0.03	< 0.03	< 0.03	< 0.03	
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.04	< 0.03	0.05	< 0.03	< 0.03	< 0.03	< 0.03	
Pyrene	DETSC 3303#	0.03	mg/kg	0.07	< 0.03	0.08	< 0.03	< 0.03	< 0.03	< 0.03	
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	0.18	< 0.10	0.30	< 0.10	< 0.10	< 0.10	< 0.10	
Phenols											
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	0.3	< 0.3	< 0.3	0.4	< 0.3	

Summary of Chemical Analysis Soil Samples

Our Ref 14-05756

Client Ref 5883

Contract Title (5883) Trough Laithe Farm, Barrowford

Lab No	644841	644842	644843	644844	644845	644846
Sample ID	TP153	TP156	TP159	TP160	TP163	TP166
Depth	0.40	0.90	0.70	0.10	1.00	0.10
Other ID						
Sample Type	B	B	B	B	B	B
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	12	4.8	3.8	7.2	2.7	6.6
Beryllium	DETSC 2301#	0.2	mg/kg	1.1	1.1	1.0	0.4	1.4	0.4
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	3.5	2.6	2.1	3.0	1.9	3.3
Cadmium	DETSC 2301#	0.1	mg/kg	1.1	0.6	0.6	0.6	0.4	0.4
Chromium	DETSC 2301#	0.15	mg/kg	41	27	45	27	48	16
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	27	20	23	19	36	16
Lead	DETSC 2301#	0.3	mg/kg	89	18	18	53	23	35
Mercury	DETSC 2325#	0.05	mg/kg	0.11	< 0.05	< 0.05	0.15	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	23	25	28	11	39	7.7
Selenium	DETSC 2301#	0.5	mg/kg	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301	0.8	mg/kg	50	27	46	39	39	25
Zinc	DETSC 2301#	1	mg/kg	110	60	74	65	66	44
Inorganics									
pH	DETSC 2008#			5.2	6.0	6.5	6.0	5.9	6.3
Cyanide total	DETSC 2130#	0.1	mg/kg	0.6	< 0.1	0.1	0.5	< 0.1	0.4
FOC	DETSC 2002*	0.001		0.0420	0.0079	0.0059	0.0311	0.0118	0.0182
Total Organic Carbon	DETSC 2002	0.1	%	4.2	0.8	0.6	3.1	1.2	1.8
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	14	43	< 10	11	23	10
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.09	< 0.01	0.01	0.07	0.04	0.05
PAHs									
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.06	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.05	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.08	< 0.03	< 0.03	0.14	< 0.03	0.06
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.08	< 0.03	< 0.03	0.06	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	0.06	< 0.03	< 0.03	0.13	< 0.03	0.06
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	0.22	< 0.10	< 0.10	0.53	< 0.10	0.13
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.7	< 0.3	< 0.3	0.6	< 0.3	< 0.3

Information in Support of the Analytical Results

Our Ref 14-05756
 Client Ref 5883
 Contract (5883) Trough Laithe Farm, Barrowford

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
644827	TP101 0.20 SOIL		PG		
644828	TP101 1.70 SOIL		PG		
644829	TP104 0.30 SOIL		PG		
644830	TP105 0.80 SOIL		PG		
644831	TP105 1.20 SOIL		PG		
644832	TP110 0.10 SOIL		PG		
644833	TP116 0.80 SOIL		PG		
644834	TP123 0.10 SOIL		PG		
644835	TP130 1.20 SOIL		PG		
644836	TP133 0.10 SOIL		PG		
644837	TP134 0.70 SOIL		PG		
644838	TP140 0.70 SOIL		PG		
644839	TP143 0.20 SOIL		PG		
644840	TP148 0.60 SOIL		PG		
644841	TP153 0.40 SOIL		PG		
644842	TP156 0.90 SOIL		PG		
644843	TP159 0.70 SOIL		PG		
644844	TP160 0.10 SOIL		PG		
644845	TP163 1.00 SOIL		PG		
644846	TP166 0.10 SOIL		PG		

Key: P-Plastic G-Bag

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

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETS 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETS 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETS 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETS 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETS 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETS 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETS 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETS 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETS 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETS 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETS 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETS 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETS 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETS 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETS 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETS 2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETS 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETS 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETS 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETS 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETS 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETS 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETS 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETS 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETS 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETS 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETS 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETS 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETS 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETS 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETS 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETS 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETS 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETS 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETS 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETS 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETS 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETS 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETS 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETS 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETS 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETS 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Chemistry Laboratory Certificate

Client: Capita Symonds

Prospect House, 20 Mellor Road, Cheadle Hulme, Cheshire, SK8 5AU

Site: Barrowford Road, Nelson Lancashire - M23701

Date Tested: 02/11/05, 08/11/05, 09/11/05, 14/11/05

Methodology: CTP01, CTP07, CTP09a, CTP09c, CTP11a, CTP11b, CTP11c, CTP11h, CTP11i, CTP18c, Stones

Date Reported: 15 November, 2005

Certificate No: 05/5460/50/C1

Date Received: 1 November, 2005

File No: 05/5460/50

Sample Type: Solid

Client Ref: M23701

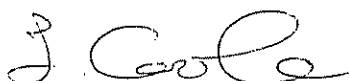
Lab sample ref	N299878	N299879	N299880	N299881	N299882	N299883
Client sample ref	TP01 0.20m	TP01 1.00m	TP02 0.30m	TP02 1.50m	TP04 2.00m	TP06 0.20m
Date sampled	01/11/05	01/11/05	01/11/05	01/11/05	01/11/05	01/11/05
Sample matrix (see notes page)	S	S	S	S	S	S

Analyte	Units	ISO17025	MCERTS	LOD						
pH		Y	Y		5.5	6.5	5.7	7.7	7.7	5.8
Nitrate (water soluble) _s	mg/l	N	N/A	10	<10	<10	<10	<10	<10	<10
Sulphate (water soluble) _s	g/l	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphur (total) _s	mg/kg	N	N/A	100	343	196	309	149	4770	423
Cyanide (total) _{SM}	mg/kg	Y	Y	10	<10	<10	<10	<10	<10	<10
Arsenic _s	mg/kg	Y	N	5	12	9	<5	11	6	15
Cadmium _s	mg/kg	Y	N	0.5	0.9	0.7	<0.5	1.6	1.1	0.7
Chromium (total) _s	mg/kg	Y	N	5	29	19	41	33	15	28
Copper _s	mg/kg	Y	N	5	25	13	17	36	17	21
Lead _s	mg/kg	Y	N	5	68	20	21	34	16	70
Mercury _s	mg/kg	Y	N	0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel _s	mg/kg	Y	N	5	14	23	23	53	23	18
Selenium _s	mg/kg	Y	N	5	<5	<5	<5	<5	<5	<5
Zinc _s	mg/kg	Y	N	5	88	64	89	95	61	93

Notes

- Analyses suffixed 'S' were performed on the sample dried at 35°C
- Analyses suffixed 'SM' were performed on the sample as received
- All results are expressed as dry weight
- MCERTS accreditation applicable to Sample Matrix 'S' only
- Natural stones (pebbles, gravels etc) which do not pass a 10mm sieve are excluded from air dried analyses and results corrected accordingly
- # indicates separate report appended
- Tests marked * indicate subcontracted analyses

Prepared by:



L Carolan
Account Manager

Approved by:



A Young
Section Leader

Chemistry Laboratory Certificate

Client: Capita Symonds

Prospect House, 20 Mellor Road, Cheadle Hulme, Cheshire, SK8 5AU

Site: Barrowford Road, Nelson Lancashire - M23701

Date Tested: 02/11/05, 08/11/05, 09/11/05, 14/11/05

Methodology: CTP01, CTP07, CTP09a, CTP09c, CTP11a, CTP11b, CTP11c, CTP11h, CTP11i, CTP18c, Stones

Date Reported: 15 November, 2005

Certificate No: 05/5460/50/C1

Date Received: 1 November, 2005

File No: 05/5460/50

Sample Type: Solid

Client Ref: M23701

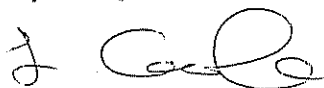
Lab sample ref	N299884	N299885	N299886	N299887	N299888	N299889
Client sample ref	TP07 0.40m	TP09 0.20m	TP09 1.20m	TP10 1.40m	TP10 2.40m	TP12 0.20m
Date sampled	01/11/05	01/11/05	01/11/05	01/11/05	01/11/05	01/11/05
Sample matrix (see notes page)	S	S	S	S	S	S

Analyte	Units	ISO17025	MCERTS	LOD						
pH		Y	Y		6.8	5.9	6.7	6.9	7.9	5.4
Nitrate (water soluble) _s	mg/l	N	N/A	10	<10	<10	<10	<10	<10	11
Sulphate (water soluble) _s	g/l	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Sulphur (total) _s	mg/kg	N	N/A	100	196	423	<100	269	3450	706
Cyanide (total) _{SM}	mg/kg	Y	Y	10	<10	<10	<10	<10	<10	<10
Arsenic _s	mg/kg	Y	N	5	11	12	6	10	9	13
Cadmium _s	mg/kg	Y	N	0.5	0.9	0.8	1.2	1.0	0.8	1.0
Chromium (total) _s	mg/kg	Y	N	5	33	33	27	42	31	48
Copper _s	mg/kg	Y	N	5	21	19	13	30	53	23
Lead _s	mg/kg	Y	N	5	28	57	20	29	23	71
Mercury _s	mg/kg	Y	N	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel _s	mg/kg	Y	N	5	34	23	31	54	40	22
Selenium _s	mg/kg	Y	N	5	<5	<5	<5	<5	<5	<5
Zinc _s	mg/kg	Y	N	5	75	99	66	85	69	124

Notes

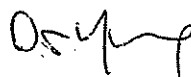
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Prepared by:



L. Carolan
Account Manager

Approved by:



A. Young
Section Leader

Chemistry Laboratory Certificate

Client: Capita Symonds

Prospect House, 20 Mellor Road, Cheadle Hulme, Cheshire, SK8 5AU

Site: Barrowford Road, Nelson Lancashire - M23701

Date Tested: 02/11/05, 08/11/05, 09/11/05, 14/11/05

Methodology: CTP01, CTP07, CTP09a, CTP09c, CTP11a, CTP11b, CTP11c, CTP11h, CTP11i, CTP18c, Stones

Date Reported: 15 November, 2005

Certificate No: 05/5460/50/C1

Date Received: 1 November, 2005

File No: 05/5460/50

Sample Type: Solid

Client Ref: M23701

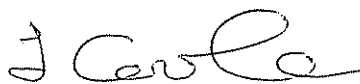
Lab sample ref	N299890	N299891	N299892	N299893	N299894
Client sample ref	TP14 0.50m	TP15 0.20m	TP16 0.20m	TP19 2.50m	TP20 0.20m
Date sampled	01/11/05	01/11/05	01/11/05	01/11/05	01/11/05
Sample matrix (see notes page)	S	S	S	S	S

Analyte	Units	ISO17025	MCERTS	LOD					
pH		Y	Y		6.5	5.3	5.4	8.1	5.6
Nitrate (water soluble) _s	mg/l	N	N/A	10	<10	24	<10	<10	<10
Sulphate (water soluble) _s	g/l	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphur (total) _s	mg/kg	N	N/A	100	112	660	463	1080	727
Cyanide (total) _{SM}	mg/kg	Y	Y	10	<10	<10	<10	<10	<10
Arsenic _s	mg/kg	Y	N	5	<5	13	13	<5	17
Cadmium _s	mg/kg	Y	N	0.5	<0.5	0.9	0.7	3.2	1.1
Chromium (total) _s	mg/kg	Y	N	5	28	42	61	29	37
Copper _s	mg/kg	Y	N	5	13	27	28	20	70
Lead _s	mg/kg	Y	N	5	17	81	69	21	115
Mercury _s	mg/kg	Y	N	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel _s	mg/kg	Y	N	5	24	21	12	26	19
Selenium _s	mg/kg	Y	N	5	<5	<5	<5	<5	<5
Zinc _s	mg/kg	Y	N	5	92	118	117	805	141

Notes

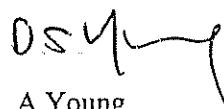
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- Analyses suffixed 'SM' were performed on the sample as received
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- Natural stones (pebbles, gravels etc) which do not pass a 10mm sieve are excluded from air dried analyses and results corrected accordingly
- # indicates separate report appended
- Tests marked * indicate subcontracted analyses

Prepared by:



L. Carolan
Account Manager

Approved by:



A. Young
Section Leader

Chemistry Laboratory Certificate

Client: Capita Symonds

Prospect House, 20 Mellor Road, Cheadle Hulme, Cheshire, SK8 5AU

Site: Barrowford Road, Nelson Lancashire - M23701

Date Tested: 04/11/05, 07/11/05, 14/11/05, 15/11/05, 16/11/05, 21/11/05

Methodology: CTP07, CTP09d, CTP09f, CTP09g, CTP10 1mg/l, CTP18f, CTP22, GC MS, ICPMS 0.1ppb, ICPMS 0.5ppb, ICPMS 1ppb, SOP03 TPH

Date Reported: 22 November, 2005

Certificate No: 05/5486/50/C1

Date Received: 3 November, 2005

File No: 05/5486/50

Sample Type: Liquid

Client Ref: M23701

Lab sample ref	N300088	N300089	N300090
Client sample ref	BH1	BH3	BH6
Date sampled			
Sample matrix (see notes page)	GW	GW	GW

Analyte	Units	ISO17025	LOD			
pH (w)		Y		7.1	7.3	7.5
Nitrite (w)	mg/l	N	1	<1.0	<1.0	<1.0
Nitrate (w)	mg/l	N	1	<1.0	<1.0	<1.0
Sulphate (w)	mg/l	Y	10	16	<10	17
Cyanide (total) (w)	mg/l	Y	0.2	<0.2	<0.2	<0.2
Phenol (w)	µg/l	N	0.5	<0.5	<0.5	<0.5
TOC (w) *	mg/l	N	0.1	16.5	8.7	19.5
Arsenic (w)MS	µg/l	N	1	7	1	3
Boron (w)	mg/l	Y	0.1	<0.1	<0.1	<0.1
Cadmium (w)MS	µg/l	N	0.5	<0.5	<0.5	<0.5
Chromium (w)MS	µg/l	N	0.5	4.3	3.1	2.8
Copper (w)MS	µg/l	N	0.1	15.8	7.1	2.8
Lead (w)MS	µg/l	N	1	<1	<1	<1
Mercury (w)MS	µg/l	N	0.1	<0.1	<0.1	<0.1
Nickel (w)MS	µg/l	N	1	10	2	7
Selenium (w)MS	µg/l	N	1	22	2	<1
Zinc (w)MS	µg/l	N	1	8	<1	<1
PAH (DWQ 5) (w)		N		#	#	#
TPH (GC) (w)	µg/l	Y	50	<50	<50	368
PAH (USEPA 16) (w)	µg/l	N	0.01	<0.1	<0.1	<0.1

Notes

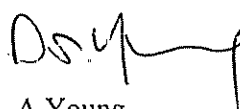
- 1 # indicates separate report appended
2 Tests marked * indicate subcontracted analyses

Prepared by:



L Carolan
Account Manager

Approved by:



A Young
Section Leader

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Capita Symonds : Prospect House, 20 Mellor Road, Cheadle Hulme, Cheshire SK8 5AU
Barrowford Road, Nelson, Lancashire - M23701
Liquids
05/5486/50/C1
03-Nov-05
18-Nov-05
Laboratory Developed In-House Method - 'Determination of SVOC' by GC-MS
Test not included in current UKAS schedule

esult :

**DRINKING WATER QUALITY STANDARDS
POLYNUCLEAR AROMATIC HYDROCARBONS**

All Values in µg/l

Sample Ref.	30088	30089	30090
Client Ref.	BH1	BH3	BH6
Name			
benzo[b]fluoranthene	<0.01	<0.01	<0.01
benzo[k]fluoranthene	<0.01	<0.01	<0.01
benzo[a]pyrene	<0.01	<0.01	<0.01
indeno[1,2,3-cd]pyrene	<0.01	<0.01	<0.01
benzo[ghi]perylene	<0.01	<0.01	<0.01

Analysed by:

Authorised by:

Mike Parry
Section Leader

Colin MacKay
Analyst

Client Capita Symonds : Prospect House, 20 Mellor Road, Cheadle Hulme, Cheshire SK8 5AU
Contract / Site Barrowford Road, Nelson, Lancashire - M23701
Sample Matrix Liquids
File Number 05/5486/50/C1
Date Received 03-Nov-05
Date Tested 18-Nov-05
Methodology Laboratory Developed In-House Method - 'Determination of SVOC' by GC-MS
Test not included in current UKAS schedule

Result : DRINKING WATER QUALITY STANDARDS
POLYNUCLEAR AROMATIC HYDROCARBONS

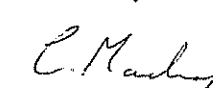
All Values in µg/l

Sample Ref.	30088	30089	30090
Client Ref	BH1	BH2 BH3	BH3 BH6
Name			
benzo[b]fluoranthene	<0.01	<0.01	<0.01
benzo[k]fluoranthene	<0.01	<0.01	<0.01
benzo[a]pyrene	<0.01	<0.01	<0.01
indeno[1,2,3-cd]pyrene	<0.01	<0.01	<0.01
benzo[ghi]perylene	<0.01	<0.01	<0.01

Analysed by:


Mike Parry
Section Leader

Authorised by:


Colin MacKay
Analyst