

ALcontrol Laboratories Analytical Services
Table Of Results - Appendix

Job Number: 08/14520/02/01
Client: Envirolab
Client Ref. No.: 722048-5020

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
1	18°C

APPENDIX

APPENDIX

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH₄ by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.
2. Samples will be run in duplicate upon request, but an additional charge may be incurred.
3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during a fibre screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.
4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.
5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.
6. When requested, the soil sample will be screened for the presence of fibres in-house and if no fibres are found will be reported as NFD – no fibres detected. If fibres are detected, they will be removed and analysed by our documented in house method based on HSG 248(2005). If a sample is suspected of containing asbestos, then further preparation and analysis will be suspended on that sample until the asbestos result is known. If asbestos is present, then no further analysis will be undertaken.
7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample – similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.
8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.
9. NDP – No determination possible due to insufficient/unsuitable sample.
10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals – total metals must be requested separately.
11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.
12. **Surrogate recoveries** – Currently the only analysis, which is surrogate corrected, is PAHs on soils. For EPH on soils the result is not surrogate corrected, but a percentage recovery is quoted.
13. **Product analyses** – Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.
14. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).
15. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).
16. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
17. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not accredited.
18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.
19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.
21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.
22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials – whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

LIQUID MATRICES EXTRACTION SUMMARY			
ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GS MS
SVOC	DCM	LIQUID/LIQUID SHAKEN SVOC	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM/EA	SOLID PHASE EXTRACTION	GC MS
TRIAZINE HERBS	DCM/EA	SOLID PHASE EXTRACTION	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRA RED (IR)	TCE	LIQUID/LIQUID EXTRACTION	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
SAPONIFIABLE	TCE	LIQUID/LIQUID EXTRACTION	HPLC
UNSAAPONIFIABLE	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	DCM	LIQUID/LIQUID EXTRACTION	EZ FLASH

SOLID MATRICES EXTRACTION SUMMARY				
ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
Solvent Extractable Matter	D&C	DCM	SOX THERM	GRAVIMETRIC
Cyclohexanes Ext. Matter	D&C	CYCLOHEXANE	SOX THERM	GRAVIMETRIC
Thin Layer Chromatography	D&C	DCM	SOX THERM	IATROSCAN
Elemental Sulphur	D&C	DCM	SOX THERM	HPLC
Phenols by GCMS	WET	DCM	SOX THERM	GC-MS
Herbicides	D&C	HEXANE:ACETONE	SOX THERM	GC-MS
Pesticides	D&C	HEXANE:ACETONE	SOX THERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (Min oil)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (Cleaned up)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG by GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB tot / PCB con	D&C	HEXANE:ACETONE	END OVER END	GC-MS
Polyaromatic Hydrocarbons (MS)	D&C	HEXANE:ACETONE	END OVER END	GC-MS
Polyaromatic Hydrocarbons (FID)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
C8-C40 (C6-C40)EZ Flash	WET	HEXANE:ACETONE	SHAKER	GC-EZ
Polyaromatic Hydrocarbons Rapid GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
Semi Volatile Organic compounds	WET	DCM:ACETONE	SONICATE	GC-MS

Date: 01 September 2008
Your Ref: 722048 - PO: 520255
Our Ref: 722048-(5020)-020
Project Manager: Margaret Baker
Report to: Margaret Baker

Envirolab
Units 7 & 8
Sandpits Business Park
Mottram Road
Hyde
Cheshire
SK14 3AR

Interim Test Report

Sample(s) of Water from Grovefield Way.
Received from Structural Soils Ltd
The Old School, Stillhouse Lane, Bristol, BS3 4EB

Date of receipt: 27 August 2008
Date analysis commenced: 27 August 2008
Date analysis completed: 29 August 2008

Method Statement

Speciated TPH analysis is performed in accordance with procedures A-T-022 using GC-MS with Head Space & A-T-023 using GC-FID.

PAH analysis is performed in accordance with procedure A-T-019.

Subcontract analysis was submitted to a laboratory on Envirolab's approved vendors list.

Prepared by:

A handwritten signature in blue ink that reads "M Marshall".

Melanie Marshall
Laboratory Co-ordinator

Approved by:

A handwritten signature in blue ink that reads "G Scott".

Gill Scott
Laboratory Manager



Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.
Tests marked "****" in this report are not included in the UKAS Accreditation Schedule for Envirolab.
Analytical results reflect the quality of the sample at the time of analysis only.

Envirolab Ref.	PROCEDURE	ISO 17025	90759	90760									
Location			BH5	BH8									
Depth (m)			5.75	2.55									
Sample Ref			1	1									
Sample Type			EW	EW									
MTBE _R	A-T-022	Y	<1	<1									
Benzene _R	A-T-022	Y	<1	<1									
Toluene _R	A-T-022	Y	<1	<1									
Ethyl Benzene _R	A-T-022	Y	<1	<1									
m & p Xylene _R	A-T-022	Y	<1	<1									
o Xylene _R	A-T-022	Y	<1	<1									
Aliphatics C5-C6 _R	A-T-022	Y	1	<1									
Aliphatics >C6-C8 _R	A-T-022	Y	<1	<1									
Aliphatics >C8-C10 _R	A-T-022	Y	<1	<1									
Aliphatics >C10-C12 _R	A-T-023	Y	<5	<5									
Aliphatics >C12-C16 _R	A-T-023	Y	<5	<5									
Aliphatics >C16-C21 _R	A-T-023	Y	<5	<5									
Aliphatics >C21-C35 _R	A-T-023	Y	<5	<5									
Total Aliphatics		Y	1	<5									
Aromatics >C5-C7 _R	A-T-022	Y	<1	<1									
Aromatics >C7-C8 _R	A-T-022	Y	<1	<1									
Aromatics >C8-C9 _R	A-T-022	Y	<1	<1									
Aromatics >C9-C10 _R	A-T-022	Y	<1	<1									
Aromatics >C10-C12 _R	A-T-023	Y	<5	<5									
Aromatics >C12-C16 _R	A-T-023	Y	<5	<5									
Aromatics >C16-C21 _R	A-T-023	Y	<5	<5									
Aromatics >C21-C35 _R	A-T-023	Y	<5	<5									
Total Aromatics		Y	<5	<5									
TPH (Aliphatics & Aromatics)		Y	1	<5									

Table 1 - Water Speciated TPH Results (µg/l)

Envirolab Ref.	PROCEDURE	ISO 17025	90759	90760								
Location			BH5	BH8								
Depth (m)			5.75	2.55								
Sample Ref			1	1								
Sample Type			EW	EW								
Naphthalene _R	A-T-019	Y	<0.01	<0.01								
Acenaphthylene _R	A-T-019	Y	<0.01	<0.01								
Acenaphthene _R	A-T-019	Y	<0.01	<0.01								
Fluorene _R	A-T-019	Y	<0.01	<0.01								
Phenanthrene _R	A-T-019	Y	<0.01	<0.01								
Anthracene _R	A-T-019	Y	<0.01	<0.01								
Fluoranthene _R	A-T-019	Y	<0.01	<0.01								
Pyrene _R	A-T-019	Y	<0.01	<0.01								
Benz [a] anthracene _R	A-T-019	Y	<0.01	<0.01								
Chrysene _R	A-T-019	Y	<0.01	<0.01								
Benzo [b] fluoranthene _R Benzo [k] fluoranthene # _R	A-T-019	Y	<0.01	<0.01								
Benzo [a] pyrene _R	A-T-019	Y	<0.01	<0.01								
Indeno [123-cd] pyrene _R	A-T-019	Y	<0.01	<0.01								
Dibenz [ah] anthracene _R	A-T-019	Y	<0.01	<0.01								
Benzo [ghi] perylene _R	A-T-019	Y	<0.01	<0.01								
Total 16 PAH Reported		Y	<0.01	<0.01								

Due to coelution Benzo [b] fluoranthene and Benzo [k] fluoranthene are reported as one value.

Table 2 - Water PAH Results (µg/l)

Subcontract results to follow.

Appendix

Code	Description
+	Increased detection limit due to sample interference
#	Increased detection limit due to sample dilution
\$	Analysis subcontracted
IS	Insufficient sample for analysis
IS-QC	Insufficient sample to retest following QC fail
NDP	No determination possible
~	Sample type outside the scope of our MCERTS accreditation since matrix not included in method validation
"	Analytes are associated with failed AQC targets for MCERTS, but passed UKAS AQC
^	Sample result is not covered under Envirolab's accreditation schedule for MCERTS as the result exceeds the validated range. See notes 1-3.
F	Analysis suffixed "F" were performed on the filtered sample
D	Analysis suffixed "D" were performed on the sample air dried at <30°C
O	Analysis suffixed "O" were performed on the sample oven dried at 95°C
R	Analysis suffixed "R" were performed on the sample as received. Where results are expressed on a dry weight basis, the samples were air dried at 95°C
Notes	
1	For MCERTS the validated range covers up to 15mg/kg for individual PAHs, 200mg/kg for totals.
2	For MCERTS the validated range covers up to 3000mg/kg for Total TPH analysis.
3	For MCERTS the validated range covers up to 0.2mg/kg for individual PCBs, and 1.5mg/kg for the total reported as araclor.
4	Natural stones and debris are excluded from analyses
5	Coarse granular material such as concrete, gravel and brick are not MCERTS accredited if they comprise the major part of the sample. Envirolab are currently accredited for MCERTS on soil types Sand, Clay and Loam only

HASWASTE v5.2b. Envirolab's Contaminated Land Soil Hazardous Waste Assessment Tool.

Envirolab, Sandpits Business Park, Mottram Road, Hyde, Cheshire SK14 3AR.



722048 Grovefield Way

Site Code and Name

TP/WS/BH
Depth (m)
Envirolab reference

BH6	BH6	SA1	SA2	SA3	TP1	TP2	TP3	TP4	TP5	TP6
0.20	0.50	0.20	0.25	0.40	0.80	0.20	0.15	0.21	0.15	0.65
90361	90362	90363	90364	90365	90366	90367	90368	90369	90370	90371

% Moisture

mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
7.47	8.12	6.84	7.86	8.12	8.27	7.96	6.68	7.82	6.86	8.37

pH (soil)

pH (leachate)

8	6	9	11	6	3	8	10	11	12	6
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0.5	0.4	0.4	0.5	0.5	0.2	0.3	0.5	0.5	0.5	0.3
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Arsenic

Cadmium

Copper

CrVI or Chromium

Lead

Mercury

Nickel

Selenium

Zinc

100	36	78	110	22	11	45	77	72	130	23
0.80	0.60	0.50	0.60	0.40	0.40	0.40	0.40	0.50	0.70	0.40
30	37	31	39	58	34	32	32	33	38	29
3	3	3	3	3	3	3	3	3	3	3
140	100	130	130	99	68	86	120	120	150	90

Barium

Beryllium

Cobalt

Manganese

Molybdenum

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TPH

Petrol

Diesel

Lube Oil

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White Spirit / Kerosene

Creosote

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Unknown TPH with ID

Unknown TPHCWG

	10.0	10.0			10.0			10.0	10.0	10.0
0.1			0.1	0.1		6.6	0.1			

Inseparable TPH Mixtures

Any

Any but No Petrol

White Spirit / Kerosene and Diesel

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Total USEPA 16 PAHs

Acenaphthene

Acenaphthylene

Anthracene

Benzo(a)anthracene

Benzo(a)pyrene

Benzo(b)fluoranthene

Benzo(ghi)perylene

Benzo(k)fluoranthene

Chrysene

Dibenzo(ah)anthracene

Fluoranthene

Fluorene

Indeno(123cd)pyrene

Naphthalene

Phenanthrene

Pyrene

0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.02	0.01	0.01	0.06	0.01	0.01	0.01	0.01
0.07	0.01	0.01	0.12	0.01	0.01	0.10	0.01	0.05	0.02	0.01
0.12	0.01	0.01	0.10	0.01	0.01	0.10	0.01	0.00	0.01	0.01
0.26	0.01	0.01	0.26	0.01	0.01	0.20	0.01	0.06	0.01	0.01
0.16	0.03	0.03	0.12	0.01	0.01	0.04	0.04	0.08	0.03	0.02
0.26	0.01	0.01	0.26	0.01	0.01	0.20	0.01	0.06	0.01	0.01
0.11	0.01	0.01	0.28	0.01	0.01	0.21	0.02	0.11	0.07	0.01
0.03	0.02	0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.01
0.18	0.07	0.02	0.32	0.01	0.06	0.42	0.07	0.16	0.13	0.01
0.01	0.01	0.01	0.02	0.01	0.01	0.03	0.01	0.01	0.01	0.01
0.10	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.04	0.02	0.01
0.05	0.01	0.01	0.01	0.01	0.01	0.05	0.03	0.29	0.12	0.01
0.09	0.02	0.01	0.15	0.01	0.04	0.36	0.04	0.11	0.04	0.01
0.17	0.01	0.01	0.28	0.04	0.05	0.36	0.07	0.14	0.10	0.01

Benzene

Toluene

Ethylbenzene

Xylenes

Trimethylbenzenes

0.01			0.01	0.01		0.01	0.01			
0.01			0.01	0.01		0.01	0.01			
0.01			0.01	0.01		0.01	0.01			
0.01			0.01	0.01		0.01	0.01			

Chlorobenzene

1,2-Dichlorobenzene

1,3-Dichlorobenzene

1,4-Dichlorobenzene

1,2,4-Trichlorobenzene

2-Chlorotoluene

4-Chlorotoluene

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Trichloroethene (TCE)

Total Sulphide

Free Cyanide

Thiocyanate

Elemental/Free Sulphur

PCBs Total (eg EC7/WHO12)

Phenols Total by HPLC

Phenol

Cresols

Xylenols

1-Naphthol

Resourcinol

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2,3,5,6-Tetrachlorophenol

2,4,5-Trichlorophenol

2,4,6-Trichlorophenol

2,4-Dichlorophenol

4-Chloro-3-methylphenol

Pentachlorophenol

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Bis(2-ethylhexyl)phthalate

Butylbenzylphthalate

Di-n-butylphthalate

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HASWASTE v5.2b. Envirolab's Contaminated Land Soil Hazardous Waste Assessment Tool.

Envirolab, Sandpits Business Park, Mottram Road, Hyde, Cheshire SK14 3AR.



Site Code and Name

722048 Grovefield Way

TP/WS/BH
Depth (m)
Envirolab reference

BH6	BH6	SA1	SA2	SA3	TP1	TP2	TP3	TP4	TP5	TP6
0.20	0.50	0.20	0.25	0.40	0.80	0.20	0.15	0.21	0.15	0.65
90361	90362	90363	90364	90365	90366	90367	90368	90369	90370	90371
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
%	%	%	%	%	%	%	%	%	%	%

Asbestos in Soil
Asbestos detected in Soil (enter Y or N)
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)

Hazard Codes Thresholds

Irritant H4	≥10%
Irritant H4	≥20%
Harmful H5	≥25%
Toxic H6	≥0.1%
Toxic H6	≥3%
Carcinogenic H7	≥0.1%
Carcinogenic H7	≥1%
Carcinogenic H7 Unknown TPH with ID	≥1,000mg/kg
Carcinogenic H7 b(a)p marker test (Unknown TPH with ID only)	≥0.01%
Carcinogenic H7 % Asbestos in Soil (Fibres)	≥0.1%
Corrosive H8 (Irritant H4)	≥5%H4<10%; H8≥10%
pH Corrosive H8 (Irritant H4) pH (soil or leachate)	H8 ≥11.5
pH Corrosive H8 (Irritant H4) pH (soil or leachate)	H8 ≤2
Toxic for Reproduction H10	≥0.5%
Toxic for Reproduction H10	≥5%
Mutagenic H11	≥0.1%
Mutagenic H11 Unknown TPH with ID	≥1,000mg/kg
Mutagenic H11 b(a)p marker test (Unknown TPH with ID only)	≥0.01%
Mutagenic H11	≥1%
Produces Toxic Gases H12 Sulphide	≥1,400mg/kg
Produces Toxic Gases H12 Free Cyanide	≥1,200mg/kg
Produces Toxic Gases H12 Thiocyanate	≥2,600mg/kg
H13 Sensitising	≥1%
Ecotoxic H14	≥1.0

0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.0061	0.0075	0.0063	0.0079	0.0117	0.0069	0.0071	0.0065	0.0067	0.0077	0.0059
0.0201	0.0154	0.0183	0.0228	0.0181	0.0116	0.0145	0.0176	0.0183	0.0265	0.0114
0.00014	0.00011	0.00010	0.00012	0.00010	0.00006	0.00007	0.00010	0.00011	0.00013	0.00007
0.00734	0.00854	0.00763	0.00946	0.01280	0.00761	0.00772	0.00795	0.00825	0.00936	0.00692
0.01324	0.01456	0.01390	0.01357	0.01821	0.01357	0.01258	0.01258	0.01192	0.01390	0.01390
0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	0.00003	0.00001	0.00000
0.00	10.00	10.00	0.00	0.00	10.00	0.00	0.00	10.00	10.00	10.00
#DIV/0!	0.10000	0.10000	#DIV/0!	#DIV/0!	0.10000	#DIV/0!	#DIV/0!	0.00000	0.10000	0.10000
0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
7.47	8.12	6.84	7.86	8.12	8.27	7.96	6.68	7.82	6.86	8.37
7.47	8.12	6.84	7.86	8.12	8.27	7.96	6.68	7.82	6.86	8.37
0.01000	0.00747	0.00780	0.01100	0.01172	0.00687	0.00646	0.00770	0.00720	0.01300	0.00586
0.01000	0.00360	0.00780	0.01100	0.00220	0.00110	0.00450	0.00770	0.00720	0.01300	0.00230
0.00001	0.00000	0.00000	0.00001	0.00001	0.00000	0.00066	0.00001	0.00000	0.00000	0.00000
0.00	10.00	10.00	0.00	0.00	10.00	0.00	0.00	10.00	10.00	10.00
#DIV/0!	0.10000	0.10000	#DIV/0!	#DIV/0!	0.10000	#DIV/0!	#DIV/0!	0.00000	0.10000	0.10000
0.00606	0.00747	0.00626	0.00788	0.01172	0.00687	0.00646	0.00646	0.00667	0.00768	0.00586
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.01324	0.01456	0.01390	0.01357	0.01821	0.01357	0.01258	0.01258	0.01192	0.01390	0.01390
0.20917	0.17060	0.19606	0.21749	0.19922	0.13413	0.15419	0.18665	0.18382	0.24024	0.14709

Ecotoxic H14 individual substance specific thresholds	≥0.0025%
Ecotoxic H14 individual substance specific thresholds	≥0.025%

0.000007	0.000002	0.000001	0.000012	0.000001	0.000003	0.000010	0.000001	0.000005	0.000002	0.000001
0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

HASWASTE v5.2b. Envirolab's Contaminated Land Soil Hazardous Waste Assessment Tool.

Envirolab, Sandpits Business Park, Mottram Road, Hyde, Cheshire SK14 3AR.



Site Code and Name

TP/WS/BH
Depth (m)
Envirolab reference

% Moisture

pH (soil)

pH (leachate)

Arsenic
Cadmium
Copper
CrVI or Chromium
Lead
Mercury
Nickel
Selenium
Zinc

Barium
Beryllium
Cobalt
Manganese
Molybdenum

TPH

Petrol
Diesel
Lube Oil

White Spirit / Kerosene

Creosote

Unknown TPH with ID

Unknown TPHCWG

Inseparable TPH Mixtures

Any

Any but No Petrol

White Spirit / Kerosene and Diesel

Total USEPA 16 PAHs

Acenaphthene
Acenaphthylene
Anthracene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(ghi)perylene
Benzo(k)fluoranthene
Chrysene
Dibenzo(ah)anthracene
Fluoranthene
Fluorene
Indeno(123cd)pyrene
Naphthalene
Phenanthrene
Pyrene

Benzene
Toluene
Ethylbenzene
Xylenes
Trimethylbenzenes

Chlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,2,4-Trichlorobenzene
2-Chlorotoluene
4-Chlorotoluene

Trichloroethene (TCE)

Total Sulphide

Free Cyanide

Thiocyanate

Elemental/Free Sulphur

PCBs Total (eg EC7/WHO12)

Phenols Total by HPLC

Phenol
Cresols
Xylenols
1-Naphthol
Resorcinol

2,3,5,6-Tetrachlorophenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4-Dichlorophenol
4-Chloro-3-methylphenol
Pentachlorophenol

Bis(2-ethylhexyl)phthalate
Butylbenzylphthalate
Di-n-butylphthalate

	TP6 0.15 90372	TP7 0.60 90373	TP8 0.90 90374	TP9 0.60 90375	TP8 0.60 90376	TP9 0.20 90377	TP10 0.40 90378	TP11 0.20 90379	TP12 0.15 90380	TP13 0.20 90381	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
% Moisture											
pH (soil)	7.69	8.27	8.19	8.27	8.14	7.59	8.07	7.90	7.83	7.96	
pH (leachate)											
Arsenic	11	8	3	6	6	11	3	10	24	13	
Cadmium	0.7	0.3	0.2	0.3	0.3	0.5	0.4	0.7	0.7	0.6	
Copper	58	25	24	22	27	34	27	44	55	64	
CrVI or Chromium	33	45	43	37	50	39	54	43	46	47	
Lead	280	19	12	11	18	100	14	110	5,000	150	
Mercury	0.50	0.40	0.40	0.40	0.40	0.50	0.50	0.60	0.80	0.80	
Nickel	33	42	34	34	50	36	43	37	42	44	
Selenium	3	3	3	3	3	3	3	3	3	3	
Zinc	300	92	67	69	92	110	83	160	170	190	
Barium											
Beryllium											
Cobalt											
Manganese											
Molybdenum											
TPH											
Petrol											
Diesel											
Lube Oil											
White Spirit / Kerosene											
Creosote											
Unknown TPH with ID	124.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
Unknown TPHCWG											
Inseparable TPH Mixtures											
Any											
Any but No Petrol											
White Spirit / Kerosene and Diesel											
Total USEPA 16 PAHs											
Acenaphthene	0.06	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Acenaphthylene	0.16	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Anthracene	0.35	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.01	
Benzo(a)anthracene	1.95	0.01	0.01	0.03	0.01	0.02	0.01	0.01	0.14	0.06	
Benzo(a)pyrene	1.81	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.03	
Benzo(b)fluoranthene	2.55	0.01	0.10	0.01	0.01	0.06	0.01	0.01	0.35	0.01	
Benzo(ghi)perylene	1.93	0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.22	0.01	
Benzo(k)fluoranthene	2.55	0.01	0.10	0.01	0.01	0.06	0.01	0.01	0.35	0.01	
Chrysene	3.35	0.01	0.01	0.07	0.01	0.09	0.01	0.04	0.31	0.12	
Dibenzo(ah)anthracene	0.08	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	
Fluoranthene	3.33	0.04	0.01	0.07	0.07	0.13	0.01	0.10	0.34	0.07	
Fluorene	0.07	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Indeno(123cd)pyrene	1.16	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.16	0.08	
Naphthalene	0.20	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Phenanthrene	1.35	0.01	0.01	0.03	0.01	0.06	0.01	0.03	0.20	0.01	
Pyrene	3.05	0.30	0.03	0.06	0.05	0.11	0.01	0.10	0.30	0.07	
Benzene											
Toluene											
Ethylbenzene											
Xylenes											
Trimethylbenzenes											
Chlorobenzene											
1,2-Dichlorobenzene											
1,3-Dichlorobenzene											
1,4-Dichlorobenzene											
1,2,4-Trichlorobenzene											
2-Chlorotoluene											
4-Chlorotoluene											
Trichloroethene (TCE)											
Total Sulphide											
Free Cyanide											
Thiocyanate											
Elemental/Free Sulphur											
PCBs Total (eg EC7/WHO12)											
Phenols Total by HPLC											
Phenol											
Cresols											
Xylenols											
1-Naphthol											
Resorcinol											
2,3,5,6-Tetrachlorophenol											
2,4,5-Trichlorophenol											
2,4,6-Trichlorophenol											
2,4-Dichlorophenol											
4-Chloro-3-methylphenol											
Pentachlorophenol											
Bis(2-ethylhexyl)phthalate											
Butylbenzylphthalate											
Di-n-butylphthalate											

HASWASTE v5.2b. Envirolab's Contaminated Land Soil Hazardous Waste Assessment Tool.

Envirolab, Sandpits Business Park, Mottram Road, Hyde, Cheshire SK14 3AR.



Site Code and Name

TP/WS/BH
Depth (m)
Envirolab reference

Asbestos in Soil
Asbestos detected in Soil (enter Y or N)
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)

TP6 0.15 90372	TP7 0.60 90373	TP8 0.90 90374	TP9 0.60 90375	TP8 0.60 90376	TP9 0.20 90377	TP10 0.40 90378	TP11 0.20 90379	TP12 0.15 90380	TP13 0.20 90381	
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
%	%	%	%	%	%	%	%	%	%	%

Hazard Codes	Thresholds
Irritant H4	≥10%
Irritant H4	≥20%
Harmful H5	≥25%
Toxic H6	≥0.1%
Toxic H6	≥3%
Carcinogenic H7	≥0.1%
Carcinogenic H7	≥1%
Carcinogenic H7 Unknown TPH with ID	≥1.000mg/kg
Carcinogenic H7 b(a)p marker test (Unknown TPH with ID only)	≥0.01%
Carcinogenic H7 % Asbestos in Soil (Fibres)	≥0.1%
Corrosive H8 (Irritant H4)	≥5%H4<10%: H8≥10%
pH Corrosive H8 (Irritant H4) pH (soil or leachate)	H8 ≥11.5
pH Corrosive H8 (Irritant H4) pH (soil or leachate)	H8 ≤2
Toxic for Reproduction H10	≥0.5%
Toxic for Reproduction H10	≥5%
Mutagenic H11	≥0.1%
Mutagenic H11 Unknown TPH with ID	≥1.000mg/kg
Mutagenic H11 b(a)p marker test (Unknown TPH with ID only)	≥0.01%
Mutagenic H11	≥1%
Produces Toxic Gases H12 Sulphide	≥1.400mg/kg
Produces Toxic Gases H12 Free Cyanide	≥1.200mg/kg
Produces Toxic Gases H12 Thiocyanate	≥2.600mg/kg
H13 Sensitising	≥1%
Ecotoxic H14	≥1.0
Ecotoxic H14 individual substance specific thresholds	≥0.0025%
Ecotoxic H14 individual substance specific thresholds	≥0.025%

0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.0067	0.0085	0.0069	0.0069	0.0101	0.0073	0.0087	0.0075	0.0085	0.0089	0.0000	
0.0536	0.0142	0.0118	0.0115	0.0160	0.0221	0.0141	0.0244	0.5157	0.0321	0.0000	
0.00013	0.00007	0.00006	0.00007	0.00007	0.00011	0.00010	0.00014	0.00016	0.00015	0.00000	
0.00827	0.00974	0.00761	0.00793	0.01116	0.00885	0.00945	0.00898	0.01139	0.01068	0.00000	
0.01092	0.01490	0.01423	0.01225	0.01655	0.01291	0.01787	0.01423	0.01523	0.01556	0.00000	
0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
124.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	
1.45968	0.10000	0.10000	0.10000	0.10000	0.10000	0.10000	0.10000	0.50000	0.30000	#DIV/0!	
0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
7.69	8.27	8.19	8.27	8.14	7.59	8.07	7.90	7.83	7.96	0.00	
7.69	8.27	8.19	8.27	8.14	7.59	8.07	7.90	7.83	7.96	0.00	
0.02800	0.00848	0.00687	0.00687	0.01010	0.01000	0.00869	0.01100	0.50000	0.01500	0.00000	
0.02800	0.00190	0.00120	0.00110	0.00180	0.01000	0.00140	0.01100	0.50000	0.01500	0.00000	
0.00018	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	0.00000	
124.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.00	
1.45968	0.10000	0.10000	0.10000	0.10000	0.10000	0.10000	0.10000	0.50000	0.30000	#DIV/0!	
0.00667	0.00848	0.00687	0.00687	0.01010	0.00727	0.00869	0.00747	0.00848	0.00889	0.00000	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.01092	0.01490	0.01423	0.01225	0.01655	0.01291	0.01787	0.01423	0.01523	0.01556	0.00000	
0.37412	0.16403	0.13716	0.13015	0.17682	0.19809	0.16924	0.23741	2.21738	0.28969	0.00000	
0.000195	0.000001	0.000001	0.000003	0.000001	0.000002	0.000001	0.000002	0.000014	0.000006	0.000000	
0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	



Site Code and Name	
TP/WS/BH	
Depth (m)	
Envirolab reference	
	mg/kg
% Moisture	
pH (soil)	
pH (leachate)	
Arsenic	
Cadmium	
Copper	
CrVI or Chromium	
Lead	
Mercury	
Nickel	
Selenium	
Zinc	
Barium	
Beryllium	
Cobalt	
Manganese	
Molybdenum	
TPH	
Petrol	
Diesel	
Lube Oil	
White Spirit / Kerosene	
Creosote	
Unknown TPH with ID	
Unknown TPHCWG	
Inseparable TPH Mixtures	
Any	
Any but No Petrol	
White Spirit / Kerosene and Diesel	
Total USEPA 16 PAHs	
Acenaphthene	
Acenaphthylene	
Anthracene	
Benzo(a)anthracene	
Benzo(a)pyrene	
Benzo(b)fluoranthene	
Benzo(ghi)perylene	
Benzo(k)fluoranthene	
Chrysene	
Dibenzo(ah)anthracene	
Fluoranthene	
Fluorene	
Indeno(123cd)pyrene	
Naphthalene	
Phenanthrene	
Pyrene	
Benzene	
Toluene	
Ethylbenzene	
Xylenes	
Trimethylbenzenes	
Chlorobenzene	
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
1,2,4-Trichlorobenzene	
2-Chlorotoluene	
4-Chlorotoluene	
Trichloroethene (TCE)	
Total Sulphide	
Free Cyanide	
Thiocyanate	
Elemental/Free Sulphur	
PCBs Total (eg EC7/WHO12)	
Phenols Total by HPLC	
Phenol	
Cresols	
Xylenols	
1-Naphthol	
Resorcinol	
2,3,5,6-Tetrachlorophenol	
2,4,5-Trichlorophenol	
2,4,6-Trichlorophenol	
2,4-Dichlorophenol	
4-Chloro-3-methylphenol	
Pentachlorophenol	
Bis(2-ethylhexyl)phthalate	
Butylbenzylphthalate	
Di-n-butylphthalate	



Site Code and Name

TP/WS/BH
Depth (m)
Envirolab reference

mg/kg

Asbestos in Soil
Asbestos detected in Soil (enter Y or N)
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)

%

Hazard Codes	Thresholds	
Irritant H4	≥10%	0.00000
Irritant H4	≥20%	0.0000
Harmful H5	≥25%	0.0000
Toxic H6	≥0.1%	0.00000
Toxic H6	≥3%	0.00000
Carcinogenic H7	≥0.1%	0.00000
Carcinogenic H7	≥1%	0.00000
Carcinogenic H7 Unknown TPH with ID	≥1.000mg/kg	0.00
Carcinogenic H7 b(a)p marker test (Unknown TPH with ID only)	≥0.01%	#DIV/0!
Carcinogenic H7 % Asbestos in Soil (Fibres)	≥0.1%	0.00000
Corrosive H8 (Irritant H4)	≥5%H4<10%: H8≥10%	0.00000
pH Corrosive H8 (Irritant H4) pH (soil or leachate)	H8 ≥11.5	0.00
pH Corrosive H8 (Irritant H4) pH (soil or leachate)	H8 ≤2	0.00
Toxic for Reproduction H10	≥0.5%	0.00000
Toxic for Reproduction H10	≥5%	0.00000
Mutagenic H11	≥0.1%	0.00000
Mutagenic H11 Unknown TPH with ID	≥1.000mg/kg	0.00
Mutagenic H11 b(a)p marker test (Unknown TPH with ID only)	≥0.01%	#DIV/0!
Mutagenic H11	≥1%	0.00000
Produces Toxic Gases H12 Sulphide	≥1.400mg/kg	0.0
Produces Toxic Gases H12 Free Cyanide	≥1.200mg/kg	0.0
Produces Toxic Gases H12 Thiocyanate	≥2.600mg/kg	0.0
H13 Sensitising	≥1%	0.00000
Ecotoxic H14	≥1.0	0.00000
Ecotoxic H14 individual substance specific thresholds	≥0.0025%	0.000000
Ecotoxic H14 individual substance specific thresholds	≥0.025%	0.00000

GAS MONITORING RESULTS

Contract No: 722048
 Contract Name: GROVEFIELD WAY, CHELTENHAM

Contract Engineer: MB
 Date: 21/08/08

Weather Conditions: BRIGHT, CLOUDY Atmospheric Wind Conditions: Light ALM Pressure: Rising				Equipment used: GFM430				Data Collected By: IAN WARNE				Input Checked by (sign): <i>M. Baker 11/09/08</i>				
Ground Conditions (eg dry, flooded, frost, snow etc): WET																
Location	Flow (l/hr) (peak and residual) [] = time period	Atmospheric Pressure (mb)	BH Pressure (mb)	Time		% by volume in air			LEL (%)	(ppm)			Depth range to water (m bgl) (for a period of time (specify) following tap removal)	Well depth (mbgl) Current and [as installed]	Top of Response zone (m bgl)	Notes (eg, samples taken, dual installation, odours, sheens, broken headworks).
				hours mins	secs	Methane	Carbon Dioxide	Oxygen		H2S	CO	PID				
BH1	0.1	1005	1005		0 (initial)	<0.1	<0.1	20.8					DRY	5.95		
	0.1	1005	1005		15	<0.1	1.9	18.2								
					30	<0.1	1.9	16.9								
					60	<0.1	2.0	16.6								
					90	<0.1	2.0	16.5								
					120	<0.1	2.0	16.5								
					180	-	-	-								
					240	-	-	-								
BH2	0.1	1006	1006		0 (initial)	<0.1	<0.1	20.8					DRY	6.01		
	0.1	1006	1006		15	<0.1	2.0	18.1								
					30	<0.1	2.0	16.5								
					60	<0.1	2.0	16.1								
					90	<0.1	2.0	16.1								
					120	-	-	-								
					180	-	-	-								
					240	-	-	-								
BH4	0.1	1007	1007		0 (initial)	<0.1	<0.1	20.8					DRY	6.13		
	0.1	1007	1007		15	<0.1	2.1	17.1								
					30	<0.1	2.1	15.5								
					60	<0.1	2.1	15.2								
					90	<0.1	2.1	15.1								
					120	<0.1	2.1	15.1								
					180	-	-	-								
					240	-	-	-								
BH5	0.1	1008	1008		0 (initial)	<0.1	<0.1	20.8					5.75	6.04		Samples Taken
	0.1	1008	1008		15	<0.1	2.2	15.2								
					30	<0.1	2.3	12.5								
					60	<0.1	2.3	12.1								
					90	<0.1	2.3	12.1								
					120	-	-	-								
					180	-	-	-								
					240	-	-	-								

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GAS MONITORING RESULTS

Contract No: 722048
 Contract Name: GROVEFIELD WAY, CHELTENHAM

Contract Engineer: MB
 Date: 21/08/08

Weather Conditions: BRIGHT, CLOUDY Atmospheric Wind Conditions: Light ALM Pressure: Rising				Equipment used: GFM430				Data Collected By: IAN WARNE				Input Checked by (sign): <i>M. M. Baker 11/08/08</i>				
Ground Conditions (eg dry, flooded, frost, snow etc): WET																
Location	Flow (l/hr) (peak and residual) [] = time period	Atmospheric Pressure (mb)	BH Pressure (mb)	Time		% by volume in air			LEL (%)	(ppm)			Depth range to water (m bgl) (for a period of time (specify) following tap removal)	Well depth (mbgl) Current and [as installed]	Top of Response zone (m bgl)	Notes (eg, samples taken, dual installation, odours, sheens, broken headworks).
				hours mins	secs	Methane	Carbon Dioxide	Oxygen		H2S	CO	PID				
BH7	0.1	1008	1008		0 (initial)	<0.1	<0.1	20.8					2.89	4.11		Samples taken
	0.1	1008	1008		15	<0.1	1.5	17.9								
					30	<0.1	1.6	16.3								
					60	<0.1	1.6	16.1								
					90	<0.1	1.6	16.1								
					120	<0.1	1.7	16.0								
					180	<0.1	1.7	16.0								
					240	-	-	-								
BH8	0.1	1006	1006		0 (initial)	<0.1	<0.1	20.8					2.55	4.71		Samples taken
	0.1	1006	1006		15	<0.1	1.8	19.7								
					30	<0.1	2.0	19.0								
					60	<0.1	2.1	18.7								
					90	<0.1	2.1	18.7								
					120	-	-	-								
					180	-	-	-								
					240	-	-	-								

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GAS MONITORING RESULTS

Contract No: 722048
 Contract Name: GROVEFIELD WAY, CHELTENHAM

Contract Engineer: MB
 Date: 26/08/08

Weather Conditions: OVERCAST Atmospheric Wind Conditions: Light ALM Pressure: Rising				Equipment used: LMSxi				Data Collected By: BOB DAVIES				Input checked by: <i>M. M. Bale 11/09/08</i>				
Ground Conditions (eg dry, flooded, frost, snow etc): DRY																
Location	Flow (l/hr) (peak and residual) [] = time period	Atmospheric Pressure (mb)	BH Pressure (mb)	Time		% by volume in air			LEL (%)	(ppm)			Depth range to water (m bgl) (for a period of time (specify) following tap removal)	Well depth (mbgl) Current and [as installed]	Top of Response zone (m bgl)	Notes (eg, samples taken, dual installation, odours, sheens, broken headworks).
				hours mins	secs	Methane	Carbon Dioxide	Oxygen		H2S	CO	PID				
BH1	0.0	1015	1015		0 (initial)	0.0	0.0	20.9					5.76	9.95		
					15	0.0	1.5	17.2								
					30	0.1	1.6	17.0								
					60	0.1	1.7	16.9								
					90	0.1	1.7	16.9								
					120	-	-	-								
					180	-	-	-								
					240	-	-	-								
BH2	0.0	1015	1015		0 (initial)	0.0	0.0	20.9					DRY	5.99		
					15	0.0	0.6	19.6								
					30	0.1	0.5	19.3								
					60	0.1	0.5	19.3								
					90	-	-	-								
					120	-	-	-								
					180	-	-	-								
					240	-	-	-								
BH4	0.1	1015	1015		0 (initial)	0.0	0.0	20.8					DRY	6.11		
	0.0	1015	1015		15	0.1	1.8	15.2								
					30	0.1	1.8	15.0								
					60	0.3	1.9	14.9								
					90	0.3	1.9	14.7								
					120	0.3	1.9	14.7								
					180	-	-	-								
					240	-	-	-								
BH5	-0.1	1015	1015		0 (initial)	0.0	0.0	20.9					5.56	6.05		
	0.0	1015	1015		15	0.1	0.5	14.3								
					30	0.1	0.6	14.1								
					60	0.1	0.6	14.1								
					90	-	-	-								
					120	-	-	-								
					180	-	-	-								
					240	-	-	-								



GAS MONITORING RESULTS

Contract No: 722048
 Contract Name: GROVEFIELD WAY, CHELTENHAM

Contract Engineer: MB
 Date: 26/08/08

Weather Conditions: OVERCAST Atmospheric Wind Conditions: Light ALM Pressure: Rising				Equipment used: LMSxi				Data Collected By: BOB DAVIES				Input checked by: <i>MB</i> , 14/11/08				
Ground Conditions (eg dry, flooded, frost, snow etc): DRY																
Location	Flow (l/hr) (peak and residual) [] = time period	Atmospheric Pressure (mb)	BH Pressure (mb)	Time		% by volume in air			LEL (%)	(ppm)			Depth range to water (m bgl) (for a period of time (specify) following tap removal)	Well depth (mbgl) Current and [as installed]	Top of Response zone (m bgl)	Notes (eg, samples taken, dual installation, odours, sheens, broken headworks).
				hours mins	secs	Methane	Carbon Dioxide	Oxygen		H2S	CO	PID				
BH7	-0.9	1016	1012		0 (initial)	0.0	0.0	20.9					3.08	4.1		
	0.0	1016	1016		15	0.1	1.3	16.0								
					30	0.2	1.4	15.9								
					60	0.3	1.4	15.9								
					90	0.4	1.4	15.9								
					120	1.0	1.4	15.9								
					180	3.1	1.5	15.8								
					240	6.0	1.5	15.8								
					300	9.6	1.5	15.8								
					360	14.0	1.4	15.9								
					420	20.5	1.4	16.0								
					480	23.0	1.4	16.0								
					540	25.0	1.4	16.0								
					600	27.0	1.4	16.0								
	660	28.5	1.3	16.1												
	720	28.5	1.3	16.1												
BH8	0.0	1015	1015		0 (initial)	0.0	0.0	20.8					2.49	4.70		
					15	0.1	0.5	18.4								
					30	0.1	0.6	18.4								
					60	0.1	0.6	18.4								
					90	-	-	-								
					120	-	-	-								
					180	-	-	-								
					240	-	-	-								

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GAS MONITORING RESULTS

Contract No: 722048
 Contract Name: GROVEFIELD WAY, CHELTENHAM

Contract Engineer: MB
 Date: 02/09/08

Weather Conditions: OVERCAST Atmospheric Wind Conditions: Strong ALM Pressure: Falling				Equipment used: GFM 400			Data Collected By: BOB DAVIES			Input checked by: <i>Mz. M. Bule - 1109108.</i>						
Ground Conditions (eg dry, flooded, frost, snow etc):																
Location	Flow (l/hr) (peak and residual) [] = time period	Atmospheric Pressure (mb)	BH Pressure (mb)	Time		% by volume in air			LEL (%)	(ppm)			Depth range to water (m bgl) (for a period of time (specify) following tap removal)	Well depth (mbgl) Current and [as installed]	Top of Response zone (m bgl)	Notes (eg, samples taken, dual installation, odours, sheens, broken headworks).
				hours mins	secs	Methane	Carbon Dioxide	Oxygen		H2S	CO	PID				
BH1	0.0	993	993	0	(initial)	0.0	0.0	21.0					5.64	5.95		
				15		0.0	1.9	18.4								
				30		0.0	2.0	17.3								
				60		0.0	2.0	17.1								
				90		0.0	2.0	17.1								
				120		-	-	-								
				180		-	-	-								
				240		-	-	-								
BH2	0.0	993	993	0	(initial)	0.0	0.0	20.9					4.18	5.97		
				15		0.0	2.2	15.3								
				30		0.0	2.3	13.7								
				60		0.0	2.3	13.7								
				90		-	-	-								
				120		-	-	-								
				180		-	-	-								
				240		-	-	-								
BH4	0.0	993	993	0	(initial)	0.0	0.0	20.9					5.49	6.08		
				15		0.0	2.3	16.9								
				30		0.0	2.3	15.4								
				60		0.0	2.5	14.9								
				90		0.0	2.5	14.9								
				120		-	-	-								
				180		-	-	-								
				240		-	-	-								
BH5	-	-	-	0	(initial)	0.0	0.0	21.0					4.67	6.05		
				15		0.0	3.3	15.3								
				30		0.0	3.4	13.2								
				60		0.0	3.4	12.6								
				90		0.0	3.4	12.7								
				120		-	-	-								
				180		-	-	-								
				240		-	-	-								

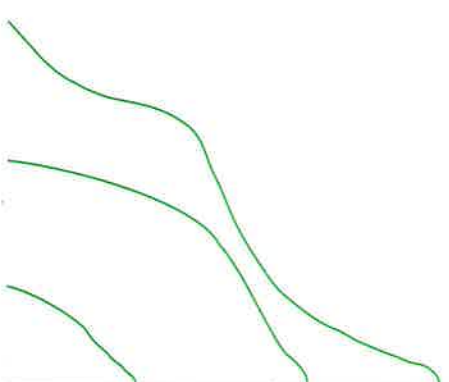


GAS MONITORING RESULTS

Contract No: 722048
 Contract Name: GROVEFIELD WAY, CHELTENHAM

Contract Engineer: MB
 Date: 02/09/08

Weather Conditions: OVERCAST Atmospheric Wind Conditions: Strong ALM Pressure: Falling				Equipment used: GFM400				Data Collected By: BOB DAVIES				Input Checked by (sign): <i>M. M. Butler 11/04/08</i>				
Ground Conditions (eg dry, flooded, frost, snow etc): WET																
Location	Flow (l/hr) (peak and residual) [] = time period	Atmospheric Pressure (mb)	BH Pressure (mb)	Time		% by volume in air			LEL (%)	(ppm)			Depth range to water (m bgl) (for a period of time (specify) following tap removal)	Well depth (mbgl) Current and [as installed]	Top of Response zone (m bgl)	Notes (eg, samples taken, dual installation, odours, sheens, broken headworks).
				hours mins	secs	Methane	Carbon Dioxide	Oxygen		H2S	CO	PID				
BH7	0.0	993	993		0 (initial)	0.0	0.0	21.0					2.72	4.11		
					15	0.0	1.9	18.5								
					30	0.0	1.9	17.2								
					60	0.0	2.0	16.9								
					90	0.0	2.0	16.9								
					120	-	-	-								
					180	-	-	-								
	240	-	-	-												
BH8	21.3	993			0 (initial)	0.0	0.0	21.0					0.19	4.17		
					15	0.0	0.6	20.7								
					30	0.0	0.6	20.4								
					60	0.0	0.6	20.4								
					90	-	-	-								
					120	-	-	-								
					180	-	-	-								
	240	-	-	-												



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GAS MONITORING RESULTS

Contract No: 722048
 Contract Name: GROVEFIELD WAY, CHELTENHAM

Contract Engineer: MB
 Date: 08/09/08

Weather Conditions: BRIGHT, CLOUDY Atmospheric Wind Conditions: Light ALM Pressure: Falling				Equipment used: GFM 400				Data Collected By: IAN WARNE				Input checked by: <i>M. M. Bido 11091608</i>				
Ground Conditions (eg dry, flooded, frost, snow etc): WET																
Location	Flow (l/hr) (peak and residual) [] = time period	Atmospheric Pressure (mb)	BH Pressure (mb)	Time		% by volume in air			LEL (%)	(ppm)			Depth range to water (m bgl) (for a period of time (specify) following tap removal)	Well depth (mbgl) Current and [as installed]	Top of Response zone (m bgl)	Notes (eg, samples taken, dual installation, odours, sheens, broken headworks).
				hours mins	secs	Methane	Carbon Dioxide	Oxygen		H2S	CO	PID				
BH1	0.1	1006	1006		0								2.63	5.95		
					(initial)	<0.1	<0.1	20.8								
		15		<0.1	1.0	18.6										
		30		<0.1	0.7	19.0										
		60		<0.1	0.3	20.2										
		90		<0.1	0.3	20.3										
		120		<0.1	0.3	20.3										
		180		-	-	-										
	240		-	-	-											
BH2	-3.7 (Approx 3 secs) 0.1	1007	1007		0								0.23	6.01		
					(initial)	<0.1	<0.1	20.8								
		15		<0.1	1.6	17.5										
		30		<0.1	1.4	16.0										
		60		<0.1	0.9	17.4										
		90		<0.1	0.7	19.3										
		120		<0.1	0.5	20.0										
		180		<0.1	0.4	20.4										
	240		<0.1	0.4	20.4											
BH4	-4.5 (Approx 5 secs) 0.1	1006	997		0								0.24	6.11		
					(initial)	<0.1	<0.1	20.8								
		15		<0.1	0.2	19.1										
		30		<0.1	0.2	18.9										
		60		<0.1	0.1	20.0										
		90		<0.1	0.1	20.4										
		120		<0.1	<0.1	20.6										
		180		-	-	-										
	240		-	-	-											
BH5	0.1	1006	1006		0								0.25	6.06		Water came up tube.
					(initial)	<0.1	<0.1	20.8								
		15		<0.1	1.2	20.7										
		25		<0.1	1.2	20.4										
		60		-	-	-										
		90		-	-	-										
		120		-	-	-										
		180		-	-	-										
	240		-	-	-											

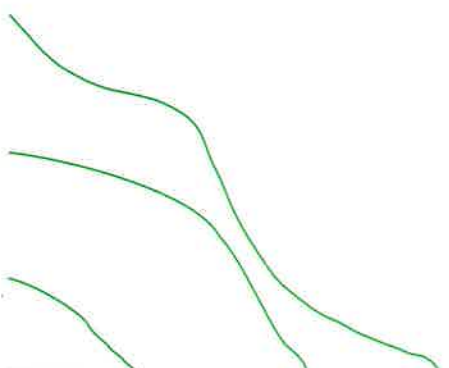


GAS MONITORING RESULTS

Contract No: 722048
 Contract Name: GROVEFIELD WAY, CHELTENHAM

Contract Engineer: MB
 Date: 08/09/08

Weather Conditions: BRIGHT, CLOUDY Atmospheric Wind Conditions: Light ALM Pressure: Falling				Equipment used: GFM 400				Data Collected By: IAN WARNE				Input checked by: <i>MZ. M. Baker 11/09/08</i>				
Ground Conditions (eg dry, flooded, frost, snow etc): WET																
Location	Flow (l/hr) (peak and residual) [] = time period	Atmospheric Pressure (mb)	BH Pressure (mb)	Time		% by volume in air			LEL (%)	(ppm)			Depth range to water (m bgl) (for a period of time (specify) following tap removal)	Well depth (mbgl) Current and [as installed]	Top of Response zone (m bgl)	Notes (eg, samples taken, dual installation, odours, sheens, broken headworks).
				hours mins	secs	Methane	Carbon Dioxide	Oxygen		H2S	CO	PID				
BH7	>-28.0 (Approx 17 secs) 0.1	1006 1006	-3000 1006		0 (initial)	<0.1	<0.1	20.8					0.94	4.13		
					15	<0.1	0.3	19.7								
					30	<0.1	0.3	19.1								
					60	<0.1	0.3	18.9								
					90	<0.1	0.2	19.6								
					120	<0.1	0.2	19.9								
					180	<0.1	0.2	20.0								
					240	-	-	-								
BH8	>-28.0 (Approx 6 secs) 0.1	1006 1006	-3000 1006		0 (initial)	<0.1	<0.1	20.8					0.43	4.72		
					15	<0.1	0.3	20.1								
					30	<0.1	0.3	19.6								
					60	<0.1	0.3	19.7								
					90	<0.1	0.3	19.8								
					120	-	-	-								
					180	-	-	-								
					240	-	-	-								



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IN-SITU GAS MONITORING RESULTS

[Pressures]	Previous	During	Start	End	Equipment Used & Remarks
Round 1	Constant	Falling	1007	1006	GFM430 + Weather: Sunny + Ground: Dry + Wind: Light
Round 2	Constant	Constant	1023	1023	GA2000 SN-GA07762 + Ground: Dry + Wind: Light + Air Temp: 25DegC
Round 3	Constant	Falling	1026	1025	GFM430 + Weather: Fine + Ground: Dry + Wind: Light
Round 4	Falling	Constant	1010	1010	GFM430 + Weather: Fine + Ground: Dry + Wind: Light

Exploratory Position ID	Pipe ref	Pipe diameter (mm)	Monitoring Round	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)
BH1	1	50	1	6.00	---	3.00 to 6.00	03/06/2014 17:00:00	1006	1006	0.0 _(I)	-	-	-	-	-
BH1	1	50	1		---	3.00 to 6.00	30 secs	1006	1006	0.0 _(SS)	-	-	-	-	-
BH1	1	50	1	6.00	---	3.00 to 6.00	03/06/2014 17:01:00	-	-	-	-	0.4	0.0	20.7	0.0
BH1	1	50	1		---	3.00 to 6.00	15 secs	-	-	-	-	0.3	0.0	20.8	0.0
BH1	1	50	1		---	3.00 to 6.00	30 secs	-	-	-	-	0.2	0.0	20.8	0.0
BH1	1	50	1		---	3.00 to 6.00	60 secs	-	-	-	-	0.1	0.0	20.9	0.0
BH1	1	50	1		---	3.00 to 6.00	90 secs	-	-	-	-	0.0	0.0	20.9	0.0
BH1	1	50	1		---	3.00 to 6.00	120 secs	-	-	-	-	0.0	0.0	20.9	0.0
BH1	1	50	1		---	3.00 to 6.00	180 secs	-	-	-	-	0.0	0.0	20.9	0.0
BH1	1	50	1		---	3.00 to 6.00	240 secs	-	-	-	-	0.0	0.0	21.0	0.0
BH1	1	50	1		---	3.00 to 6.00	300 secs	-	-	-	-	0.0	0.0	21.0	0.0
BH1	1	50	1		---	3.00 to 6.00	360 secs	-	-	-	-	0.0	0.0	21.0	0.0
BH1	1	50	1		---	3.00 to 6.00	420 secs	-	-	-	-	0.0	0.0	21.0	0.0
BH1	1	50	1		5.93	3.00 to 6.00	480 secs	-	-	-	1.21	-	-	-	-
BH1	1	50	2	6.00	---	3.00 to 6.00	13/06/2014 13:06:00	1023	1023	0.0 _(I)	-	-	-	-	-
BH1	1	50	2		---	3.00 to 6.00	30 secs	1023	1023	0.0 _(SS)	-	-	-	-	-
BH1	1	50	2	6.00	---	3.00 to 6.00	13/06/2014 13:07:00	-	-	-	-	0.0	0.0	20.8	0.0
BH1	1	50	2		---	3.00 to 6.00	15 secs	-	-	-	-	0.0	0.0	20.8	0.0

Key: I = Initial, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.


 <p>STRUCTURAL SOILS The Old School Stillhouse Lane Bedminster Bristol BS3 4EB</p>	Compiled By	Date	Checked By	Date	Contract Ref:
	<i>Simon Ford</i>	08/07/14	<i>Simon Ford</i>	08/07/14	729381
Contract: Grovefield Way, Cheltenham					Page: 1 of 9



IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Pipe ref	Pipe diameter (mm)	Monitoring Round	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	
BH1	1	50	2		---	3.00 to 6.00	30 secs	-	-	-	-	0.0	0.0	20.8	0.0	
BH1	1	50	2		---	3.00 to 6.00	60 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	2		---	3.00 to 6.00	90 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	2		---	3.00 to 6.00	120 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	2		---	3.00 to 6.00	180 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	2		---	3.00 to 6.00	240 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	2		---	3.00 to 6.00	300 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	2		5.92	3.00 to 6.00	360 secs	-	-	-	1.21	-	-	-	-	
BH1	1	50	3	6.00	---	3.00 to 6.00	17/06/2014 12:20:00	1025	1025	0.0 _(I)	-	-	-	-	-	
BH1	1	50	3		---	3.00 to 6.00	30 secs	1025	1025	0.0 _(SS)	-	-	-	-	-	
BH1	1	50	3	6.00	---	3.00 to 6.00	17/06/2014 12:21:00	-	-	-	-	0.0	0.0	20.8	0.0	
BH1	1	50	3		---	3.00 to 6.00	15 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	3		---	3.00 to 6.00	30 secs	-	-	-	-	0.0	0.0	20.8	0.0	
BH1	1	50	3		---	3.00 to 6.00	60 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	3		---	3.00 to 6.00	90 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	3		---	3.00 to 6.00	120 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	3		---	3.00 to 6.00	180 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	3		---	3.00 to 6.00	240 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	3		---	3.00 to 6.00	300 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	3		---	3.00 to 6.00	360 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	3		---	3.00 to 6.00	420 secs	-	-	-	-	0.0	0.0	20.9	0.0	
BH1	1	50	3		5.92	3.00 to 6.00	480 secs	-	-	-	1.25	-	-	-	-	
BH1	1	50	4	6.00	---	3.00 to 6.00	26/06/2014 15:45:00	-	1010	0.1 _(I)	-	-	-	-	-	
BH1	1	50	4		---	3.00 to 6.00	25 secs	-	1010	0.0 _(SS)	-	-	-	-	-	
BH1	1	50	4	6.00	---	3.00 to 6.00	26/06/2014 15:46:00	-	-	-	-	0.0	0.0	20.9	0.0	

Key: I = Initial, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.


 STRUCTURAL SOILS The Old School Stillhouse Lane Bedminster Bristol BS3 4EB	Compiled By	Date	Checked By	Date	Contract Ref: 729381
	<i>Simon Ford</i>	08/07/14	<i>Simon Ford</i>	08/07/14	
	Contract:	Grovefield Way, Cheltenham			Page:



IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Pipe ref	Pipe diameter (mm)	Monitoring Round	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)
BH1	1	50	4		---	3.00 to 6.00	15 secs	-	-	-	-	0.0	0.0	20.9	0.0
BH1	1	50	4		---	3.00 to 6.00	30 secs	-	-	-	-	0.0	0.0	20.8	0.0
BH1	1	50	4		---	3.00 to 6.00	60 secs	-	-	-	-	0.0	0.0	20.8	0.0
BH1	1	50	4		---	3.00 to 6.00	90 secs	-	-	-	-	0.0	0.0	20.8	0.0
BH1	1	50	4		---	3.00 to 6.00	120 secs	-	-	-	-	0.0	0.0	20.9	0.0
BH1	1	50	4		---	3.00 to 6.00	180 secs	-	-	-	-	0.0	0.0	20.9	0.0
BH1	1	50	4		---	3.00 to 6.00	240 secs	-	-	-	-	0.0	0.0	20.9	0.0
BH1	1	50	4		---	3.00 to 6.00	300 secs	-	-	-	-	0.0	0.0	21.0	0.0
BH1	1	50	4		---	3.00 to 6.00	360 secs	-	-	-	-	0.0	0.0	21.1	0.0
BH1	1	50	4		---	3.00 to 6.00	420 secs	-	-	-	-	0.0	0.0	21.1	0.0
BH1	1	50	4		5.93	3.00 to 6.00	660 secs	-	-	-	1.26	-	-	-	-
BH4	1	50	1	6.00	---	1.00 to 6.00	03/06/2014 15:05:00	1007	1007	0.0 _(I)	-	-	-	-	-
BH4	1	50	1		---	1.00 to 6.00	30 secs	1007	1007	0.0 _(SS)	-	-	-	-	-
BH4	1	50	1	6.00	---	1.00 to 6.00	03/06/2014 15:06:00	-	-	-	-	0.0	0.0	20.9	0.0
BH4	1	50	1		---	1.00 to 6.00	15 secs	-	-	-	-	0.2	0.0	20.7	0.0
BH4	1	50	1		---	1.00 to 6.00	30 secs	-	-	-	-	0.3	0.0	20.6	0.0
BH4	1	50	1		---	1.00 to 6.00	60 secs	-	-	-	-	0.1	0.0	20.8	0.0
BH4	1	50	1		---	1.00 to 6.00	90 secs	-	-	-	-	-	-	-	-
Remarks: Test abandoned water extracting up pipe.															
BH4	1	50	1		6.05	1.00 to 6.00	120 secs	-	-	-	0.24	-	-	-	-
BH4	1	50	2	6.00	---	1.00 to 6.00	13/06/2014 11:42:00	1023	1023	0.0 _(I)	-	-	-	-	-
BH4	1	50	2		---	1.00 to 6.00	30 secs	1023	1023	0.0 _(SS)	-	-	-	-	-
BH4	1	50	2	6.00	---	1.00 to 6.00	13/06/2014 11:43:00	-	-	-	-	0.1	0.0	20.6	0.0
BH4	1	50	2		---	1.00 to 6.00	15 secs	-	-	-	-	0.3	0.0	20.1	0.0

Key: I = Initial, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

 STRUCTURAL SOILS The Old School Stillhouse Lane Bedminster Bristol BS3 4EB	Compiled By	Date	Checked By	Date	Contract Ref: 729381
	<i>Simon Ford</i>	08/07/14	<i>Simon Ford</i>	08/07/14	
Contract: Grovefield Way, Cheltenham					Page: 3 of 9

