



Appendix 2 Borehole Logs

BOREHOLE LOG

Project Former Safeway HQ, Hayes				Borehole Log No. BH2	
Job No 05-3230.02	Date 22-09-05	Ground Level (m)	Co-Ordinates ()		
Contractor				Sheet 1 of 1	

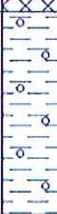
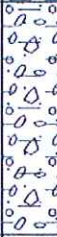
SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
0.70-0.70	J					0.05	MADE GROUND: Tarmac.		
						0.25	MADE GROUND: Compacted Hardcore.		
						(0.65)	MADE GROUND: Damp, moderately compacted, brown/grey, slightly sandy, gravelly clay with clinker		
2.20-2.20	J					0.90	Damp, moderately firm, brown, slightly sandy CLAY with frequent flint gravel.		
						(1.60)			
						2.50	Damp becoming wet, brown very gravelly SAND with occasional flint cobbles.		
						(3.00)			
						5.50	Firm, grey CLAY.		
	(0.50)								
	6.00	Borehole terminated at 6m.							

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											Log may not necessarily comply to BS5930:1999
All dimensions in metres Scale 1:50			Client			Method/ Plant Used Hollow Stem Augering.			Logged By MW		

AGS3 UK BH BH LOGS-1 GPJ AGS3 ALL GDT 4/1/06

BOREHOLE LOG

Project Former Safeway HQ, Hayes				Borehole Log No. BH6	
Job No 05-3230.02	Date 22-09-05	Ground Level (m)	Co-Ordinates ()		
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			Water	STRATA			Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)		
0.50-0.50	J					0.30	MADE GROUND: Tarmac	
						0.50	MADE GROUND: Compacted hardcore.	
2.00-2.00	J					(1.40)	Stiff brown CLAY with occasional gravel from 2.0m.	
						1.90		
						(1.60)	Dry, loose, brown, clayey, sandy GRAVEL.	
						3.50		
						(0.50)	Damp, loose, brown, sandy GRAVEL.	
						4.00		
					(1.80)	Loose, sandy COBBLES. Cobbles are subangular flint and sandstone.		
		5.80						
					6.00	Firm, grey CLAY.		
							Borehole terminated at 6.0m.	

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											Log may not necessarily comply to BS5930:1999
All dimensions in metres Scale 1:50			Client			Method/ Plant Used Hollow Stem Augering.			Logged By MW		

AGS3 UK BH BHLOGS-1.GPJ AGS3 ALL GDT 4/1/06

BOREHOLE LOG

Project Former Safeway HQ, Hayes				Borehole Log No. BH8	
Job No 05-3230.02	Date 22-09-05	Ground Level (m)	Co-Ordinates ()		
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
					0.05	MADE GROUND: Tarmac			
					0.25	MADE GROUND: Compacted Hardcore			
					(0.45)	MADE GROUND: Fill			
					0.70				
1.00-1.00	J				(1.30)	Sandy CLAY with gravel.			
2.50-2.50	J				2.00	Damp, loose, light brown, sandy GRAVEL.			
					(3.90)				
					5.90				
					6.00	Firm, grey CLAY. Borehole terminated at 6m.			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											Log may not necessarily comply to BS5930:1999

All dimensions in metres Scale 1:50	Client	Method/ Plant Used Hollow Stem Augering.	Logged By MW
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AGS3 UK BH BHLOGS-1.GPJ AGS3 ALL.GDT 4/1/06

BOREHOLE LOG

Project Former Safeway HQ, Hayes				Borehole Log No. BH9	
Job No 05-3230.02	Date 23-09-05	Ground Level (m)	Co-Ordinates ()		
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			Water	STRATA			Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)		
0.80-0.80	J		↓			0.10	MADE GROUND: Grass over topsoil.	
						(1.90)	Dry, stiff, slightly sandy, brown CLAY with occasional gravel.	
1.80-1.80	J					2.00		
						(1.00)	Dry, stiff, clayey, sandy, brown GRAVEL.	
						3.00		
						(2.60)	Wet, slightly sandy, brown GRAVEL with cobbles. Cobbles are subangular flint and sandstone.	
						5.60		
						(0.40) 6.00	Firm, grey CLAY.	
							Borehole terminated at 6m.	

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											Log may not necessarily comply to BS5930:1999
All dimensions in metres Scale 1:50						Client			Method/ Plant Used Hollow Stem Augering.		Logged By MW

TRIAL PIT LOG

Trialpit No
TP1
Sheet 1 of 1

Project Name:
Hyde Park, Hayes

Co-ords: 509068E - 179264N
Level: 31.57 m AOD

Date
04/07/2012

Location: Hyde Park, Hayes

Project No.:
JL30529

Dimensions: 4.00m

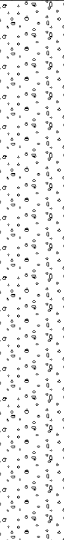
Depth
2.90m

0.80m

Scale
1:25

Client: HPHA Ltd

Logged By
PJH

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
0.20	ES1	32.1ppm	0.50	31.07		MADE GROUND: Light grey sandy gravelly COBBLES of brick and concrete. [BRICK RUBBLE FILL]	1
0.60 0.60	PID1 ES2					MADE GROUND: Dark brown slightly clayey sandy fine to coarse subangular GRAVEL of brick and concrete with occasional tarmac and very rare suspected asbestos cement tile fragments (4cm x 3cm). [FILL]	
1.10			1.10	30.47		Brown slightly clayey slightly sandy cobbly medium to coarse subrounded GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	
1.50	B1						2
2.60	B2						
2.90			2.90	28.67		Trial pit complete at 2.90 m	3
							4

Groundwater :
seepage at 2.1m

Stability:
Low in gravels

General Remarks:

TRIAL PIT LOG

Trialpit No
TP2
Sheet 1 of 1

Project Name:
Hyde Park, Hayes

Co-ords: 509099E - 179274N
Level: 31.42 m AOD

Date
05/07/2012

Location: Hyde Park, Hayes

Project No.:
JL30529

Dimensions: 1.80m

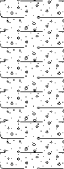
Depth
2.20m

0.50m

Scale
1:25

Client: HPHA Ltd

Logged By
PJH

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
0.20 0.20	PID1 ES1	17.3ppm				MADE GROUND: Red-brown very sandy very gravelly COBBLES of brick and concrete. [BRICK RUBBLE FILL]	
0.60 0.60	PID2 ES2	19.1ppm	0.50	30.92		MADE GROUND: Soft to firm dark grey/black very gravelly CLAY. Gravel is fine to coarse subangular to rounded of flint, occasional brick and rare clinker. [FILL]	
1.00	B1		0.80	30.62		MADE GROUND: Orange-brown sandy fine to coarse subangular to rounded GRAVEL of flint with rare brick. [FILL]	1
1.50 1.50	PID3 ES3	18.8ppm	1.30	30.12		MADE GROUND: Soft to firm dark grey/black very gravelly CLAY. Gravel is fine to coarse subangular to rounded of flint, occasional brick and rare clinker and slate. [FILL]	
2.00	B2		1.60	29.82		Orange-brown slightly clayey slightly sandy to sandy fine to coarse subrounded to rounded GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	2
			2.20	29.22		Trial pit complete at 2.20 m	
							3
							4

Groundwater :
seepage in western face at 1.3m

Stability:
Low in gravels

General Remarks:
Collapse in southern face during soakway test.

TRIAL PIT LOG

Trialpit No
TP3
Sheet 1 of 1

Project Name:
Hyde Park, Hayes

Co-ords: 509122E - 179221N
Level: 31.34 m AOD

Date
05/07/2012

Location: Hyde Park, Hayes

Project No.:
JL30529

Dimensions: 1.70m

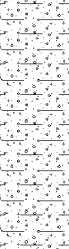
Depth
1.75m

0.50m

Scale
1:25

Client: HPHA Ltd

Logged By
PJH

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
0.50 0.50	PID1 ES1	77.2ppm	0.10	31.24		MADE GROUND: Tarmac.	
						MADE GROUND: Red-brown very sandy very gravelly COBBLES of brick and occasional concrete. [BRICK RUBBLE FILL]	
			0.40	30.94		MADE GROUND: Dark brown sandy cobbly fine to coarse subangular GRAVEL of brick, occasional clinker and rare tarmac. Cobbles of brick. Also includes rare glass, metal wire and fragments of suspected asbestos cement tile. Rare to occasional occurrence of a hard, friable blue material normally adhering to other gravel. [BRICK RUBBLE FILL]	
1.00 1.00 1.10	PID2 ES2 B1	7.4ppm	0.90	30.44		Orange-brown slightly clayey slightly sandy medium to coarse subrounded GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	1
			1.75	29.59		Trial pit complete at 1.75 m	2
							3
							4

Groundwater :
Gravel is damp.

Stability:
Moderate

General Remarks:



TRIAL PIT LOG

Trialpit No
TP4
Sheet 1 of 1

Project Name:
Hyde Park, Hayes

Co-ords: 509174E - 179211N
Level: 32.03 m AOD

Date
05/07/2012

Location: Hyde Park, Hayes

Project No.:
JL30529

Dimensions: 1.80m

Depth
3.00m

0.50m

Scale
1:25

Client: HPHA Ltd

Logged By
PJH

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
0.10 0.10	PID1 ES1	2.3ppm	0.30	31.73		MADE GROUND: Brown slightly sandy slightly gravelly to gravelly CLAY. Gravel is fine to coarse angular to subrounded of flint, brick, concrete and rare clinker. [SOIL FILL]	
0.50 0.50	PID2 ES2	7.7ppm				MADE GROUND: Dark brown with occasional black pockets slightly sandy slightly gravelly to gravelly slightly cobbly CLAY. Gravel is fine to coarse angular to subrounded of flint, brick, concrete and rare clinker. Cobbles of brick and concrete. Also contains rare glass and ceramic. [SOIL FILL]	
1.10	IVN	78	1.00	31.03		Firm orange-brown slightly silty to silty slightly gravelly CLAY. Gravel is medium subangular of flint. Becomes stiff and less silty with depth. [LANGLEY SILT MEMBER]	1
1.50	B1		2.10	29.93		Orange-brown slightly clayey slightly sandy medium to coarse subrounded to rounded GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	2
2.50	B2						
2.80	B3		3.00	29.03		Trial pit complete at 3.00 m	3
							4

Groundwater :

Stability:
good

General Remarks:



TRIAL PIT LOG

Trialpit No
TP5
Sheet 1 of 1

Project Name:
Hyde Park, Hayes

Co-ords: 509307E - 179306N
Level: 32.34 m AOD

Date
04/07/2012

Location: Hyde Park, Hayes

Project No.:
JL30529

Dimensions: 2.00m

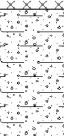
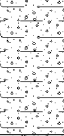
Depth
3.10m

0.80m

Scale
1:25

Client: HPHA Ltd

Logged By
PJH

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
0.30	ES1		0.50	31.84		MADE GROUND: Blue and black sandy cobbly coarse subangular GRAVEL of tarmac (loose). Cobbles of tarmac and occasional concrete.	
0.60	PID1	1.4ppm				Firm orange-brown clayey SILT. Becomes more clayey with depth. [LANGLEY SILT MEMBER]	
0.60	ES2						
0.70	IVN	73					
1.00	B1		1.50	30.84			1
1.70	B2					Orange-brown slightly clayey slightly sandy to sandy coarse subangular to subrounded GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	2
2.50	D1					Orange slightly gravelly to gravelly medium SAND. Gravel is fine to coarse subrounded of flint. [LYNCH HILL GRAVEL MEMBER]	
3.00	B3					Orange very sandy medium to coarse subangular GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	3
			3.10	29.24		Trial pit complete at 3.10 m	4

Groundwater :

Stability:
good

General Remarks:



TRIAL PIT LOG

Trialpit No
TP6
Sheet 1 of 1

Project Name:
Hyde Park, Hayes

Co-ords: 509335E - 179284N
Level: 32.28 m AOD

Date
04/07/2012

Location: Hyde Park, Hayes

Project No.:
JL30529

Dimensions: 2.00m

Depth
3.00m

0.80m

Scale
1:25

Client: HPHA Ltd

Logged By
PJH

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
0.20	PID1	24.7ppm				MADE GROUND: Brown very sandy slightly cobbly medium to coarse GRAVEL of brick, concrete and rare to occasional tarmac.	
0.20	ES1		0.30	31.98		MADE GROUND: TARMAC.	
			0.50	31.78			
0.60	PID2	4.5ppm				Soft to firm dark brown clayey slightly gravelly SILT. Gravel is coarse of flint. [LANGLEY SILT MEMBER]	
0.60	ES2						
0.70	IVN	53	0.70	31.58		Soft to firm orange-brown clayey SILT. [LANGLEY SILT MEMBER]	
0.80	PID3	0.0ppm					
0.80	ES3						
1.00	B1						1
			1.60	30.68		Orange-brown slightly clayey slightly sandy coarse subangular to subrounded GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	
2.00	B2						2
						2.40m - 3.00m: Unit is sandy.	
3.00	B3		3.00	29.28		Trial pit complete at 3.00 m	3
							4

Groundwater :

Stability:
good

General Remarks:

Project Name:
Hyde Park, Hayes

Co-ords: 509294E - 179293N
Level: 32.26 m AOD

Date
04/07/2012

Location: Hyde Park, Hayes

Project No.:
JL30529

Dimensions: 2.00m

Depth
3.20m

0.80m

Scale
1:25

Client: HPHA Ltd

Logged By
PJH

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
0.40	PID1	1.4ppm	0.35	31.91		MADE GROUND: Brown very sandy slightly cobbly medium to coarse GRAVEL of brick, concrete and rare to occasional tarmac.	
0.40	ES1		0.50	31.76		MADE GROUND: Firm to stiff black-dark grey slightly gravelly friable SILT. Gravel is fine to medium subrounded of mixed lithologies. Has a slight organic possibly contaminative odour.	
0.70	PID2	1.5ppm				Soft to firm orange-brown silty CLAY. [LANGLEY SILT MEMBER]	
0.70	IVN	57					
0.70	ES2						
1.00	B1						
							
			1.45	30.81		Firm orange-brown slightly sandy very gravelly CLAY. Gravel is fine to coarse subangular of flint. [LANGLEY SILT MEMBER]	
			1.90	30.36		Orange very clayey gravelly medium SAND. Gravel is fine to coarse subangular of flint. [LYNCH HILL GRAVEL MEMBER]	
2.00	B2						
			2.50	29.76		Orange slightly clayey very sandy fine to coarse subangular GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	
2.60	B3					Orange slightly clayey slightly sandy coarse subrounded GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	
			2.90	29.36			
3.00	B4					Trial pit complete at 3.20 m	
			3.20	29.06			
							4

Groundwater :

Stability:
good

General Remarks:

TRIAL PIT LOG

Trialpit No
TP8
Sheet 1 of 1

Project Name:
Hyde Park, Hayes

Co-ords: 509319E - 179280N
Level: 32.32 m AOD

Date
04/07/2012

Location: Hyde Park, Hayes

Project No.:
JL30529

Dimensions: 2.00m

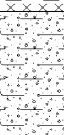
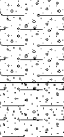
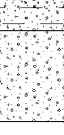
Depth
3.10m

0.80m

Scale
1:25

Client: HPHA Ltd

Logged By
PJH

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
0.60	PID1 IVN ES1 PID2 ES2	31.6ppm	0.50	31.82		MADE GROUND: Khaki brown and grey slightly sandy slightly gravelly COBBLES of brick and flint. [BRICK RUBBLE FILL]	
0.60		88	0.70	31.62		MADE GROUND: Soft to firm becoming stiff dark/maroon brown slightly gravelly silty CLAY. Gravel is fine to medium of brick and occasional charcoal.	
0.60		0.2ppm				Firm orange-brown clayey SILT. [LANGLEY SILT MEMBER]	
0.80							
1.50	B1		1.40	30.92		Orange-brown slightly clayey slightly sandy coarse subrounded GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	1
2.50	B2		2.30	30.02		Orange slightly clayey slightly gravelly to gravelly medium SAND. Gravel is medium to coarse subrounded of flint. [LYNCH HILL GRAVEL MEMBER]	
			2.80	29.52		Orange very sandy medium to coarse subangular GRAVEL of flint. [LYNCH HILL GRAVEL MEMBER]	
			3.10	29.22		Trial pit complete at 3.10 m	3
							4

Groundwater :

Stability:
good

General Remarks:



Hole Type	Cable
1	1
2	2
3	3
4	4
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98	98
99	99
100	100

Scale
1:50

Logged By
OW

Continued next sheet

Remarks:	1. Chiselled for 1.5hrs between 3m to 4m. 2. Groundwater at start of drilling on 05.07.12-8.00m, 06.07.12-2.20m & 09.07.12-3.20m. From 20.0m slow progress-bailing water from BH. 3. PID readings: 1.0m-24.3ppm, 1.5m-21.4ppm.
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Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509086.50E - 179287.20N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 31.61 m AOD

Scale
1:50

Client:
SKM

Dates: 02/07/2012-10/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.00	D					(Firm) Medium strength grey brown CLAY.	
		10.00-10.45	U	87					
		10.45-10.60	D						
11		11.00	D						11
		11.50	SPT	N=23 (3,3,5,5,6,7)					
		11.50-11.95	D						
12		11.50-12.00	B						12
		12.00	D						
13									13
		13.00-13.45	U	90					
		13.45-13.60	D						
14		14.00	D						14
		14.50	SPT	N=30 (5,6,6,7,8,9)				From 14.50 becoming (very stiff) Very high strength.	
		14.50-14.95	D						
15		14.50-15.00	B						15
		15.00	D						
16		16.00	D						16
		16.00-16.45	U	107					
		16.45-16.60	D						
17		17.00	D						17
		17.50	SPT	N=33 (5,6,7,7,9,10)					
		17.50-17.95	D						
18		17.50-18.00	B						18
		18.00	D						
19		19.00	D					From 19.00m fissures with some smooth polished surfaces.	19

Continued next sheet

Remarks: 1. Chiselled for 1.5hrs between 3m to 4m.
2. Groundwater at start of drilling on 05.07.12-8.00m, 06.07.12-2.20m & 09.07.12-3.20m. From 20.0m slow progress-bailing water from BH.
3. PID readings: 1.0m-24.3ppm, 1.5m-21.4ppm.



endeavour drilling

GEO-ENVIRONMENTAL DRILLING SPECIALISTS

Borehole No

BH11

Sheet 3 of 3

Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509086.50E - 179287.20N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 31.61 m AOD

Scale
1:50

Client:
SKM

Dates: 02/07/2012-10/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
21		20.50	SPT	N=38 (40,9,9,10,10,9)				(Firm) Medium strength grey brown CLAY.	
		20.50-21.00	B						
		21.00	D						
22		22.00	D						
		22.00-22.45	U	109					
		22.45-22.50	D						
23		22.50	SPT	N=37 (4,5,9,9,10,9)					
		22.50-22.95	D						
		22.50-23.00	B						
24		23.00	D						
		23.50	SPT	N=45 (4,6,9,13,11,12)					
		23.50-23.95	D						
25		23.50-24.00	B						
		25.00	SPT	N=46 (5,7,10,11,11,14)				From 25.00m with rare fine gravel size elongate fossils (up to 3mm).	
		25.00	D						
26		25.00-25.45	D						
		25.00-25.50	B						
		26.00	D						
27		27.00	D						
		27.50	SPT	N=28 (3,5,6,7,8,7)				Between 27.50m to 29.0m stiff.	
		27.50-27.95	D						
28		27.50-28.00	B						
		28.00	D						
		29.00	SPT	N=36 (5,6,8,9,9,10)					
29		29.00	D						
		29.00-29.45	D						
		29.00-30.00	B						
End of Borehole at 30.00 m									

Remarks: 1. Chiselled for 1.5hrs between 3m to 4m.
2. Groundwater at start of drilling on 05.07.12-8.00m, 06.07.12-2.20m & 09.07.12-3.20m. From 20.0m slow progress-bailing water from BH.
3. PID readings: 1.0m-24.3ppm, 1.5m-21.4ppm.

Hole Type	Cable
1	1
2	2
3	3
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94	94
95	95
96	96
97	97
98	98
99	99
100	100

Scale
1:50

Logged By
OW

Continued next sheet

Remarks: 1. Chiselled for 1hrs between 1.5m to 1.6m & @23.5m.
2. Groundwater at start of drilling on 09.07.12-2.0m, 10.07.12-2.0m & 10.07.12-3.0m. From 1.6m to 4.35m slow progress-water added to BH infiltrated quickly.



endeavour drilling

GEO-ENVIRONMENTAL DRILLING SPECIALISTS

Borehole No

BH12

Sheet 2 of 3

Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509070.30E - 179251.20N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 31.59 m AOD

Scale
1:50

Client:
SKM

Dates: 03/07/2012-11/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.00-10.50	U	89				(Stiff) High Strength grey brown CLAY. From 10.00m fissures becoming planar with smooth polished surfaces.	
		10.50	D						
	11								11
		11.50	SPT	N=32 (2,4,7,8,9,8)					
		11.50-11.95	D						
	12								12
	13								13
		13.00-13.50	U	94					
		13.50	D						
	14								14
		14.50	SPT	N=34 (3,5,6,8,10,10)					
		14.50-14.95	D						
	15								15
	16								16
		16.00-16.50	U	100					
		16.50	D						
	17								17
		17.00	D						
		17.50	SPT	N=31 (3,5,7,7,8,9)					
	18								18
	19								19
		19.50	D						

Continued next sheet

Remarks: 1. Chiselled for 1hrs between 1.5m to 1.6m & @23.5m.
2. Groundwater at start of drilling on 09.07.12-2.0m, 10.07.12-2.0m & 10.07.12-3.0m. From 1.6m to 4.35m slow progress-water added to BH infiltrated quickly.



endeavour drilling

GEO-ENVIRONMENTAL DRILLING SPECIALISTS

Borehole No

BH12

Sheet 3 of 3

Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509070.30E - 179251.20N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 31.59 m AOD

Scale
1:50

Client:
SKM

Dates: 03/07/2012-11/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.50 20.50	SPT D	N=44 (2,5,8,9,12,15)				(Stiff) High Strength grey brown CLAY.	
	21								21
	22	22.00-22.50 22.50	U D	112					22
	23								23
		23.50	SPT	N=50 (10,50,50,0,0,0)					
	24	24.00-24.30	B						24
	25	25.00-25.50	U	95					25
	26								26
	27	26.50 26.50-26.95	SPT D	N=40 (5,7,9,10,11,10)					27
	28	27.50-28.00	B					From 27.50m with rare fine gravel size fossil fragments and rare dustings of light grey sandy silt.	28
	29	29.50 29.50-29.95	SPT D	N=38 (6,8,9,10,9,10)					29
					29.95	1.64		End of Borehole at 29.95 m	

Remarks: 1. Chiselled for 1hrs between 1.5m to 1.6m & @23.5m.
2. Groundwater at start of drilling on 09.07.12-2.0m, 10.07.12-2.0m & 10.07.12-3.0m. From 1.6m to 4.35m slow progress-water added to BH infiltrated quickly.



Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509142.80E - 179248.30N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 31.92 m AOD

Scale
1:50

Client:
SKM

Dates: 12/07/2012-16/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES		0.50	31.42		MADE GROUND (Grass over dark brown slightly gravelly slightly sandy clay with occasional rootlets. Gravel is angular to subrounded, fine to coarse of brick, flint, quartz and concrete).
		0.50	ES					
1								CONCRETE obstruction.
		1.30	ES		1.25	30.67		Dense orange brown slightly sandy to sandy GRAVEL. Sand is fine to coarse, gravel is subangular to subrounded, fine to coarse of flint and quartz.
		1.50	B					
2		2.00	CPT	N=33 (3,6,7,8,9,9)				
		2.00	B					
3		3.00	CPT	N=45 (5,7,9,10,12,14)				
		3.00	B					
4		4.00	CPT	N=41 (4,8,9,10,10,12)				
		4.00	B					
5		5.00	CPT	N=33 (3,5,8,7,8,10)				
		5.00	B					
6		6.00	CPT	N=34 (4,6,7,8,8,11)				
		6.00	B					
7		7.00	CPT	N=11 (2,4,3,4,2,2)	7.00	24.92		(Firm) brown CLAY
		7.00	B		7.30	24.62		(Firm to stiff) Medium to high strength grey brown fissured CLAY. Fissures are very closely spaced, undulating planar with rough to smooth surfaces. Apertures are partly open to open and clean.
8		8.00-8.50	U	75				
		8.50	D					
9		9.00	SPT	N=27 (3,5,6,6,7,8)				... becoming stiff with rare fine gravel size calcrete concretions.
		9.00-9.45	D					

Continued next sheet

Remarks: 1. Chiselled for 1hr between 0.5m to 0.90m.
2. No groundwater encountered.
3. PID readings: 0.2m-45.2ppm, 0.5m-37.3ppm, 1.5m-20.1ppm.



Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509142.80E - 179248.30N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 31.92 m AOD

Scale
1:50

Client:
SKM

Dates: 12/07/2012-16/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.00-10.50	U	100				(Firm to stiff) Medium to high strength grey brown fissured CLAY. Fissures are very closely spaced, undulating planar with rough to smooth surfaces. Apertures are partly open to open and clean.	
		10.50	D						
		11							11
		11.50	SPT	N=30 (4,6,7,7,8,8)				... becoming (very stiff) Very high strength	
		11.50-11.95	D						
		12							12
		12.00	B						
		13							13
		13.00-13.50	U	75					
		13.50	D						
		14							14
		14.50	SPT	N=39 (4,6,8,9,10,12)					
		14.50-14.95	D						
		15							15
		16							16
		16.00	U	100					
		16.50	D						
		17							17
		17.50	SPT	N=41 (5,7,8,9,11,13)					
		17.50-17.95	D						
		18							18
		18.00	B						
		19							19
		19.00-19.50	U	89					
		19.50	D						

Continued next sheet

Remarks: 1. Chiselled for 1hr between 0.5m to 0.90m.
2. No groundwater encountered.
3. PID readings: 0.2m-45.2ppm, 0.5m-37.3ppm, 1.5m-20.1ppm.

Hole Type	Cable
1	1
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100	100

Scale
1:50

Logged By
OW

End of Borehole at 30.00 m

Remarks: 1. Chiselled for 1hr between 0.5m to 0.90m.
2. No groundwater encountered.
3. PID readings: 0.2m-45.2ppm, 0.5m-37.3ppm, 1.5m-20.1ppm.



Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509135.00E - 179198.60N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 31.78 m AOD

Scale
1:50

Client:
SKM

Dates: 10/07/2012-17/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
1		0.30	ES		0.25	31.53		Dark grey and light grey slightly sandy gravelly cobbles of concrete. Sand is fine to coarse. Gravel is angular to subrounded, fine to coarse of concrete and brick. (MADE GROUND)	1
		0.50	ES					Very dense brown sandy gravel with occasional brick and concrete cobbles. Sand is fine to coarse. Gravel is angular to subangular, fine to coarse of flint, concrete and quartz. (MADE GROUND)	
		1.00	SPT	50/75mm (1,1,50)					
		1.00	ES						
		1.00	D						
		1.00-1.45	D						
		1.50	D		1.50	30.28			
		1.50-2.00	B					Firm dark brown and orange brown sandy gravelly clay with rare coarse gravel size wood, glass and metal fragments. Gravel is angular to subrounded, fine to coarse of flint, brick and concrete. (MADE GROUND)	
		1.90	D		1.90	29.88			
		2.10	ES		2.10	29.68		Firm brown and orange brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of flint.	
2		2.10	D						2
		2.50	CPT	N=43 (5,9,10,10,11,12)					
		2.50-2.95	B					Dense orange brown very sandy GRAVEL. sand is fine to coarse. Gravel is subangular to subrounded, fine to coarse of flint and quartz. .	
		3.00	D						
		3.50	CPT	N=43 (9,10,13,12,10,8)					
		3.50-3.95	B						
		4.00	SPT	N=28 (5,6,9,10,5,4)					
		4.00	D					From 4.0m becoming medium dense.	
		4.00-4.45	D						
		4.00-4.50	B						
3		5.00	SPT	N=14 (2,2,3,3,3,5)					3
		5.00	D						
		5.00-5.45	D						
		5.30	D		5.30	26.48			
		5.50	D		5.50	26.28		Firm light brown CLAY.	
								Stiff dark greyish brown CLAY.	
		6.00	D						
		6.00-6.45	U	70					
		6.45-6.60	D						
								From 6.50m becoming fissured. Fissures are very closely spaced, undulating and planar withn rough surfaces. Apertures are moderately open with thin layers of dark grey clayey silt infill (up to 2mm thickness).	
4		7.00	SPT	N=18 (1,2,3,4,4,7)					4
		7.00	D						
		7.00-7.45	D						
		8.00	D						
		8.00-8.45	U	78					
		8.45-8.60	D						
		9.00	SPT	N=15 (1,3,3,3,4,5)					
		9.00	D						
		9.00-9.45	D						
		9.00-9.50	B						

Continued next sheet

- Remarks:
1. Chiselled for 1.5hrs between 1.0m to 1.8m & 1hr from 19.5m to 20m.
 2. Groundwater at start of drilling on 16.07.12-8.00m & 17.07.12-17.0m. From 24.0m slow progress-bailing water from BH.
 3. PID readings: 0.3m-19.9ppm, 0.5m-45.2ppm & 1.0m-77.4ppm.



endeavour drilling

GEO-ENVIRONMENTAL DRILLING SPECIALISTS

Borehole No

BH14

Sheet 2 of 4

Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509135.00E - 179198.60N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 31.78 m AOD

Scale
1:50

Client:
SKM

Dates: 10/07/2012-17/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.00	D					Stiff dark greyish brown CLAY.	
		10.00-10.45	U	89					
		10.45-10.60	D						
								From 10.6m with smooth polished surfaces.	
11		11.00	D						11
		11.50	SPT	N=24 (2,5,5,5,7,7)					
		11.50-11.95	D						
12		11.50-12.00	B						12
		12.00	D						
13		13.00	D						13
		13.00-13.45	U	107					
		13.45-13.60	D						
14		14.00	D						14
		14.50	SPT	N=22 (3,3,5,5,6,6)					
		14.50-14.95	D						
15		14.50-15.00	B						15
		15.00	D						
16		16.00	D						16
		16.00-16.45	U	120					
		16.45-16.60	D						
17		17.00	D						17
		17.50	SPT	N=31 (4,6,6,7,8,10)					
		17.50-17.95	D					From 17.50m becoming very stiff .	
18		17.50-18.00	B						18
		18.00	D						
19		19.00	D						19
		19.00-19.45	U						
		19.50	D					Between 19.5m to 19.9m large band of strong light grey Mudstone.	

Continued next sheet

- Remarks:
1. Chiselled for 1.5hrs between 1.0m to 1.8m & 1hr from 19.5m to 20m.
 2. Groundwater at start of drilling on 16.07.12-8.00m & 17.07.12-17.0m. From 24.0m slow progress-bailing water from BH.
 3. PID readings: 0.3m-19.9ppm, 0.5m-45.2ppm & 1.0m-77.4ppm.



endeavour drilling

GEO-ENVIRONMENTAL DRILLING SPECIALISTS

Borehole No

BH14

Sheet 3 of 4

Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509135.00E - 179198.60N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 31.78 m AOD

Scale
1:50

Client:
SKM

Dates: 10/07/2012-17/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.00	D					Stiff dark greyish brown CLAY.	
		20.50	SPT	N=34 (6,7,7,10,8,9)					
		20.50-20.95	D						
		20.50-21.00	B						
21		21.00	D						21
22		22.00	D						22
		22.00-22.45	U					From 22.0m with rare coarse strong grey subangular to subrounded Mudstone gravel.	
23		23.00	D						23
		23.50	SPT	N=32 (5,6,7,7,8,10)					
		23.50-23.95	D						
		23.50-24.00	B						
24		24.00	D						24
25		25.00	D						25
		25.00-25.45	U						
		25.45	D						
26		26.00	D						26
		26.50	SPT	N=35 (6,7,7,9,10,9)					
		26.50-26.95	D						
		26.50-27.00	B						
27		27.00	D						27
28		28.00	D						28
		28.00-28.45	U						
		28.45-28.60	D						
29		29.00	D					From 29.0m with rare silt dustings along fissured surfaces.	29
		29.00-29.95	D						
		29.50	SPT	N=41 (6,7,8,10,11,12)					
		29.50-30.00	B						

Continued next sheet

- Remarks:
1. Chiselled for 1.5hrs between 1.0m to 1.8m & 1hr from 19.5m to 20m.
 2. Groundwater at start of drilling on 16.07.12-8.00m & 17.07.12-17.0m. From 24.0m slow progress-bailing water from BH.
 3. PID readings: 0.3m-19.9ppm, 0.5m-45.2ppm & 1.0m-77.4ppm.



Sheet 4 of 4

Co-ords: 509135.00E - 179198.60N

Level: 31.78 m AOD

Dates: 10/07/2012-17/07/2012

Logged By
OW

End of Borehole at 40.00 m

Remarks: 1. Chiselled for 1.5hrs between 1.0m to 1.8m & 1hr from 19.5m to 20m.
2. Groundwater at start of drilling on 16.07.12-8.00m & 17.07.12-17.0m. From 24.0m slow progress-bailing water from BH.
3. PID readings: 0.3m-19.9ppm, 0.5m-45.2ppm & 1.0m-77.4ppm.



endeavour drilling

GEO-ENVIRONMENTAL DRILLING SPECIALISTS

Borehole No

BH15

Sheet 1 of 3

Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509302.10E - 179315.90N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 32.33 m AOD

Scale
1:50

Client:
SKM

Dates: 12/07/2012-16/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30	D		0.30	32.03		Dark grey silty sandy gravel with coarse gravel with coarse gravel sized fragments of metal, plastic and rare brick cobbles. (MADE GROUND).	
		0.50	ES					Firm brown slightly sandy, slightly gravelly, CLAY. Gravel is subangular to subrounded, fine to coarse of flint.	
		0.50-1.00	B						
		1.00	D						1
		1.50	CPT	N=50 (7,10,11,12,14,13)	1.50	30.83			
		1.50-1.95	B					Very dense orange brown sandy GRAVEL. Gravel is subangular to subrounded, fine to coarse of flint.	
		2.00	D						2
		2.50	CPT	N=48 (5,10,10,11,13,14)					
		2.50-2.95	B					From 2.50m becoming dense.	
		3.00	D						3
		3.50	CPT	N=39 (4,6,7,9,10,13)					
		3.50-3.95	B						4
		4.00	D						
		4.50	CPT	N=46 (6,9,10,11,12,13)					
		4.50-4.95	B						
		5.00	D						5
		5.50-5.95	B		5.60	26.73		(Stiff) brown mottled orange brown slightly gravelly CLAY. Gravel is subangular, fine to medium of flint.	
		6.00	D		5.90	26.43		(Stiff) High Strength dark grey brown CLAY.	6
		6.50-6.95	U	22					7
		7.00	D						
		7.50	SPT	N=20 (3,4,4,4,5,7)				From 7.50m becoming fissured. Fissures are undulating and planar with rough and smooth surfaces. Apertures are moderately open and clean.	
		7.50-7.95	D						8
		8.50-8.95	U	35					
		9.00	D						9
		9.50	SPT	N=23 (4,4,5,5,6,7)					
		9.50-9.95	D						

Continued next sheet

Remarks: 1. Chiselled for 1hr between 18.3m to 18.7m.
2. Groundwater seepage encountered at 18.30m.
3. PID readings: 0.3m-4.6ppm, 0.5m-2.5ppm & 1.50m-1.4ppm.



Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509302.10E - 179315.90N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 32.33 m AOD

Scale
1:50

Client:
SKM

Dates: 12/07/2012-16/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description		
		Depth (m)	Type	Results						
								(Stiff) High Strength dark grey brown CLAY.		
		11								
			11.00-11.45	U	80					
			11.50	D						
		12								
			12.50	SPT	N=27 (4,5,6,6,7,8)					
			12.50-12.90	D						
		13								
		14								
			14.00-14.45	U	100					
			14.50	D					At 14.50m with rare band of strong grey mudstone (up to 20mm).	
15										
	15.50	SPT	N=29 (4,5,7,7,7,8)							
	15.50-15.90	D								
16										
17										
	17.00-17.45	U	100							
	17.50	D								
18										
	18.50	SPT	50/95mm (9,14,37,13)				Between 18.30m to 18.70m band of strong light grey Mudstone.			
	18.50-18.95	B								
19										

Remarks: 1. Chiselled for 1hr between 18.3m to 18.7m.
2. Groundwater seepage encountered at 18.30m.
3. PID readings: 0.3m-4.6ppm, 0.5m-2.5ppm & 1.50m-1.4ppm.

Project Name:
Hyde Park, HayesProject No.
J1747

Co-ords: 509302.10E - 179315.90N

Hole Type
CableLocation:
Millington, Hayes, Middlesex

Level: 32.33 m AOD

Scale
1:50Client:
SKM

Dates: 12/07/2012-16/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.00-20.45	U	100				(Stiff) High Strength dark grey brown CLAY.	
		20.50	D						
		21							21
		21.50	SPT	N=39 (6,7,9,10,10,10)					
		21.50-21.95	D					From 21.50m becoming very stiff and fissures with smooth polished surfaces.	
		22							22
		23							23
		23.00-23.45	U	100					
		23.50	D						
		24							24
		24.50	SPT	N=39 (6,7,8,9,10,12)					
		24.50-24.95	D					From 25.0m with rare gravel size elongate pyrite nodules.	25
		25							25
		26							26
		26.00-26.45	U	100					
		26.50	D						
		27							27
		27.50	SPT	N=51 (7,9,10,13,14,14)					
		27.50-27.95	D						
		28							28
		29							29
		29.00-29.45	U	100					
		29.50	D						
								End of Borehole at 30.00 m	

Remarks: 1. Chiselled for 1hr between 18.3m to 18.7m.
2. Groundwater seepage encountered at 18.30m.
3. PID readings: 0.3m-4.6ppm, 0.5m-2.5ppm & 1.50m-1.4ppm.



Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509284.90E - 179299.70N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 32.46 m AOD

Scale
1:50

Client:
SKM

Dates: 17/07/2012-19/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
1		0.30	ES		0.80	31.66		Dark brownish grey slightly silty sandy gravelly clay with occasional rootlets. Gravel is angular to subrounded, fine to coarse of flint, brick, concrete. (MADE GROUND)	
		0.30	D						
		0.50	ES						
		0.50	D						
		1.00	ES		2.10	30.36		Soft light brown mottled dark brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is subangular to subrounded, fine to coarse of flint. (MADE GROUND)	1
		1.00	D						
		1.20	SPT	N=3 (1,1,1,0,1,1)					
		1.00-1.50	B						
		1.20-1.65	D						
		2.00	SPT	N=10 (1,2,2,3,2,3)					
		2.10	ES						
		2.00-2.46	D						
		2.00-2.50	B						
		3.00	CPT	N=14 (2,3,4,4,3,3)	5.50	26.96		Medium dense, orange brown slightly sandy to sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded, fine to coarse of flint.	2
		3.00-3.45	B						
		4.00	CPT	N=25 (1,3,5,6,6,8)					
		5.00	CPT	N=22 (7,9,8,6,5,3)					
		5.00-5.45	B		6.30	26.16		(Firm to stiff) light brown mottled orange brown slightly gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of flint.	3
		6.00	SPT	N=13 (2,3,3,3,3,4)					
		6.00-6.45	B						
		7.00	D						
		7.00-7.50	U	68				(Stiff) High strength dark greyish brown CLAY.	4
		8.00	SPT	N=19 (3,4,4,4,5,6)					
		8.00-8.45	D						
		9.00-9.50	U	80					
		9.50	D						

Continued next sheet

- Remarks:
1. Hand dug inspection pit to 1.2m.
 2. Monitoring installation installed 30mbgl.
 3. No groundwater encountered.
 4. PID readings: 0.3m-2.2ppm, 0.5m-8.3ppm, 1.0m-20.8ppm.



Sheet 2 of 3

Co-ords: 509284.90E - 179299.70N

Hole Type	Cable
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
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82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Level: 32.46 m AOD

Scale
1:50

Client:
SKM

Dates: 17/07/2012-19/07/2012

Logged By
OW

Continued next sheet

Remarks: 1. Hand dug inspection pit to 1.2m.
2. Monitoring installation installed 30mbgl.
3. No groundwater encountered.
4. PID readings: 0.3m-2.2ppm, 0.5m-8.3ppm, 1.0m-20.8ppm.



endeavour drilling

GEO-ENVIRONMENTAL DRILLING SPECIALISTS

Borehole No

BH16

Sheet 3 of 3

Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509284.90E - 179299.70N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 32.46 m AOD

Scale
1:50

Client:
SKM

Dates: 17/07/2012-19/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.00	B					(Stiff) High strength dark greyish brown CLAY.	
		21.00-21.50	U	85				... with occasional fine gravel sized fossil fragments.	
		22.50	SPT	N=59 (7,10,13,17,15,14)					
		22.50-22.95	D						
		24.00-24.50	U	100					
		24.50	B						
		25.50	SPT	N=57 (5,9,12,16,15,14)					
		25.50-25.95	D						
		27.00-27.50	U	100					
		27.50	D						
		28.50	SPT	N=53 (7,9,15,13,12,13)					
		28.00-29.95	D						
End of Borehole at 30.00 m									

Remarks:

1. Hand dug inspection pit to 1.2m.
2. Monitoring installation installed 30mbgl.
3. No groundwater encountered.
4. PID readings: 0.3m-2.2ppm, 0.5m-8.3ppm, 1.0m-20.8ppm.



endeavour drilling

GEO-ENVIRONMENTAL DRILLING SPECIALISTS

Borehole No

BH17

Sheet 1 of 3

Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509330.60E - 179288.80N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 32.26 m AOD

Scale
1:50

Client:
SKM

Dates: 16/07/2012-18/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
1		0.50	D		0.40	31.86		Dark grey silty sandy gravel with coarse gravel sized fragments of metal, plastic and rare concrete brick cobbles. Gravels angular to subangular, fine to coarse of brick, flint. (MADE GROUND)	1
		0.50-0.90	ES B					Firm light brown slightly sandy clay with rare rootlets. (MADE GROUND)	
2		1.00	D						2
		1.00	ES						
3		1.50	CPT	N=50 (7,10,12,13,13,12)	1.50	30.76		Very dense orange brown sandy GRAVEL. Sand is fine to coarse, gravel is subangular to subrounded, fine to coarse of flint.	3
		1.50	D						
4		1.50	ES						4
		1.50-1.95	B						
5		2.00	D						5
		2.50	CPT	N=42 (5,8,9,10,11,12)				... becoming dense.	
6		2.50-2.95	B						6
		3.00	D						
7		3.50	CPT	N=39 (5,6,8,10,10,11)					7
		3.50-3.95	B						
8		4.00	D						8
		4.50	CPT	N=33 (4,5,7,8,8,10)					
9		4.50-4.95	B						9
		5.10	D		5.10	27.16		(Stiff) brown mottled orange brown CLAY.	
10		5.40	D		5.40	26.86		(Stiff) High strength dark greyish brown fissured CLAY. Fissures are extremely closely to very closely spaced, planar with rough and smooth polished surfaces. Apertures are open and clean.	10
		5.50-5.95	U	30					
11		6.00	D						11
		6.50	SPT	N=20 (3,4,4,5,5,6)					
12		6.50-6.95	D						12
		6.50-6.95	B						
13		7.50-7.95	U	35					13
		8.00	D						
14		8.50	SPT	N=29 (4,5,6,7,8,8)				... becoming very stiff	14
		8.50-8.95	D						
15		9.50-9.95	U	55					15

Continued next sheet

Remarks: 1. Hand dug inspection pit to 1.2m.
2. No groundwater encountered.
3. Chiseling from 10.9m to 11.3m (1hr.).
4. Monitoring installation at 30mbgl.



Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509330.60E - 179288.80N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 32.26 m AOD

Scale
1:50

Client:
SKM

Dates: 16/07/2012-18/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.00	D					(Stiff) High strength dark greyish brown fissured CLAY. Fissures are extremely closely to very closely spaced, planar with rough and smooth polished surfaces. Apertures are open and clean.	
11		11.00	CPT	N=50 (17,8,31,19,0,0)	10.90	21.36		Strong dark grey LIMESTONE band.	11
		11.00-11.45	B		11.30	20.96		(Stiff) High strength dark greyish brown fissured CLAY. Fissures are extremely closely to very closely spaced, planar with rough and smooth polished surfaces. Apertures are open and clean.	
12									12
		12.50-12.95	U	58					
13		13.00	D						13
14		14.00	SPT	N=37 (5,6,8,9,9,11)					14
		14.00-14.45	D						
15									15
		15.50-15.95	U	65					
16		16.00	D						16
17		17.00	SPT	N=34 (5,6,7,8,9,10)				... becoming (very stiff) Very high strength with occasional fine gravel size fossil fragments.	17
		17.00-17.45	D						
		17.00-17.45	B						
18									18
		18.50-18.95	U	86					
19		19.00	D						19

Continued next sheet

Remarks: 1. Hand dug inspection pit to 1.2m.
2. No groundwater encountered.
3. Chiseling from 10.9m to 11.3m (1hr.).
4. Monitoring installation at 30mbgl.



endeavour drilling

GEO-ENVIRONMENTAL DRILLING SPECIALISTS

Borehole No

BH17

Sheet 3 of 3

Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509330.60E - 179288.80N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 32.26 m AOD

Scale
1:50

Client:
SKM

Dates: 16/07/2012-18/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		20.00	SPT	N=43 (5,7,9,10,11,13)				(Stiff) High strength dark greyish brown fissured CLAY. Fissures are extremely closely to very closely spaced, planar with rough and smooth polished surfaces. Apertures are open and clean.	
		20.00-20.45	D						
	21								21
		21.50-21.95	U	100					
	22	22.00	D						22
	23	23.00	SPT	N=41 (5,6,8,10,11,12)					23
		23.00-23.45	D						
	24								24
		24.50-24.95	U	100					
	25	25.00	D					... with rare grey silty dustings along fissures	25
	26	26.00	SPT	N=45 (7,8,10,11,11,13)					26
		26.00-26.45	D						
	27								27
		27.50-27.95	U	100					
	28								28
	29	29.00	SPT	N=48 (6,9,10,11,12,15)					29
		29.00-29.45	D						
		29.50-30.00	B						
End of Borehole at 30.00 m									

Remarks: 1. Hand dug inspection pit to 1.2m.
2. No groundwater encountered.
3. Chiseling from 10.9m to 11.3m (1hr.).
4. Monitoring installation at 30mbgl.



Project Name:
Hyde Park, Hayes

Project No.
J1747

Co-ords: 509371.60E - 179258.80N

Hole Type
Cable

Location:
Millington, Hayes, Middlesex

Level: 31.86 m AOD

Scale
1:50

Client:
SKM

Dates: 18/07/2012-19/07/2012

Logged By
OW

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	SPT	N=2 (0,1,0,1,0,1)	0.80	31.06		Very soft dark grey silty sandy gravelly clay with occasional wood fragments and brick cobbles . Gravels angular to subrounded, fine to coarse of brick concrete, flint. (MADE GROUND)	1
		0.50	ES						
		0.50-0.95	D						
		0.80	ES						
		0.80	D		1.50	30.36		Firm orange brown and light brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded, fine to coarse of flint and clinker. (MADE GROUND)	2
		1.00	D						
		1.50	SPT	N=9 (1,1,2,2,3,2)					
		1.50-1.95	D						
		2.00	D		2.00	29.86		(Firm) brown mottled orange brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of flint and quartz.	3
		2.50	CPT	N=47 (7,9,11,13,11,12)					
		2.50-3.00	B						
		3.00	D						
		3.50	CPT	N=49 (6,7,9,12,14,14)	4.80	27.06		Dense orange brown sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded, fine to coarse of flint and quartz.	4
		3.50-4.00	B						
		4.00	D						
		4.50	CPT	N=32 (7,9,10,14,5,3)					
		4.50-5.00	B		6.10	25.76		(Stiff) dense greyish brown CLAY.	5
		4.80	D						
		5.00	D						
		5.50-5.95	U	69					
		5.45-6.10	D						
								End of Borehole at 6.10 m	6
									7
									8
									9

Remarks: 1. No groundwater encountered.
2. Hand dug inspection pit to 1.2m.
3. Groundwater installation to 6.10m.
4. PID readings: 0.5m-0.0ppm, 0.95m-0.0ppm.



Appendix 3 Laboratory Analysis Certificates



Paul Hollinghurst

SKM Enviro
New City Court
20 St Thomas St
London
SE1 9RS

i2 Analytical Ltd.
Building 19,
BRE,
Garston,
Watford,
WD25 9XX

e: phollinghurst@globalskm.com

t: 01923 67 00 20
f: 01923 67 00 30
e: reception@i2analytical.com

Analytical Report Number : 12-35001

Project / Site name: Hyde Park, Hayes

Samples received on: 05/07/2012

Your job number: JL30529

Samples instructed on: 09/07/2012

Your order number:

Analysis completed by: 18/07/2012

Report Issue Number: 1

Report issued on: 18/07/2012

Samples Analysed: 15 soil samples

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Rexona Rahman
Customer Services Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 12-35001
Project / Site name: Hyde Park, Hayes

Lab Sample Number				220017	220018	220019	220020	220021
Sample Reference				BH11	BH11	BH12	TP1	TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.00	0.30	0.20	0.60
Date Sampled				02/07/2012	02/07/2012	03/07/2012	04/07/2012	04/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	N/A	< 0.1	< 0.1	N/A	< 0.1
Moisture Content	%	N/A	NONE	N/A	9.4	6.4	N/A	9.6
Total mass of sample received	kg	0.001	NONE	N/A	1.4	1.2	N/A	0.76
Asbestos in Soil Screen	P/A	N/A	ISO 17025	Absent	N/A	Absent	Absent	Absent

General Inorganics

pH	pH Units	N/A	MCERTS	N/A	7.7	10.8	N/A	8.2
Free Cyanide	mg/kg	1	NONE	N/A	< 1	< 1	N/A	< 1
Total Organic Carbon (TOC)	%	0.1	MCERTS	N/A	0.5	0.4	N/A	0.7

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	N/A	10	7.8	N/A	12
Boron (water soluble)	mg/kg	0.2	MCERTS	N/A	0.6	0.3	N/A	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	N/A	0.8	1.2	N/A	4.8
Chromium (hexavalent)	mg/kg	4	MCERTS	N/A	< 4.0	< 4.0	N/A	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	N/A	28	21	N/A	41
Copper (aqua regia extractable)	mg/kg	1	MCERTS	N/A	24	26	N/A	76
Lead (aqua regia extractable)	mg/kg	2	MCERTS	N/A	40	52	N/A	170
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	N/A	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	N/A	21	16	N/A	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	N/A	< 1.0	< 1.0	N/A	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	N/A	38	30	N/A	39
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	N/A	70	60	N/A	190

Monoaromatics

Benzene	µg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0
Toluene	µg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0
p & m-xylene	µg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0
o-xylene	µg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	N/A	< 2.0	N/A	N/A	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	N/A	< 8.0	N/A	N/A	8.4
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	N/A	< 8.0	N/A	N/A	20
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	N/A	< 10	N/A	N/A	29
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	N/A	< 2.0	N/A	N/A	9.6
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	N/A	< 10	N/A	N/A	65
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	N/A	< 10	N/A	N/A	130
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	N/A	< 10	N/A	N/A	200



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Environmental Science

Analytical Report Number: 12-35001

Project / Site name: Hyde Park, Hayes

Lab Sample Number				220017	220018	220019	220020	220021
Sample Reference				BH11	BH11	BH12	TP1	TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.00	0.30	0.20	0.60
Date Sampled				02/07/2012	02/07/2012	03/07/2012	04/07/2012	04/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

VOCs

Chloromethane	µg/kg	4	ISO 17025	N/A	< 4.0	< 4.0	N/A	N/A
Chloroethane	µg/kg	2	ISO 17025	N/A	< 2.0	< 2.0	N/A	N/A
Bromomethane	µg/kg	6	ISO 17025	N/A	< 6.0	< 6.0	N/A	N/A
Vinyl Chloride	µg/kg	24	ISO 17025	N/A	< 24	< 24	N/A	N/A
Trichlorofluoromethane	µg/kg	5	ISO 17025	N/A	< 5.0	< 5.0	N/A	N/A
1,1-dichloroethene	µg/kg	7	MCERTS	N/A	< 7.0	< 7.0	N/A	N/A
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	N/A	< 7.0	< 7.0	N/A	N/A
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	N/A	< 7.0	< 7.0	N/A	N/A
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	N/A	N/A
1,1-dichloroethane	µg/kg	6	MCERTS	N/A	< 6.0	< 6.0	N/A	N/A
2,2-Dichloropropane	µg/kg	6	NONE	N/A	< 6.0	< 6.0	N/A	N/A
Trichloromethane	µg/kg	7	MCERTS	N/A	< 7.0	< 7.0	N/A	N/A
1,1,1-Trichloroethane	µg/kg	7	MCERTS	N/A	< 7.0	< 7.0	N/A	N/A
1,2-dichloroethane	µg/kg	4	MCERTS	N/A	< 4.0	< 4.0	N/A	N/A
1,1-Dichloropropene	µg/kg	7	NONE	N/A	< 7.0	< 7.0	N/A	N/A
Trans-1,2-dichloroethene	µg/kg	7	NONE	N/A	< 7.0	< 7.0	N/A	N/A
Benzene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	N/A	N/A
Tetrachloromethane	µg/kg	7	MCERTS	N/A	< 7.0	< 7.0	N/A	N/A
1,2-dichloropropane	µg/kg	6	MCERTS	N/A	< 6.0	< 6.0	N/A	N/A
Trichloroethene	µg/kg	6	MCERTS	N/A	< 6.0	< 6.0	N/A	N/A
Dibromomethane	µg/kg	7	MCERTS	N/A	< 7.0	< 7.0	N/A	N/A
Bromodichloromethane	µg/kg	7	NONE	N/A	< 7.0	< 7.0	N/A	N/A
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	N/A	< 7.0	< 7.0	N/A	N/A
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	N/A	< 8.0	< 8.0	N/A	N/A
Toluene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	N/A	N/A
1,1,2-Trichloroethane	µg/kg	5	MCERTS	N/A	< 5.0	< 5.0	N/A	N/A
1,3-Dichloropropane	µg/kg	8	ISO 17025	N/A	< 8.0	< 8.0	N/A	N/A
Dibromochloromethane	µg/kg	2	ISO 17025	N/A	< 2.0	< 2.0	N/A	N/A
Tetrachloroethene	µg/kg	8	MCERTS	N/A	< 8.0	< 8.0	N/A	N/A
1,2-Dibromoethane	µg/kg	3	ISO 17025	N/A	< 3.0	< 3.0	N/A	N/A
Chlorobenzene	µg/kg	7	MCERTS	N/A	< 7.0	< 7.0	N/A	N/A
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	N/A	< 4.0	< 4.0	N/A	N/A
Ethylbenzene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	N/A	N/A
p & m-xylene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	N/A	N/A
Styrene	µg/kg	5	MCERTS	N/A	< 5.0	< 5.0	N/A	N/A
Tri bromomethane	µg/kg	7	MCERTS	N/A	< 7.0	< 7.0	N/A	N/A
o-xylene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	N/A	N/A
1,1,2,2-Tetrachloroethane	µg/kg	3	MCERTS	N/A	< 3.0	< 3.0	N/A	N/A
Isopropylbenzene	µg/kg	7	NONE	N/A	< 7.0	< 7.0	N/A	N/A
Bromobenzene	µg/kg	11	MCERTS	N/A	< 11	< 11	N/A	N/A
N-Propylbenzene	µg/kg	5	ISO 17025	N/A	< 5.0	< 5.0	N/A	N/A
2-Chlorotoluene	µg/kg	11	NONE	N/A	< 11	< 11	N/A	N/A
4-Chlorotoluene	µg/kg	11	NONE	N/A	< 11	< 11	N/A	N/A
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	N/A	< 4.0	< 4.0	N/A	N/A
Tert-Butylbenzene	µg/kg	4	NONE	N/A	< 4.0	< 4.0	N/A	N/A
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	N/A	< 5.0	< 5.0	N/A	N/A
Sec-Butylbenzene	µg/kg	5	NONE	N/A	< 5.0	< 5.0	N/A	N/A
1,3-dichlorobenzene	µg/kg	7	ISO 17025	N/A	< 7.0	< 7.0	N/A	N/A
P-Isopropyltoluene	µg/kg	16	ISO 17025	N/A	< 16	< 16	N/A	N/A
1,2-dichlorobenzene	µg/kg	5	MCERTS	N/A	< 5.0	< 5.0	N/A	N/A
1,4-dichlorobenzene	µg/kg	8	MCERTS	N/A	< 8.0	< 8.0	N/A	N/A
Butylbenzene	µg/kg	4	NONE	N/A	< 4.0	< 4.0	N/A	N/A
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	N/A	< 7.0	< 7.0	N/A	N/A
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	N/A	< 9.0	< 9.0	N/A	N/A
Hexachlorobutadiene	µg/kg	7	NONE	N/A	< 7.0	< 7.0	N/A	N/A
1,2,3-Trichlorobenzene	µg/kg	10	NONE	N/A	< 10	< 10	N/A	N/A



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Environmental Science

Analytical Report Number: 12-35001

Project / Site name: Hyde Park, Hayes

Lab Sample Number				220017	220018	220019	220020	220021
Sample Reference				BH11	BH11	BH12	TP1	TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.00	0.30	0.20	0.60
Date Sampled				02/07/2012	02/07/2012	03/07/2012	04/07/2012	04/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs

Aniline	mg/kg	0.1	NONE	N/A	< 0.1	N/A	N/A	< 0.1
Phenol	mg/kg	0.2	ISO 17025	N/A	< 0.2	N/A	N/A	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
Hexachloroethane	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
Nitrobenzene	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	N/A	< 0.2	N/A	N/A	< 0.2
Isophorone	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
Naphthalene	mg/kg	0.1	ISO 17025	N/A	< 0.1	N/A	N/A	< 0.1
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	N/A	< 0.1	N/A	N/A	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	N/A	< 0.1	N/A	N/A	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	N/A	< 0.1	N/A	N/A	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1
Acenaphthylene	mg/kg	0.2	ISO 17025	N/A	< 0.2	N/A	N/A	< 0.2
Acenaphthene	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	0.8
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	0.3
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2
Fluorene	mg/kg	0.2	ISO 17025	N/A	< 0.2	N/A	N/A	0.6
Azobenzene	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3
Phenanthrene	mg/kg	0.2	ISO 17025	N/A	0.7	N/A	N/A	7.7
Anthracene	mg/kg	0.1	MCERTS	N/A	0.2	N/A	N/A	2.2
Carbazole	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	1.1
Fluoranthene	mg/kg	0.2	MCERTS	N/A	1.5	N/A	N/A	13
Pyrene	mg/kg	0.2	ISO 17025	N/A	1.2	N/A	N/A	11
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	N/A	< 0.3	N/A	N/A	< 0.3
Benzo(a)anthracene	mg/kg	0.2	MCERTS	N/A	0.8	N/A	N/A	5.7
Chrysene	mg/kg	0.05	ISO 17025	N/A	0.7	N/A	N/A	5.5
Benzo(b)fluoranthene	mg/kg	0.1	ISO 17025	N/A	0.6	N/A	N/A	4.3
Benzo(k)fluoranthene	mg/kg	0.2	ISO 17025	N/A	0.4	N/A	N/A	3.8
Benzo(a)pyrene	mg/kg	0.1	MCERTS	N/A	0.5	N/A	N/A	4.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	ISO 17025	N/A	< 0.2	N/A	N/A	2.3
Dibenz(a,h)anthracene	mg/kg	0.2	ISO 17025	N/A	< 0.2	N/A	N/A	0.3
Benzo(ghi)perylene	mg/kg	0.05	ISO 17025	N/A	< 0.1	N/A	N/A	2.6

Analytical Report Number: 12-35001
Project / Site name: Hyde Park, Hayes

Lab Sample Number				220022	220023	220024	220025	220026
Sample Reference				TP2	TP2	TP3	TP4	TP5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	1.50	0.50	0.50	0.30
Date Sampled				05/07/2012	05/07/2012	05/07/2012	05/07/2012	04/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	N/A
Moisture Content	%	N/A	NONE	7.9	8.2	13	12	N/A
Total mass of sample received	kg	0.001	NONE	1.3	0.44	1.2	1.2	N/A
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	N/A	N/A	Absent	Absent

General Inorganics

pH	pH Units	N/A	MCERTS	7.7	7.7	8.0	9.9	N/A
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	N/A
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.4	0.3	1.6	1.1	N/A

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.9	13	60	12	N/A
Boron (water soluble)	mg/kg	0.2	MCERTS	1.2	1.1	1.0	0.9	N/A
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.3	6.8	450	13	N/A
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	N/A
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	28	270	34	N/A
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	49	2800	100	N/A
Lead (aqua regia extractable)	mg/kg	2	MCERTS	55	140	2400	200	N/A
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	N/A
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	17	35	550	22	N/A
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	N/A
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	36	41	77	40	N/A
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	64	110	1900	160	N/A

Monoaromatics

Benzene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	N/A
Toluene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	N/A
Ethylbenzene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	N/A
p & m-xylene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	N/A
o-xylene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	N/A
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	N/A

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	N/A
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	N/A	< 2.0	< 2.0	< 2.0	N/A
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	N/A	< 8.0	28	11	N/A
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	N/A	< 8.0	190	64	N/A
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	N/A	< 10	220	75	N/A

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	N/A
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	N/A	< 2.0	8.0	2.4	N/A
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	N/A	< 10	96	23	N/A
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	N/A	23	210	73	N/A
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	N/A	23	310	99	N/A



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Environmental Science

Analytical Report Number: 12-35001

Project / Site name: Hyde Park, Hayes

Lab Sample Number				220022	220023	220024	220025	220026
Sample Reference				TP2	TP2	TP3	TP4	TP5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	1.50	0.50	0.50	0.30
Date Sampled				05/07/2012	05/07/2012	05/07/2012	05/07/2012	04/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	N/A
Chloroethane	µg/kg	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	N/A
Bromomethane	µg/kg	6	ISO 17025	< 6.0	< 6.0	< 6.0	< 6.0	N/A
Vinyl Chloride	µg/kg	24	ISO 17025	< 24	< 24	< 24	< 24	N/A
Trichlorofluoromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	N/A
1,1-dichloroethene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	N/A
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	N/A
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	N/A
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	N/A
1,1-dichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	N/A
2,2-Dichloropropane	µg/kg	6	NONE	< 6.0	< 6.0	< 6.0	< 6.0	N/A
Trichloromethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	N/A
1,1,1-Trichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	N/A
1,2-dichloroethane	µg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	N/A
1,1-Dichloropropene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	N/A
Trans-1,2-dichloroethene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	N/A
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	N/A
Tetrachloromethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	N/A
1,2-dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	N/A
Trichloroethene	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	N/A
Dibromomethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	N/A
Bromodichloromethane	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	N/A
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	N/A
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	< 8.0	< 8.0	< 8.0	< 8.0	N/A
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	N/A
1,1,2-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	N/A
1,3-Dichloropropane	µg/kg	8	ISO 17025	< 8.0	< 8.0	< 8.0	< 8.0	N/A
Dibromochloromethane	µg/kg	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	N/A
Tetrachloroethene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	N/A
1,2-Dibromoethane	µg/kg	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	N/A
Chlorobenzene	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	N/A
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	N/A
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	N/A
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	N/A
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	N/A
Tri bromomethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	N/A
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	N/A
1,1,2,2-Tetrachloroethane	µg/kg	3	MCERTS	< 3.0	< 3.0	< 3.0	< 3.0	N/A
Isopropylbenzene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	N/A
Bromobenzene	µg/kg	11	MCERTS	< 11	< 11	< 11	< 11	N/A
N-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	N/A
2-Chlorotoluene	µg/kg	11	NONE	< 11	< 11	< 11	< 11	N/A
4-Chlorotoluene	µg/kg	11	NONE	< 11	< 11	< 11	< 11	N/A
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	N/A
Tert-Butylbenzene	µg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	N/A
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	N/A
Sec-Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	N/A
1,3-dichlorobenzene	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	N/A
P-Isopropyltoluene	µg/kg	16	ISO 17025	< 16	< 16	< 16	< 16	N/A
1,2-dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	N/A
1,4-dichlorobenzene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	N/A
Butylbenzene	µg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	N/A
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	< 7.0	< 7.0	< 7.0	< 7.0	N/A
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	< 9.0	< 9.0	< 9.0	< 9.0	N/A
Hexachlorobutadiene	µg/kg	7	NONE	< 7.0	< 7.0	< 7.0	< 7.0	N/A
1,2,3-Trichlorobenzene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	N/A



Environmental Science

Analytical Report Number: 12-35001

Project / Site name: Hyde Park, Hayes

Lab Sample Number				220022	220023	220024	220025	220026
Sample Reference				TP2	TP2	TP3	TP4	TP5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	1.50	0.50	0.50	0.30
Date Sampled				05/07/2012	05/07/2012	05/07/2012	05/07/2012	04/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs

Aniline	mg/kg	0.1	NONE	N/A	< 0.1	< 0.1	< 0.1	N/A
Phenol	mg/kg	0.2	ISO 17025	N/A	< 0.2	< 0.2	< 0.2	N/A
2-Chlorophenol	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	N/A
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	N/A
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	N/A
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
2-Methylphenol	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
Hexachloroethane	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
Nitrobenzene	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
4-Methylphenol	mg/kg	0.2	NONE	N/A	< 0.2	< 0.2	< 0.2	N/A
Isophorone	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	N/A
2-Nitrophenol	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
Naphthalene	mg/kg	0.1	ISO 17025	N/A	< 0.1	0.2	< 0.1	N/A
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
4-Chloroaniline	mg/kg	0.1	NONE	N/A	< 0.1	< 0.1	< 0.1	N/A
Hexachlorobutadiene	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	N/A	< 0.1	< 0.1	< 0.1	N/A
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	N/A
2-Methylnaphthalene	mg/kg	0.1	NONE	N/A	< 0.1	< 0.1	< 0.1	N/A
2-Chloronaphthalene	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
Dimethylphthalate	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	N/A
Acenaphthylene	mg/kg	0.2	ISO 17025	N/A	< 0.2	0.3	< 0.2	N/A
Acenaphthene	mg/kg	0.1	MCERTS	N/A	< 0.1	0.6	0.3	N/A
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	N/A
Dibenzofuran	mg/kg	0.2	MCERTS	N/A	< 0.2	0.5	< 0.2	N/A
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
Diethyl phthalate	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	N/A
4-Nitroaniline	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	N/A
Fluorene	mg/kg	0.2	ISO 17025	N/A	< 0.2	1.2	0.3	N/A
Azobenzene	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	N/A
Hexachlorobenzene	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	< 0.3	N/A
Phenanthrene	mg/kg	0.2	ISO 17025	N/A	0.8	13	2.4	N/A
Anthracene	mg/kg	0.1	MCERTS	N/A	0.2	3.0	0.9	N/A
Carbazole	mg/kg	0.3	MCERTS	N/A	< 0.3	0.5	< 0.3	N/A
Dibutyl phthalate	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	N/A
Anthraquinone	mg/kg	0.3	MCERTS	N/A	< 0.3	1.5	< 0.3	N/A
Fluoranthene	mg/kg	0.2	MCERTS	N/A	2.2	25	6.4	N/A
Pyrene	mg/kg	0.2	ISO 17025	N/A	2.0	20	5.3	N/A
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	N/A	< 0.3	< 0.3	< 0.3	N/A
Benzo(a)anthracene	mg/kg	0.2	MCERTS	N/A	1.3	11	3.6	N/A
Chrysene	mg/kg	0.05	ISO 17025	N/A	1.1	10	3.7	N/A
Benzo(b)fluoranthene	mg/kg	0.1	ISO 17025	N/A	1.0	7.8	3.0	N/A
Benzo(k)fluoranthene	mg/kg	0.2	ISO 17025	N/A	1.0	6.2	2.5	N/A
Benzo(a)pyrene	mg/kg	0.1	MCERTS	N/A	1.0	7.7	2.7	N/A
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	ISO 17025	N/A	0.5	3.9	1.6	N/A
Dibenz(a,h)anthracene	mg/kg	0.2	ISO 17025	N/A	< 0.2	0.6	0.2	N/A
Benzo(ghi)perylene	mg/kg	0.05	ISO 17025	N/A	0.7	4.6	1.7	N/A

Analytical Report Number: 12-35001
Project / Site name: Hyde Park, Hayes

Lab Sample Number				220027	220028	220029	220030	220031
Sample Reference				TP5	TP6	TP6	TP7	TP8
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	0.20	0.60	0.40	0.60
Date Sampled				04/07/2012	04/07/2012	04/07/2012	04/07/2012	04/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	N/A	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	13	N/A	15	15	16
Total mass of sample received	kg	0.001	NONE	1.1	N/A	1.3	0.98	1.1
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	Absent	N/A	Absent	N/A

General Inorganics

pH	pH Units	N/A	MCERTS	7.7	N/A	7.6	7.4	7.6
Free Cyanide	mg/kg	1	NONE	< 1	N/A	< 1	< 1	< 1
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.5	N/A	0.5	2.0	0.5

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.7	N/A	6.2	8.5	48
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	N/A	0.2	5.1	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	N/A	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	N/A	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	N/A	19	19	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15	N/A	18	87	26
Lead (aqua regia extractable)	mg/kg	2	MCERTS	15	N/A	48	100	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	N/A	< 0.3	0.5	0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	18	N/A	14	55	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	N/A	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	39	N/A	29	32	32
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	45	N/A	41	73	64

Monoaromatics

Benzene	µg/kg	1	MCERTS	N/A	N/A	N/A	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	N/A	N/A	N/A	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	N/A	N/A	N/A	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	N/A	N/A	N/A	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	N/A	N/A	N/A	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	N/A	N/A	N/A	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	N/A	N/A	N/A	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	N/A	N/A	N/A	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	N/A	N/A	N/A	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	N/A	N/A	N/A	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	N/A	N/A	N/A	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	N/A	N/A	N/A	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	N/A	N/A	N/A	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	N/A	N/A	N/A	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	N/A	N/A	N/A	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	N/A	N/A	N/A	< 10	< 10



Environmental Science

Analytical Report Number: 12-35001

Project / Site name: Hyde Park, Hayes

Lab Sample Number				220027	220028	220029	220030	220031
Sample Reference				TP5	TP6	TP6	TP7	TP8
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	0.20	0.60	0.40	0.60
Date Sampled				04/07/2012	04/07/2012	04/07/2012	04/07/2012	04/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	N/A	N/A	< 4.0	< 4.0	< 4.0
Chloroethane	µg/kg	2	ISO 17025	N/A	N/A	< 2.0	< 2.0	< 2.0
Bromomethane	µg/kg	6	ISO 17025	N/A	N/A	< 6.0	< 6.0	< 6.0
Vinyl Chloride	µg/kg	24	ISO 17025	N/A	N/A	< 24	< 24	< 24
Trichlorofluoromethane	µg/kg	5	ISO 17025	N/A	N/A	< 5.0	< 5.0	< 5.0
1,1-dichloroethene	µg/kg	7	MCERTS	N/A	N/A	< 7.0	< 7.0	< 7.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	N/A	N/A	< 7.0	< 7.0	< 7.0
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	N/A	N/A	< 7.0	< 7.0	< 7.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	N/A	N/A	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/kg	6	MCERTS	N/A	N/A	< 6.0	< 6.0	< 6.0
2,2-Dichloropropane	µg/kg	6	NONE	N/A	N/A	< 6.0	< 6.0	< 6.0
Trichloromethane	µg/kg	7	MCERTS	N/A	N/A	< 7.0	< 7.0	< 7.0
1,1,1-Trichloroethane	µg/kg	7	MCERTS	N/A	N/A	< 7.0	< 7.0	< 7.0
1,2-dichloroethane	µg/kg	4	MCERTS	N/A	N/A	< 4.0	< 4.0	< 4.0
1,1-Dichloropropene	µg/kg	7	NONE	N/A	N/A	< 7.0	< 7.0	< 7.0
Trans-1,2-dichloroethene	µg/kg	7	NONE	N/A	N/A	< 7.0	< 7.0	< 7.0
Benzene	µg/kg	1	MCERTS	N/A	N/A	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	7	MCERTS	N/A	N/A	< 7.0	< 7.0	< 7.0
1,2-dichloropropane	µg/kg	6	MCERTS	N/A	N/A	< 6.0	< 6.0	< 6.0
Trichloroethene	µg/kg	6	MCERTS	N/A	N/A	< 6.0	< 6.0	< 6.0
Dibromomethane	µg/kg	7	MCERTS	N/A	N/A	< 7.0	< 7.0	< 7.0
Bromodichloromethane	µg/kg	7	NONE	N/A	N/A	< 7.0	< 7.0	< 7.0
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	N/A	N/A	< 7.0	< 7.0	< 7.0
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	N/A	N/A	< 8.0	< 8.0	< 8.0
Toluene	µg/kg	1	MCERTS	N/A	N/A	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	5	MCERTS	N/A	N/A	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	8	ISO 17025	N/A	N/A	< 8.0	< 8.0	< 8.0
Dibromochloromethane	µg/kg	2	ISO 17025	N/A	N/A	< 2.0	< 2.0	< 2.0
Tetrachloroethene	µg/kg	8	MCERTS	N/A	N/A	< 8.0	< 8.0	< 8.0
1,2-Dibromoethane	µg/kg	3	ISO 17025	N/A	N/A	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/kg	7	MCERTS	N/A	N/A	< 7.0	< 7.0	< 7.0
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	N/A	N/A	< 4.0	< 4.0	< 4.0
Ethylbenzene	µg/kg	1	MCERTS	N/A	N/A	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	N/A	N/A	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	5	MCERTS	N/A	N/A	< 5.0	< 5.0	< 5.0
Tri bromomethane	µg/kg	7	MCERTS	N/A	N/A	< 7.0	< 7.0	< 7.0
o-xylene	µg/kg	1	MCERTS	N/A	N/A	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	3	MCERTS	N/A	N/A	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/kg	7	NONE	N/A	N/A	< 7.0	< 7.0	< 7.0
Bromobenzene	µg/kg	11	MCERTS	N/A	N/A	< 11	< 11	< 11
N-Propylbenzene	µg/kg	5	ISO 17025	N/A	N/A	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	11	NONE	N/A	N/A	< 11	< 11	< 11
4-Chlorotoluene	µg/kg	11	NONE	N/A	N/A	< 11	< 11	< 11
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	N/A	N/A	< 4.0	< 4.0	< 4.0
Tert-Butylbenzene	µg/kg	4	NONE	N/A	N/A	< 4.0	< 4.0	< 4.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	N/A	N/A	< 5.0	< 5.0	< 5.0
Sec-Butylbenzene	µg/kg	5	NONE	N/A	N/A	< 5.0	< 5.0	< 5.0
1,3-dichlorobenzene	µg/kg	7	ISO 17025	N/A	N/A	< 7.0	< 7.0	< 7.0
P-Isopropyltoluene	µg/kg	16	ISO 17025	N/A	N/A	< 16	< 16	< 16
1,2-dichlorobenzene	µg/kg	5	MCERTS	N/A	N/A	< 5.0	< 5.0	< 5.0
1,4-dichlorobenzene	µg/kg	8	MCERTS	N/A	N/A	< 8.0	< 8.0	< 8.0
Butylbenzene	µg/kg	4	NONE	N/A	N/A	< 4.0	< 4.0	< 4.0
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	N/A	N/A	< 7.0	< 7.0	< 7.0
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	N/A	N/A	< 9.0	< 9.0	< 9.0
Hexachlorobutadiene	µg/kg	7	NONE	N/A	N/A	< 7.0	< 7.0	< 7.0
1,2,3-Trichlorobenzene	µg/kg	10	NONE	N/A	N/A	< 10	< 10	< 10



Environmental Science

Analytical Report Number: 12-35001

Project / Site name: Hyde Park, Hayes

Lab Sample Number				220027	220028	220029	220030	220031
Sample Reference				TP5	TP6	TP6	TP7	TP8
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	0.20	0.60	0.40	0.60
Date Sampled				04/07/2012	04/07/2012	04/07/2012	04/07/2012	04/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs

Aniline	mg/kg	0.1	NONE	N/A	N/A	N/A	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	N/A	N/A	N/A	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
Nitrobenzene	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	N/A	N/A	N/A	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
Naphthalene	mg/kg	0.1	ISO 17025	N/A	N/A	N/A	< 0.1	< 0.1
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	N/A	N/A	N/A	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	N/A	N/A	N/A	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	N/A	N/A	N/A	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.2	ISO 17025	N/A	N/A	N/A	< 0.2	< 0.2
Acenaphthene	mg/kg	0.1	MCERTS	N/A	N/A	N/A	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
Fluorene	mg/kg	0.2	ISO 17025	N/A	N/A	N/A	< 0.2	< 0.2
Azobenzene	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
Phenanthrene	mg/kg	0.2	ISO 17025	N/A	N/A	N/A	0.5	< 0.2
Anthracene	mg/kg	0.1	MCERTS	N/A	N/A	N/A	0.1	< 0.1
Carbazole	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	N/A	N/A	N/A	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	N/A	N/A	N/A	< 0.3	< 0.3
Fluoranthene	mg/kg	0.2	MCERTS	N/A	N/A	N/A	1.1	0.3
Pyrene	mg/kg	0.2	ISO 17025	N/A	N/A	N/A	1.0	0.3
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	N/A	N/A	N/A	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.2	MCERTS	N/A	N/A	N/A	0.7	< 0.2
Chrysene	mg/kg	0.05	ISO 17025	N/A	N/A	N/A	0.6	0.2
Benzo(b)fluoranthene	mg/kg	0.1	ISO 17025	N/A	N/A	N/A	0.5	< 0.1
Benzo(k)fluoranthene	mg/kg	0.2	ISO 17025	N/A	N/A	N/A	0.4	< 0.2
Benzo(a)pyrene	mg/kg	0.1	MCERTS	N/A	N/A	N/A	0.4	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	ISO 17025	N/A	N/A	N/A	< 0.2	< 0.2
Dibenz(a,h)anthracene	mg/kg	0.2	ISO 17025	N/A	N/A	N/A	< 0.2	< 0.2
Benzo(ghi)perylene	mg/kg	0.05	ISO 17025	N/A	N/A	N/A	< 0.1	< 0.1

Analytical Report Number : 12-35001

Project / Site name: Hyde Park, Hayes

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content

of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
220017	BH11	None Supplied	0.50	N/A
220018	BH11	None Supplied	1.00	Brown clay and sand with gravel.
220019	BH12	None Supplied	0.30	Light brown gravelly sand with brick.
220020	TP1	None Supplied	0.20	N/A
220021	TP1	None Supplied	0.60	Brown gravelly sand.
220022	TP2	None Supplied	0.60	Light grey clay and sand with gravel.
220023	TP2	None Supplied	1.50	Brown clay and sand with gravel.
220024	TP3	None Supplied	0.50	Brown gravelly sand with brick and rubble.
220025	TP4	None Supplied	0.50	Light grey sandy clay with gravel and vegetation.
220026	TP5	None Supplied	0.30	N/A
220027	TP5	None Supplied	0.60	Light brown sandy clay.
220028	TP6	None Supplied	0.20	N/A
220029	TP6	None Supplied	0.60	Light brown sandy clay.
220030	TP7	None Supplied	0.40	Light grey sandy clay.
220031	TP8	None Supplied	0.60	Brown sandy clay.

Analytical Report Number : 12-35001

Project / Site name: Hyde Park, Hayes

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos Screening in Soil	Screening of samples for Asbestos in Soil. Standard practice is to screen a representative 100 g of the sample provided for the presence/absence of asbestos and identification.	In-house method based on HSG 248. All samples are screened by optical microscopy and identification is carried out using dispersion staining and polarised light	A001-UK	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Free cyanide (Low level) in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK	W	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Stones not passing through a 2 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample results are not corrected for the stone content of the sample.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK	D	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



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Analytical Report Number : 12-35190

Project / Site name: JL30529

Samples received on: 11/07/2012

Your job number: JL30529

Samples instructed on: 18/07/2012

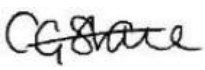
Your order number:

Analysis completed by: 26/07/2012

Report Issue Number: 1

Report issued on: 26/07/2012

Samples Analysed: 2 soil samples

Signed: 

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed: 

Rexona Rahman
Customer Services Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 12-35190

Project / Site name: JL30529

Lab Sample Number				221078	221079			
Sample Reference				BH14	BH14			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.30	2.10			
Date Sampled				10/07/2012	11/07/2012			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	8.7	3.8			
Total mass of sample received	kg	0.001	NONE	1.1	1.7			
Asbestos in Soil Screen	P/A	N/A	ISO 17025	Absent	Absent			

General Inorganics

pH	pH Units	N/A	MCERTS	10.4	8.8			
Free Cyanide	mg/kg	1	NONE	< 1	< 1			
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.6	0.5			

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.3	3.2			
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6	0.5			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.2	0.7			
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	49	18			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	35	13			
Lead (aqua regia extractable)	mg/kg	2	MCERTS	79	10			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	26	11			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	7.5			
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	44	12			

Analytical Report Number: 12-35190

Project / Site name: JL30529

Lab Sample Number				221078	221079			
Sample Reference				BH14	BH14			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.30	2.10			
Date Sampled				10/07/2012	11/07/2012			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Monoaromatics

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10			

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	5.2			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	11			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	16			

Analytical Report Number: 12-35190

Project / Site name: JL30529

Lab Sample Number				221078	221079			
Sample Reference				BH14	BH14			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.30	2.10			
Date Sampled				10/07/2012	11/07/2012			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

VOCS

Chloromethane	µg/kg	4	ISO 17025	< 4.0	< 4.0			
Chloroethane	µg/kg	2	ISO 17025	< 2.0	< 2.0			
Bromomethane	µg/kg	6	ISO 17025	< 6.0	< 6.0			
Vinyl Chloride	µg/kg	24	ISO 17025	< 24	< 24			
Trichlorofluoromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0			
1,1-dichloroethene	µg/kg	7	MCERTS	< 7.0	< 7.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	< 7.0	< 7.0			
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	< 7.0	< 7.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1-dichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0			
2,2-Dichloropropane	µg/kg	6	NONE	< 6.0	< 6.0			
Trichloromethane	µg/kg	7	MCERTS	< 7.0	< 7.0			
1,1,1-Trichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0			
1,2-dichloroethane	µg/kg	4	MCERTS	< 4.0	< 4.0			
1,1-Dichloropropene	µg/kg	7	NONE	< 7.0	< 7.0			
Trans-1,2-dichloroethene	µg/kg	7	NONE	< 7.0	< 7.0			
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Tetrachloromethane	µg/kg	7	MCERTS	< 7.0	< 7.0			
1,2-dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0			
Trichloroethene	µg/kg	6	MCERTS	< 6.0	< 6.0			
Dibromomethane	µg/kg	7	MCERTS	< 7.0	< 7.0			
Bromodichloromethane	µg/kg	7	NONE	< 7.0	< 7.0			
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	< 7.0	< 7.0			
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	< 8.0	< 8.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,2-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0			
1,3-Dichloropropane	µg/kg	8	ISO 17025	< 8.0	< 8.0			
Dibromochloromethane	µg/kg	2	ISO 17025	< 2.0	< 2.0			
Tetrachloroethene	µg/kg	8	MCERTS	< 8.0	< 8.0			
1,2-Dibromoethane	µg/kg	3	ISO 17025	< 3.0	< 3.0			
Chlorobenzene	µg/kg	7	MCERTS	< 7.0	< 7.0			
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	< 4.0	< 4.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0			
Tribromomethane	µg/kg	7	MCERTS	< 7.0	< 7.0			
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,2,2-Tetrachloroethane	µg/kg	3	MCERTS	< 3.0	< 3.0			
Isopropylbenzene	µg/kg	7	NONE	< 7.0	< 7.0			
Bromobenzene	µg/kg	11	MCERTS	< 11	< 11			
N-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0			
2-Chlorotoluene	µg/kg	11	NONE	< 11	< 11			
4-Chlorotoluene	µg/kg	11	NONE	< 11	< 11			
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	< 4.0	< 4.0			
Tert-Butylbenzene	µg/kg	4	NONE	< 4.0	< 4.0			
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0			
Sec-Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0			
1,3-dichlorobenzene	µg/kg	7	ISO 17025	< 7.0	< 7.0			
P-Isopropyltoluene	µg/kg	16	ISO 17025	< 16	< 16			
1,2-dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0			
1,4-dichlorobenzene	µg/kg	8	MCERTS	< 8.0	< 8.0			
Butylbenzene	µg/kg	4	NONE	< 4.0	< 4.0			
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	< 7.0	< 7.0			
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	< 9.0	< 9.0			
Hexachlorobutadiene	µg/kg	7	NONE	< 7.0	< 7.0			
1,2,3-Trichlorobenzene	µg/kg	10	NONE	< 10	< 10			

Analytical Report Number: 12-35190

Project / Site name: JL30529

Lab Sample Number				221078	221079			
Sample Reference				BH14	BH14			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.30	2.10			
Date Sampled				10/07/2012	11/07/2012			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1			
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2			
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Hexachloroethane	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2			
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Naphthalene	mg/kg	0.1	ISO 17025	< 0.1	< 0.1			
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1			
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1			
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	0.3			
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
Acenaphthylene	mg/kg	0.2	ISO 17025	< 0.2	< 0.2			
Acenaphthene	mg/kg	0.1	MCERTS	0.3	1.6			
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Dibenzofuran	mg/kg	0.2	MCERTS	0.2	1.5			
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Fluorene	mg/kg	0.2	ISO 17025	0.3	1.6			
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Phenanthrene	mg/kg	0.2	ISO 17025	0.9	4.9			
Anthracene	mg/kg	0.1	MCERTS	0.2	0.6			
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Fluoranthene	mg/kg	0.2	MCERTS	0.8	2.6			
Pyrene	mg/kg	0.2	ISO 17025	0.6	1.8			
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3			
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.4	0.5			
Chrysene	mg/kg	0.05	ISO 17025	0.3	0.4			
Benzo(b)fluoranthene	mg/kg	0.1	ISO 17025	0.3	0.2			
Benzo(k)fluoranthene	mg/kg	0.2	ISO 17025	< 0.2	< 0.2			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.2	0.1			
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	ISO 17025	< 0.2	< 0.2			
Dibenz(a,h)anthracene	mg/kg	0.2	ISO 17025	< 0.2	< 0.2			
Benzo(ghi)perylene	mg/kg	0.05	ISO 17025	< 0.1	< 0.1			



Analytical Report Number : 12-35190

Project / Site name: JL30529

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content

of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
221078	BH14	None Supplied	0.30	Light brown sand with rubble and brick.
221079	BH14	None Supplied	2.10	Light brown gravel. **

** Non MCerts Matrix

Analytical Report Number : 12-35190

Project / Site name: JL30529

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos Screening in Soil	Screening of samples for Asbestos in Soil. Standard practice is to screen a representative 100 g of the sample provided for the presence/absence of asbestos and identification.	In-house method based on HSG 248. All samples are screened by optical microscopy and identification is carried out using dispersion staining and polarised light	A001-UK	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Free cyanide (Low level) in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK	W	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Stones not passing through a 2 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample results are not corrected for the stone content of the sample.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK	D	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



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Analytical Report Number : 12-35279

Project / Site name: 3L 30529

Samples received on: 19/07/2012

Your job number: 3L 30529

Samples instructed on: 24/07/2012

Your order number:

Analysis completed by: 02/08/2012

Report Issue Number: 1

Report issued on: 02/08/2012

Samples Analysed: 10 soil samples

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Rexona Rahman
Customer Services Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting

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Analytical Report Number: 12-35279

Project / Site name: 3L 30529

Lab Sample Number				221517	221518	221519	221520	221521
Sample Reference				BH13	BH13	BH15	BH15	BH17
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	1.30	0.30	1.50	1.00
Date Sampled				12/07/2012	12/07/2012	12/07/2012	12/07/2012	16/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	55	< 0.1
Moisture Content	%	N/A	NONE	13	8.0	16	4.6	16
Total mass of sample received	kg	0.001	NONE	1.4	1.6	1.6	1.3	1.2
Asbestos in Soil Screen	P/A	N/A	ISO 17025	Absent	-	Absent	-	-

General Inorganics

pH	pH Units	N/A	MCERTS	8.5	9.7	8.2	8.4	7.5
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.5	0.4	0.8	0.4	0.7

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	6.7	11	6.0	11
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	< 0.2	0.6	< 0.2	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	29	32	18	34
Copper (aqua regia extractable)	mg/kg	1	MCERTS	31	9.1	22	5.3	21
Lead (aqua regia extractable)	mg/kg	2	MCERTS	150	5.9	19	5.5	18
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	17	17	32	12	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	41	17	44	15	45
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	110	17	57	14	60

Monoaromatics

Benzene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	< 2.0	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-	< 8.0	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	15	-	< 8.0	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	15	-	< 10	-	-

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	3.1	-	< 2.0	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	22	-	< 10	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	91	-	28	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	120	-	28	-	-



Analytical Report Number: 12-35279

Project / Site name: 3L 30529

Lab Sample Number				221517	221518	221519	221520	221521
Sample Reference				BH13	BH13	BH15	BH15	BH17
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	1.30	0.30	1.50	1.00
Date Sampled				12/07/2012	12/07/2012	12/07/2012	12/07/2012	16/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

VOCs

Chloromethane	µg/kg	4	ISO 17025	< 4.0	-	< 4.0	-	-
Chloroethane	µg/kg	2	ISO 17025	< 2.0	-	< 2.0	-	-
Bromomethane	µg/kg	6	ISO 17025	< 6.0	-	< 6.0	-	-
Vinyl Chloride	µg/kg	24	ISO 17025	< 24	-	< 24	-	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	< 5.0	-	< 5.0	-	-
1,1-dichloroethene	µg/kg	7	MCERTS	< 7.0	-	< 7.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	< 7.0	-	< 7.0	-	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	< 7.0	-	< 7.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
1,1-dichloroethane	µg/kg	6	MCERTS	< 6.0	-	< 6.0	-	-
2,2-Dichloropropane	µg/kg	6	NONE	< 6.0	-	< 6.0	-	-
Trichloromethane	µg/kg	7	MCERTS	< 7.0	-	< 7.0	-	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	< 7.0	-	< 7.0	-	-
1,2-dichloroethane	µg/kg	4	MCERTS	< 4.0	-	< 4.0	-	-
1,1-Dichloropropene	µg/kg	7	NONE	< 7.0	-	< 7.0	-	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	< 7.0	-	< 7.0	-	-
Benzene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
Tetrachloromethane	µg/kg	7	MCERTS	< 7.0	-	< 7.0	-	-
1,2-dichloropropane	µg/kg	6	MCERTS	< 6.0	-	< 6.0	-	-
Trichloroethene	µg/kg	6	MCERTS	< 6.0	-	< 6.0	-	-
Dibromomethane	µg/kg	7	MCERTS	< 7.0	-	< 7.0	-	-
Bromodichloromethane	µg/kg	7	NONE	< 7.0	-	< 7.0	-	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	< 7.0	-	< 7.0	-	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	< 8.0	-	< 8.0	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	< 8.0	-	< 8.0	-	-
Dibromochloromethane	µg/kg	2	ISO 17025	< 2.0	-	< 2.0	-	-
Tetrachloroethene	µg/kg	8	MCERTS	< 8.0	-	< 8.0	-	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	< 3.0	-	< 3.0	-	-
Chlorobenzene	µg/kg	7	MCERTS	< 7.0	-	< 7.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	< 4.0	-	< 4.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
Styrene	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-	-
Tribromomethane	µg/kg	7	MCERTS	< 7.0	-	< 7.0	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	3	MCERTS	< 3.0	-	< 3.0	-	-
Isopropylbenzene	µg/kg	7	NONE	< 7.0	-	< 7.0	-	-
Bromobenzene	µg/kg	11	MCERTS	< 11	-	< 11	-	-
N-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	-	< 5.0	-	-
2-Chlorotoluene	µg/kg	11	NONE	< 11	-	< 11	-	-
4-Chlorotoluene	µg/kg	11	NONE	< 11	-	< 11	-	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	< 4.0	-	< 4.0	-	-
Tert-Butylbenzene	µg/kg	4	NONE	< 4.0	-	< 4.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-	< 5.0	-	-
Sec-Butylbenzene	µg/kg	5	NONE	< 5.0	-	< 5.0	-	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	< 7.0	-	< 7.0	-	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	< 16	-	< 16	-	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	< 8.0	-	< 8.0	-	-
Butylbenzene	µg/kg	4	NONE	< 4.0	-	< 4.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	< 7.0	-	< 7.0	-	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	< 9.0	-	< 9.0	-	-
Hexachlorobutadiene	µg/kg	7	NONE	< 7.0	-	< 7.0	-	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	-



Analytical Report Number: 12-35279

Project / Site name: 3L 30529

Lab Sample Number				221517	221518	221519	221520	221521
Sample Reference				BH13	BH13	BH15	BH15	BH17
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	1.30	0.30	1.50	1.00
Date Sampled				12/07/2012	12/07/2012	12/07/2012	12/07/2012	16/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	-	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
Hexachloroethane	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
Naphthalene	mg/kg	0.1	ISO 17025	0.8	-	< 0.1	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	-	< 0.1	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	-
Acenaphthylene	mg/kg	0.2	ISO 17025	< 0.2	-	< 0.2	-	-
Acenaphthene	mg/kg	0.1	MCERTS	0.9	-	< 0.1	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	0.2	-	< 0.2	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
Fluorene	mg/kg	0.2	ISO 17025	0.5	-	< 0.2	-	-
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
Phenanthrene	mg/kg	0.2	ISO 17025	4.8	-	0.9	-	-
Anthracene	mg/kg	0.1	MCERTS	0.9	-	0.3	-	-
Carbazole	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
Fluoranthene	mg/kg	0.2	MCERTS	5.7	-	2.6	-	-
Pyrene	mg/kg	0.2	ISO 17025	4.8	-	2.4	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	-	< 0.3	-	-
Benzo(a)anthracene	mg/kg	0.2	MCERTS	2.8	-	1.2	-	-
Chrysene	mg/kg	0.05	ISO 17025	2.7	-	1.6	-	-
Benzo(b)fluoranthene	mg/kg	0.1	ISO 17025	1.0	-	0.5	-	-
Benzo(k)fluoranthene	mg/kg	0.2	ISO 17025	1.4	-	0.6	-	-
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.5	-	0.3	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	ISO 17025	0.5	-	0.2	-	-
Dibenz(a,h)anthracene	mg/kg	0.2	ISO 17025	< 0.2	-	< 0.2	-	-
Benzo(ghi)perylene	mg/kg	0.05	ISO 17025	0.8	-	0.3	-	-



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Project / Site name: 3L 30529

Lab Sample Number				221522	221523	221524	221525	221526
Sample Reference				BH17	BH16	BH16	BH18	BH18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.00	0.50	0.90
Date Sampled				16/07/2012	12/07/2012	12/07/2012	18/07/2012	18/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	10	14	16	17	16
Total mass of sample received	kg	0.001	NONE	1.8	1.2	1.2	1.3	1.5
Asbestos in Soil Screen	P/A	N/A	ISO 17025	-	Absent	Absent	Absent	Absent

General Inorganics

pH	pH Units	N/A	MCERTS	8.2	8.2	7.8	7.8	7.8
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.3	1.9	1.0	1.1	1.1

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.4	17	10	44	27
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	1.4	0.5	6.3	4.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3	< 0.2	0.7	0.7
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	27	29	31	32
Copper (aqua regia extractable)	mg/kg	1	MCERTS	6.1	52	24	410	260
Lead (aqua regia extractable)	mg/kg	2	MCERTS	6.6	210	33	1400	460
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	1.1	0.4
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14	20	22	47	36
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	17	40	38	55	51
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	19	150	65	910	800

Monoaromatics

Benzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	9.7	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	76	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	86	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	3.6	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	45	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	110	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	160	< 10	< 10	< 10



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Lab Sample Number				221522	221523	221524	221525	221526
Sample Reference				BH17	BH16	BH16	BH18	BH18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.00	0.50	0.90
Date Sampled				16/07/2012	12/07/2012	12/07/2012	18/07/2012	18/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	4	ISO 17025	-	< 4.0	< 4.0	< 4.0	-
Chloroethane	µg/kg	2	ISO 17025	-	< 2.0	< 2.0	< 2.0	-
Bromomethane	µg/kg	6	ISO 17025	-	< 6.0	< 6.0	< 6.0	-
Vinyl Chloride	µg/kg	24	ISO 17025	-	< 24	< 24	< 24	-
Trichlorofluoromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	< 5.0	-
1,1-dichloroethene	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	7	ISO 17025	-	< 7.0	< 7.0	< 7.0	-
Cis-1,2-dichloroethene	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
1,1-dichloroethane	µg/kg	6	MCERTS	-	< 6.0	< 6.0	< 6.0	-
2,2-Dichloropropane	µg/kg	6	NONE	-	< 6.0	< 6.0	< 6.0	-
Trichloromethane	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
1,1,1-Trichloroethane	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
1,2-dichloroethane	µg/kg	4	MCERTS	-	< 4.0	< 4.0	< 4.0	-
1,1-Dichloropropene	µg/kg	7	NONE	-	< 7.0	< 7.0	< 7.0	-
Trans-1,2-dichloroethene	µg/kg	7	NONE	-	< 7.0	< 7.0	< 7.0	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
Tetrachloromethane	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
1,2-dichloropropane	µg/kg	6	MCERTS	-	< 6.0	< 6.0	< 6.0	-
Trichloroethene	µg/kg	6	MCERTS	-	< 6.0	< 6.0	< 6.0	-
Dibromomethane	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
Bromodichloromethane	µg/kg	7	NONE	-	< 7.0	< 7.0	< 7.0	-
Cis-1,3-dichloropropene	µg/kg	7	ISO 17025	-	< 7.0	< 7.0	< 7.0	-
Trans-1,3-dichloropropene	µg/kg	8	ISO 17025	-	< 8.0	< 8.0	< 8.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
1,1,2-Trichloroethane	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	-
1,3-Dichloropropane	µg/kg	8	ISO 17025	-	< 8.0	< 8.0	< 8.0	-
Dibromochloromethane	µg/kg	2	ISO 17025	-	< 2.0	< 2.0	< 2.0	-
Tetrachloroethene	µg/kg	8	MCERTS	-	< 8.0	< 8.0	< 8.0	-
1,2-Dibromoethane	µg/kg	3	ISO 17025	-	< 3.0	< 3.0	< 3.0	-
Chlorobenzene	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
1,1,1,2-Tetrachloroethane	µg/kg	4	MCERTS	-	< 4.0	< 4.0	< 4.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
Styrene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	-
Tribromomethane	µg/kg	7	MCERTS	-	< 7.0	< 7.0	< 7.0	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	3	MCERTS	-	< 3.0	< 3.0	< 3.0	-
Isopropylbenzene	µg/kg	7	NONE	-	< 7.0	< 7.0	< 7.0	-
Bromobenzene	µg/kg	11	MCERTS	-	< 11	< 11	< 11	-
N-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	< 5.0	-
2-Chlorotoluene	µg/kg	11	NONE	-	< 11	< 11	< 11	-
4-Chlorotoluene	µg/kg	11	NONE	-	< 11	< 11	< 11	-
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	-	< 4.0	< 4.0	< 4.0	-
Tert-Butylbenzene	µg/kg	4	NONE	-	< 4.0	< 4.0	< 4.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	< 5.0	-
Sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	-
1,3-dichlorobenzene	µg/kg	7	ISO 17025	-	< 7.0	< 7.0	< 7.0	-
P-Isopropyltoluene	µg/kg	16	ISO 17025	-	< 16	< 16	< 16	-
1,2-dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	-
1,4-dichlorobenzene	µg/kg	8	MCERTS	-	< 8.0	< 8.0	< 8.0	-
Butylbenzene	µg/kg	4	NONE	-	< 4.0	< 4.0	< 4.0	-
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	-	< 7.0	< 7.0	< 7.0	-
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	-	< 9.0	< 9.0	< 9.0	-
Hexachlorobutadiene	µg/kg	7	NONE	-	< 7.0	< 7.0	< 7.0	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	< 10	< 10	< 10	-



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Lab Sample Number				221522	221523	221524	221525	221526
Sample Reference				BH17	BH16	BH16	BH18	BH18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.00	0.50	0.90
Date Sampled				16/07/2012	12/07/2012	12/07/2012	18/07/2012	18/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	< 0.2	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
Hexachloroethane	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
Naphthalene	mg/kg	0.1	ISO 17025	-	0.2	< 0.1	< 0.1	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1	-
Acenaphthylene	mg/kg	0.2	ISO 17025	-	0.3	< 0.2	< 0.2	-
Acenaphthene	mg/kg	0.1	MCERTS	-	0.5	< 0.1	< 0.1	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
Fluorene	mg/kg	0.2	ISO 17025	-	0.4	< 0.2	< 0.2	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
Phenanthrene	mg/kg	0.2	ISO 17025	-	5.6	< 0.2	0.2	-
Anthracene	mg/kg	0.1	MCERTS	-	1.7	< 0.1	< 0.1	-
Carbazole	mg/kg	0.3	MCERTS	-	0.3	< 0.3	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	-
Fluoranthene	mg/kg	0.2	MCERTS	-	15	0.3	0.4	-
Pyrene	mg/kg	0.2	ISO 17025	-	13	0.3	0.3	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	< 0.3	< 0.3	-
Benzo(a)anthracene	mg/kg	0.2	MCERTS	-	6.6	0.3	0.3	-
Chrysene	mg/kg	0.05	ISO 17025	-	7.8	0.2	0.3	-
Benzo(b)fluoranthene	mg/kg	0.1	ISO 17025	-	4.8	< 0.1	< 0.1	-
Benzo(k)fluoranthene	mg/kg	0.2	ISO 17025	-	4.7	< 0.2	< 0.2	-
Benzo(a)pyrene	mg/kg	0.1	MCERTS	-	3.9	< 0.1	< 0.1	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	ISO 17025	-	2.4	< 0.2	< 0.2	-
Dibenz(a,h)anthracene	mg/kg	0.2	ISO 17025	-	0.4	< 0.2	< 0.2	-
Benzo(ghi)perylene	mg/kg	0.05	ISO 17025	-	2.7	< 0.1	< 0.1	-



Analytical Report Number : 12-35279

Project / Site name: 3L 30529

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of

a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
221517	BH13	None Supplied	0.20	Brown topsoil and clay with gravel and vegetation.
221518	BH13	None Supplied	1.30	Light brown gravelly sand.
221519	BH15	None Supplied	0.30	Brown clay.
221520	BH15	None Supplied	1.50	Light brown gravel with stones. **
221521	BH17	None Supplied	1.00	Brown clay.
221522	BH17	None Supplied	1.50	Light brown gravelly sand.
221523	BH16	None Supplied	0.50	Brown topsoil and clay with vegetation.
221524	BH16	None Supplied	1.00	Light brown clay.
221525	BH18	None Supplied	0.50	Brown clay and topsoil with gravel.
221526	BH18	None Supplied	0.90	Brown clay and topsoil.

** Non MCerts Matrix

Analytical Report Number : 12-35279

Project / Site name: 3L 30529

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos Screening in Soil	Screening of samples for Asbestos in Soil. Standard practice is to screen a representative 100 g of the sample provided for the presence/absence of asbestos and identification.	In-house method based on HSG 248. All samples are screened by optical microscopy and identification is carried out using dispersion staining and polarised light	A001-UK	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Free cyanide (Low level) in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK	W	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Stones not passing through a 2 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample results are not corrected for the stone content of the sample.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK	D	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

**Paul Hollinghurst**

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Analytical Report Number : 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Samples received on: 30/07/2012

Your job number: JL30529

Samples instructed on: 30/07/2012

Your order number:

Analysis completed by: 07/08/2012

Report Issue Number: 1

Report issued on: 07/08/2012

Samples Analysed: 11 water samples

Signed:

Anna Romanska
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Rexona Rahman
Customer Services Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 - 711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting

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Analytical Report Number: 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Lab Sample Number				222007	222008	222009	222010	222011
Sample Reference				BH2	BH11	BH12	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/07/2012	26/07/2012	26/07/2012	26/07/2012	26/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Monoaromatics

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10



Analytical Report Number: 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Lab Sample Number				222007	222008	222009	222010	222011
Sample Reference				BH2	BH11	BH12	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/07/2012	26/07/2012	26/07/2012	26/07/2012	26/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

VOCs

Chloromethane	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Chloroethane	µg/l	30	NONE	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0
Bromomethane	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Vinyl Chloride	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trichlorofluoromethane	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1-dichloroethene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cis-1,2-dichloroethene	µg/l	1	NONE	< 1.0	< 1.0	4.6	< 1.0	1040
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1-dichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	5.4	6.8	1340
Dibromomethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2,3-Trichlorobenzene	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0



Analytical Report Number: 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Lab Sample Number				222007	222008	222009	222010	222011
Sample Reference				BH2	BH11	BH12	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/07/2012	26/07/2012	26/07/2012	26/07/2012	26/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Lab Sample Number				222012	222013	222014	222015	222016
Sample Reference				BH9	BH6	BH16	BH15	BH17
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/07/2012	26/07/2012	26/07/2012	26/07/2012	26/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Monoaromatics

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10



Analytical Report Number: 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Lab Sample Number				222012	222013	222014	222015	222016
Sample Reference				BH9	BH6	BH16	BH15	BH17
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/07/2012	26/07/2012	26/07/2012	26/07/2012	26/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

VOCs

Chloromethane	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Chloroethane	µg/l	30	NONE	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0
Bromomethane	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Vinyl Chloride	µg/l	10	NONE	43.6	< 10.0	< 10.0	< 10.0	< 10.0
Trichlorofluoromethane	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1-dichloroethene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cis-1,2-dichloroethene	µg/l	1	NONE	245	4.9	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1-dichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	NONE	< 1.0	< 1.0	5.6	2.8	< 1.0
1,2-dichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	4.0	1.9	1.8	< 1.0
Dibromomethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2,3-Trichlorobenzene	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0



Analytical Report Number: 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Lab Sample Number				222012	222013	222014	222015	222016
Sample Reference				BH9	BH6	BH16	BH15	BH17
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/07/2012	26/07/2012	26/07/2012	26/07/2012	26/07/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Lab Sample Number				222017				
Sample Reference				BH18				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				26/07/2012				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Monoaromatics

Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				



Analytical Report Number: 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Lab Sample Number				222017				
Sample Reference				BH18				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				26/07/2012				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

VOCs

Chloromethane	µg/l	10	NONE	< 10.0				
Chloroethane	µg/l	30	NONE	< 30.0				
Bromomethane	µg/l	10	ISO 17025	< 10.0				
Vinyl Chloride	µg/l	10	NONE	< 10.0				
Trichlorofluoromethane	µg/l	10	NONE	< 10.0				
1,1-dichloroethene	µg/l	1	NONE	< 1.0				
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	10	NONE	< 10.0				
Cis-1,2-dichloroethene	µg/l	1	NONE	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	ISO 17025	< 10.0				
1,1-dichloroethane	µg/l	1	NONE	< 1.0				
2,2-Dichloropropane	µg/l	1	NONE	< 1.0				
Trichloromethane	µg/l	1	NONE	< 1.0				
1,1,1-Trichloroethane	µg/l	1	NONE	< 1.0				
1,2-dichloroethane	µg/l	1	NONE	< 1.0				
1,1-Dichloropropene	µg/l	1	NONE	< 1.0				
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0				
Benzene	µg/l	1	ISO 17025	< 1.0				
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0				
1,2-dichloropropane	µg/l	1	NONE	< 1.0				
Trichloroethene	µg/l	1	ISO 17025	< 1.0				
Dibromomethane	µg/l	1	NONE	< 1.0				
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0				
Cis-1,3-dichloropropene	µg/l	1	NONE	< 1.0				
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
1,1,2-Trichloroethane	µg/l	1	NONE	< 1.0				
1,3-Dichloropropane	µg/l	1	NONE	< 1.0				
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0				
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0				
1,2-Dibromoethane	µg/l	1	NONE	< 1.0				
Chlorobenzene	µg/l	1	NONE	< 1.0				
1,1,1,2-Tetrachloroethane	µg/l	1	NONE	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
Styrene	µg/l	1	ISO 17025	< 1.0				
Tribromomethane	µg/l	1	NONE	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0				
Bromobenzene	µg/l	1	ISO 17025	< 1.0				
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0				
2-Chlorotoluene	µg/l	1	NONE	< 1.0				
4-Chlorotoluene	µg/l	1	NONE	< 1.0				
1,3,5-Trimethylbenzene	µg/l	1	NONE	< 1.0				
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,2,4-Trimethylbenzene	µg/l	1	NONE	< 1.0				
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,3-dichlorobenzene	µg/l	1	NONE	< 1.0				
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0				
1,2-dichlorobenzene	µg/l	1	NONE	< 1.0				
1,4-dichlorobenzene	µg/l	1	NONE	< 1.0				
Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,2-Dibromo-3-chloropropane	µg/l	1	NONE	< 1.0				
1,2,4-Trichlorobenzene	µg/l	1	NONE	< 1.0				
Hexachlorobutadiene	µg/l	10	ISO 17025	< 10.0				
1,2,3-Trichlorobenzene	µg/l	10	NONE	< 10.0				



Analytical Report Number: 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Lab Sample Number				222017				
Sample Reference				BH18				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				26/07/2012				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05				
Phenol	µg/l	0.05	NONE	< 0.05				
2-Chlorophenol	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05				
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05				
2-Methylphenol	µg/l	0.05	NONE	< 0.05				
Hexachloroethane	µg/l	0.05	NONE	< 0.05				
Nitrobenzene	µg/l	0.05	NONE	< 0.05				
4-Methylphenol	µg/l	0.05	NONE	< 0.05				
Isophorone	µg/l	0.05	NONE	< 0.05				
2-Nitrophenol	µg/l	0.05	NONE	< 0.05				
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05				
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05				
4-Chloroaniline	µg/l	0.05	NONE	< 0.05				
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05				
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05				
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05				
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05				
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05				
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05				
Dimethylphthalate	µg/l	0.05	NONE	< 0.05				
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05				
Dibenzofuran	µg/l	0.05	NONE	< 0.05				
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05				
Diethyl phthalate	µg/l	0.05	NONE	< 0.05				
4-Nitroaniline	µg/l	0.05	NONE	< 0.05				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Azobenzene	µg/l	0.05	NONE	< 0.05				
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05				
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Carbazole	µg/l	0.05	NONE	< 0.05				
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05				
Anthraquinone	µg/l	0.05	NONE	< 0.05				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 12-35368

Project / Site name: Hyde Park, Hayes, JL30529

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW	In-house method based on USEPA8260	L036-UK	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in water by extraction in hexane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
TPH7 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



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Analytical Report Number : 12-35625

Project / Site name: JL30529

Samples received on: 09/08/2012

Your job number: JL30529

Samples instructed on: 13/08/2012

Your order number:

Analysis completed by: 20/08/2012

Report Issue Number: 1

Report issued on: 20/08/2012

Samples Analysed: 11 water samples

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Rexona Rahman
Customer Services Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting

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Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number				223392	223393	223394	223395	223396
Sample Reference				BH2	BH12	BH11	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/08/2012	09/08/2012	09/08/2012	09/08/2012	09/08/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)				Units	Limit of detection	Accreditation Status		

Monoaromatics

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10



Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number				223392	223393	223394	223395	223396
Sample Reference				BH2	BH12	BH11	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/08/2012	09/08/2012	09/08/2012	09/08/2012	09/08/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

VOCs

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	600
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	6.1	< 1.0	< 1.0	620
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	1.0	1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	0.1	ISO 17025	< 0.1	0.2	0.1	0.1	0.2



Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number				223392	223393	223394	223395	223396
Sample Reference				BH2	BH12	BH11	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/08/2012	09/08/2012	09/08/2012	09/08/2012	09/08/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number	223392				223393	223394	223395	223396
Sample Reference	BH2				BH12	BH11	BH13	BH14
Sample Number	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	09/08/2012				09/08/2012	09/08/2012	09/08/2012	09/08/2012
Time Taken	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01



Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number				223392	223393	223394	223395	223396
Sample Reference				BH2	BH12	BH11	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/08/2012	09/08/2012	09/08/2012	09/08/2012	09/08/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number				223397	223398	223399	223400	223401
Sample Reference				BH18	BH17	BH16	BH6	BH9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/08/2012	09/08/2012	09/08/2012	09/08/2012	09/08/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)				Units	Limit of detection	Accreditation Status		

Monoaromatics

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10



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Lab Sample Number				223397	223398	223399	223400	223401
Sample Reference				BH18	BH17	BH16	BH6	BH9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/08/2012	09/08/2012	09/08/2012	09/08/2012	09/08/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

VOCs

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	6.5
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	80
Trichlorofluoromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	33	530
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	5.7
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	15	10
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	0.1	ISO 17025	0.1	< 0.1	< 0.1	< 0.1	< 0.1



Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number				223397	223398	223399	223400	223401
Sample Reference				BH18	BH17	BH16	BH6	BH9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/08/2012	09/08/2012	09/08/2012	09/08/2012	09/08/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number				223397	223398	223399	223400	223401
Sample Reference				BH18	BH17	BH16	BH6	BH9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/08/2012	09/08/2012	09/08/2012	09/08/2012	09/08/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01



Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number				223397	223398	223399	223400	223401
Sample Reference				BH18	BH17	BH16	BH6	BH9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/08/2012	09/08/2012	09/08/2012	09/08/2012	09/08/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number				223415				
Sample Reference				BH15				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				09/08/2012				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)				Units	Limit of detection	Accreditation Status		

Monoaromatics

Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				



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Project / Site name: JL30529

Lab Sample Number				223415				
Sample Reference				BH15				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				09/08/2012				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

VOCs

Chloromethane	µg/l	1	ISO 17025	< 1.0				
Chloroethane	µg/l	1	ISO 17025	< 1.0				
Bromomethane	µg/l	1	ISO 17025	< 1.0				
Vinyl Chloride	µg/l	1	ISO 17025	< 1.0				
Trichlorofluoromethane	µg/l	1	ISO 17025	< 1.0				
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0				
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0				
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0				
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Trichloromethane	µg/l	1	ISO 17025	< 1.0				
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0				
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0				
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0				
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0				
Benzene	µg/l	1	ISO 17025	< 1.0				
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0				
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0				
Trichloroethene	µg/l	1	ISO 17025	< 1.0				
Dibromomethane	µg/l	1	ISO 17025	< 1.0				
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0				
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0				
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0				
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0				
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0				
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0				
Chlorobenzene	µg/l	1	ISO 17025	< 1.0				
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
Styrene	µg/l	1	ISO 17025	< 1.0				
Tribromomethane	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0				
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0				
Bromobenzene	µg/l	1	ISO 17025	< 1.0				
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0				
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0				
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0				
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0				
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0				
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0				
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0				
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0				
Hexachlorobutadiene	µg/l	0.1	ISO 17025	< 0.1				



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Project / Site name: JL30529

Lab Sample Number				223415				
Sample Reference				BH15				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				09/08/2012				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0				



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Project / Site name: JL30529

Lab Sample Number				223415				
Sample Reference				BH15				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				09/08/2012				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05				
Phenol	µg/l	0.05	NONE	< 0.05				
2-Chlorophenol	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05				
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05				
2-Methylphenol	µg/l	0.05	NONE	< 0.05				
Hexachloroethane	µg/l	0.05	NONE	< 0.05				
Nitrobenzene	µg/l	0.05	NONE	< 0.05				
4-Methylphenol	µg/l	0.05	NONE	< 0.05				
Isophorone	µg/l	0.05	NONE	< 0.05				
2-Nitrophenol	µg/l	0.05	NONE	< 0.05				
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05				
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05				
4-Chloroaniline	µg/l	0.05	NONE	< 0.05				
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05				
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05				
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05				
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05				
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05				
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05				
Dimethylphthalate	µg/l	0.05	NONE	< 0.05				
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05				
Dibenzofuran	µg/l	0.05	NONE	< 0.05				
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05				
Diethyl phthalate	µg/l	0.05	NONE	< 0.05				
4-Nitroaniline	µg/l	0.05	NONE	< 0.05				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Azobenzene	µg/l	0.05	NONE	< 0.05				
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05				
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Carbazole	µg/l	0.05	NONE	< 0.05				
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05				
Anthraquinone	µg/l	0.05	NONE	< 0.05				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				



Analytical Report Number: 12-35625

Project / Site name: JL30529

Lab Sample Number				223415				
Sample Reference				BH15				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				09/08/2012				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

U/S = Unsuitable Sample I/S = Insufficient Sample



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Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW	In-house method based on USEPA8260	L036-UK	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in water by extraction in hexane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
TPH7 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW	In-house method based on USEPA8260	L036-UK	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.



Appendix 4 Derivation of GACs

SKM SKM Enviros Screening Values for Chronic Risks to Human Health from Contaminants in Shallow Soil

1 Introduction

The standard methodology for assessment of chronic risks to human health from was originally produced in 2002 and titled the “Contaminated Land Exposure Assessment” (CLEA) methodology. This comprised a number of documents providing information on how to assess the exposure to soil contaminants from typical behaviour as well as providing UK data such as standard body weights, soil ingestion, and vegetable consumption rates.

Information on toxicology was also provided for a number of substances and soil guideline values (SGVs) were produced by using the toxicological data as well as data collated on chemical and physical properties of these substances

2 Revisions to the CLEA model

Between August 2008 and January 2009 the Environment Agency reviewed and made a large number of changes to the CLEA methodology and exposure data. As part of this the Environment Agency

- ◆ withdrew all the SGV reports;
- ◆ issued draft and final new versions of the CLEA methodology (SR3), formerly called CLR10, and the CLEA model;
- ◆ issued draft and final versions of the methodology used to calculate the toxicity data entered into the model (SR2), formerly called CLR9; and
- ◆ stated that the current TOX reports will be replaced by new ones by March 2009 (old reports to be withdrawn as each new one is issued).

Since then the Environment Agency has begun publishing revised SGV and TOX reports on a rolling programme. In October 2009 this comprised eleven revised SGV and TOX reports substances including five for metals and metalloids (arsenic, cadmium, selenium, nickel and mercury) and six for organics (benzene, xylene, toluene, ethylbenzene, phenol and for dioxins, furans and dioxin-like PCBs).

The revised CLEA SGV sets out exposure data for three standard scenarios:

- ◆ Residential areas where vegetables are grown and consumed
- ◆ Allotments
- ◆ Commercial and industrial areas

In addition the CLEA SGV calculated their SGV assuming a sandy loam soil with 6% Soil Organic Matter. For each of the substances the Environment Agency have made a number of substance specific decisions in their assessment.

3 SKM Enviro Screening Values

3.1 *Approach for contaminants where SGVs have been published*

SKM Enviro has adopted the SGVs where they have been published and as each SGVs is produced by the Environment Agency they will replace the current interim ESV values. However the standard scenarios did not include residential areas where no plants are grown. This is a common land use and one often used in screening for public open spaces. In addition they are not conservative for soil where the organic matter is less than 6% (where volatilisation and uptake by plants may be higher). Therefore, SKM Enviro has developed a set of internal SKM Enviro Screening Values (ESVs) for all contaminants where the EA issued an SGV report or toxicological data to allow initial assessment of data for standard scenarios and to cover a wider range of scenarios including residential areas where no plants are grown.

3.2 *Approach for contaminants where no SGV has been published*

The current range of published SGVs is limited. In order to expand the range of ESVs, SKM Enviro have reviewed toxicological and physicochemical data from a number of sources. This has included:

- ◆ Information in the TOX report which have not been revised
- ◆ Information from a report by LQM/CIEH (Ref 9) revised in 2009 to assess contaminant not due to be assessed by the Environment Agency
- ◆ Information on physical and chemical properties of various organics provided in and Environment Agency report SR7

The CLEA model outputs do not include the data justification, if this is required SKM Enviro are happy to provide the CLEA model, which includes the chemical database and justifications, on CD for review.

3.3 *Approach for lead*

For lead, the Environment Agency originally used a different approach to that set out in the CLEA model. The model used for lead was based on empirical curves associated with blood lead levels. The Environment Agency in their FAQs has indicated they may revert to using the CLEA model but have not indicated how the toxicological data will be assessment. In the interim SKM Enviro have continued to use the CLEA SGV for lead published pre 2008.

4 Sources used for Physico-chemical Parameters

Where available, physico-chemical parameters for metals have been taken from former SGV reports, and parameters for organic chemicals have been taken from Environment Agency Report SR7. For all other contaminants a literature search for suitable data has been undertaken in line with the approach set out in line with the approach set out in SR2. References for all input parameters are in the CLEA model but do not appear on the CLEA out put sheets. We are happy to provide an electronic copy of the CLEA model with this data is required.

For the hydrocarbons, the threshold risk has been considered using the approach devised by the TPH criteria working group (TPH CWG) (Ref 12) where the total

petroleum hydrocarbons are divided into fractions based on their mobility and toxicity. As part of the work in deriving appropriate fractions, characteristic physicochemical data has been derived for these fractions and this has been used to calculate ESVs.

Henry's Law Constants are generally measured or reported at 25°C whereas the soil temperature is generally assumed to be 10°C in the UK. As the temperature falls, the Henry's Law Constant falls. The changes can be estimated using the Clausius-Clapeyron equation which is described by the USEPA (Ref 12) and referenced by SR7. In order to implement these changes knowledge of the boiling point, critical temperature, and enthalpy of vaporisation is required.

When sufficient information is available, adjustments have been made to Henry's Law Constant in line with SR7. For contaminants in the report these calculations are already provided in the associated database. For TPH fractions the data have been derived from the TPH CWG tables, and the enthalpy of vaporisation calculated according to the method described by the USEPA (Ref. 13). For all other substances no adjustment has been made and the Henry's Law Constant is slightly conservative.

5 Sources used for Toxicological input data

The majority of contaminants being assessed are those for which toxicological data has been published by the Environment Agency. To expand the list of contaminants we have also use:

- ◆ Information in the former TOX reports which have not been revised
- ◆ Information from a report by LQM/CIEH (Ref 9) revised in 2009 to assess contaminant not due to be assessed by the Environment Agency

For the assessment of hydrocarbons a two stage approach is employed. The non-threshold risk is assessed by an assessment of known carcinogenic indicators. These include benzene, and seven PAHs with non-threshold effects (benzo(a)pyrene, chrysene, benz[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[ah]anthracene, indeno[1,2,3 c,d]pyrene) identified by the Environment Agency (Ref 3). The relative carcinogenicity of the PAHs has been based on that of benzo(a)pyrene.

The threshold risk is then assessed in accordance with the TPH criteria working group fractions and methodology which is described below in Section 6. The threshold risk from benzene has been assessed by assessing benzene concentrations against toluene ESVs, and the non-threshold risk from benzene has been assessed in line with the TOX and SGV reports.

The sources for each of the substances assessed (except hydrocarbons) are included in Annex 2.

6 Assessment Approach for Hydrocarbons

Thresholds for individual hydrocarbon fractions in the TPH CWG analysis have been calculated using the CLEA model with toxicological and physicochemical data for the individual fractions derived from the TPH Criteria Working Group Documents (Ref 12). Comparing individual fractions against these thresholds may not be sufficiently conservative. This is because a number of the hydrocarbons have similar toxic effects on the liver. The approach in SR2 is that additivity should be considered for contaminants where substances may act on the same target organ system. The critical effect for the aliphatic fractions is hepatotoxicity (toxicity to the liver). Thresholds for the majority aromatic fractions are not based on this effect, however other studies (such as those detailed in the TOX report for naphthalene) indicate that aromatic fractions may also affect the liver. Therefore, combined (or "additive") exposure close to the threshold for two separate fractions could lead to a total unacceptable exposure from hydrocarbons.

Therefore, the petroleum fractions are assumed to be additive and a spreadsheet has been set up to carry out a simple additivity calculation i.e. does not allow for synergistic or antagonistic effects. To assess this we have used the approach set out in the Environment Agency guidance “The UK Approach for Evaluating the Human Health Risks from Petroleum Hydrocarbons in Soils” to examine the effect of additivity. This involves calculating the hazard Index using the equation set out below) for each sample and determining if this is greater or less than 1.

$$Hazard_Index = \sum_{\substack{\text{Each hydrocarbon} \\ \text{Fraction}}} \frac{Actual_concentration_in_soil}{Screening_value_in_soil}$$

As the concept of the Hazard Index can be quite difficult to communicate, SKM Enviro has also gone a stage further - by dividing the total concentration in the sample by the Hazard Index we have converted this back into a mixture specific threshold for each sample in mg/kg or µg/kg as appropriate. By employing this approach we have addressed the additive risk from Total Petroleum Hydrocarbons.

For hydrocarbons a sub-soil to indoor air correction factor of 10 has been applied to account for over-estimation of hydrocarbon vapour transport into buildings using the Johnson & Ettinger model, this is in line with the approach adopted in the SGV reports for BTEX compounds. It is noted in the SGV report for toluene that:

“the reasons for the difference between empirical and theoretical calculations is the subject of continued debate (CIRIA, in press), reported factors include sampling technique, biodegradation in the vapour phase, and natural ground heterogeneity. As soil vapour is transported upwards towards the building, biodegradation of petroleum hydrocarbons commonly occurs which can significantly affect the amount of vapour that will enter the building. Among other factors, this is dependent on the oxygen availability in the unsaturated zone”).

This adjustment approach is also used in the LQM/CIEH report (Ref. 9)

Where EPH analysis with risk banding has been undertaken the sum of the aliphatic and aromatic hydrocarbons in each fraction is reported. In this instance we have assumed the worst case, which is that all of the hydrocarbons in each band are the more toxic aromatic fraction, and thus produce conservative mixture specific thresholds.

In all assessments the additivity calculation assumes that non-detects are actual concentrations. Where no data is available for a band then zero is entered.

6.1 Background Exposure for Hydrocarbons

In accordance with the SR2 when considering threshold substances it is important to consider the background exposure to these substances and reduce the TDI accordingly to give a tolerable daily soil intake (TDSI). SR2 states that where there is no background data the exposure should be considered as zero.

For hydrocarbons the situation is complicated. CIEH/LQM have assumed the intake of TPH in food and air is very high. Thus in accordance with the SR2 guidance on where the background is known to be a high proportion of the TDI (50% or greater), TDSI has been reduced to 50% of the TDI. We believe the approach taken by LQM and CIEH is overly conservative.

The composition of the mixture is paramount. There is data from the Food Standards Agency looking at addition of C10-C40 food grade mineral oils to food. The amount of these substances present in food is very high and daily intakes of up to 14.28mg/day and 61.25mg/day have been noted in the UK and US, respectively. It is however

noted that the Acceptable Daily Intakes for these food grade hydrocarbon mixtures are much higher than the tolerable daily intakes produced by the TPH criteria Working Group who were considering fuels. It is thus not appropriate to cite a mean daily intake based on food grade hydrocarbons as background exposure to fuel based hydrocarbons.

We note that recent reviews of hydrocarbon exposure in Canada quote:

“Excluding PAH, no reports of generalized background contamination of air, water, food or soil (unrelated to contaminated sites) were located for component PHC [petroleum hydrocarbons] in fractions 2, 3 and 4 (i.e., C>10). This likely stems from their generally low or negligible solubility and volatility. PAH are evaluated separately from PHC for purposes of risk assessment of contaminated sites and, therefore, they are not considered within the various PHC fractions being evaluated here.

Due to the lack of evidence for, and low probability of, ubiquitous environmental contamination with PHC in fractions 2, 3 and 4, the estimated daily intakes (EDI) of PHC in fractions 2, 3 and 4 from background sources are considered to be zero.

PHC in fraction 1 (C6 to C10) are relatively volatile and soluble. As a result, aliphatic and aromatic compounds in this carbon range have been reported in drinking water, outdoor air, ambient air and some foods.” (Ref. 14).

For PAHs the first edition of the Air Quality Guidelines for Europe (Ref. 15) considered the total concentration of 22 PAHs in a busy street as having a total concentration of 90.26ng/m³ in an urban street equating to 1.6µg/day of these PAHs. This is much lower than the value of 420µg/day representing 10% of the TDI inhalation used. Even scaling this up to represent the 500 PAH detected in air in first edition of the Air Quality Guidelines for Europe (and assuming that there other PAHS are in a similar proportion which is unlikely), the total exposure will be very low compared to the TDI.

It is therefore considered that the assumptions used by LQM/CIEH that at least 50% of the TDI derives from diet is overly conservative.

We have adopted the same approach as described for Canada and have adopted the Estimated Daily Intakes in air they have produced for specific fractions (with the exception of benzene and toluene where the UK data has been used). We would anticipate that the concentrations of hydrocarbons in air will decrease with decreasing volatility. For oral exposure we have used the total daily intake produced by Mole Valley and cited by LQM/CIEH (Ref. 9).

The MDIs adopted by SKM Enviro are tabulated below. We have also included for comparison the MDI representing 10% of the TDI (and hence making 10% difference to the tolerable exposure by oral or inhalation routes). This is useful in that it demonstrates the high background exposure required to make a 10% difference to the tolerable daily intakes from soil due to hydrocarbons.

Fraction	Oral dose representing 10% of TDI oral (µg/day) ¹	Ingestion exposure Adopted by SKM Enviro (ug/day)	Reference for adopted value	Inhalation dose representing 10% of TDI inhalation (µg/day) ¹	Inhalation exposure Adopted by SKM Enviro (ug/day)	Reference for Inhalation dose
Aliphatic C5-6	17500	380	Mole Valley/SL R 2009	184000	3182.2	CCME 2008
Aliphatic 6-8	35000	144	Mole Valley/SL R CCME 20082009	36800	1633.8	CCME 2008
Aliphatic 8-10	700	104	Mole Valley/SL R 2009	2030	721	CCME 2008

Fraction	Oral dose representing 10% of TDI oral ($\mu\text{g/day}$) ¹	Ingestion exposure Adopted by SKM Enviro (ug/day)	Reference for adopted value	Inhalation dose representing 10% of TDI inhalation ($\mu\text{g/day}$) ¹	Inhalation exposure Adopted by SKM Enviro (ug/day)	Reference for Inhalation dose
Aliphatic 10-12	700	55.4	Mole Valley/SL R 2009	2030	0	
Aliphatic 12-16	700	12.2	Mole Valley/SL R 2009	2030	0	
Aliphatic 16-21	14000	None identified	Mole Valley/SL R 2009	NA	0	
Aliphatic 21-35	14000	None identified	Mole Valley/SL R 2009	NA	0	
Aromatics 6-7 (Benzene)	N/A	3	Environment Agency Updated TOX11	N/A	200	Environment Agency Updated TOX11
Aromatics 7-8 (Toluene)	N/A	520	Environment Agency Updated TOX14	N/A	10	Environment Agency Updated TOX14
Aromatics 8-10	280	353	Mole Valley/SL R 2009	420	656.6	CCME 2008
Aromatics 10-12	280	304	Mole Valley/SL R 2009	420	0	
Aromatics 12-16	280	0.96	Mole Valley/SL R 2009	420	0	
Aromatics 16-21	210	0.89	Mole Valley/SL R 2009	NA	0	
Aromatic C21-35	210	0.19	Mole Valley/SL R 2009	NA	0	

NOTES

1 Provided for comparative purposes only

7 Review of the CLEA methodology

In adopting the CLEA model it is important to consider the standard use and confirm the assumption made. These assumptions are considered below.

7.1 Exposure Parameters

All exposure parameters applied to the ESVs are the default values set out in SR3, which are for the standard CLEA critical receptors as follows:

0-6 year old female child living at home (residential land uses)
0-6 year old female child visiting allotments with parent (allotments land use)
16-65 year old female adult (commercial and industrial use)

In addition for cadmium consideration has been given to lifetime exposure for the residential and allotment setting in line with the revised SGV report on cadmium.

7.2 Exposure Pathways

The following table shows the pathways that have been considered under each of the scenarios considered.

Pathway	Direct ingestion of soil and indoor dust	Ingestion of homegrown vegetable and attached soil	Inhalation of vapour intruding into buildings	Inhalation of vapour in outdoor air	Inhalation of dust indoors	Inhalation of dust outdoors	Dermal uptake
Residential Scenarios							
Residential with vegetable consumption	✓	✓	✓	✓	✓	✓	✓
Residential without plant uptake	✓	x	✓	✓	✓	✓	✓
Residential without plant uptake or indoor air inhalation	✓	x	x	✓	✓	✓	✓
Allotments	✓	✓	✓	✓	x	x	✓
Commercial /Industrial Scenarios							
Commercial/Industrial	✓	x	✓	✓	✓	✓	✓

7.3 Soil parameters

The ESVs have been based on a sandy loam soil which is the default soil type for use when calculating SGVs as described in SR3. This is the most conservative soil type commonly encountered in UK soils. If site soils are sands or gravels with no fines content then further assessment should be undertaken for volatile compounds.

For volatile contaminants the soil air permeability is highest for sand. For non-volatile contaminants or pathways where inhalation of vapour is not considered the soil type has very little effect on the exposure.

The fraction of organic content has a significant effect on the partitioning of organic contaminants. Thus less contaminant is in the vapour form or available for plant uptake in soil with higher organic content. The ESVs have thus been calculated for a series of soil organic contents; 1%, 2.5% and 6%. The 6% value is the default soil organic matter content to be used in calculation of SGVs (Ref 10), the 1% and 2.5% values are taken from the former SGV reports for organic contaminants as being representative of concentrations typically encountered in UK soils. Therefore, the choice of ESV to use depends on the organic carbon content of the soil on the site. The only pathways that are significantly affected by soil organic matter content are vapour inhalation and plant uptake by organic compounds and methylmercury.

7.4 Pathways considered for the ESVs

7.4.1 Direct soil ingestion and ingestion of indoor dust

The ingestion rate, exposure frequency and all other parameters relating to soil ingestion have been set to the default parameters in the CLEA model.

7.4.2 Vegetable Consumption

All vegetable consumption rates, exposure frequencies and durations are set to the default values in the CLEA model. The allotments calculation assumes a moderate rather than high-end consumer.

For heavy metals, SKM Enviro has applied the soil to plant uptake factors published in the former SGV reports, where available and for other metals the values derived by Baes et al have been applied (Ref. 11). The pH as entered into the CLEA model in Basic Settings has been set to pH 7 for all assessments. However, where there are literature data for plant uptake factors at different pH levels, these factors have been applied to the model and the contaminant labelled accordingly e.g. Cadmium pH 6-8. For mercury, where plant uptake is affected by soil organic matter content, plant uptake factors for each default organic content have been applied.

For all other contaminants the default vegetable uptake models in CLEA have been used to predict plant uptake.

7.4.3 Inhalation of outdoor vapours and dust

All assumptions for the outdoor vapour inhalation model are the same as the default parameters set out in SR3. The mean annual air dispersion factor for Newcastle has been applied to the assessment in line with the SR3 assumption.

7.4.4 Inhalation of indoor vapours and dust

All assumptions for the indoor vapour inhalation model are the same as the default parameters set out in SR3. The building types applied are 'small house' and 'pre-1970s office'.

The indoor dust inhalation pathway assumes that 50% of indoor dust is derived from soil (the soil to dust transport factor). We understand that contaminant-specific transport factors are to be published by the Environment Agency, however until these are released the baseline assumption from SR3 of 50% has been applied.

Saturation

The CLEA model includes a default calculation to check whether the calculated safe levels of organic contaminants exceed the concentration at which either the water solubility limit or maximum vapour concentration has been exceeded. This is indicated by a traffic light system of amber, red, and green. Where theoretical saturation limits are exceeded further assessment may show that a higher soil concentration is safe for future users, but this has not been undertaken for ESVs. Where an SGV has been published that is based upon the predicted saturation limit SKM Envirosearch have adopted the saturation limit approach and adjusted the corresponding ESVs at lower organic contents or non-standard land uses.

For the remaining substances (particularly the hydrocarbons in a commercial/industrial end use) no adjustment has been made to reduce the threshold to saturation. This is in part as saturation of hydrocarbon mixture is complex and should be assessed on a mixture specific basis. Furthermore, where saturation occurs it implies that the vapour pathway lead to exceedance of the acceptable dose principally via inhalation and thus by not allowing for saturation the oral and dermal exposure pathways are considered but in a conservative fashion. Where site observations report that free-phase organics are present, as opposed to modelling predicting that it may be present, then more detailed consideration of risks is undertaken.

7.4.5 Dermal Uptake

All parameters for dermal uptake have been set to the default parameters in the CLEA model. Dermal uptake factors applied are the default values from SR3. For metals where no literature value is available, dermal uptake factors have been set to zero as advised in SR3. For contaminants such as phenol, which can have a corrosive effect upon dermal contact, consideration has also been given to acute dermal effects.

10 References

1. DEFRA and Environment Agency (2009) The Contaminated Land Exposure Assessment (CLEA) Model: Technical Basis and Algorithms, Report CLR10. Withdrawn August 2008.
2. DEFRA and Environment Agency (2002c) Toxicological Reports for Individual Soil Contaminants, Report CLR9 TOX reports.

3. Environment Agency. The UK Approach for Evaluating Human Health Risks from Hydrocarbons in Soils. P5-080/TR3. February 2005.
4. Environment Agency. Updated Technical Background to the CLEA Model. SC050021/SR3. January 2009.
5. Environment Agency. Human Health Toxicological Assessment of Contaminants in Soil. SC050021/SR2. January 2009.
6. Environment Agency. Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values. SC050021/SR7. November 2008.
7. DEFRA and Environment Agency (2002e) Soil Guideline Values Report for Individual Soil Contaminants, Report CLR10 SGV1-10. Withdrawn August 2008.
8. Environment Agency Website. CLEA FAQs. <http://www.environment-agency.gov.uk/research/planning/33718.aspx> Accessed 29th January 2009.
9. Nathaniel C.P., McCaffrey C., Ashmore M.H., Cheng Y.Y., Gillett A., Ogden r. & Scott D. The LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment (2nd Edition). 2009
10. Environment Agency. Changes we have made to the CLEA framework documents. January 2009.
11. Oak Ridge National Laboratory. A Review and Analysis of parameters for Assessing Transport of Environmentally Released Radionuclides through Agriculture. ORNL-5786.
12. Total Petroleum Hydrocarbon Criteria Working Group Series, Volumes 1-5 1997 to 1999. <http://www.aehs.com/publications/catalog/contents/tph.htm>
13. USEPA. FACTSHEET: Correcting the Henry's Law constant for Soil Temperature. June 2001.
14. CCME. Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil: Scientific Rationale Supporting Technical Document January 2008
15. WHO document Air Quality Guidelines for Europe Edition 1 2000 http://www.euro.who.int/document/aig/5_9pah.pdf

ANNEX 1

MODEL OUTPUT SHEETS

ANNEX 2

SOURCES OF TOXICOLOGICAL DATA

	Type	Reference dose	Source	Type	Reference dose	Source
		µg/kgbw/day			µg/kgbw/day	
Chlorinated Solvents						
Tetrachloroethene	TDI	14	Environment Agency R&D Publication TOX 23 April 2003	TDI	71	Environment Agency R&D Publication TOX 23 April 2003
Trichloroethene	ID	5.2	Environment Agency R&D Publication TOX 24 October 2004	ID	5.2	Environment Agency R&D Publication TOX 24 October 2004
Vinyl Chloride	ID	0.014	Environment Agency R&D Publication TOX 18 April 2003	ID	0.3	Environment Agency R&D Publication TOX 18 April 2003
1,2 Dichloroethane	ID	0.12	Environment Agency R&D Publication TOX 22 August 2004	ID	0.12	Environment Agency R&D Publication TOX 22 August 2004
1,1,1 Trichloroethane	TDI	600	Environment Agency R&D Publication TOX 25 April 2003	TDI	600	Environment Agency R&D Publication TOX 25 April 2003
1,1,2,2 Tetrachloroethane	TDI	5.8	Environment Agency R&D Publication TOX 16 April 2003	TDI	5.8	Environment Agency R&D Publication TOX 16 April 2003
1,1,1,2 Tetrachloroethane	TDI	5.8	Environment Agency R&D Publication TOX 16 April 2003	TDI	5.8	Environment Agency R&D Publication TOX 16 April 2003
Carbon Tetrachloride	TDI	1.42	Environment Agency TOX 21 April 2005	TDI	3.26	Environment Agency TOX 21 April 2005
Trichloromethane	TDI	13.7	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009	TDI	40	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	ID	0.02	Environment Agency R&D Publication TOX 2 April 2002	ID	0.00007	Environment Agency R&D Publication TOX 2 April 2002
Benzo(b)fluoranthene	ID	0.2	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)	ID	0.0007	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)
Benzo(k)fluoranthene	ID	0.2	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)	ID	0.0007	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)
Chrysene	ID	0.2	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)	ID	0.0007	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)
Dibenz(ah)anthracene	ID	0.02	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)	ID	0.00007	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)

	Type	Reference dose	Source	Type	Reference dose	Source
Indeno(1,2,3,cd)pyrene	ID	0.2	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)	ID	0.0007	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)
Naphthalene	TDI	20	Environment Agency R&D Publication TOX 20 December 2003	TDI	0.86	Environment Agency R&D Publication TOX 20 December 2003
Benzo(a)anthracene	ID	0.2	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)	ID	0.0007	Based on ten times the index dose for benzo(a)pyrene (Environment Agency R&D Publication TOX 2 April 2002)
Miscellaneous Organics						
Carbon disulphide	TDI	100	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009	TDI	28.6	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009
Hexachloro-1,3-butadiene	TDI	0.2	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009	TDI	0.2	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009
Metals and inorganics						
Beryllium	TDI	2	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009	ID	0.0012	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009
Boron	TDI	160	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009	TDI	2.9	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009
Chromium III	TDI	150	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009. Based on FSA NOAEL from 2003 not available for the TOX4 report	TDI	0.1	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009. Not commented on in TOX4
Chromium VI	TDI	1	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009. Based on More recent data from USEPA in 2008 not available for the TOX 4 report	ID	0.001	TOX4 inhalation dose for chromium based on Chromium VI derived from the WHO 2000 report. (Note this is the same report used by LQM/CIEH although LQM/CIEH used a different basis for the dose derived and do not cite the TOX4 report in this context although it is not yet withdrawn.)
Copper	TDI	160	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009	TDI	0.286	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009
Vanadium	TDI	3	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009	TDI	0.0286	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009
Zinc	TDI	600	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009	TDI	600	LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009



Appendix 5 Soil Analysis Data Compared to Commercial / Industrial Screening Values

Project / Site name: Hyde Park, Hayes

Lab Sample Number					220017	220018	220019	220020	220021	220022	220023	221517	221518	221078	221079	220024	220025	221519	221520	221523	221524	221521	221522	221525	221526	220026	220027	220028	220029	220030	220031						
Sample Reference					BH11	BH11	BH12	TP01	TP01	TP02	TP02	BH13	BH13	BH14	BH14	TP03	TP04	BH15	BH15	BH16	BH16	BH17	BH17	BH18	BH18	TP05	TP05	TP06	TP06	TP07	TP08						
Depth (m)					0.5	1	0.3	0.2	0.6	0.6	1.5	0.2	1.3	0.3	2.1	0.5	0.5	0.3	1.5	0.5	1	1	1.5	0.5	0.9	0.3	0.6	0.2	0.6	0.4	0.6						
Ground Type					MG	MG	MG	MG	MG	MG	MG	MG	NG	MG	NG	MG	MG	MG	NG	MG	MG	MG	MG	MG	MG	MG	NG	MG	NG	MG	MG						
Area of Site					HPH4	HPH4	HPH4	HPH4	HPH4	HPH4	HPH4	HPH5	HPH5	HPH5	HPH5	HPH5	HPH5	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6						
Date Sampled					02/07/2012	02/07/2012	03/07/2012	04/07/2012	04/07/2012	05/07/2012	05/07/2012	12/07/2012	12/07/2012	10/07/2012	11/07/2012	05/07/2012	05/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012						
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accredita tion Status																														Maximum	Average	Commercial Industrial GAC		
Stone Content	%	0.1	NONE	N/A	< 0.1	< 0.1	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	55	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	N/A	< 0.1	N/A	< 0.1	< 0.1	< 0.1	-	-	-		
Moisture Content	%	N/A	NONE	N/A	9.4	6.4	N/A	N/A	9.6	7.9	8.2	13	8	8.7	3.8	13	12	16	4.6	14	16	16	10	17	16	N/A	13	N/A	15	15	16	-	-	-			
Total mass of sample received	kg	0.001	NONE	N/A	1.4	1.2	N/A	0.76	1.3	0.44	1.4	1.6	1.1	1.7	1.2	1.2	1.6	1.3	1.2	1.2	1.2	1.2	1.8	1.3	1.5	N/A	1.1	N/A	1.3	0.98	1.1	-	-	-			
Asbestos in Soil Screen	P/A	N/A	ISO 17025	Absent	N/A	Absent	Absent	Absent	N/A	N/A	Absent	-	Absent	Absent	Absent	N/A	Absent	Absent	-	Absent	Absent	Absent	-	-	Absent	Absent	N/A	Absent	N/A	Absent	N/A	Absent	Absent	Absent	-		
General Inorganics																																					
pH	pH Units	N/A	MCERTS	N/A	7.7	10.8	N/A	8.2	7.7	7.7	8.5	9.7	10.4	8.8	8	9.9	8.2	8.4	8.2	7.8	7.5	8.2	7.8	7.8	N/A	7.7	N/A	7.6	7.4	7.6	7.4-10.8	-	-	-			
Free Cyanide	mg/kg	1	NONE	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	N/A	< 1	N/A	< 1	< 1	< 1	0	-	-				
Total Organic Carbon (TOC)	%	0.1	MCERTS	N/A	0.5	0.4	N/A	0.7	0.4	0.3	1.5	0.4	0.6	0.5	1.6	1.1	0.8	0.4	1.9	1	0.7	0.3	1.1	1.1	N/A	0.5	N/A	0.5	2	0.5	2	0.8	-	-			
SOM																																	1.4	-			
Heavy Metals / Metalloids																																					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	N/A	10	7.8	N/A	12	9.9	13	16	6.7	6.3	3.2	60	12	11	6	17	10	11	7.4	44	27	N/A	7.7	N/A	6.2	8.5	48	60	15.7	640				
Boron (water soluble)	mg/kg	0.2	MCERTS	N/A	0.6	0.3	N/A	0.8	1.2	1.1	1.3	< 0.2	1.6	0.5	1	0.9	0.6	< 0.2	1.4	0.5	0.6	< 0.2	6.3	4.6	N/A	0.5	N/A	0.2	5.1	0.6	6.3	1.5	192.495				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	N/A	0.8	1.2	N/A	4.8	1.3	6.8	< 0.2	< 0.2	2.2	0.7	450	13	< 0.2	< 0.2	0.3	< 0.2	< 0.2	< 0.2	< 0.2	0.7	0.7	N/A	< 0.2	N/A	< 0.2	< 0.2	< 0.2	450	40.2	230			
Chromium (hexavalent)	mg/kg	4	MCERTS	N/A	< 4.0	< 4.0	N/A	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	N/A	< 4.0	N/A	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	296 (Chrom VI)			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	N/A	28	21	N/A	41	21	28	24	29	49	18	270	34	32	18	27	29	34	21	31	32	N/A	27	N/A	19	19	20	270	37.9	296 (Chrom VI)				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	N/A	24	26	N/A	76	23	49	31	9.1	35	13	2,800	100	22	5.3	52	24	21	6.1	410	260	N/A	15	N/A	18	87	26	2,800	179.7	71.742				
Lead (aqua regia extractable)	mg/kg	2	MCERTS	N/A	40	52	N/A	170	55	140	150	5.9	79	10	2,400	200	19	5.5	210	33	18	6.6	1,400	460	N/A	15	N/A	48	100	110	2,400	249.0	750				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	N/A	< 0.3	< 0.3	N/A	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	1.1	0.4	N/A	< 0.3	N/A	< 0.3	0.5	0.3	1.1	0.6	4 (Elemental)				
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	N/A	21	16	N/A	27	17	35	17	17	26	11	550	22	32	12	20	22	27	14	47	36	N/A	18	N/A	14	55	16	550	46.6	1,800				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	N/A	< 1.0	< 1.0	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	N/A	< 1.0	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13,023			
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	N/A	38	30	N/A	39	36	41	41	17	27	7.5	77	40	44	15	40	38	45	17	55	51	N/A	39	N/A	29	32	32	77	36.1	3,164				
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	N/A	70	60	N/A	190	64	110	110	17	44	12	1,900	160	57	14	150	65	60	19	910	800	N/A	45	N/A	41	73	64	1,900	218.9	665,453				
Monoaromatics																																					
Benzene	µg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0	-	-	< 1.0	< 1.0	N/A	N/A	N/A	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	28		
Toluene	µg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0	-	-	< 1.0	< 1.0	N/A	N/A	N/A	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	869		
Ethylbenzene	µg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0	-	-	< 1.0	< 1.0	N/A	N/A	N/A	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	518		
p & m-xylene	µg/kg	1	MCERTS	N/A	< 1.0	N/A	N/A	< 1.0	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0	-	-	< 1.0	< 1.0	N/A	N/A	N/A	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	576		
o-xylene	µg/kg	1	MCERTS	N/A																																	

Lab Sample Number				220017	220018	220019	220020	220021	220022	220023	221517	221518	221078	221079	220024	220025	221519	221520	221523	221524	221521	221522	221525	221526	220026	220027	220028	220029	220030	220031							
Sample Reference				BH11	BH11	BH12	TP01	TP01	TP02	TP02	BH13	BH13	BH14	BH14	TP03	TP04		BH15	BH16	BH16	BH17	BH17	BH18	BH18	TP05	TP05	TP06	TP06	TP07	TP08							
Depth (m)				0.5	1	0.3	0.2	0.6	0.6	1.5	0.2	1.3	0.3	2.1	0.5	0.5	0.3	1.5	0.5	1	1	1.5	0.5	0.9	0.3	0.6	0.2	0.4	0.6								
Ground Type				MG	MG	MG	MG	MG	MG	MG	MG	NG	MG	NG	MG	MG	MG	NG	MG	MG	MG	MG	MG	MG	MG	NG	MG	MG	NG	MG	MG						
Area of Site				HPH4	HPH4	HPH4	HPH4	HPH4	HPH4	HPH4	HPH5	HPH5	HPH5	HPH5	HPH5	HPH5	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6	HPH6						
Date Sampled				02/07/2012	02/07/2012	03/07/2012	04/07/2012	04/07/2012	05/07/2012	05/07/2012	12/07/2012	12/07/2012	10/07/2012	11/07/2012	05/07/2012	05/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	12/07/2012	16/07/2012	16/07/2012	18/07/2012	18/07/2012	04/07/2012	04/07/2012	04/07/2012	04/07/2012	04/07/2012	04/07/2012						
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status																													Maximum	Average	Commercial Industrial GAC			
o-xylene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	N/A	N/A	< 1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	-	-	< 1.0	-	N/A	N/A	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-			
1,1,2,2-Tetrachloroethane	µg/kg	3	MCERTS	N/A	< 3.0	< 3.0	N/A	N/A	< 3.0	< 3.0	< 3.0	-	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	-	< 3.0	< 3.0	-	-	< 3.0	-	N/A	N/A	N/A	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	-		
Isopropylbenzene	µg/kg	7	NONE	N/A	< 7.0	< 7.0	N/A	N/A	< 7.0	< 7.0	< 7.0	-	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	-	< 7.0	< 7.0	-	-	< 7.0	-	N/A	N/A	N/A	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	-			
Bromobenzene	µg/kg	11	MCERTS	N/A	< 11	< 11	N/A	N/A	< 11	< 11	< 11	-	< 11	< 11	< 11	< 11	< 11	-	< 11	< 11	-	-	< 11	-	N/A	N/A	N/A	< 11	< 11	< 11	< 11	< 11	< 11	-			
N-Propylbenzene	µg/kg	5	ISO 17025	N/A	< 5.0	< 5.0	N/A	N/A	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	-	-	< 5.0	-	N/A	N/A	N/A	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-			
2-Chlorotoluene	µg/kg	11	NONE	N/A	< 11	< 11	N/A	N/A	< 11	< 11	< 11	-	< 11	< 11	< 11	< 11	< 11	-	< 11	< 11	-	-	< 11	-	N/A	N/A	N/A	< 11	< 11	< 11	< 11	< 11	< 11	-			
4-Chlorotoluene	µg/kg	11	NONE	N/A	< 11	< 11	N/A	N/A	< 11	< 11	< 11	-	< 11	< 11	< 11	< 11	< 11	-	< 11	< 11	-	-	< 11	-	N/A	N/A	N/A	< 11	< 11	< 11	< 11	< 11	< 11	-			
1,3,5-Trimethylbenzene	µg/kg	4	ISO 17025	N/A	< 4.0	< 4.0	N/A	N/A	< 4.0	< 4.0	< 4.0	-	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	-	< 4.0	< 4.0	-	-	< 4.0	-	N/A	N/A	N/A	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	-			
Tert-Butylbenzene	µg/kg	4	NONE	N/A	< 4.0	< 4.0	N/A	N/A	< 4.0	< 4.0	< 4.0	-	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	-	< 4.0	< 4.0	-	-	< 4.0	-	N/A	N/A	N/A	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	-			
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	N/A	< 5.0	< 5.0	N/A	N/A	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	-	-	< 5.0	-	N/A	N/A	N/A	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-			
Sec-Butylbenzene	µg/kg	5	NONE	N/A	< 5.0	< 5.0	N/A	N/A	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	-	-	< 5.0	-	N/A	N/A	N/A	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-			
1,3-dichlorobenzene	µg/kg	7	ISO 17025	N/A	< 7.0	< 7.0	N/A	N/A	< 7.0	< 7.0	< 7.0	-	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	-	< 7.0	< 7.0	-	-	< 7.0	-	N/A	N/A	N/A	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	-			
p-Isopropyltoluene	µg/kg	16	ISO 17025	N/A	< 16	< 16	N/A	N/A	< 16	< 16	< 16	-	< 16	< 16	< 16	< 16	< 16	-	< 16	< 16	-	-	< 16	-	N/A	N/A	N/A	< 16	< 16	< 16	< 16	< 16	< 16	-			
1,2-dichlorobenzene	µg/kg	5	MCERTS	N/A	< 5.0	< 5.0	N/A	N/A	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	-	-	< 5.0	-	N/A	N/A	N/A	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-			
1,4-dichlorobenzene	µg/kg	8	MCERTS	N/A	< 8.0	< 8.0	N/A	N/A	< 8.0	< 8.0	< 8.0	-	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	-	< 8.0	< 8.0	-	-	< 8.0	-	N/A	N/A	N/A	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	-			
Butylbenzene	µg/kg	4	NONE	N/A	< 4.0	< 4.0	N/A	N/A	< 4.0	< 4.0	< 4.0	-	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	-	< 4.0	< 4.0	-	-	< 4.0	-	N/A	N/A	N/A	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	-			
1,2-Dibromo-3-chloropropane	µg/kg	7	ISO 17025	N/A	< 7.0	< 7.0	N/A	N/A	< 7.0	< 7.0	< 7.0	-	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	-	< 7.0	< 7.0	-	-	< 7.0	-	N/A	N/A	N/A	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	-			
1,2,4-Trichlorobenzene	µg/kg	9	MCERTS	N/A	< 9.0	< 9.0	N/A	N/A	< 9.0	< 9.0	< 9.0	-	< 9.0	< 9.0	< 9.0	< 9.0	< 9.0	-	< 9.0	< 9.0	-	-	< 9.0	-	N/A	N/A	N/A	< 9.0	< 9.0	< 9.0	< 9.0	< 9.0	< 9.0	-			
Hexachlorobutadiene	µg/kg	7	NONE	N/A	< 7.0	< 7.0	N/A	N/A	< 7.0	< 7.0	< 7.0	-	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	-	< 7.0	< 7.0	-	-	< 7.0	-	N/A	N/A	N/A	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0	-			
1,2,3-Trichlorobenzene	µg/kg	10	NONE	N/A	< 10	< 10	N/A	N/A	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	-	-	< 10	-	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10	< 10	-			
SVOCs																																					
Aniline	mg/kg	0.1	NONE	N/A	< 0.1	N/A	N/A	< 0.1	N/A	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1	-	N/A	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-			
Phenol	mg/kg	0.2	ISO 17025	N/A	< 0.2	N/A	N/A	< 0.2	N/A	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	-	< 0.2	-	N/A	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-		
2-Chlorophenol	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1	N/A	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1	-	N/A	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-			
Bis(2-chloroethoxy)ether	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2	N/A	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	-	< 0.2	-	N/A	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-			
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2	N/A	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	-	< 0.2	-	N/A	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-			
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1	N/A	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1	-	N/A	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-			
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2	N/A	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	-	< 0.2	-	N/A	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-			
Bis(2-chloroisopropoxy)ether	mg/kg	0.1	MCERTS	N/A	< 0.1	N/A	N/A	< 0.1	N/A	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1	-	N/A	N/A	N/A	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-			
2-Methylphenol	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3	N/A	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3	-	-	< 0.3	-	N/A	N/A	N/A	N/A	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-			
Hexachloroethane	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3	N/A	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3	-	-	< 0.3	-	N/A	N/A	N/A	N/A	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-			
Nitrobenzene	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3	N/A	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3	-	-	< 0.3	-	N/A	N/A	N/A	N/A	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-			
4-Methylphenol	mg/kg	0.2	NONE	N/A	< 0.2	N/A	N/A	< 0.2	N/A	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	-	< 0.2	-	N/A	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-			
Isophorone	mg/kg	0.2	MCERTS	N/A	< 0.2	N/A	N/A	< 0.2	N/A	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	-	< 0.2	-	N/A	N/A	N/A	N/A	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-			
2-Nitrophenol	mg/kg	0.3	MCERTS	N/A	< 0.3	N/A	N/A	< 0.3	N/A	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	< 0.3	&																				



Appendix 6 TPH CWG Calculation Sheets

ASSESSMENT OF ALL SPECIATED TPH RESULTS in mg/kg

Client Sample ID		BH11	TP1	TP2	TP3	TP4	TP7	TP8
Depth		1	0.6	1.5	0.5	0.5	0.4	0.6
Ground Type								
Aliphatic >5-6	mg/kg	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aliphatic >6-8	mg/kg	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aliphatic >8-10	mg/kg	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aliphatic >10-12	mg/kg	1	1	1	1	1	1	1
Aliphatic >12-16	mg/kg	2	2	2	2	2	2	2
Aliphatic >16-21	mg/kg	8	8.4	8	28	11	8	8
Aliphatic >21-35	mg/kg	8	20	8	190	64	8	8
Aliphatic >35-44	mg/kg							
Aromatic >6-7	mg/kg							
Aromatic >7-8	mg/kg	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aromatic >8-10	mg/kg	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aromatic >10-12	mg/kg	1	1	1	1	1	1	1
Aromatic >12-16	mg/kg	2	2	2	2	2	2	2
Aromatic >16-21	mg/kg	8	8.4	8	28	11	8	8
Aromatic >21-35	mg/kg	8	20	8	190	64	8	8
Aromatic >35-44	mg/kg							
Total		38.5	63.3	38.5	442.5	156.5	38.5	38.5

ASSESSMENT OF ALL SPECIATED TPH RESULTS in mg/kg

Client Sample ID		BH11	TP1	TP2	TP3	TP4	TP7	TP8
Depth		1	0.6	1.5	0.5	0.5	0.4	0.6
Commercial/ Industrial	Hyde Park Hayes	BH11	TP1	TP2	TP3	TP4	TP7	TP8
	ESV for fraction	1	0.6	1.5	0.5	0.5	0.4	0.6
		Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients
Aliphatic >5-6	5618.142	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >6-8	11989.830	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >8-10	2597.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >10-12	80119.358	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >12-16	49074.760	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >16-21	3813654.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >21-35	3813654.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >35-44	3813654.339							
Aromatic >6-7	3413.961							
Aromatic >7-8	3413.961	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >8-10	3750.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >10-12	18400.485	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >12-16	48149.694	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >16-21	57180.571	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >21-35	57199.639	0.000	0.000	0.000	0.003	0.001	0.000	0.000
Aromatic >35-44	57199.639							
Hazard index		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample Specific ESVs		69536.32	81814.03	69536.32	106929.45	97773.95	69536.32	69536.32

ASSESSMENT OF ALL SPECIATED TPH RESULTS in mg/kg

Client Sample ID		BH13	BH14	BH14	BH15	BH16	BH16	BH18	BH18
Depth		0.2	0.3	2.1	0.3	0.5	1	0.5	0.9
Commercial/ Industrial	Hyde Park Hayes	BH13	BH14	BH14	BH15	BH16	BH16	BH18	BH18
		0.2	0.3	2.1	0.3	0.5	1	0.5	0.9
	ESV for fraction	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients
Aliphatic >5-6	5618.142	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >6-8	11989.830	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >8-10	2597.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >10-12	80119.358	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >12-16	49074.760	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >16-21	3813654.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >21-35	3813654.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >35-44	3813654.339								
Aromatic >6-7	3413.961	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >7-8	3413.961	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >8-10	3750.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >10-12	18400.485	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >12-16	48149.694	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >16-21	57180.571	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
Aromatic >21-35	57199.639	0.002	0.000	0.000	0.000	0.002	0.000	0.000	0.000
Aromatic >35-44	57199.639								
Hazard index		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample Specific ESVs		62382.34	65247.24	63513.69	62629.93	81213.37	65247.24	65247.24	65247.24
Highlighted if GAC Exceeded									

ASSESSMENT OF ALL SPECIATED TPH RESULTS in mg/kg

Client Sample ID		BH13	BH14	BH14	BH15	BH16	BH16	BH18	BH18
Depth		0.2	0.3	2.1	0.3	0.5	1	0.5	0.9
Commercial/ Industrial	Hyde Park Hayes	BH13	BH14	BH14	BH15	BH16	BH16	BH18	BH18
		0.2	0.3	2.1	0.3	0.5	1	0.5	0.9
	ESV for fraction	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients	Hazard Quotients
Aliphatic >5-6	5618.142	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >6-8	11989.830	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >8-10	2597.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >10-12	80119.358	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >12-16	49074.760	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >16-21	3813654.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >21-35	3813654.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aliphatic >35-44	3813654.339								
Aromatic >6-7	3413.961	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >7-8	3413.961	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >8-10	3750.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >10-12	18400.485	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >12-16	48149.694	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aromatic >16-21	57180.571	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
Aromatic >21-35	57199.639	0.002	0.000	0.000	0.000	0.002	0.000	0.000	0.000
Aromatic >35-44	57199.639								
Hazard index		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample Specific ESVs		62382.34	65247.24	63513.69	62629.93	81213.37	65247.24	65247.24	65247.24
Highlighted if GAC Exceeded									



Appendix 7 Ground Gas Monitoring Data

Gas Monitoring Proforma

Site: Hyde Park, Hayes

Project Number: JL30529

Date of Monitoring: 26.07.12

Monitoring Personnel: Paul Hollinghurst

Gas Monitor: GA2000 (453)

Flow Meter: GA2000 (453)

Barometric Pressure at start of monitoring (mbar): 1016

Barometric Pressure at end of monitoring (mbar): 1018

Air Temperature (oC): 28

Weather (e.g. precipitation, wind speed, wind direction): Clear, dry, slight breeze

Ground conditions (including vegetation stress, visual contamination): Hard- and soft-standing, dry

Record any other observations which may have an impact on the soil gas monitoring results. These observations may include damage to the gas tap or top of well, damage to the cover or an open gas tap.

GF60 flow meter not available, had to use GA2000 with built-in flow. Therefore no BH pressure reading.

Geotechnical Instruments Analox GA94/2000
Typical Accuracy (manufacturere supplied)

Concentration (% v/v)	CH ₄	CO ₂	O ₂
5% (LEL CH4)	+/- 0.5%	+/- 0.5%	+/- 1%
15% (UEL CH4)	+/- 1%	+/- 1%	+/- 1%
100%	+/- 3%	+/- 3%	+/- 1%
Permitted temperature range	-10°C to +40°C		

Note: Calibration records held in equipment register

Site: Hyde Park, Hayes
Project Number: JL30529 Date: 26.07.12

Monitoring Point Reference	Flow Range		Borehole Pressure Range		Methane		Carbon dioxide		Oxygen		Water level	Well depth	Description of Measuring Point	Notes
	min	max	min	max	peak	steady	peak	steady	peak	steady	m bgl	m bgl		
BH2	0.0	0.0	-	-	<0.1	<0.1	0.1	0.1	20.6	20.6	2.79	5.63	top of cover	
BH6	0.0	0.0	-	-	0.2	0.2	1.4	1.4	16.6	16.6	2.97	4.91	top of cover	-
BH8	-	-	-	-	-	-	-	-	-	-	-	-		Could not access BH due to film production vehicles
BH9	0.0	0.0	-	-	0.2	0.2	4.7	4.7	15.1	15.1	3.06	5.75	top of cover	-
BH11	-0.6	-0.6	-	-	0.1	0.1	0.1	0.1	20.3	20.3	2.39	5.14	top of cover	-
BH12	0.0	0.0	-	-	0.1	0.1	<0.1	<0.1	16.7	17.4	1.74	28.95	top of cover	-
BH13	0.0	0.0	-	-	0.1	0.1	0.1	0.1	18.8	19.0	1.44	4.65	top of cover	-
BH14	0.0	0.0	-	-	0.2	0.2	<0.1	<0.1	18.0	18.9	1.74	-	top of cover	-
BH15	0.0	0.0	-	-	0.2	0.2	<0.1	<0.1	20.0	20.0	3.38	6.98	top of cover	-
BH16	0.0	0.0	-	-	0.2	0.2	<0.1	<0.1	17.6	18.2	3.51	28.31	top of cover	-
BH17	-0.3	-0.3	-	-	0.2	0.2	0.9	0.9	18.8	18.8	3.29	29.68	top of cover	-
BH18	0.0	0.0	-	-	0.2	0.2	1.4	1.4	15.8	15.8	2.89	5.93	top of cover	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Gas Monitoring Proforma

Site: Hyde Park, Hayes

Project Number: JL30529

Date of Monitoring: 09.08.12

Monitoring Personnel: Tim Darby

Gas Monitor: GA2000 (043)

Flow Meter: Integrated into GA2000

Barometric Pressure at start of monitoring (mbar): 1022

Barometric Pressure at end of monitoring (mbar): 1023

Air Temperature (oC): 19

Weather (e.g. precipitation, wind speed, wind direction): Dry, warm

Ground conditions (including vegetation stress, visual contamination): e.g. Hardstanding covers the site

Record any other observations which may have an impact on the soil gas monitoring results. These observations may include damage to the gas tap or top of well, damage to the cover or an open gas tap.

Borehole pressure reading not available from GA2000 with integrated flow meter.

Geotechnical Instruments Analox GA94/2000
Typical Accuracy (manufacturere supplied)

Concentration (% v/v)	CH ₄	CO ₂	O ₂
5% (LEL CH ₄)	+/- 0.5%	+/- 0.5%	+/- 1%
15% (UEL CH ₄)	+/- 1%	+/- 1%	+/- 1%
100%	+/- 3%	+/- 3%	+/- 1%
Permitted temperature range	-10°C to +40°C		

Note: Calibration records held in equipment register

Site: Hyde Park, Hayes
Project Number: JL30529
Date: 09.08.12

Monitoring Point Reference	Flow Range		Borehole Pressure Range		Methane		Carbon dioxide		Oxygen		Water level	Well depth	Description of Measuring Point	Notes
	min	max	min	max	peak	steady	peak	steady	peak	steady	m bgl	m bgl		
BH2	-0.1	-0.1	-	-	-	0.1	-	<0.1	-	20.6	-	-	-	-
BH12	-0.6	0.0	-	-	-	0.1	-	0.2	-	14.9	2.86	28.69	-	Gas tap open prior to monitoring.
BH11	-0.7	0.0	-	-	-	<0.1	0.7	0.3	-	19.8	1.65	5.16	-	Gas tap open prior to monitoring.
BH13	-0.2	0.0	-	-	-	<0.1	-	<0.1	-	20.3	2.02	5.25	-	Gas tap open prior to monitoring.
BH14	0.0	0.0	-	-	-	0.1	-	<0.1	-	20.1	1.76	-	-	-
BH18	0.0	0.0	-	-	-	0.1	-	0.9	-	19.1	3.09	5.93	-	-
BH17	0.0	0.0	-	-	-	0.1	-	0.1	-	20.3	3.49	29.69	-	-
BH15	0.0	0.1	-	-	-	0.1	-	<0.1	-	20.1	3.55	6.98	-	-
BH16	0.0	0.1	-	-	-	0.2	-	<0.1	-	19.6	0.71	28.30	-	-
BH6	0.1	0.3	-	-	-	<0.1	-	0.9	-	19.0	3.18	4.93	-	-
BH9	0.0	0.3	-	-	-	0.1	-	3.3	-	17.7	3.26	5.74	-	-
BH8	0.0	0.0	-	-	-	0.1	2.2	1.9	-	17.4	3.48	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Gas Monitoring Proforma

Site: Hyde Park, Hayes

Project Number: JL30529

Date of Monitoring: 20.08.12

Monitoring Personnel: Tim Darby

Gas Monitor: GA2000 (453)

Flow Meter: Integrated into GA2000

Barometric Pressure at start of monitoring (mbar): 1016

Barometric Pressure at end of monitoring (mbar): 1016

Air Temperature (oC): -

Weather (e.g. precipitation, wind speed, wind direction): Cloudy, light breeze

Ground conditions (including vegetation stress, visual contamination): e.g. Hardstanding covers the site

Record any other observations which may have an impact on the soil gas monitoring results. These observations may include damage to the gas tap or top of well, damage to the cover or an open gas tap.

Integrated flow meter does not provide a reading for borehole pressure range.

Geotechnical Instruments Analox GA94/2000
Typical Accuracy (manufacturere supplied)

Concentration (% v/v)	CH ₄	CO ₂	O ₂
5% (LEL CH ₄)	+/- 0.5%	+/- 0.5%	+/- 1%
15% (UEL CH ₄)	+/- 1%	+/- 1%	+/- 1%
100%	+/- 3%	+/- 3%	+/- 1%
Permitted temperature range	-10°C to +40°C		

Note: Calibration records held in equipment register

Site: Hyde Park, Hayes
Project Number: JL30529 Date: 20.08.12

Monitoring Point Reference	Flow Range		Borehole Pressure Range		Methane		Carbon dioxide		Oxygen		Water level	Well depth	Description of Measuring Point	Notes
	min	max	min	max	peak	steady	peak	steady	peak	steady	m bgl	m bgl		
BH11	0.0	0.0	-	-	-	<0.1	-	1.3	-	16.0	1.79	-	-	-
BH12	0.0	0.0	-	-	-	<0.1	-	1.2	-	10.9	1.86	-	-	-
BH13	0.0	0.0	-	-	-	<0.1	-	0.2	-	13.8	1.87	-	-	-
BH14	0.0	0.0	-	-	-	<0.1	-	<0.1	-	20.1	1.84	-	-	-
BH18	0.0	0.0	-	-	-	<0.1	-	1.3	-	19.2	3.19	-	-	-
BH17	0.0	0.0	-	-	-	<0.1	-	0.6	-	18.9	3.60	-	-	-
BH15	0.0	0.0	-	-	-	<0.1	-	<0.1	-	20.3	3.68	-	-	-
BH16	0.0	0.0	-	-	-	<0.1	-	<0.1	-	19.9	3.79	-	-	-
BH6	0.0	1.3	-	-	-	<0.1	1.3	1.2	-	18.8	3.30	-	-	Flow was briefly 1.3 l/hr then steady at 0.0 l/hr.
BH9	0.0	0.0	-	-	-	<0.1	-	2.2	-	18.1	3.32	-	-	Ants nest in headworks of monitoring point.
BH8	-1.4	0.0	-	-	-	<0.1	-	2.3	-	16.4	3.57	-	-	Flow was briefly -1.4 l/hr then steady at 0.0 l/hr.
BH2	0.0	0.1	-	-	-	<0.1	-	<0.1	-	20.3	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Gas Monitoring Proforma

Site: Hyde Park, Hayes

Project Number: JL30529

Date of Monitoring: 04.09.12

Monitoring Personnel: Andi Davies

Gas Monitor: Please enter monitor type and serial number in brackets

Flow Meter: Please enter monitor type and serial number in brackets

Barometric Pressure at start of monitoring (mbar): 1020

Barometric Pressure at end of monitoring (mbar): 1020

Air Temperature (oC): 22

Weather (e.g. precipitation, wind speed, wind direction): sunny, warm

Ground conditions (including vegetation stress, visual contamination): e.g. Hardstanding covers the site

Record any other observations which may have an impact on the soil gas monitoring results. These observations may include damage to the gas tap or top of well, damage to the cover or an open gas tap.

e.g. See comments for individual monitoring points.

Geotechnical Instruments Analox GA94/2000
Typical Accuracy (manufacturere supplied)

Concentration (% v/v)	CH ₄	CO ₂	O ₂
5% (LEL CH ₄)	+/- 0.5%	+/- 0.5%	+/- 1%
15% (UEL CH ₄)	+/- 1%	+/- 1%	+/- 1%
100%	+/- 3%	+/- 3%	+/- 1%
Permitted temperature range	-10°C to +40°C		

Note: Calibration records held in equipment register

Site: Hyde Park, Hayes
Project Number: JL30529 Date: 04.09.12

Monitoring Point Reference	Flow Range		Borehole Pressure Range		Methane		Carbon dioxide		Oxygen		Water level	Well depth	Description of Measuring Point	Notes
	min	max	min	max	peak	steady	peak	steady	peak	steady	m bgl	m bgl		
BH2	0.0	0.0	-	-	<0.1	<0.1	<0.1	<0.1	20.5	20.5	3.08	5.63	top of cover	
BH6	0.0	0.0	-	-	<0.1	<0.1	1.4	1.4			3.34	4.91	top of cover	-
BH8	0.0	0.0	-	-	<0.1	<0.1	7.2	7.2	10.6	10.7	Dry	5.46	top of cover	
BH9	-	-	-	-	<0.1	<0.1	2.3	1.5			3.41	5.75	top of cover	Gas tap blocked by mud due to ants' nest. Reading taken from standpipe
BH11	0.0	0.1	-	-	<0.1	<0.1	0.7	0.5	19.2	19.3	1.62	5.14	top of cover	-
BH12	0.0	0.2	-	-	0.2	0.2	0.3	0.3	18.2	18.3	1.81	28.95	top of cover	-
BH13	0.0	0.0	-	-	<0.1	<0.1	0.2	0.1	14.2	14.9	1.88	4.65	top of cover	-
BH14	0.0	0.2	-	-	<0.1	<0.1	<0.1	<0.1	19.4	19.4	1.80	-	top of cover	-
BH15	0.0	0.0	-	-	0.3	0.3	1.1	1.1	17.1	17.1	3.72	6.98	top of cover	-
BH16	0.0	0.0	-	-	0.1	<0.1	0.2	<0.1	19.1	19.1	3.83	28.31	top of cover	-
BH17	0.0	0.0	-	-	0.3	0.2	0.4	0.4	19.1	19.1	3.70	29.68	top of cover	-
BH18	0.0	0.0	-	-	0.2	<0.1	1.7	1.7	18.5	18.5	3.61	5.93	top of cover	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Gas Monitoring Proforma

Site: Hyde Park, Hayes

Project Number: JL30529

Date of Monitoring: 20.09.12

Monitoring Personnel: paul hollinghurst

Gas Monitor: GA2000 (453)

Flow Meter: GA2000 (453)

Barometric Pressure at start of monitoring (mbar): 1019

Barometric Pressure at end of monitoring (mbar): 1019

Air Temperature (oC): 10

Weather (e.g. precipitation, wind speed, wind direction): overcast, light breeze, dry

Ground conditions (including vegetation stress, visual contamination): hard- and soft-standing

Record any other observations which may have an impact on the soil gas monitoring results. These observations may include damage to the gas tap or top of well, damage to the cover or an open gas tap.

e.g. See comments for individual monitoring points.

Geotechnical Instruments Analox GA94/2000
Typical Accuracy (manufacturere supplied)

Concentration (% v/v)	CH ₄	CO ₂	O ₂
5% (LEL CH ₄)	+/- 0.5%	+/- 0.5%	+/- 1%
15% (UEL CH ₄)	+/- 1%	+/- 1%	+/- 1%
100%	+/- 3%	+/- 3%	+/- 1%
Permitted temperature range	-10°C to +40°C		

Note: Calibration records held in equipment register

Site: Hyde Park, Hayes
 Project Number: JL30529 Date: 20.09.12

Monitoring Point Reference	Flow Range		Borehole Pressure Range		Methane		Carbon dioxide		Oxygen		Water level	Well depth	Description of Measuring Point	Notes
	min	max	min	max	peak	steady	peak	steady	peak	steady	m bgl	m bgl		
BH2	0.0	0.0	-	-	<0.1	<0.1	0.1	<0.1	20.8	20.9	3.18	5.63	top of cover	
BH8	0.0	0.0	-	-	<0.1	<0.1	5.1	5.1	14.4	14.4	3.70	5.46	top of cover	-
BH11	0.0	0.1	-	-	<0.1	<0.1	1.1	1.0	19.3	19.3	1.85	5.14	top of cover	
BH12	0.0	0.1	-	-	0.1	0.1	0.9	0.9	17.7	17.7	1.84	28.95	top of cover	
BH13	0.0	0.0	-	-	<0.1	<0.1	0.5	0.5	6.0	6.0	2.02	4.65	top of cover	-
BH14	0.0	0.1	-	-	<0.1	<0.1	0.1	0.1	20.5	20.5	1.93	-	top of cover	-
														-
														-
														-
														-
														-
														-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Gas Monitoring Proforma

Site: Hyde Park, Hayes

Project Number: JL30529

Date of Monitoring: 21.09.12

Monitoring Personnel: paul hollinghurst

Gas Monitor: GA2000 (453)

Flow Meter: GA2000 (453)

Barometric Pressure at start of monitoring (mbar): 1013

Barometric Pressure at end of monitoring (mbar): 1013

Air Temperature (oC): 14

Weather (e.g. precipitation, wind speed, wind direction): partailly cloudy, light breeze, dry

Ground conditions (including vegetation stress, visual contamination): hard- and soft-standing

Record any other observations which may have an impact on the soil gas monitoring results. These observations may include damage to the gas tap or top of well, damage to the cover or an open gas tap.

e.g. See comments for individual monitoring points.

Geotechnical Instruments Analox GA94/2000
Typical Accuracy (manufacturere supplied)

Concentration (% v/v)	CH ₄	CO ₂	O ₂
5% (LEL CH ₄)	+/- 0.5%	+/- 0.5%	+/- 1%
15% (UEL CH ₄)	+/- 1%	+/- 1%	+/- 1%
100%	+/- 3%	+/- 3%	+/- 1%
Permitted temperature range	-10°C to +40°C		

Note: Calibration records held in equipment register

Site: Hyde Park, Hayes
Project Number: JL30529 Date: 21.09.12

Monitoring Point Reference	Flow Range		Borehole Pressure Range		Methane		Carbon dioxide		Oxygen		Water level	Well depth	Description of Measuring Point	Notes
	min	max	min	max	peak	steady	peak	steady	peak	steady	m bgl	m bgl		
BH6	0.0	0.0	-	-	<0.1	<0.1	0.2	0.2	20.5	20.5	4.25	4.91	top of cover	-
BH9	-	-	-	-	<0.1	<0.1	1.3	1.3	19.2	19.4	3.48	5.75	top of cover	Gas tap blocked by mud due to ants' nest. Reading taken from standpipe
BH15	0.0	0.0	-	-	<0.1	<0.1	1.4	1.4	18.0	18.0	3.82	6.98	top of cover	
BH16	0.0	0.0	-	-	<0.1	<0.1	0.5	0.4	17.1	17.5	4.00	28.31	top of cover	
BH17	0.0	0.0	-	-	<0.1	<0.1	0.4	0.4	20.1	20.1	3.74	29.68	top of cover	
BH18	0.0	0.0	-	-	<0.1	<0.1	1.3	1.3	19.9	19.9	3.35	5.93	top of cover	
														-
														-
														-
														-
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Gas Monitoring Proforma

Site: Hyde Park, Hayes

Project Number: JL30529

Date of Monitoring: 27.09.12

Monitoring Personnel: Iain Muir

Gas Monitor: GA2000 (457)

Flow Meter: Integrated into GA2000

Barometric Pressure at start of monitoring (mbar): 1008

Barometric Pressure at end of monitoring (mbar): 1007

Air Temperature (oC): 17

Weather (e.g. precipitation, wind speed, wind direction): Dry, 6/8 cloud cover.

Ground conditions (including vegetation stress, visual contamination): Predominantly a developed site comprising buildings, hardstanding and open space.

Record any other observations which may have an impact on the soil gas monitoring results. These observations may include damage to the gas tap or top of well, damage to the cover or an open gas tap.

Borehole pressure range reading not available from GA2000 with integrated flow meter.

Geotechnical Instruments Analox GA94/2000
Typical Accuracy (manufacturere supplied)

Concentration (% v/v)	CH ₄	CO ₂	O ₂
5% (LEL CH ₄)	+/- 0.5%	+/- 0.5%	+/- 1%
15% (UEL CH ₄)	+/- 1%	+/- 1%	+/- 1%
100%	+/- 3%	+/- 3%	+/- 1%
Permitted temperature range	-10°C to +40°C		

Note: Calibration records held in equipment register

Site: Hyde Park, Hayes
Project Number: JL30529
Date: 27.09.12

Monitoring Point Reference	Flow Range		Borehole Pressure Range		Methane		Carbon dioxide		Oxygen		Water level	Well depth	Description of Measuring Point	Notes
	min	max	min	max	peak	steady	peak	steady	peak	steady	m bgl	m bgl		
BH11	0.0	0.1	-	-	-	<0.1	0.8	0.2	16.8	19.1	1.57	5.03	Top of cover	Groundwater had a musty odour.
BH12	0.0	0.0	-	-	-	<0.1	0.8	0.4	17.8	18.7	2.29	28.99	Top of cover	Groundwater had a musty odour.
BH15	-0.1	0.0	-	-	-	<0.1	-	1.6	-	19.2	3.70	6.90	Top of cover	-
BH17	0.0	0.0	-	-	-	<0.1	0.2	0.1	19.9	20.2	3.62	29.53	Top of cover	-
BH18	0.0	0.0	-	-	-	<0.1	-	1.5	-	19.1	3.27	5.84	Top of cover	-
BH16	0.0	0.0	-	-	-	<0.1	0.2	<0.1	20.0	20.2	4.00	28.18	Top of cover	-
BH8	0.0	0.0	-	-	-	<0.1	-	7.4	-	10.6	3.62	5.38	Top of cover	-
BH2	0.0	0.0	-	-	-	<0.1	-	<0.1	-	21.1	3.20	5.79	Top of cover	-
BH14	0.0	0.0	-	-	-	<0.1	-	<0.1	-	19.9	2.20	-	Top of cover	Dip meter not long enough to reach base of standpipe. Standpipe is >30.5m to base.
BH13	0.0	0.0	-	-	-	<0.1	0.7	0.5	3.6	6.5	2.04	4.56	Top of cover	-
BH6	0.0	0.0	-	-	-	<0.1	-	0.7	-	20.0	3.33	4.91	Top of cover	-
BH9	-	-	-	-	-	-	-	-	-	-	3.39	5.75	Top of cover	No reading as gas tap blocked by mud from ants nest. Unblocked tap in preparation for next round.
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Appendix 8 Diffusion Tube Laboratory Analysis

LABORATORY ANALYSIS REPORT

REPORT NUMBER	F5657R
CUSTOMER	SKM Enviros Leeds
GRADKO LAB REFERENCE	PE6G2161-2166
DATE SAMPLES RECEIVED	19.09.12
DESPATCH REF. NUMBER	SOR010404
JOB NUMBER	SKM12080148
BOOKING IN REF.	F5657

**SEMI-QUANTITATIVE ANALYSIS FOR
SPECIFIED COMPOUND ON CHROMOSORB DIFFUSION TUBES BY GC/MS**
Analysis has been carried out in accordance with in-house method GLM 13

Tube Number	GRA 10246**
Sample Location	BH11

****Sample was damaged on arrival and was unable to be analysed.**

Tube Number	GRA 04646
Sample Location	BH12
Exposure Time (mins)	12690

Specified Compound	ng on tube	ppb in air*	µgm⁻³
Trichloroethylene	332.14	13.09	68.05

Tube Number	GRA 10572
Sample Location	BH13
Exposure Time (mins)	12690

Specified Compound	ng on tube	ppb in air*	µgm⁻³
Trichloroethylene	4307	170	882

Tube Number	GRA 02207
Sample Location	BH14
Exposure Time (mins)	12690

Specified Compound	ng on tube	ppb in air*	µgm⁻³
Trichloroethylene	22175	874	4543

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the data in this report should be directed to the Laboratory Manager Gradko International Ltd. This report is not to be reproduced, except in full, without the written permission of Gradko International Ltd.

REPORT OFFICIALLY CHECKED

Gradko International Ltd
This signature confirms the authenticity of these results
Signed.....*L. Gates*.....
L. Gates, Laboratory Supervisor

St. Martins House, 77 Wales Street Winchester, Hampshire SO23 0RH
tel.: 01962 860331 fax: 01962 841339 e-mail: diffusion@gradko.co.uk

LABORATORY ANALYSIS REPORT

Tube Number GRA 02008
Sample Location BH15
Exposure Time (mins) 12690

Specified Compound	ng on tube	ppb in air*	µgm⁻³
Trichloroethylene	47.93	1.89	9.82

Tube Number GRA 08404**
Sample Location BH16
Exposure Time (mins) 12690

**Sample was damaged on arrival and was unable to be analysed.

Comments:

Results greater than 1000ng are outside our UKAS accredited calibration range.
Semi-quantitative results for ng on tube are calculated using toluene standards.

Date of Analysis 28.09.12

Analysts Name G. Aikman **Date of Report** 01.10.12

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the data in this report should be directed to the Laboratory Manager Gradko International Ltd. This report is not to be reproduced, except in full, without the written permission of Gradko International Ltd.

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Report Number F5657R

Page 2 of 2

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Gradko International Ltd
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Signed.....*L. Gates*.....
L. Gates, Laboratory Supervisor

LABORATORY ANALYSIS REPORT

REPORT NUMBER F5658R
CUSTOMER SKM Enviros
Leeds

GRADKO LAB REFERENCE PE6G2144-2149
DATE SAMPLES RECEIVED 19.09.12
DESPATCH REF. NUMBER SOR010404
JOB NUMBER SKM12080142
BOOKING IN REF. F5658

**SEMI-QUANTITATIVE ANALYSIS FOR
SPECIFIED COMPOUND ON SLS-UNICARB DIFFUSION TUBES BY GC/MS**
Analysis has been carried out in accordance with in-house method GLM 13

Tube Number MI 023059
Sample Location BH11
Exposure Time (mins) 12690

Specified Compound	ng on tube	ppb in air*	μgm^{-3}
Vinyl Chloride ⁺	13.55	0.53	1.32

Tube Number MI 023832
Sample Location BH12
Exposure Time (mins) 12690

Specified Compound	ng on tube	ppb in air*	μgm^{-3}
Vinyl Chloride ⁺	1072	42	105

Tube Number MI 023006
Sample Location BH13
Exposure Time (mins) 12690

Specified Compound	ng on tube	ppb in air*	μgm^{-3}
Vinyl Chloride ⁺	48.57	1.91	4.75

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the data in this report should be directed to the Laboratory Manager Gradko International Ltd. This report is not to be reproduced, except in full, without the written permission of Gradko International Ltd.

REPORT OFFICIALLY CHECKED

Gradko International Ltd
This signature confirms the authenticity of these results
Signed.....
L. Gates, Laboratory Supervisor

St. Martins House, 77 Wales Street Winchester, Hampshire SO23 0RH
tel.: 01962 860331 fax: 01962 841339 e-mail: diffusion@gradko.co.uk

LABORATORY ANALYSIS REPORT

Tube Number MI 029574
Sample Location BH14
Exposure Time (mins) 12690

Specified Compound	ng on tube	ppb in air*	μgm^{-3}
Vinyl Chloride ⁺	118.87	4.68	11.62

Tube Number GRA 04556
Sample Location BH15
Exposure Time (mins) 12690

Specified Compound	ng on tube	ppb in air*	μgm^{-3}
Vinyl Chloride ⁺	594.10	23.41	58.05

Tube Number MI 023052
Sample Location BH16
Exposure Time (mins) 12690

Specified Compound	ng on tube	ppb in air*	μgm^{-3}
Vinyl Chloride ⁺	395.39	15.58	38.64

Comment: ⁺ This compound is not covered by our flexible scope.
Results greater than 1000ng are outside our UKAS accredited calibration range.
Semi-quantitative results for ng on tube are calculated using toluene standards.

	Date of Analysis	27.09.12
Analysts Name	G. Aikman	Date of Report 02.10.12

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the data in this report should be directed to the Laboratory Manager Gradko International Ltd. This report is not to be reproduced, except in full, without the written permission of Gradko International Ltd.

Form LQF32b Issue 4 – September 2012

Report Number F5658R

Page 2 of 2

REPORT OFFICIALLY CHECKED

Gradko International Ltd
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Signed.....
L. Gates, Laboratory Supervisor



Appendix 9 Soil Waste Classification

**Paul Hollinghurst**

SKM Enviros
New City Court
20 St Thomas St
London
SE1 9RS

i2 Analytical Ltd.
Building 19,
BRE,
Garston,
Watford,
WD25 9XX

e: phollinghurst@globalskm.com

t: 01923 67 00 20
f: 01923 67 00 30
e: reception@i2analytical.com

Analytical Report Number : 12-35002

Project / Site name: Hyde Park, Hayes

Samples received on: 05/07/2012

Your job number: JL30529

Samples instructed on: 09/07/2012

Your order number:

Analysis completed by: 20/07/2012

Report Issue Number: 1

Report issued on: 20/07/2012

Samples Analysed: 3 wac multi samples

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Rexona Rahman
Customer Services Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

i2 Analytical

Building 19
BRE, Bucknalls Lane
Watford, WD25 9XX

Telephone: 01923 670020

Fax: 01923 670030

email: info@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	12-35002						
					Client: SKMENVIROS		
Location	Hyde Park, Hayes						
Lab Reference (Sample Number)	220032				Landfill Waste Acceptance Criteria		
Sampling Date	02/07/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH11						
Depth (m)	1.00						
Solid Waste Analysis							
TOC (%)**	0.5				3%	5%	6%
Loss on Ignition (%) **	2.7				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	6.6				100	--	--
pH (units)**	9.9				--	>6	--
Acid Neutralisation Capacity (mol / kg)	4.0				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
	mg/l		mg/l	mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.067	0.033		0.38	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0047	0.0045		0.045	0.5	10	70
Copper	0.0083	0.0064		0.067	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.0091	0.0082		0.083	0.5	10	30
Nickel	0.0028	0.0018		0.019	0.4	10	40
Lead	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony	< 0.0050	< 0.0050		0.023	0.06	0.7	5
Selenium	< 0.010	< 0.010		0.046	0.1	0.5	7
Zinc	< 0.0010	< 0.0010		< 0.020	4	50	200
Chloride	5.0	< 4.0		< 15	800	4000	25000
Fluoride	0.51	0.41		4.3	10	150	500
Sulphate	120	12		280	1000	20000	50000
TDS	270	60		910	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	9.2	6.0		65	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.4						
Dry Matter (%)	91						
Moisture (%)	9.4						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.26						
Results are expressed on a dry weight basis, after correction for moisture content where applicable Stated limits are for guidance only and I2 cannot be held responsible for any discrepancies with current legislation							

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

* = UKAS accredited

** = MCERTS accredited

i2 Analytical

Building 19
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Watford, WD25 9XX

Telephone: 01923 670020

Fax: 01923 670030

email: info@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	12-35002						
					Client: SKMENVIROS		
Location	Hyde Park, Hayes						
Lab Reference (Sample Number)	220033				Landfill Waste Acceptance Criteria		
Sampling Date	05/07/2012				Limits		
Sample ID	TP4				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	4.1				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	88				500	--	--
Total PAH (WAC-17) (mg/kg)	34				100	--	--
pH (units)**	7.7				--	>6	--
Acid Neutralisation Capacity (mol / kg)	41				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
	mg/l mg/l			mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic	0.022	0.019		0.19	0.5	2	25
Barium	0.063	0.017		0.24	20	100	300
Cadmium	< 0.0005	< 0.0005		0.0040	0.04	1	5
Chromium	0.0046	0.0039		0.040	0.5	10	70
Copper	0.087	0.045		0.51	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.037	0.0053		0.098	0.5	10	30
Nickel	0.011	0.0060		0.067	0.4	10	40
Lead	0.011	< 0.0050		< 0.020	0.5	10	50
Antimony	0.10	0.073		0.77	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.042	< 0.0010		< 0.020	4	50	200
Chloride	14	< 4.0		30	800	4000	25000
Fluoride	0.31	0.29		2.9	10	150	500
Sulphate	270	61		910	1000	20000	50000
TDS	380	130		1700	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	29	9.5		120	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.2						
Dry Matter (%)	88						
Moisture (%)	12						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.25						
Results are expressed on a dry weight basis, after correction for moisture content where applicable							

Results are expressed on a dry weight basis, after correction for moisture content where applicable
(Based directly on the method used and it cannot be held responsible for any discrepancies with current legislation)

* = UKAS accredited

** = MCERTS accredited

i2 Analytical

Building 19
BRE, Bucknalls Lane
Watford, WD25 9XX

Telephone: 01923 670020

Fax: 01923 670030

email: info@i2analytical.com

Waste Acceptance Criteria ANALYTICAL RESULTS							
Report No:	12-35002						
					Client: SKMENVIROS		
Location	Hyde Park, Hayes						
Lab Reference (Sample Number)	220034				Landfill Waste Acceptance Criteria		
Sampling Date	04/07/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP8						
Depth (m)	0.60						
Solid Waste Analysis							
TOC (%)**	0.5				3%	5%	6%
Loss on Ignition (%) **	3.3				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	7.6				--	>6	--
Acid Neutralisation Capacity (mol / kg)	1.6				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
	mg/l		mg/l	mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic	0.081	0.078		0.78	0.5	2	25
Barium	0.050	0.017		0.21	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0029	0.0021		0.022	0.5	10	70
Copper	0.012	0.0078		0.084	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.018	0.0056		0.071	0.5	10	30
Nickel	0.0065	0.0034		0.037	0.4	10	40
Lead	0.014	0.012		0.12	0.5	10	50
Antimony	0.031	0.013		0.15	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.055	< 0.0010		0.024	4	50	200
Chloride	< 4.0	< 4.0		< 15	800	4000	25000
Fluoride	0.66	0.43		4.6	10	150	500
Sulphate	54	5.7		110	1000	20000	50000
TDS	80	20		270	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	6.7	4.0		44	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	84						
Moisture (%)	16						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.21						
Results are expressed on a dry weight basis, after correction for moisture content where applicable Stated limits are for guidance only and I2 cannot be held responsible for any discrepancies with current legislation							

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepancies with current legislation

* = UKAS accredited

** = MCERTS accredited

Analytical Report Number : 12-35002

Project / Site name: Hyde Park, Hayes

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content

of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
220032	BH11	None Supplied	1.00	Brown clay and sand with gravel.
220033	TP4	None Supplied	0.50	Light grey sandy clay with gravel and vegetation.
220034	TP8	None Supplied	0.60	Brown sandy clay.



Analytical Report Number : 12-35002

Project / Site name: Hyde Park, Hayes

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance on Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046	W	NONE
BTEX in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S	W	MCERTS
Chloride in WAC leachate	Determination of chloride in leachate by titration against silver nitrate.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L024	W	NONE
Fluoride in WAC leachate	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in WAC leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039	W	ISO 17025
Mineral Oil in Soil	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L064	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK	W	NONE
Monohydric phenols in WAC leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with DCM and analysis by GC-MS.	In-house method based on USEPA 8270	L064	D	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-UK	W	MCERTS
Sociated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064	D	NONE
Stones content of soil	Stones not passing through a 2 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample results are not corrected for the stone content of the sample.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK	D	NONE
Sulphate in WAC leachate	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039	W	NONE
Total dissolved solids in WAC leachate	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L004	W	NONE



Analytical Report Number : 12-35002

Project / Site name: Hyde Park, Hayes

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023	D	MCERTS
Total organic carbon in WAC leachate	Determination of total organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

SKM EnviroS Waste Classification Screening Tool

Determinand	Threshold Conc.	Possible Hazardous Properties	Maximim concentration (Highlighted if concentration is hazardous)		Sample data		Sample data	
	Equivalent (mg/ Kg soil)		HPH4 max	Highlighted if concentration contributes to hazardous nature (e.g by additivity) (f)	HPH5 Max	Highlighted if concentration contributes to hazardous nature (e.g by additivity) (f)	HPH6 Max	Highlighted if concentration contributes to hazardous nature (e.g by additivity) (f)
Arsenic	643 19304 1609	H7 Carcinogenic above threshold H8 Toxic (H5 Harmful) above threshold H14 Ecotoxic above threshold	1.30E+01		6.00E+01		4.80E+01	
Boron	872	H10 Toxic for reproduction above thresh	1.20E+00		1.60E+00		6.30E+00	
Cadmium	875 43769 8754 875 26262 2188	H7 Carcinogenic above threshold H10 Toxic for reproduction above thresh H11 Mutagenic above threshold H6 Toxic (H5 Harmful) above threshold H6 Toxic (H5 Harmful) above threshold H14 Ecotoxic above threshold	6.80E+00		4.50E+02		7.00E+01	
Chromium	n/a 354 354 884 354 10606 3535 3535 884	H7 Carcinogenic above threshold H11 Mutagenic above threshold H10 Toxic for reproduction above thresh H6 Toxic (H5 Harmful) above threshold H6 Toxic (H5 Harmful) above threshold H8 (H4 Irritant) above threshold H13 Sensitising above threshold H14 Ecotoxic above threshold	4.10E+01		2.70E+02		3.40E+01	
Copper	199060 159248 1991	H5 Harmful above threshold H4 Irritant above threshold H14 Ecotoxic above threshold	7.60E+01		2.80E+03		4.10E+02	
Lead	2500 50000 250000 n/a 2500	H10 Toxic for reproduction above thresh H10 Toxic for reproduction above thresh H5 Harmful above threshold H14 Ecotoxic above threshold	1.70E+02		2.40E+03		1.40E+03	
Mercury	1000 n/a 1847 7388 36938 22163 36938	H6 Toxic (H5 Harmful) above threshold H14 Ecotoxic above threshold H11 Mutagenic above threshold H10 Toxic for reproduction above thresh H6 Toxic (H5 Harmful) above threshold H8 (H4 Irritant) above threshold	3.00E-01		3.00E-01		1.10E+00	
Nickel (reconsider if sulphate)	379 3794 1897 11383 94861 75889 3794 949	H7 Carcinogenic above threshold H11 Mutagenic above threshold H10 Toxic for reproduction above thresh H6 Toxic (H5 Harmful) above threshold H5 Harmful above threshold H4 Irritant above threshold H13 Sensitising above threshold H14 Ecotoxic above threshold	3.50E+01		5.50E+02		5.50E+01	
Selenium	1000 30000 10000 25000	H6 Toxic (H5 Harmful) above threshold H6 Toxic (H5 Harmful) above threshold H12 if test positive H13 Sensitising above threshold H14 Ecotoxic above threshold	1.00E+00		1.00E+00		1.00E+00	
Vanadium	5600 27998 16799 139899 111991 13999	H11 Mutagenic above threshold H10 Toxic for reproduction above thresh H6 Toxic (H5 Harmful) above threshold H5 Harmful above threshold H4 Irritant above threshold H14 Ecotoxic above threshold	4.10E+01		7.70E+01		5.50E+01	
Zinc Reassess if not zinc chloride	23974 119868 1199	H8 (H4 Irritant) above threshold H5 Harmful above threshold H14 Ecotoxic above threshold	1.90E+02		1.90E+03		9.10E+02	
Naphthalene	10000 250000 2500	H7 Carcinogenic above threshold H5 Harmful above threshold H14 Ecotoxic above threshold	1.00E-01		8.00E-01		2.00E-01	
Benzo(a)pyrene	1000 1000 5000 2500	H7 Carcinogenic above threshold H11 Mutagenic above threshold H10 Toxic for reproduction above thresh H14 Ecotoxic above threshold	4.30E+00		7.70E+00		3.90E+00	
Benzo(a)anthracene	1000 2500	H7 Carcinogenic above threshold H14 Ecotoxic above threshold	5.70E+00		1.10E+01		6.60E+00	
Chrysene	1000 10000 2500	H7 Carcinogenic above threshold H11 Mutagenic above threshold H14 Ecotoxic above threshold	5.50E+00		1.00E+01		7.80E+00	
Benzo(b)fluoranthene	1000 2500	H7 Carcinogenic above threshold H14 Ecotoxic above threshold	4.30E+00		7.80E+00		4.80E+00	
Benzo(k)fluoranthene	1000 2500	H7 Carcinogenic above threshold H14 Ecotoxic above threshold	3.80E+00		6.20E+00		4.70E+00	
Dibenzo(a,h)anthracene	1000 2500	H7 Carcinogenic above threshold H14 Ecotoxic above threshold	3.00E-01		6.00E-01		4.00E-01	
PRO (C6 - C10)	1000 25000	H7 Carcinogenic above threshold H14 Ecotoxic above threshold	1.00E-01		1.00E-01		1.00E-01	
DRO (C10 - C24)	10000 25000	H7 Carcinogenic above threshold H14 Ecotoxic above threshold	2.13E+02		3.42E+02		1.68E+02	
PCB and PCTs	n/a 2500	H14 Ecotoxic above threshold						
pH	2 12	Possible H8 Possible H8	1.08E+01		1.04E+01		8.40E+00	

Summary of hazardous properties based on maximum and 95th percentile value

Key	Hazardous Property	Threshold Conc.	Maximim concentration (Highlighted if concentration is hazardous)	Sample data
Not Assessed	H1 classification (Explosive)	Explosive not assessed.	Explosive not assessed.	Explosive not assessed.
Not Assessed	H2 classification (Oxidising)	Inorganic oxidisers require testing. No substance in the list register R7, R8 or R9	Inorganic oxidisers require testing. No substance in the list register R7, R8 or R9	Inorganic oxidisers require testing. No substance in the list register R7, R8 or R9
Not Assessed	H3 classification (Flammable)	Flammability requires testing for assessment	Flammability requires testing for assessment	Flammability requires testing for assessment
	H4 classification (Irritant)	Not Hazardous under this classification	Not Hazardous under this classification	Not Hazardous under this classification
	H5 classification (Harmful)	Not Hazardous under this classification	Hazardous by H5 :Harmful	Not Hazardous under this classification
	H6 classification (Toxic)	Not Hazardous under this classification	Not Hazardous under this classification	Not Hazardous under this classification
	H7 classification (Carcinogenic)	Not Hazardous under this classification	Not Hazardous under this classification	Not Hazardous under this classification
	H8 classification (Corrosive)	Not Hazardous under this classification	Not Hazardous under this classification	Not Hazardous under this classification
Not Assessed	H9 classification (Infectious)	Infectious wastes not currently assessed.	Infectious wastes not currently assessed.	Infectious wastes not currently assessed.
	H10 classification (Toxic for reproduction)	Not Hazardous under this classification	Not Hazardous under this classification	Not Hazardous under this classification
	H11 classification (Mutagenic)	Not Hazardous under this classification	Not Hazardous under this classification	Not Hazardous under this classification
	H12 classification (Produces Toxic Gases in contact with Water, Air or Acid)	Material that produces toxic gases in contact with water, air or acid is unlikely to occur in soil unless there is a site specific basis.	Material that produces toxic gases in contact with water, air or acid is unlikely to occur in soil unless there is a site specific basis.	Material that produces toxic gases in contact with water, air or acid is unlikely to occur in soil unless there is a site specific basis.
	H13 classification (Sensitizing)	Not Hazardous under this classification	Not Hazardous under this classification	Not Hazardous under this classification
	H14 classification (Ecotoxic)	Not Hazardous under this classification	Hazardous by H14: Ecotoxic	Hazardous by H14: Ecotoxic
Not Assessed	H15 classification (Can produce another hazardous substance after disposal)	Material that can produce another hazardous substance after disposal Not assessed	Material that can produce another hazardous substance after disposal Not assessed	Material that can produce another hazardous substance after disposal Not assessed
Please Note pH is not used in this classification				



Appendix 10 Framework for Risk Assessment

Table A Classification of Consequence

Severe	- Acute risk to human health, likely to result in 'significant harm' as defined by EPA Part IIA. - Short term risk of pollution of sensitive water course. - Catastrophic damage to buildings / property. - Short term risk to an ecosystem.
Medium	- Chronic damage to human health. - Pollution of sensitive water resources. - A significant change in an ecosystem.
Mild	- Pollution of non sensitive water resources - Damage to sensitive building/structures/services or the environment.
Minor	- Harm which may result in a financial loss or expenditure to resolve. - Non-permanent health effects to human health (easily preventable by means such as personal protective clothing etc) - Easily repairable effects of damage to buildings, structures and services

Table B Classification of Probability

High Likelihood	A pollutant linkage is present and an event appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution.
Likely	- A pollutant linkage is present and elements are present, which means that an event will occur. - Circumstances are such that an event is possible in the short term and likely over the long term.
Low Likelihood	- A pollutant linkage is present and it is possible that circumstances may enable an event to occur. - Over a longer period an event could take place, although unlikely, over the shorter term this is even less likely.
Unlikely	A pollutant linkage is present but circumstances are such that it is highly unlikely that an event would occur even in the long term.

Table C Comparison of Consequence against Risk

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very high risk	High Risk	Moderate risk	Moderate / low risk
	Likely	High Risk	Moderate risk	Moderate / low risk	Low risk
	Low likelihood	Moderate risk	Moderate / low risk	Low risk	Very low risk
	Unlikely	Moderate / low risk	Low risk	Very low risk	Very low risk

Table D Description of Risks and Potential Action Required

Very High Risk	High probability that severe harm could occur to a designated receptor from an identified hazard, or, there is evidence of severe harm occurring to a designated receptor. Urgent investigation (if not already undertaken) is required and remediation is likely to be required.
High Risk	Harm to a designated receptor from an identified hazard is likely to arise. Realisation of the risk is likely to be a substantial liability Urgent investigation (if not undertaken already) is required and remediation maybe required in the short term and likely over the long term.
Moderate risk	Possible that harm could arise to a designated receptor from an identified hazard. However, it is relatively unlikely that harm would be severe, or if harm was to occur it is likely that it would be mild. Investigation (if not already undertaken) will normally be required to clarify the risk and potential liability. In the longer term remediation may be required.
Low risk	Whilst possible that harm could occur to a designated receptor, if the harm should be realised, at worst it would normally be mild.
Very low risk	There is a low possibility of harm to a receptor being realised. In the event that harm is realised it is unlikely to be severe.

- 1 DETR, Guidelines for Risk Assessment and Management – Revised departmental Guidance, HMSO, 2000
- 2 Rudland, D J, Lancfield, R M, Mayell, P N, Contaminated Land Risk Assessment – A guide to Good Practice, CIRIA C552, CIRIA, 2001

9. References

- 1 Environment Agency. (2004) Model Procedures for Management of Land Contamination, Contaminated Land Report 11. 2004
- 2 SKM Enviros, Hyde Park, Hayes, Phase 1 Environmental Assessment, HPH4-6, March 2012
- 3 www.environment-agency.gov.uk Consulted 6th May 2011
- 4 Pankow, J.F. and J. A. Cherry. Dense Chlorinated Solvents and Other DNAPL in Groundwater. Waterloo Press, Portland Oregon.
- 5 Montgomery, J.H. and Welkom, L.M, (1990), Groundwater Chemicals Desk Reference, Lewis Publishers
- 6 R&D Publication 66: 2008 Volume 1 Guidance for the Safe, Development of Housing on Land Affected by Contamination, Environment Agency, National House Building Council.
- 7 Department of Environment, Industry Profiles, Engineering Works: Aircraft Manufacturing Works, 1995.
- 8 Southern Testing, Phase 1 Desk Study & Preliminary Site Assessment Report Site: Unit 3, Station Road, Hayes, Client: British Steel Pension Fund Trustee Limited Report Date: June 2010 (Revised 4 March 2011)
- 9 Construction Industry Research and Information Association (CIRIA) Research C665 Assessing Risks Posed by Hazardous Gases for Buildings (2007).
- 10 Environment Agency H1 Environmental Risk Assessment Framework, Annex F – Air Emissions <http://publications.environment-agency.gov.uk/pdf/GEHO0410BSIL-e-e.pdf>
- 11 WM2: Hazardous Waste: Interpretation of the definition and classification of hazardous waste.