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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/029	Date of testing : 06 to 08.06.07
Order reference : DC/1291/99	Date of receipt: 23.05.07	Date of issue : 13.06.07

Location/client ref TP14: 0.5m (bottom)

Type of sample and visual description: Brown grey silty clay

Initial Bulk Density (Mg/m³): 1.82

Initial Dry Density (Mg/m³): 1.37

Material retained on 20mm test sieve (%): 0

Moisture content (%): 34

California Bearing Ratio (CBR) (%): 2.0 (bottom)

Mean California Bearing Ratio (CBR) (%): 2.1

NOTES

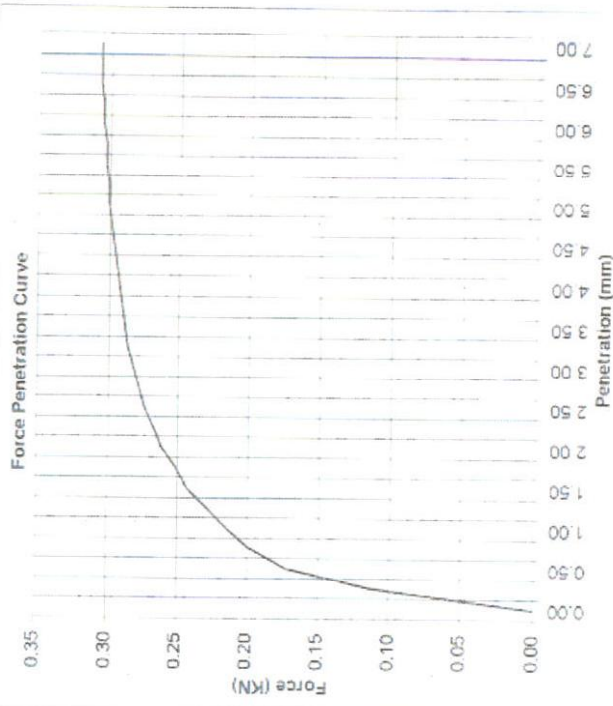
- 1 Testing was in accordance with BS 1377 Part 4 - 1990 Clause 7
- 2 Sample preparation was in accordance with cl 7.2.4 method 5.2.5kg
- 3 The test specimen was not soaked prior to testing
- 4 For CBR test of sample top please refer to report L07/WSP/028

(Signature)
 Authorised Signatory (J. Gane)

Nicholls Colton Testing
 Page 1 of 1

L07/CBR Page 1 of 1 Issued by MK 05/07/04
 In current reports/ab Templates/0001/ab/1/04.rpt

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TEST REPORT

BS 1377 DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
2.5Kg Rammer

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/002	NCT sample reference : 07-2388	Date of testing : 30.05-08.06.07
Order reference : DC/1291/99	Client sample identification : TP15 B7: 1.20m	Date of receipt : 23.05.07	Date of issue : 13.06.07

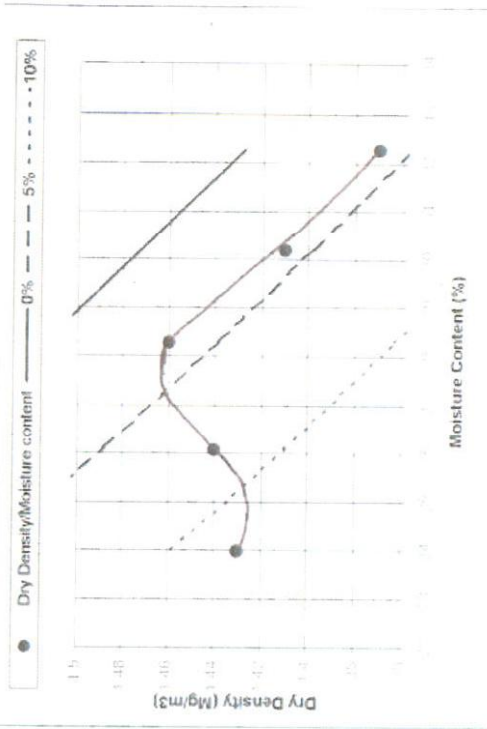
Type of sample and visual description : Brown slightly gravelly clay

Maximum Dry Density (Mg/m³) : 1.46
 Optimum moisture Content (%) : 28
 Retained on 37.5mm BS Test Sieve (%) : 0
 Retained on 20.0mm BS Test Sieve (%) : 0
 Particle Density (assumed)Mg/m³ : 2.65

NOTES :

1. Samples were prepared in accordance with BS1377 Part 4:1990 Clause 3.2.4.1 using a single sample.
2. Testing was in accordance with BS1377 Part 4:1990 Clause 3.3.


 J Gane
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TEST REPORT

BS 1377 DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

4.5Kg Rammer

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/009	NCT sample reference : 07-2389	Date of testing : 31.05-08.06.07
Order reference : DC/1291/99	Client sample identification : TP15 B8: 1.20m	Date of receipt : 23.05.07	Date of issue : 13.06.07

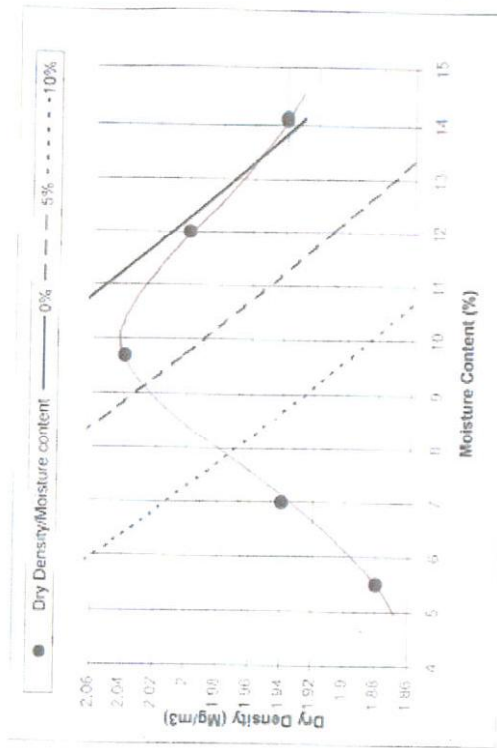
Type of sample and visual description : Brown gravelly clay with occasional chalk

- Maximum Dry Density (Mg/m³) :** 2.04
- Optimum moisture Content (%) :** 9.7
- Retained on 37.5mm BS Test Sieve (%) : 0
- Retained on 20.0mm BS Test Sieve (%) : 0
- Particle Density (assumed)Mg/m³ : 2.65

NOTES

- 1 Samples were prepared in accordance with BS1377 Part 4 1990 Clause 3.2.4.1 using a single sample.
- 2 Testing was in accordance with BS1377 Part 4 1990 Clause 3.5

PP J. Gane
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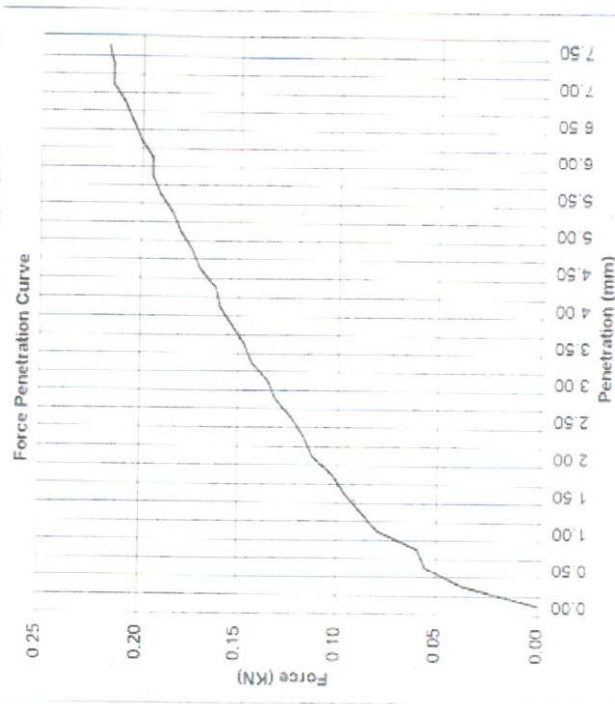
TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/012	Date of testing : 06 to 08.06.07
Order reference : DC/1291799	Date of receipt : 23.05.07	Date of issue : 13.06.07

Location/client ref TP16 0.80m (top)
 Type of sample and visual description Brown slightly gravelly clay
 Initial Bulk Density (Mg/m³) 2.10
 Initial Dry Density (Mg/m³): 1.78
 Material retained on 20mm test sieve (%): 2
 Moisture content (%) 19
 Californian Bearing Ratio (CBR) (%) 0.9 (top)
Mean California Bearing Ratio (CBR) (%) : 0.9



NOTES

1. Testing was in accordance with BS 1377 Part 4 - 1990 Clause 7
2. Sample preparation was in accordance with 7.2.4.4 method 5, 2.5kg
3. The test specimen was not soaked prior to testing
4. For CBR result of sample bottom please refer to report L07/WSP/013

(L. SCARLETT/M)

Authorised Signatory (J. Gane)
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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client: WSP Environmental Laboratories	Report no.: L07/WSP/005/013	Date of testing: 06 to 08 06.07
Order reference: DC/1291/99	Date of receipt: 23.05.07	Date of issue: 13.06.07

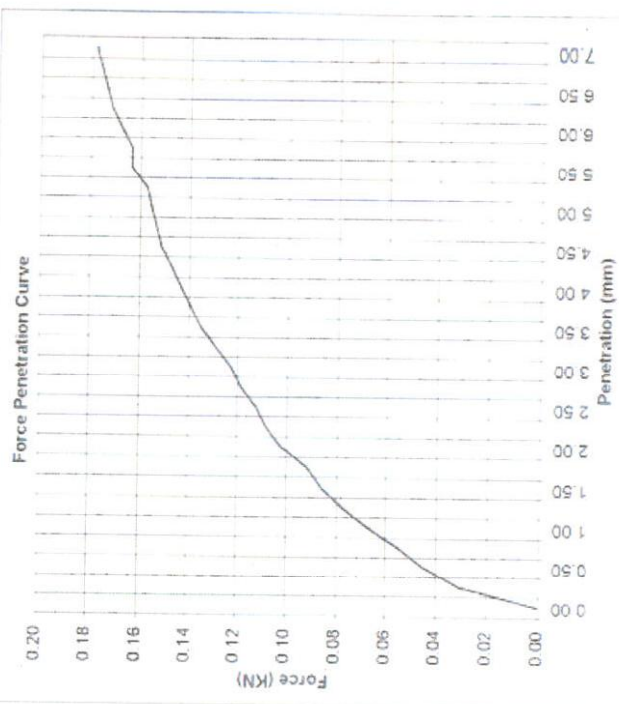
Location/client ref: TP16 0.80m (bottom)
 Type of sample and visual description: Brown slightly gravelly clay
 Initial Bulk Density (Mg/m³): 2.10
 Initial Dry Density (Mg/m³): 1.78
 Material retained on 20mm test sieve (%): 2
 Moisture content (%): 17
 California Bearing Ratio (CBR) (%): 0.8 (bottom)

Mean California Bearing Ratio (CBR) (%) : 0.9

NOTES

- 1 Testing was in accordance with BS 1377 Part 4 - 1990 Clause 7
- 2 Sample preparation was in accordance with cl 7.2.4.4 method 5, 2.5kg
- 3 The test specimen was not soaked prior to testing
- 4 For CBR result of sample top please refer to report L07/WSP/012

(Signature)
 Authorised Signatory (J. Gane)
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TEST REPORT

BS 1377 DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

2.5Kg Rammer

Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/004	NCT sample reference : 07-2391	Date of testing : 30.5-08.06.07
Order reference : DC/1291/99	Client sample identification : TP17: 1.00m	Date of receipt : 23.05.07	Date of Issue : 13.06.07

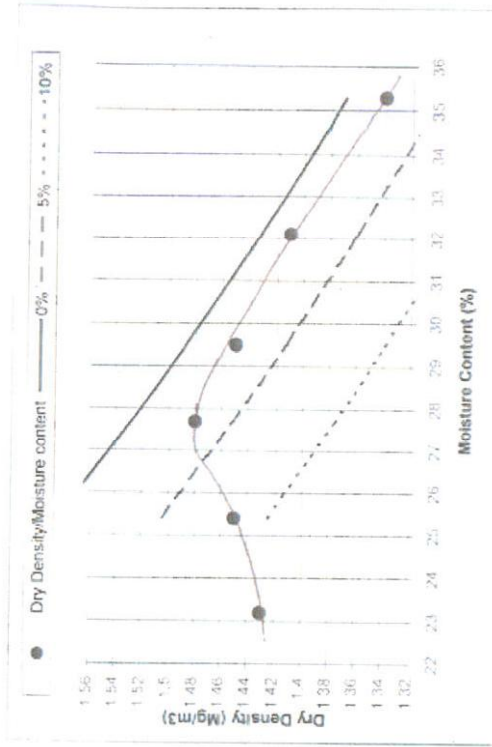
Type of sample and visual description : Brown silty clay

Maximum Dry Density (Mg/m³) : 1.48
Optimum moisture Content (%) : 27
 Retained on 37.5mm BS Test Sieve (%) : 0
 Retained on 20.0mm BS Test Sieve (%) : 0
 Particle Density (assumed)Mg/m³ : 2.65

NOTES :

1. Samples were prepared in accordance with BS1377 Part 4:1990 Clause 3.2.4.1 using a single sample
2. Testing was in accordance with BS1377 Part 4:1990 Clause 3.3

pp J. Gane
 J. Gane
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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/030	Date of testing : 05 to 07 06.07
Order reference : DC/1291/99	Date of receipt: 23.05.07	Date of issue : 13.06.07

Location/client ref TP18: 1.10m (top)

Type of sample and visual description: Brown orange slightly sandy slightly gravelly clay

Initial Bulk Density (Mg/m³): 1.67

Initial Dry Density (Mg/m³): 1.09

Material retained on 20mm test sieve (%): 0

Moisture content (%): 54

California Bearing Ratio (CBR) (%): 1.9 (top)

Mean California Bearing Ratio (CBR) (%) : 2.1

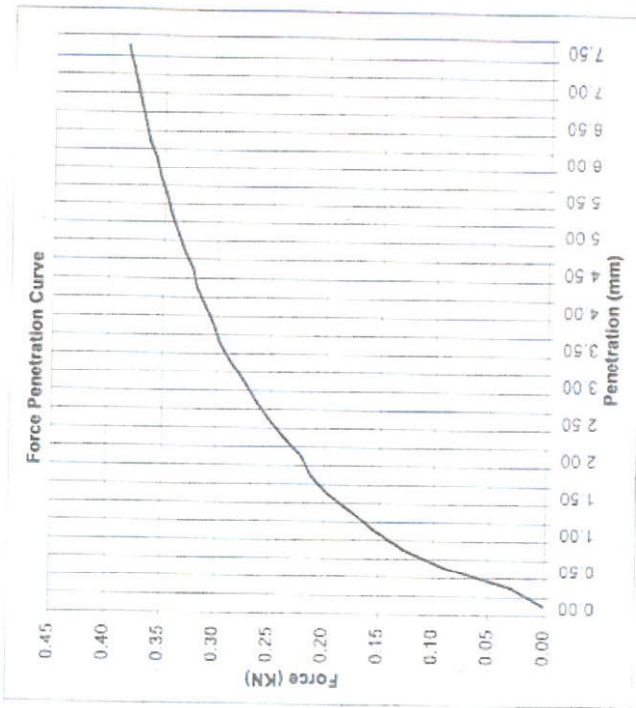
NOTES

1. Testing was in accordance with BS 1377 Part 4 - 1990 Clause 7
2. Sample preparation was in accordance with cl 2.2.4.4 method 5. 2.5kg
3. The test specimen was not soaked prior to testing
4. For CBR result of sample bottom please refer to report L07/WSP/031.

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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no : L07/WSP/005/031	Date of testing : 05 to 07.06.07
Order reference : DC/1291/99	Date of receipt: 23.05.07	Date of issue : 13.06.07

Location/client ref TP18: 1.10m (bottom)

Type of sample and visual description: Brown orange slightly sandy slightly gravelly clay

Initial Bulk Density (Mg/m³): 1.67

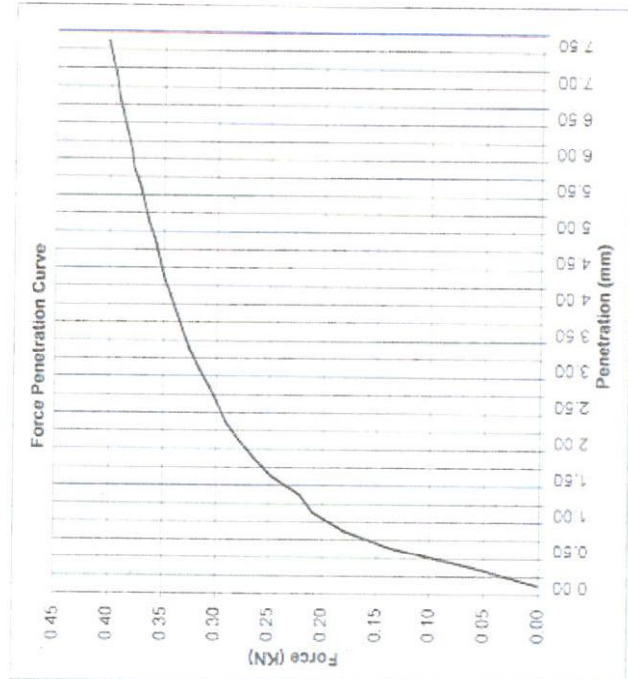
Initial Dry Density (Mg/m³): 1.09

Material retained on 20mm test sieve (%): 0

Moisture content (%): 54

California Bearing Ratio (CBR) (%): 2.3 (bottom)

Mean California Bearing Ratio (CBR) (%): 2.1



- NOTES
- 1 Testing was in accordance with BS 1377 Part 4 1990 Clause 7
 - 2 Sample preparation was in accordance with d7.2.4.4 method 5.2.3kg
 - 3 The test specimen was not soaked prior to testing
 - 4 If moisture content result of sample top please refer to report L07/WSP/031

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 Authorised Signatory (J. Gane) *J. Gane*

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TEST REPORT

BS 1377 DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
2.5Kg Rammer

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/003	NC.T sample reference : 07-2393	Date of testing : 30.05-08.06.07
Order reference : DC/1291/99	Client sample identification : TP19: 0.50m	Date of receipt : 23.05.07	Date of Issue : 13.06.07

Type of sample and visual description : Brown silty clay

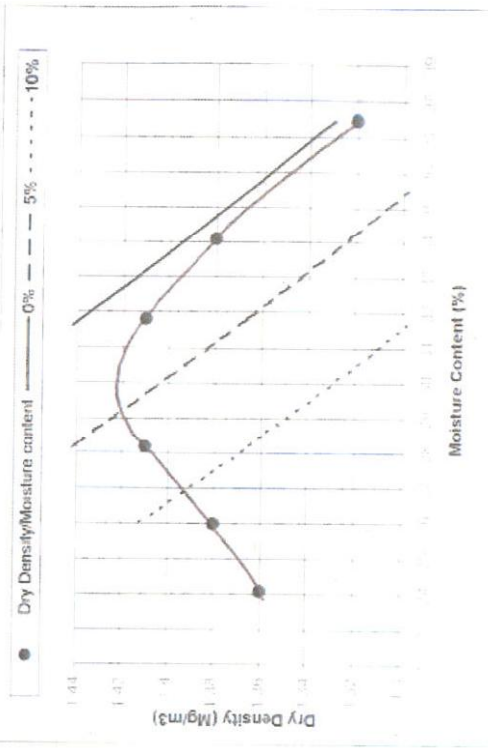
Maximum Dry Density (Mg/m³) : 1.42
 Optimum moisture Content (%) : 30
 Retained on 37.5mm BS Test Sieve (%) : 0
 Retained on 20.0mm BS Test Sieve (%) : 0
 Particle Density (assumed)Mg/m³ : 2.65

NOTES :

1. Samples were prepared in accordance with BS1377 Part 4:1990 Clause 3.2.4.1 using a single sample.
2. Testing was in accordance with BS1377 Part 4:1990 Clause 3.3

[Signature]
 J. Gane
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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/032	Date of testing : 04 to 07.06.07
Order reference : DC/1291/99	Date of receipt: 23.05.07	Date of issue : 13.06.07

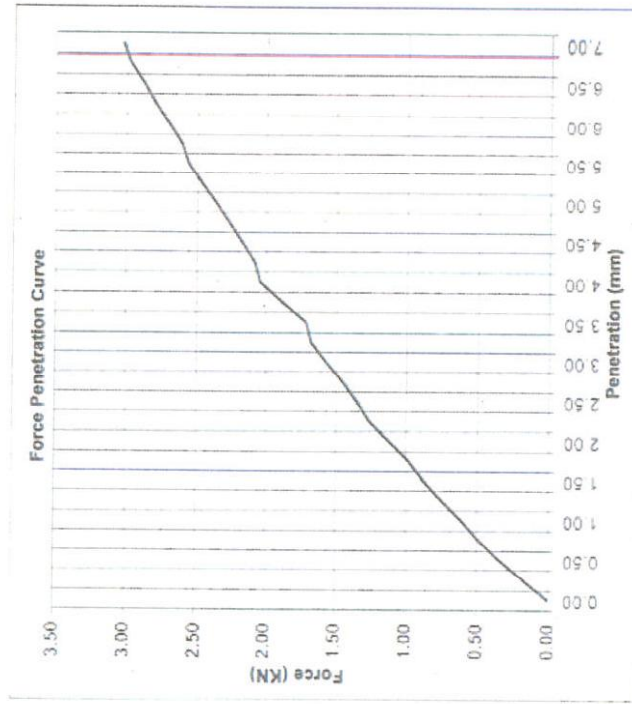
Location/client ref TP29- 0.50m (top)
 Type of sample and visual description: Grey slightly gravelly clay
 Initial Bulk Density (Mg/m³): 1.49
 Initial Dry Density (Mg/m³): 1.32
 Material retained on 20mm test sieve (%): 0
 Moisture content (%): 13
 California Bearing Ratio (CBR) (%): 12 (top)
Mean California Bearing Ratio (CBR) (%): 12

- NOTES:
- 1 Testing was in accordance with BS 1377 Part 4 - 1990 Clause 7
 - 2 Sample preparation was in accordance with cl 7.2.4.4 method 5 2.5kg
 - 3 The test specimen was not soaked prior to testing
 - 4 For CBR value of sample bottom please refer to report L07/WSP/033

PP
 Authorised Signatory (J. Gane) *J. Gane*
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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/033	Date of testing : 04 to 07.06.07
Order reference : DC/1291/99	Date of receipt : 23.05.07	Date of issue : 13.06.07

Location/client ref TP29: 0.50m (bottom)

Type of sample and visual description: Grey slightly gravelly clay

Initial Bulk Density (Mg/m³): 1.49

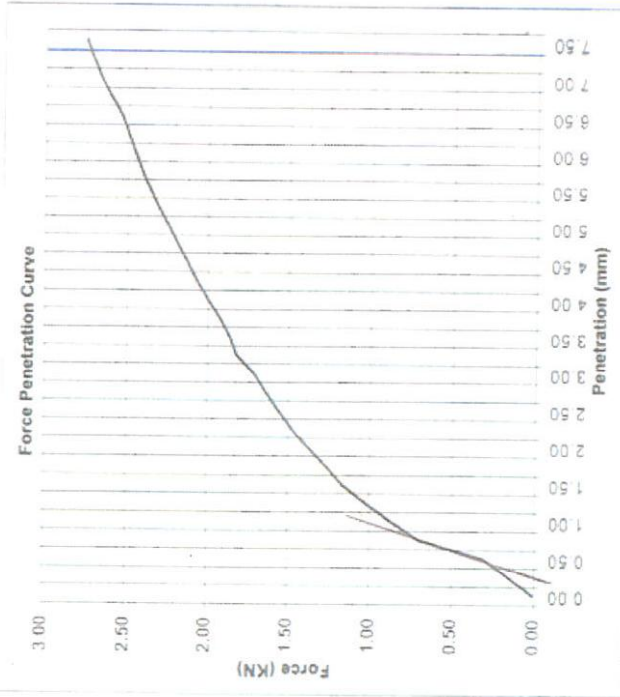
Initial Dry Density (Mg/m³): 1.32

Material retained on 20mm test sieve (%): 0

Moisture content (%): 13

California Bearing Ratio (CBR) (%): 12 (bottom)

Mean California Bearing Ratio (CBR) (%) : 12



- NOTES
- 1 Testing was in accordance with BS 1377 Part 4: 1999 Clause 7.
 - 2 Sample preparation was in accordance with cl 7.2.4.4 method 5: 2.5kg
 - 3 The test specimen was not soaked prior to testing
 - 4 For CBR result of sample top please refer to report L07/WSP/032

Authorised Signatory (J. Gane)
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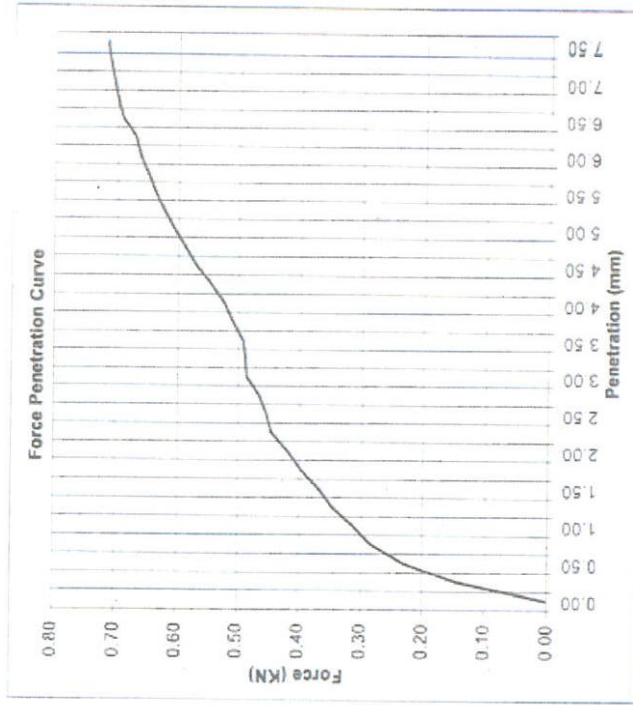
TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/034	Date of testing : 04 to 07.06.07
Order reference : DC/1291/99	Date of receipt: 23.05.07	Date of issue : 13.06.07

Location/client ref TP30: 0.85m (top)
 Type of sample and visual description: Orange brown slightly sandy clay
 Initial Bulk Density (Mg/m³): 1.91
 Initial Dry Density (Mg/m³): 1.47
 Material retained on 20mm test sieve (%): 0
 Moisture content (%): 32
 California Bearing Ratio (CBR) (%): 3.4 (top)
Mean California Bearing Ratio (CBR) (%): 3.4



- NOTES:
1. Testing was in accordance with BS 1377 - Part 4: 1990 - Clause 7.
 2. Sample preparation was in accordance with cl 7.2.4.4 method 5 - 2 kg
 3. The test specimen was not soaked prior to testing
 4. For CBR result of sample bottom please refer to report L07/WSP/035

PP
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TEST REPORT

BS 1377 LABORATORY CBR VALUE

1230178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/035	Date of testing : 04 to 07.06.07
Order reference : DC/1291/99	Date of receipt : 23.05.07	Date of issue : 13.06.07

Location/client ref TP30, 0.85m (bottom)

Type of sample and visual description: Orange brown slightly sandy clay

Initial Bulk Density (Mg/m³): 1.91

Initial Dry Density (Mg/m³): 1.47

Material retained on 20mm test sieve (%): 0

Moisture content (%): 28

California Bearing Ratio (CBR) (%): 3.3 (bottom)

Mean California Bearing Ratio (CBR) (%): 3.4

NOTES

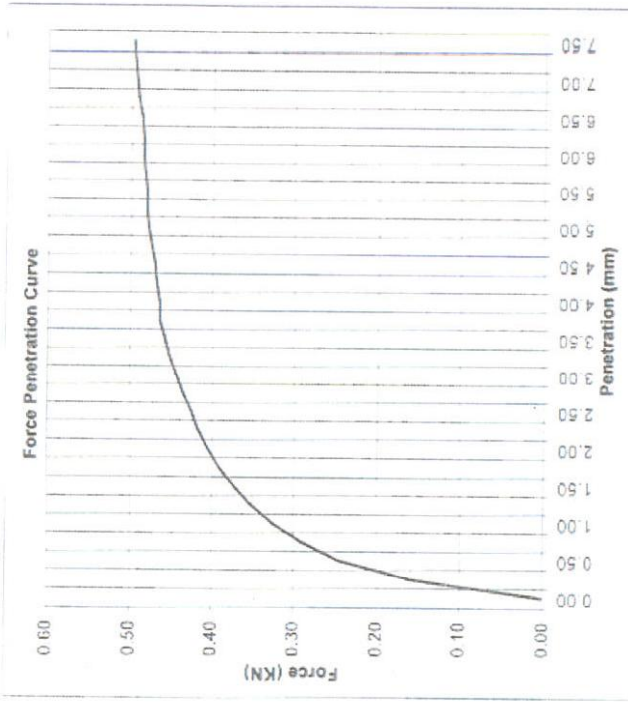
1. Testing was in accordance with BS 1377 - Part 4 : 1990 - Clause 7
2. Sample preparation was in accordance with cl 7.2.4.4 method 5, 2.5kg/5.5kg
3. The test specimen was not soaked prior to testing
4. For CBR result of sample top please refer to report L07/WSP/034

PP Authorised Signatory (J. Gane) *J. Gane*

Nicholls Colton Testing

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TEST REPORT

BS 1377 DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

2.5Kg Rammer

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/006	NCT sample reference : 07-2400	Date of testing : 30.05-08.06.07
Order reference : DC/1291/99	Client sample identification : TP31: 1.00m	Date of receipt : 23.05.07	Date of Issue : 13.06.07

Type of sample and visual description : Brown silty clay

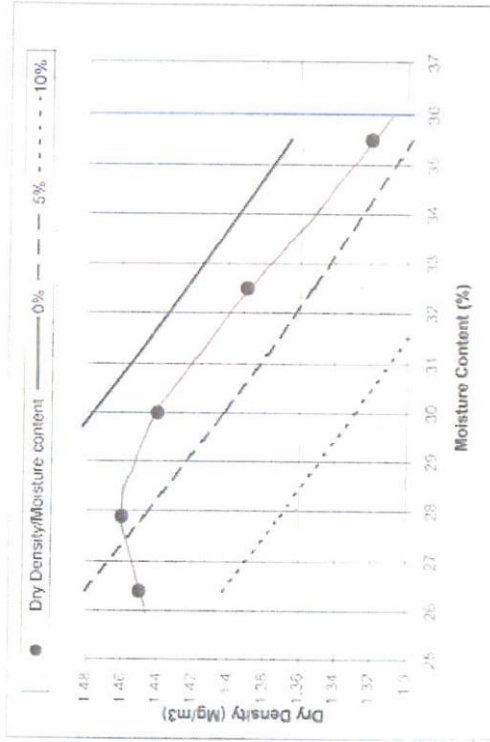
Maximum Dry Density (Mg/m³) : 1.46
Optimum moisture Content (%) : 28
 Retained on 37.5mm BS Test Sieve (%) : 0
 Retained on 20.0mm BS Test Sieve (%) : 0
 Particle Density (assumed)Mg/m³ : 2.65

NOTES:

1. Samples were prepared in accordance with BS1377 Part 4:1990 Clause 3.2.4.1 using a single sample
2. Testing was in accordance with BS1377 Part 4:1990 Clause 3.3.

P.P.J. Gane
 P.P.J. Gane
 Authorised Signatory
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 Page 1 of 1

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 Registration No. 140117



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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no : L07/WSP/005/026	Date of testing : 04 to 07.06.07
Order reference : DC/1291/99	Date of receipt: 23.05.07	Date of issue : 13.06.07

Location/client ref TP32: 0.50-0.80m (top)

Type of sample and visual description. Brown silty clay

Initial Bulk Density (Mg/m³): 1.92

Initial Dry Density (Mg/m³): 1.46

Material retained on 20mm test sieve (%): 0

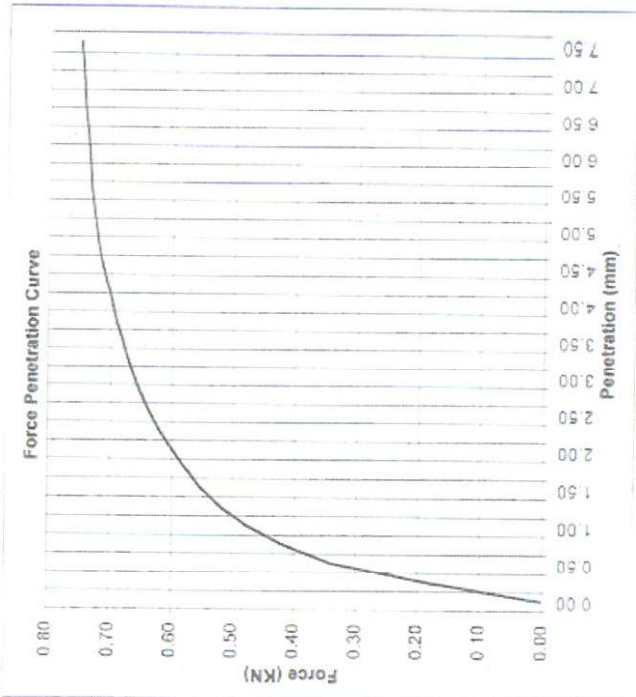
Moisture content (%): 32

California Bearing Ratio (CBR) (%): 4.8 (top)

Mean California Bearing Ratio (CBR) (%): 5.2

- NOTES:
- 1 Testing was in accordance with BS 1377 Part 4 1990 Clause 7
 - 2 Sample preparation was in accordance with cl 7.2.4.4 method 5. 2.5kg
 - 3 The test specimen was not soaked prior to testing
 - 4 For CBR result of sample bottom please refer to report L07/WSP/0027.

PP
 Authorised Signatory (J. Gane)
 Nicholls Colton Testing
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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/027	Date of testing : 04 to 07.06.07
Order reference : DC/1291/99	Date of receipt : 23.05.07	Date of issue : 13.06.07

Location/client ref

TP32: 0.50 - 0.80m (bottom)

Type of sample and visual description:

Brown silty clay

Initial Bulk Density (Mg/m³):

1.92

Initial Dry Density (Mg/m³):

1.46

Material retained on 20mm test sieve (%):

0

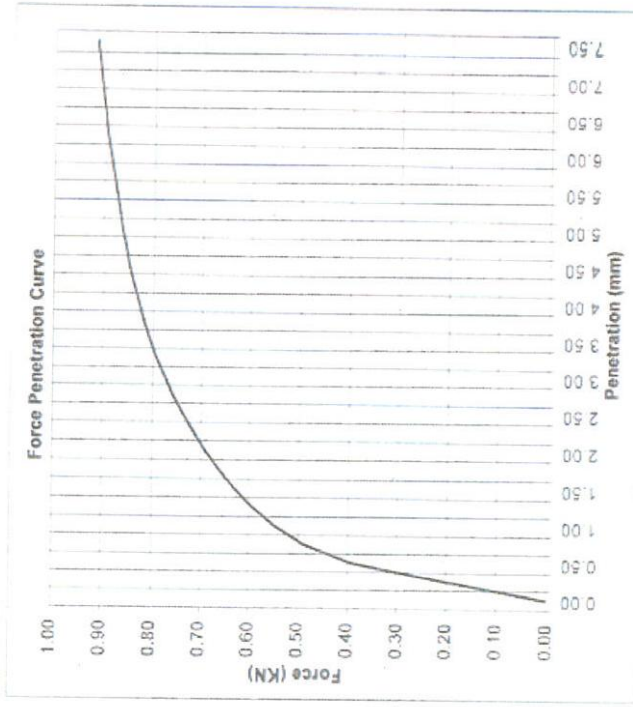
Moisture content (%):

31

California Bearing Ratio (CBR) (%) :

5.6 (bottom)

Mean California Bearing Ratio (CBR) (%) : 5.2



NOTES

1. Testing was in accordance with BS 1377 Part 4 1990 Clause 7
2. Sample preparation was in accordance with cl 7.2.4.4 method 5 2.5kg
3. The test specimen was not soaked prior to testing
4. For CBR result of sample top please refer to report L07/WSP/026

Authorised Signatory (J. Gane) *J. Gane*

Nicholls Colton Testing
 Page 1 of 1

Lab CBR Page 1 of 1 Issued by MW 25 03 04
 in:\current\reports\lab Templates\5001 at CBR.doc

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 Blenheim Industrial Estate
 Dabell Avenue, Bulwell
 Nottingham, NG6 8WA



TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/014	Date of testing : 06 to 08.06.07
Order reference : DC/1291/99	Date of receipt: 23.05.07	Date of issue : 13.06.07

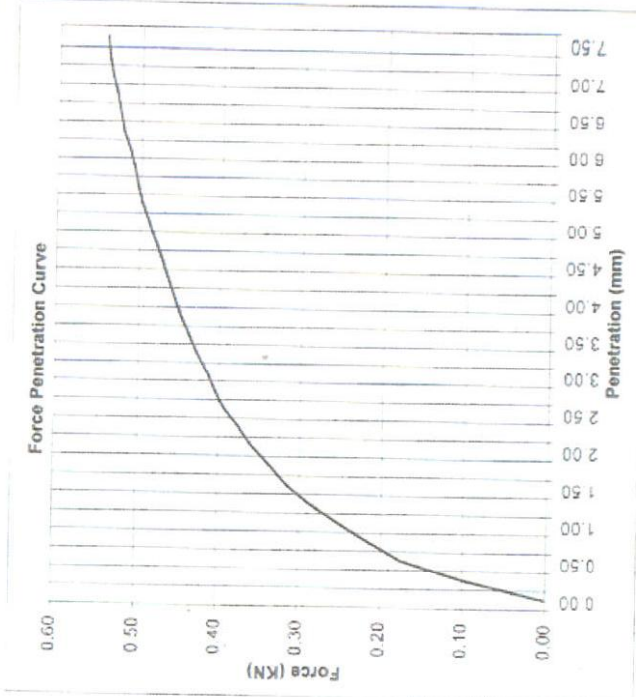
Location/client ref TP34: 0.50m (top)
 Type of sample and visual description: Orange brown silty clay
 Initial Bulk Density (Mg/m³): 1.61
 Initial Dry Density (Mg/m³): 1.15
 Material retained on 20mm test sieve (%): 0
 Moisture content (%): 40
 California Bearing Ratio (CBR) (%): 3.0 (top)

Mean California Bearing Ratio (CBR) (%) : 3.2

- NOTES:
- 1 Testing was in accordance with BS 1377 - Part 4, 1990 - Clause 7
 - 2 Sample preparation was in accordance with cl7.2.4.4 method 5 - 2.5kg
 - 3 The test specimen was not soaked prior to testing
 - 4 For CBR result of sample bottom please refer to report L07/WSP/015.

J. Gane
 Authorised Signatory (J. Gane)
 Nicholls Colton Testing
 Page 1 of 1

LabCBR Page 1 of 1 Issued by MK_25.03.04
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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

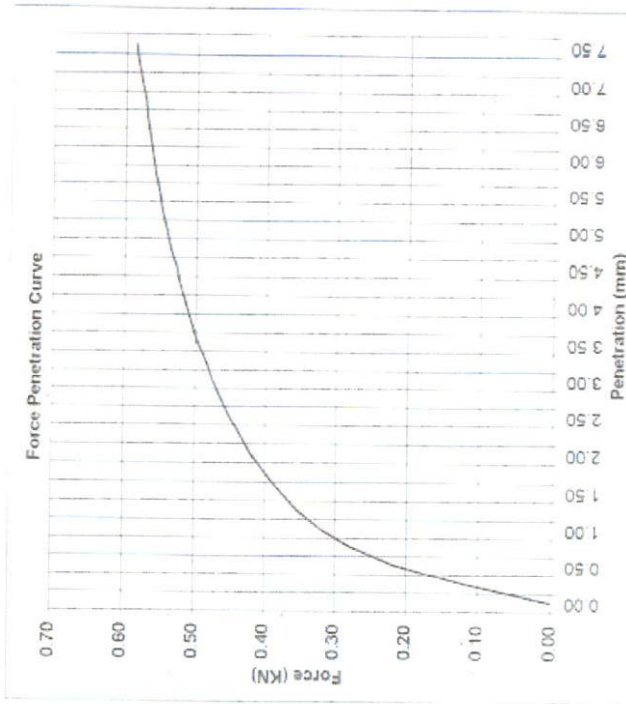
Client : WSP Environmental Laboratories	Report no : L07/WSP/005/015	Date of testing : 06 to 08.06.07
Order reference : DC/1291/99	Date of receipt: 23.05.07	Date of issue : 13.06.07

Location/client ref TP34: 0.50m (bottom)
 Type of sample and visual description: Orange brown silty clay
 Initial Bulk Density (Mg/m³): 1.61
 Initial Dry Density (Mg/m³): 1.15
 Material retained on 20mm test sieve (%): 0
 Moisture content (%): 40
 California Bearing Ratio (CBR) (%): 3.4 (bottom)
 Mean California Bearing Ratio (CBR) (%): 3.2

NOTES

- 1 Testing was in accordance with BS 1377 Part 4 - 1990 Clause 7
- 2 Sample preparation was in accordance with cl 7.2.4 method 5. 2 kg
- 3 The test specimen was not soaked prior to testing
- 4 For CBR result of sample top please refer to report L07/WSP/014

(L. Sorrentino)
 Authorised Signatory (J. Gane)
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TEST REPORT

BS 1377 DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

2.5Kg Rammer

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/005	NC.T sample reference : 07-2403	Date of testing : 30.05-08.06.7
Order reference : DC/1291/99	Client sample identification : TP35: 0.60m	Date of receipt : 23.05.07	Date of issue : 13.06.07

Type of sample and visual description : Green silty clay

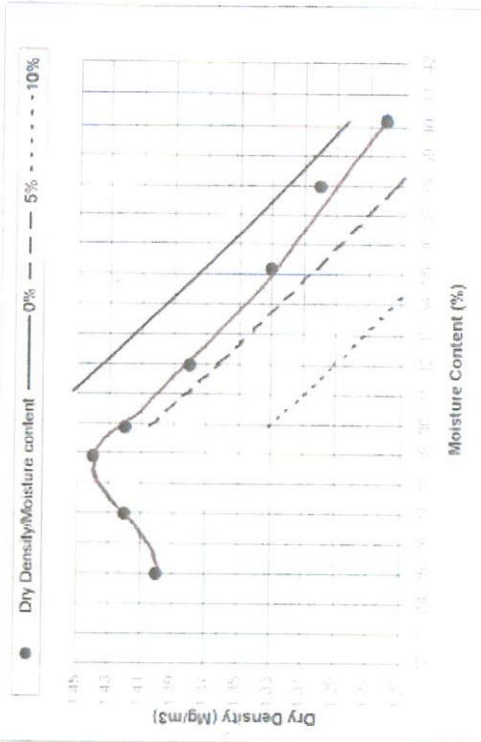
- Maximum Dry Density (Mg/m³) : 1.44
- Optimum moisture Content (%) : 28
- Retained on 37.5mm BS Test Sieve (%) : 0
- Retained on 20.0mm BS Test Sieve (%) : 0
- Particle Density (assumed)Mg/m³ : 2.65

NOTES:

1. Samples were prepared in accordance with BS1377:Part 4:1990 Clause 3.2.4.1 using a single sample
2. Testing was in accordance with BS1377 Part 4:1990 Clause 3.3

J. Gane (C. Sorrentino)

J. Gane
 Authorised Signatory
 Nicholls Colton Testing
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TEST REPORT

BS 1377 DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

2.5Kg Rammer

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/008	NCT sample reference : 07-2434	Date of testing : 30.05-08.06.07
Order reference : DC/1291/99	Client sample identification : TP38 B3: 0.30-0.60m	Date of receipt : 23.05.07	Date of Issue : 13.06.07

Type of sample and visual description : Brown silty clay

Maximum Dry Density (Mg/m³) : 1.42

Optimum moisture Content (%) : 30

Retained on 37.5mm BS Test Sieve (%) : 0

Retained on 20.0mm BS Test Sieve (%) : 0

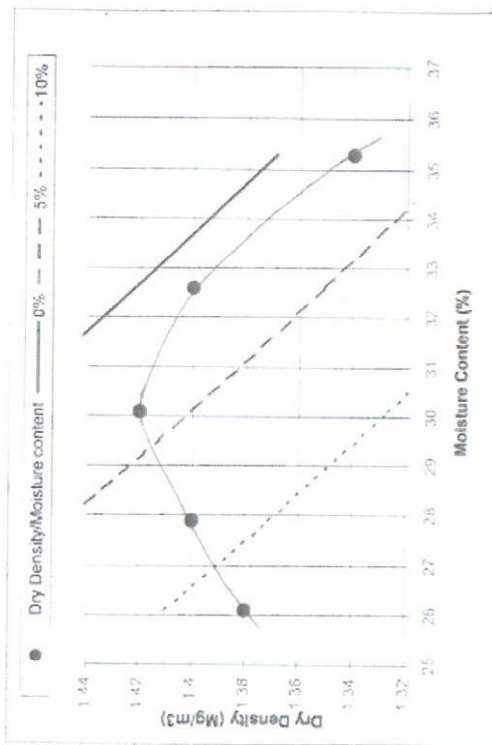
Particle Density (assumed)Mg/m³ : 2.65

NOTES:

1. Samples were prepared in accordance with BS 1377, Part 4:1990 Clause 3.2.4.1 using a single sample.
2. Testing was in accordance with BS1377 Part 4:1990 Clause 3.3.

DP

DP J. Gane
 Authorised Signatory
 Nicholls Colton Testing
 Page 1 of 1



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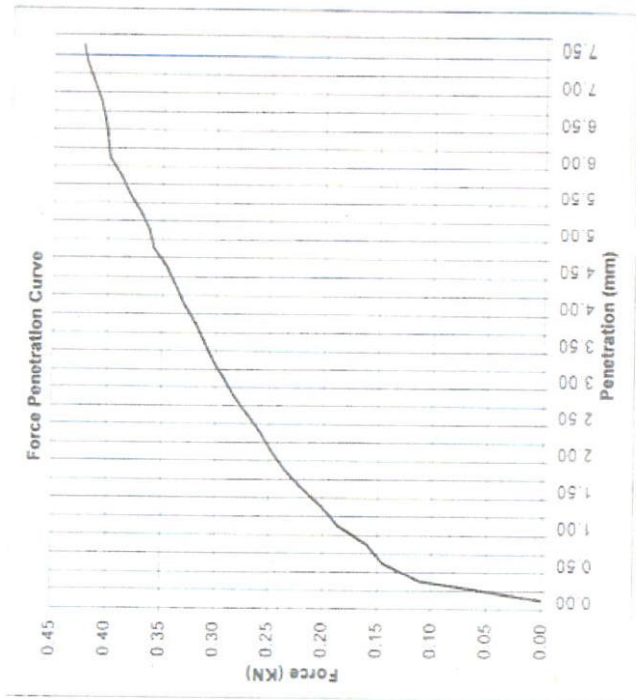
TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/016	Date of testing : 01 to 05.06.07
Order reference : DC/1291/99	Date of receipt : 23.05.07	Date of issue : 13.06.07

Location/client ref TP39; 0.50m (top)
 Type of sample and visual description: Brown grey silty clay
 Initial Bulk Density (Mg/m³): 1.97
 Initial Dry Density (Mg/m³): 1.52
 Material retained on 20mm test sieve (%): 0
 Moisture content (%): 30
 California Bearing Ratio (CBR) (%): 2.0 (top)
Mean California Bearing Ratio (CBR) (%) : 2.2



- NOTES:
- 1 Testing was in accordance with BS 1377 Part 4 1990 Clause 7
 - 2 Sample preparation was in accordance with cl 7.2.4.4 method 5 2.5kg
 - 3 The test specimen was not soaked prior to testing
 - 4 For CBR result of sample bottom please refer to report L07/WSP/017

PP
 Authorised Signatory (J. Gane)
 Nicholls Colton Testing
 Page 1 of 1

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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/017	Date of testing : 01 to 05.06.07
Order reference : DC/1291/99	Date of receipt: 23.05.07	Date of issue : 13.06.07

Location/client ref TP39: 0.50m (bottom)

Type of sample and visual description Brown grey silty clay

Initial Bulk Density (Mg/m³): 1.97

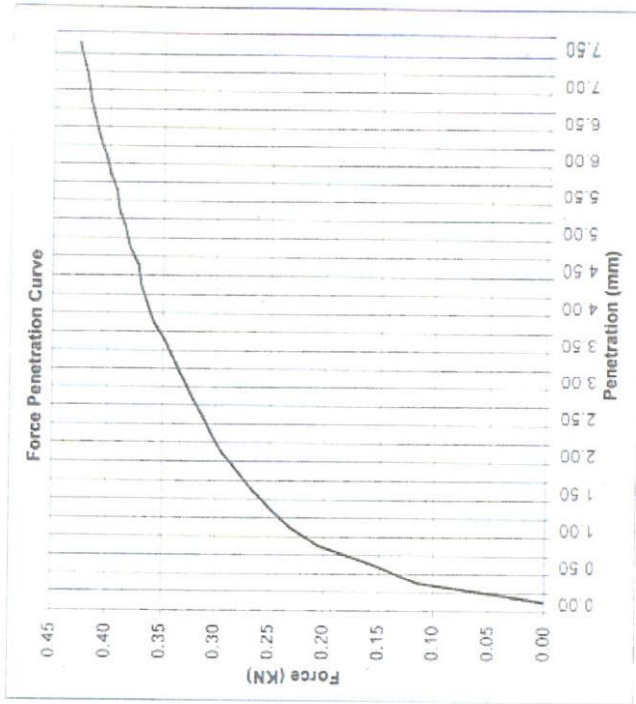
Initial Dry Density (Mg/m³): 1.52

Material retained on 20mm test sieve (%): 0

Moisture content (%): 29

California Bearing Ratio (CBR) (%): 2.3 (bottom)

Mean California Bearing Ratio (CBR) (%): 2.2



- NOTES
1. Testing was in accordance with BS 1377 Part 4 - 1990 - Clause 7
 2. Sample preparation was in accordance with cl 7.2.4.4 method 5 - 2.5kg
 3. The test specimen was not soaked prior to testing
 4. For CBR result of sample top please refer to report L07/WSP019.

PP
 Authorised Signatory (J. Gane)
 Nicholls Colton Testing
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TEST REPORT

BS 1377 DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

2.5Kg Rammer

12370178 - Bicester, Whitelands Farm

Client: WSP Environmental Laboratories	Report no.: L07/WSP/005/007	NCT sample reference: 07-2405	Date of testing: 30.05.08.0607
Order reference: DC/1291/99	Client sample identification: TP40: 0.50m	Date of receipt: 23.05.07	Date of Issue: 13.06.07

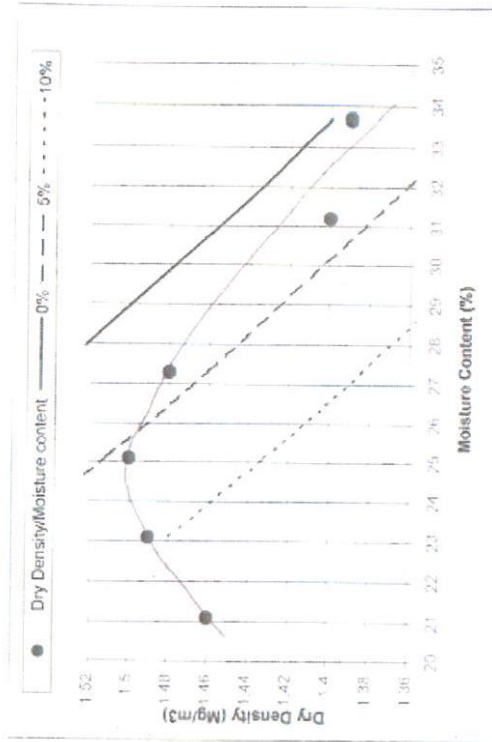
Type of sample and visual description: Brown silty clay

Maximum Dry Density (Mg/m³): 1.50
Optimum moisture Content (%): 25
 Retained on 37.5mm BS Test Sieve (%): 0
 Retained on 20.0mm BS Test Sieve (%): 0
 Particle Density (assumed)Mg/m³: 2.65

NOTES:

- 1 Samples were prepared in accordance with BS1377 Part 4:1990 Clause 3.2.4.1 using a single batch
- 2 Testing was in accordance with BS1377: Part 4:1990 Clause 3.3

d.r.
 P.P. J. Gane
 Authorised Signatory
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TEST REPORT

BS 1377 LABORATORY CBR VALUE

12370178 - Bicester, Whitelands Farm

Client : WSP Environmental Laboratories	Report no. : L07/WSP/005/018	Date of testing : 01 to 05.06.07
Order reference : DC/1291/99	Date of receipt : 23.05.07	Date of issue : 13.06.07

Location/client ref TP41: 0.65m (top)

Type of sample and visual description: Brown silty clay

Initial Bulk Density (Mg/m³): 1.78

Initial Dry Density (Mg/m³): 1.53

Material retained on 20mm test sieve (%): 0

Moisture content (%): 15

California Bearing Ratio (CBR) (%): 1.9 (top)

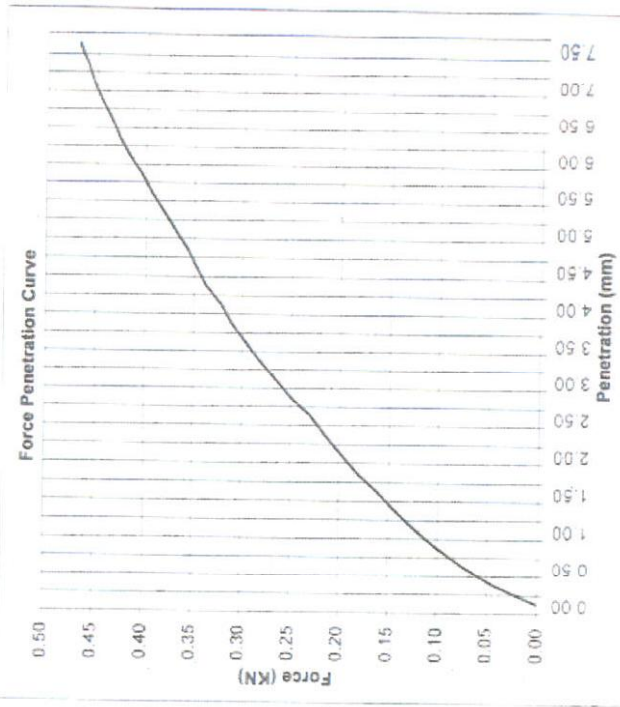
Mean California Bearing Ratio (CBR) (%): 1.9

NOTES

- 1 Testing was in accordance with BS 1377 Part 4 1990 Clause 7.
- 2 Sample preparation was in accordance with cl 7.2.4 method 5. 2.5kg
- 3 The test specimen was not soaked prior to testing
- 4 For CBR result of sample bottom please refer to report L07/WSP019

PP Authorised Signatory (J. Gane) *J. GANE*
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LabCBR Page 1 of 1 Issued by MK 25.03.04
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LABORATORY CERTIFICATE



Contract Number: GEO/4388/07

Method of the Determination of Resistance to Fragmentation by Los Angeles test Method BS EN 1097-2: 1998

Client's Reference: 12370178

Report Date: 09 July 2007

Client Name: WSP Environmental Laboratories

Client Address: Unit 5 Centurion Business Centre
Blenheim Industrial Estate
Dabell Avenue Bullwell
12/06/07
Nottingham
NG6 8WA

Date Commenced: 07/07/07
Date Completed: 09/07/07

Contract Title: Bicester Whitelands Farm
Hole Number: TP11
Depth(m): 2.00

Sampling Certificate Submitted No
Sample Preparation Crushed to obtain test portion
Test Portion Size Fraction 10 – 14 mm

LOS ANGELES COEFFICIENT (LA)
37

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced in full, without the prior written approval of the laboratory.

Approved Signatories: D V Edwards (Managing Director)
Alun Walters (Technical Manager)
L R Evans (Technical Co-Ordinator).

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Page of



LABORATORY CERTIFICATE



Contract Number: GEO/4388/07

Method of the Determination of Resistance to Fragmentation by Los Angeles test Method BS EN 1097-2: 1998

Client's Reference: 12370178

Report Date: 11 July 2007

Client Name: WSP Environmental Laboratories

Client Address: Unit 5 Centurion Business Centre
Blenheim Industrial Estate
Dabell Avenue Bullwell
12/06/07
Nottingham
NG6 8WA

Date Commenced: 07/07/07
Date Completed: 09/07/07

Contract Title: Bicester Whitelands Farm
Hole Number: TP25
Depth(m): 1.10-1.30

Sampling Certificate Submitted

No

Sample Preparation

Crushed to obtain test portion

Test Portion Size Fraction

10 – 14 mm

LOS ANGELES COEFFICIENT (LA)

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LABORATORY CERTIFICATE



Contract Number: GEO/4388/07

Method of the Determination of Resistance to Fragmentation by Los Angeles test Method BS EN 1097-2: 1998

Client's Reference: 12370178

Report Date: 09 July 2007

Client Name: WSP Environmental Laboratories

Client Address: Unit 5 Centurion Business Centre
Blenheim Industrial Estate
Dabell Avenue Bullwell
12/06/07
Nottingham
NG6 8WA

Date Commenced: 07/07/07
Date Completed: 09/07/07

Contract Title: Bicester Whitelands Farm
Hole Number: TP35
Depth(m): 1.60-1.80

Sampling Certificate Submitted: No
Sample Preparation: Crushed to obtain test portion
Test Portion Size Fraction: 10 – 14 mm

LOS ANGELES COEFFICIENT (LA) 53

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Approved Signatories: D V Edwards (Managing Director)
Alun Walters (Technical Manager)
L R Evans (Technical Co-Ordinator).

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LABORATORY CERTIFICATE



Contract Number: GEO/4388/07

Method of the Determination of Resistance to Fragmentation by Los Angeles test Method BS EN 1097-2: 1998

Client's Reference: 12370178

Report Date: 09 July 2007

Client Name: WSP Environmental Laboratories

Client Address: Unit 5 Centurion Business Centre
Blenheim Industrial Estate
Dabell Avenue Bullwell
12/06/07
Nottingham
NG6 8WA

Date Commenced: 07/07/07
Date Completed: 09/07/07

Contract Title: Bicester Whitelands Farm
Hole Number: TP42
Depth(m): 1.00-1.20

Sampling Certificate Submitted: No
Sample Preparation: Crushed to obtain test portion
Test Portion Size Fraction: 10 – 14 mm

LOS ANGELES COEFFICIENT (LA) 37

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LABORATORY CERTIFICATE



Contract Number: GEO/4388/07

Method of the Determination of Resistance to Fragmentation by Los Angeles test Method BS EN 1097-2: 1998

Client's Reference: 12370178

Report Date: 09 July 2007

Client Name: WSP Environmental Laboratories

Client Address: Unit 5 Centurion Business Centre
Blenheim Industrial Estate
Dabell Avenue Bullwell
12/06/07
Nottingham
NG6 8WA

Date Commenced: 07/07/07
Date Completed: 09/07/07

Contract Title: Bicester Whitelands Farm
Hole Number: TP53
Depth(m): 1.50

Sampling Certificate Submitted: No
Sample Preparation: Crushed to obtain test portion
Test Portion Size Fraction: 10 – 14 mm

LOS ANGELES COEFFICIENT (LA) 34

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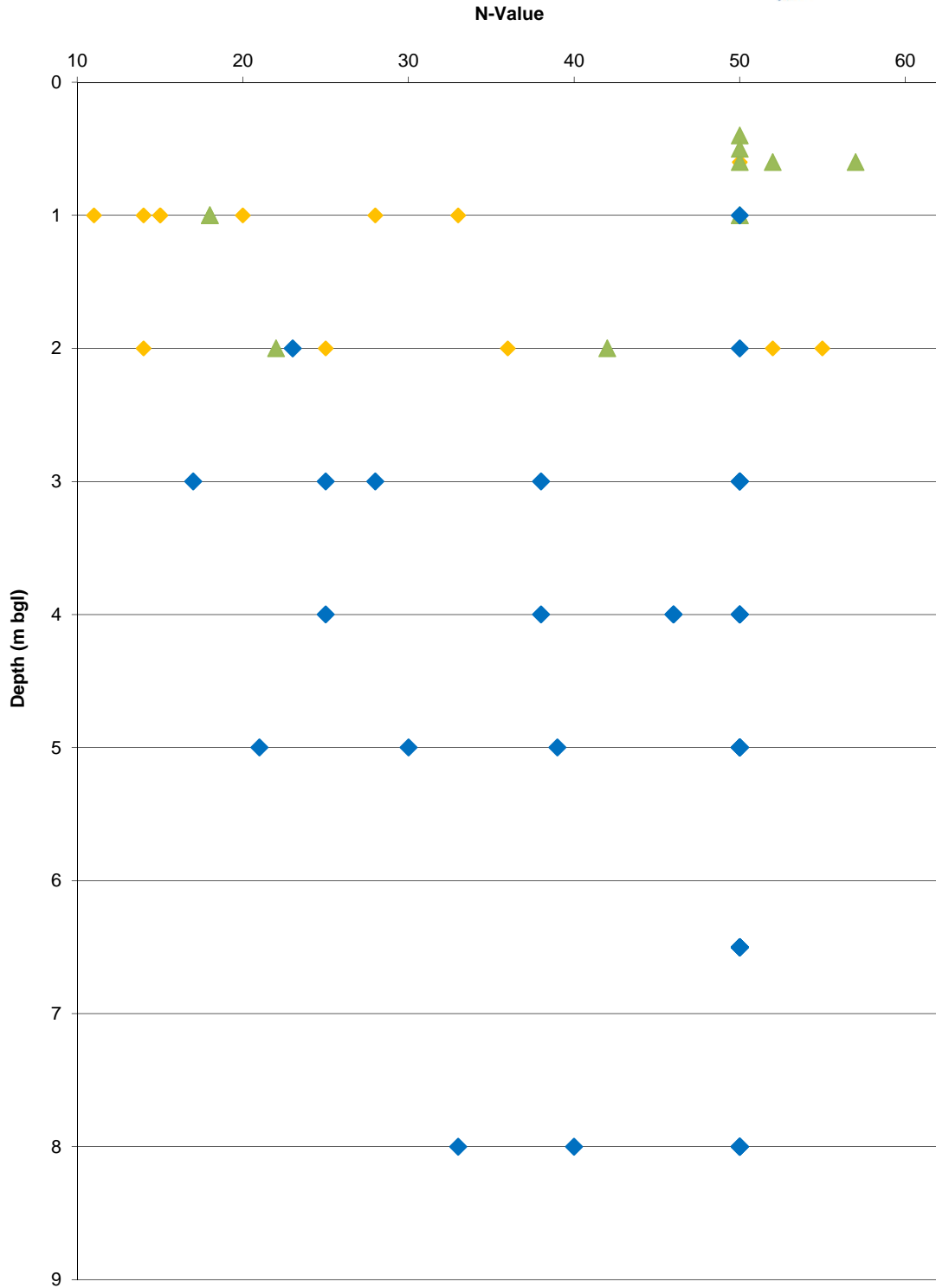
Approved Signatories: D V Edwards (Managing Director)
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L R Evans (Technical Co-Ordinator).

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Appendix F - Geotechnical plots

STP 'N' Value Vs Depth



- ◆ Cornbrash Formation (Cohesive)
- ▲ Cornbrash Formation (Granular)
- ◆ Forest Marble Clay

Appendix G – WSP Risk Assessment Approach

Summary of Risk Assessment Approach

The following section provides a summary of the approach adopted by our risk assessment team including the context and the derivation of the screening criteria used. This document does not seek to present an exhaustive listing nor detailed understanding of the UK contaminated land regime and its assessment. The reader is instead directed towards appropriate source materials for a greater understanding, it is however intended to provide herein an overview of our general assumptions and practices that we have followed.

ANALYSIS PROTOCOLS

In selecting a laboratory testing suite contaminants must have the potential to be present on a site following an understanding of its current or former industrial use. They should also be likely to be present at a perceived concentration that may cause harm, whereby "harm" is defined under Part 2A legislation. The purpose of this criterion is to exclude substances and unnecessary costs in the testing for analytes that are rarely found or are unlikely to be present at harmful concentrations.

In selecting an analyte we therefore assume that it is:

- Likely to occur at the target site in sufficient concentrations to cause harm or pollution; and,
- Known or suspected to pose significant risk to humans (death, serious injury, cancer or other disease, genetic mutation, birth defects or the impairment of reproductive functions); or,
- Known or suspected to pose a significant risk in the water environment, or likely to cause other adverse impacts in the water environment, as a result of their presence on land; or,
- Known or suspected to pose a significant risk to ecosystems as a result of their presence on land; or,
- Known or suspected to have a significant effect on buildings or building materials; or,
- Known or suspected to be persistent and mobile in soils or have tendency to bio-accumulate through exposure of sensitive organisms.

The following documents will have been used where available to assist in informing our selection;

- The available desk study/preliminary risk assessment reports available for the site to proffer an understanding of site history, waste, chemical storage and poor management practices that may have resulted in the potential for depleted land quality;
- CLR 8 'Priority Contaminants for the Assessment of Land' (Environment Agency 2002a). This document identifies priority contaminants, selected on the basis that they are likely to be present on many current or former sites affected by industrial or waste management activity in the UK in sufficient concentrations to cause harm; and
- The Department of the Environment's Industry Profiles (DoE 1995-95) which describe specific industrial processes and those chemicals that are commonly found on a given industrial land use type.

APPROACH TO THE ASSESSMENT OF HUMAN HEALTH RISKS

Our approach is consistent with that established in the publication *Model Procedures for the Management of Land Contamination (CLR11)* (Environment Agency 2004a). This establishes a tiered approach including:

- Preliminary Risk Assessment (e.g. the establishment of potential pollutant linkages);
- Generic Quantitative Risk Assessment (GQRA) (e.g. the comparison of contaminant concentrations against Soil Guideline Values (SGV) or other Generic Assessment Criteria (GAC)); and
- Detailed Quantitative Risk Assessment (DQRA) (e.g. the comparison of contaminant concentrations against site specific assessment criteria).

Generic Quantitative Risk Assessment (GQRA) is described in outline here. Detailed Quantitative Risk Assessment (DQRA) where applicable will have been defined in detail of main body reporting.

Generic Quantitative Risk Assessment – Human Health

In order to undertake a GQRA, contaminant concentrations need to be compared to appropriate generic assessment criteria. Current UK industry practice is to use, as first preference, UK SGVs which are generic assessment criteria published by the Environment Agency and derived using the Contaminated Land Exposure Assessment model (CLEA).

The CLEA model provides an approach for the assessment of chronic risks to human health from concentrations of a substance within soil; where appropriate.

The current version of the model (V1.06) was published in September 2009 and, following its publication, a number of SGVs have also been produced. However, the SGVs published to date are limited to only a small number of contaminants. Consequently, where published SGV do not exist, other GAC can be used including:

- GAC prepared in accordance with the CLEA V1.06 model by authoritative bodies (e.g. Chartered Institute of Environmental Health (CIEH), Environment Industries Commission (EIC)); or in their absence,
- WSP in-house GAC prepared in accordance with the CLEA V1.06 model and associated documents.

The approach adopted by WSP has been to generate GAC for chronic risks to human health using CLEA V1.06. In generating GAC, input parameters consistent with Environment Agency publications have been adopted by WSP including:

- Environment Agency (2009a), *Human Health Toxicological Assessment of Contaminants in Soil*, Report SC050021/SR2, January 2009;
- Environment Agency (2009b), *CLEA Software (Version 1.04) Handbook (and Software)*, Report SC050021/SR4, January 2009; and
- Environment Agency (2009c), *Updated Technical Background to the CLEA Model*, Report SC050021/SR3, January 2009.

Toxicological data for respective contaminants have been selected following Environment Agency guidance. Where UK guidance is available (i.e. existing published TOX (toxicological) reports respective Health Criteria Values (HCV) have been adopted. Where no UK TOX reports are available the following references have been used (given in order of preference);

- Published UK toxicity reviews to derive HCV within Nathaniel *et. al*, 2009 and EIC/CL:AIRE 2009;
- Other appropriate UK sources;
- Authoritative European sources;
- International Organisations (e.g. World Health Organisation); or
- Appropriate, authoritative US sources (e.g. USEPA).

Fate and transport characteristics for the contaminants for which GAC have been derived have included the following hierarchy of data sources;

- Environment Agency (2008a), *Compilation of Data for Priority Organic Pollutants*, Report SC050021/SR7, November 2008;
- Defra/Environment Agency sources (e.g. Environment Agency, *Review of the Fate and Transport of Selected Contaminants in the Soil Environment, Draft Technical Report P5- 079/TR1* (Environment Agency 2003a));
- Published fate and transport reviews to derive HCV within Nathaniel *et. al*, 2009 and EIC/CL:AIRE 2009;
- Other UK Government documents;
- European data sources;
- International data sources; (e.g. World Health Organisation); or
- Other international sources (e.g. USEPA).

Where appropriate and where sufficient data is available, values have been adjusted to reflect a UK soil temperature of 10°C (e.g. K_{aw}).

In generating GAC, the default CLEA assumptions have been applied to a range of likely human health exposure models and associated critical age receptor groups including:

- Residential with Plant Uptake;
- Residential without Plant Uptake;
- Allotments;
- Parks;

- Open Spaces; and,
- Commercial/Industrial.

Additional land use scenarios have been considered within the context of a DQRA, for example, a residential care home land use.

Please also observe that GAC for organic substances have not been limited to their theoretical soil saturation although the theoretical soil saturation limit is provided and can be considered by our risk assessors in their assessment. Petroleum hydrocarbon fractions are, where appropriate, addressed based on Hazard Index and so are additionally not limited to soil saturation within their assessment.

Our default soil type under a GQRA has been established as a Sandy Loam with a default pH of 7; Soil Organic Matter of 1%, 3% and 6%.

Cyanides

The primary risk to human receptors from free cyanide in soils is an acute risk (i.e. a single dose could have a lethal affect as opposed to adverse affects from cumulative intake (chronic affect)).

There is no current UK guidance available for calculating acute risks from free cyanide, therefore an in-house methodology has been used to derive an acute GAC of 60 mg/kg for all exposure scenarios. The value is given for Free or Easily Liberatable Cyanide but should be used to assess Total Cyanide in the absence of cyanide speciation. In cases where the Total Cyanide exceeds the GAC then analysis for Free or Easily Liberatable Cyanide should be completed.

Open Spaces Land Use

The existing CLEA model does not explicitly consider an Open Spaces land use and, in many cases, an assessor typically applies a residential end use model and associated Generic Assessment Criteria. This approach however can lead to unnecessary remediation as the values derived for a residential end use consider exposure pathways and characteristics which are not representative of an Open Spaces land use, for example indoor air inhalation of contaminant vapours and the ingestion of food grown on site.

The Open Spaces land use category developed by WSP is considered to be appropriate for areas generally larger than local parks which are visited less frequently and are typically a distance from residential areas (e.g. a nature reserve).

WSP have developed a set of Generic Assessment Criteria for Open Spaces end use through the development of a Conceptual Site Model for Open Space which considers the relevant exposure pathways and receptor characteristics. These criteria are considered suitably sensitive to apply to a wide range of Open Space areas. The Conceptual Site Model adopted may be described as follows:

- The soil ingestion and dermal exposure pathways are active;
- The inhalation of outdoor dusts and vapours pathways are active;
- The soil is a typical sandy loam type;
- The critical receptor is a female child between the ages of 0-6 years (i.e. based on a standard residential receptor) who visits the site on three occasions a fortnight and spends 3 hours on the site on each visit (the exception being during the first year of life when exposure frequency is set at 50% of the number of visits and duration).
- Fifty per cent of the time spent on site is involved in moderate intensity activity and fifty per cent in passive activity;

A detailed breakdown of the chosen modelling characteristics can be provided on request. It should be noted that Open Space criteria are not considered appropriate for use for a School Playing Fields scenario where formal and regular sports take place or for a Parks land use where visits will tend to be far more frequent.

Parks Land Use

The existing CLEA model does not explicitly consider a Parks land use and, in many cases, an assessor typically applies a residential end use model and associated Generic Assessment Criteria. This approach however can lead to unnecessary remediation as the values derived for a residential end use consider exposure pathways and characteristics which are not representative of a an Parks land use, for example indoor air inhalation of contaminant vapours and the ingestion of food grown on site.

The Parks land use is considered to be appropriate for local parks and open areas typically located adjacent to residential housing and more frequently used than in an Open Spaces scenario.

WSP have developed a set of Generic Assessment Criteria for Parks end use through the development of a Conceptual Site Model for Parks which considers the relevant exposure pathways and receptor characteristics. These criteria are considered suitably sensitive to apply to a wide range of Open Space areas. The Conceptual Site Model adopted may be described as follows:

- The soil ingestion and dermal exposure pathways are active;
- The inhalation of outdoor dusts and vapours pathways are active;
- The soil is a typical sandy loam type;
- The critical receptor is a female child between the ages of 0-6 years (i.e. based on a standard residential receptor) who visits the site on five days a week and typically spends 1.5 hours on the site on each visit with two weeks holiday a year
- Two-thirds of the time spent on site is involved in moderate intensity activity and one-third in passive activity;

A detailed breakdown of the chosen modelling characteristics can be provided on request. It should be noted that Parks criteria are not considered appropriate for use for a School Playing Fields scenario where formal and regular sports take place.

Groundwater to Indoor Air (Human Health)

The CLEA model does not explicitly consider the potential for chronic impact to Human Health from indoor inhalation of concentrations of volatile vapours from dissolved phase contamination. The potential exists for this to be an important exposure route for a limited number of highly volatile contaminants. GAC have been calculated for volatile contaminants for volatilisation from groundwater using an in-house implementation of the Johnson and Ettinger model (WSP In-house Groundwater Model V1.1). The WSP model is based upon the Johnson and Ettinger model described in the CLEA guidance has been adapted to account for a dissolved phase source through consideration of (a) partitioning from groundwater to soil vapour, and, (b) transport through the capillary zone.

The WSP spreadsheet implementation also includes checks to ensure that values generated do not exceed the pure phase solubility of a substance within water.

The target concentration in air is set based upon the Inhalation TDI or ID determined for the substance either from published Environment Agency or other sources.

TDI or ID values are usually presented in units of $\mu\text{g}/\text{kg bw}^{-1} \text{ day}^{-1}$ in which case the values are converted into $\mu\text{g}/\text{m}^3$ based on an adult inhaling 20m^3 per day and weighing 70kg (Table 3.3 SR2 (Environment Agency 2009a)). Where appropriate the TDI is adjusted to take account of the MDI.

In the absence of UK guidelines, our exposure scenario conservatively considers a groundwater source 1.0m below the base of any building i.e. a very shallow aquifer, corresponding with the depth of a soil source as adopted in the generic scenario in the CLEA model. Our default soil type under a GQRA has been established as a Sandy Loam with the characteristics detailed below.

Parameters Applied within the derivation of WSP groundwater GAC

Parameter	Definition (Units)	Value	Source
θ_a	air filled soil porosity (cm^3/cm^3)	0.2	Environment Agency (2009c), Table 4.4 (Sandy Loam)
θ_w	water filled soil porosity (cm^3/cm^3)	0.33	Environment Agency (2009c), Table 4.4 (Sandy Loam)
θ_T	total air and water filled soil porosity (cm^3/cm^3)	0.53	Environment Agency (2009c), Table 4.4 (Sandy Loam)
θ_r	Residual soil water content cm^3/cm^3	0.12	Environment Agency (2009c), Table 4.4 (Sandy Loam)
θ_s	Saturated soil water content cm^3/cm^3	0.387	USEPA (2004), <i>User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings</i> , Table 4 (Sandy Loam)
α_1	Point of inflection in the water retention curve where $d\theta_{wc} / dh$ is maximal, cm^{-1}	0.0689	Environment Agency (2009c), Table 4.4 (Sandy Loam)
N	van Genuchten curve shape parameter, dimensionless	1.4708	Calculated from Equation 4.1 Environment Agency (2009c), Table 4.4 (Sandy Loam)
M	van Genuchten curve shape parameter, dimensionless	0.3201	Environment Agency (2009c), Table 4.4 (Sandy Loam)
R	Mean inter-particle pore radius (cm)	0.006	USEPA (2004), <i>User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings</i> , Table 4 (Sandy Loam)

Building specific parameters have been considered for all of the generic building types as defined in the CLEA (2009a) report:

Building Parameters

	Units	Small Terraced	Justification (based on Environment Agency 2009c)	Office (pre 1970)	Justification (based on Environment Agency 2009c)
A_B	cm ²	280000	Table 4.21 (No basement)	4240000	Table 4.21 (No basement)
L_T	cm	115	Assumes source is 1 m below the building	115	Assumes source is 1m below the building
Q_S	cm ³ s ⁻¹	25	Section 10.3, p131	150	Section 10.3, p131
L_{crack}	cm	15	Table 4.21	15	Table 4.21
A_{crack}	cm ²	423.3	Table 4.21	1647.3	Table 4.21
H	m	4.8	Table 4.21	9.6	Table 4.21
A_{foot}	m ²	28	Table 4.21	424	Table 4.21
Ex	hr ⁻¹	0.5	Table 4.21	1	Table 4.21

The required contaminant specific inputs for each contaminant have been obtained from published Environment Agency sources as detailed in the table below or obtained from a literature review as described in SR7 (Environment Agency 2008).

Contaminant Specific Parameter Sources

Parameter	Units	Source/Justification
D_{air}	m ² s ⁻¹	Environment Agency (2008), Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values, Ref. SC050021/SR7
D_{water}	m ² s ⁻¹	Environment Agency (2008), Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values, Ref. SC050021/SR7
K_{aw}	unitless	Environment Agency (2008), Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values, Ref. SC050021/SR7
S	µg/l	Environment Agency (2008), Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values, Ref. SC050021/SR7

For many contaminants, no risk is calculated at concentrations below the pure phase solubility of the contaminant. Caution is applied when Non-Aqueous Phase Liquids (NAPL) are likely to be present, either where these have been detected during monitoring or where the concentration of a component in a mixture exceeds 10% of its calculated effective solubility. In such cases a separate assessment of the generation of volatile vapours from NAPL via modelling or a soil vapour survey may be required.

Finally, it is important to note that the values we calculate are only applicable to Human Health and cannot be used to determine the potential risks to the water environment.

STATISTICAL ASSESSMENT

The data collected on site can be subject to statistical analysis using the techniques published by CL:AIRE and the Chartered Institute of Environmental Health (CIEH) in the guidance document '*Guidance on Comparing Soil Contamination Data with Critical Concentrations*' (CL:AIRE, 2008) as part of the package of improved UK guidance highlighted in DEFRA discussion paper *Assessing risks from contamination – a proportionate approach. Soil Guidance Values: the Way Forward* (CLAN 06/2006).

In identifying realistic hazards to human health then exposure areas must be first identified as the area across which a critical receptor is likely to be active. The application of individual or average concentrations within an exposure area, derived from a limited number of samples, may not be representative of actual risk. Consequently, to be representative of uncertainty and risk, an appropriate Upper Confidence Limit of the mean for each exposure area should be applied within the assessment of risk in the context of assessment for planning purposes. However, this approach is only appropriate where non-targeted sampling has been undertaken and sufficient samples have been collected from the same population.

The approach to assessment can be summarised as follows:

1. Compare the recorded concentrations directly against appropriate applicable Generic Assessment Criteria to identify those contaminants which require further consideration as they record concentrations in excess of or near to the applied Generic Assessment Criteria, these will be considered contaminants of concern;
2. Identify whether it is appropriate to undertake any statistical testing on the contaminants of concern (i.e. consider whether sampling was non targeted and whether there are sufficient samples from the appropriate population to make the assessment meaningful). It should be noted that in a large proportion of investigations it is not appropriate to adopt statistical techniques;
3. Where appropriate, prepare a histogram of the data using ProUCL to potentially identify the nature of the distribution;
4. Undertake analysis of the data using ProUCL to determine the type of distribution and most appropriate test to calculate a 95% Upper Confidence Limit (UCL95);
5. Undertake analysis of the data using ProUCL to determine whether the highest value represents an outlier, and, if so, remove this outlier and re-run the statistical tests to determine the type of distribution and most appropriate test to calculate a 95% Upper Confidence Limit (UCL95);
6. Once a satisfactory UCL95 has been determined then this will be compared again to the applied Generic Assessment Criteria to determine the potential significance of the recorded concentrations.

This approach is considered to be appropriate within the Planning Context, however a different approach is adopted where assessments are to be undertaken for Part 2A purposes.

Part 2A and Planning

Planning investigations assume a guilty until proven innocent approach, or “the mean concentration of a contaminant in soil at the site exceeds the assessment criteria until significantly proven otherwise”.

Based on the CIEH guidance, under Part 2A the key question will usually be “can we confidently say that the level of contamination on the site is high relative to the appropriate measure of risk”.

In Part 2A contaminated land investigations, the issue is therefore framed assuming an innocent until proven guilty approach, or “the mean concentration of a contaminant in soil at the site does not exceed the assessment criteria until significantly proven otherwise”.

Under Part 2A therefore the tests applied are required to determine if the 95th Lower Confidence Limit of the true population mean falls above the applied screening criteria. If it is identified that the 95th Lower Confidence Limit of the true mean concentration does not fall above the applied screening criteria then a further test can be applied to determine if the true mean concentration falls below the applied screening criteria on the balance of probabilities. The CIEH guidance emphasizes that “*In all cases, the significance tests should be applied only if the regulator is satisfied that all sampling and testing has been carried out according to good technical practice and that the data are representative of the land under scrutiny at an appropriate scale.*”

Averaging Zones

Where appropriate, averaging zones based on previous / current spatial land use, soil type, proposed site end uses or other distinguishing features have been considered. All soil samples across the site have been considered as a single averaging area as potential exposure for users is considered relatively uniform across the site.

Sample Depths

At the generic assessment stage, it should be assumed that all pathways contained within the generic model applied will be active. In reality, unless a contaminant is volatile (e.g. organic), exposure by direct contact will likely be mitigated by the depth of the contaminant or available surface cover. As a rule of thumb, direct contact with contaminants at greater than 600mm depth or under hardstanding is highly unlikely to occur unless the ground is to be disturbed through removal of surfacing or earthworks.

Groundwater Data

It is not considered appropriate to undertake statistical analysis on groundwater data based on an absence of UK guidance on such an approach and US guidance on completing such assessments.

Application of GAC and SGV for Human Health

In the application of GAC (and SGV) to a site the user must recognise the limitations of CLEA model. Specifically these relate to the absence of certain pollutant considerations such as risks to services, of fire and explosion, aesthetics, institutional perception, groundwater, surface waters, ecotoxicological risk and risks to buildings (amongst others).

CLAN 2/05 prepared by Defra provides guidance to Local Authorities on the application of Soil Guideline Values and equivalent screens for the determination of contaminated land under Part 2A of the Environmental Protection Act 1990. This document states that should a Local Authority choose to apply SGV and equivalent values in determining land under Part 2A then:

*'the authority would have to make a firm and deliberate judgement about whether the estimated contaminant intake, in comparison to an SGV (and the HCV on which it is based), "would represent an **unacceptable** intake or direct bodily contact...". Such a judgement might be subject to scrutiny in the event of any subsequent appeal, so should be appropriately recorded.'*

SGV's and equivalent GACs mark the concentration of a substance in soil at or below which human exposure can be considered to represent a 'tolerable' or 'minimal' level of risk for long term exposure. Given the definition of Health Criteria Values set out in Environment Agency Publication SC050021/SR2 (2008), and the nature of the CLEA methodology (where contaminated land is land where the intake of a substance would represent an unacceptable intake), CLAN 2/05 states that it

'should be a matter for careful consideration by Local Authorities whether concentrations of substances in soil equal to, or not significantly greater than, an SGV would meet the legal test set out in Table B in Chapter A of the statutory guidance to Part 2A'

There exists a wide body of opinion that SGV concentrations (or equivalent GAC) would not necessarily satisfy the legal test for Part 2A determination. A key question is how far above an SGV the relevant soil concentration would have to be to meet the '*unacceptable intake*' test.

Contemporary discussions suggest that defining '*probably unacceptable*'

- For threshold substances basing guidance on the Lowest Observed Adverse Effect Level (LOEL) rather than the No Observed Adverse Effect Level (NOAL) and/or making allowance for the range in the general population of responsiveness to harmful effects of chemicals.
- For non-threshold substances defining an annual risk of fatal cancer of 1 in 10,000 following similar methodologies applied within the nuclear industry.

Unfortunately, resolving either of the above is far more complicated than it would at first appear. As a consequence, identifying 'unacceptable' for Part 2A definition continues to be a protracted yet priority focus for government. Consultation currently suggests that in defining the term 'unacceptable' then screening concentrations may be upwards of an order of magnitude higher for some contaminants than the existing SGV.

Whilst it remains at the discretion of the Local Authority as to whether Part 2A designation should be applied, in light of the above discussion WSP has made its recommendations based primarily on our assessment of the site conditions with respect to contemporary regulations and guidance; however, we offer that the emerging legislative context as discussed above should be included in the clients consideration.

GENERIC QUANTITATIVE RISK ASSESSMENT - CONTROLLED WATERS

An assessment of plausible pollutant linkages with respect to the pollution of Controlled Waters is presented, consistent with UK guidance.

The guidance identifies that for the pollution of the water environment to occur; poisonous, noxious, polluting or solid waste matter must be entering such waters or must be considered more likely than not to enter the water environment in the future. Implicit in this definition is that substances must have the potential to cause detriment or damage to water quality or the environment. The assessment of whether the pollution of the water environment is likely to occur in the future requires consideration of those contaminants at source, which are present in a mobile form, at such concentration that they will reach a receptor at concentrations considered to be poisonous, noxious, polluting or solid waste matter.

Assessment Approach – England and Wales

In England and Wales, no specific detailed guidance has been produced to date on the approach to be adopted following the publication of Directions and other legislation. Until such time as detailed guidance is provided, the approach to be adopted at the GQRA level, assessment typically comprises the following:

- Consideration of soil concentrations of organic substances in the context of soil saturation to determine the potential for migration under gravity;
- Comparison of soil leachate/pore water concentrations against appropriate GAC; and
- Comparison of groundwater concentrations against appropriate GAC.

This approach is equivalent to Tier 1 / Level 1 Assessment as undertaken using ConSim (2009) / Environment Agency Remedial Targets Methodology V3.1 (2006).

Pollutant types, receptors and assessment points are defined in summary below:

Pollutant Type	Receptor	Assessment Point	Assessment limit
Hazardous (List 1)	Groundwater	Base of unsaturated zone	Drinking Water Standard
Non-hazardous (List 2)	Domestic groundwater Abstraction	Abstracted water	Drinking Water Standard
Non-hazardous (List 2)	Surface Water	In Surface Water after Dilution	Environmental Quality Standard
Non-hazardous (List 2)	Groundwater Resource	In strata and ~50m from source boundary	Drinking Water Standard taking into account of up gradient concentrations.

Effectively, for the majority of sites, contaminant concentrations are compared to both drinking water standards and environmental quality standards to identify the need for further consideration/DQRA.

The ideal remediation standard from the regulatory perspective is natural background quality, namely, there should be no significant deterioration in the water quality at the receptor (that is, it should not be detectable against natural background variations). This data may be obtained from up hydraulic gradient locations or regional datasets. The Environment Agency has published information on the baseline condition of several aquifers, it is recognised, however, that such data is rarely available and remediation to such a standard is often not technically achievable or cost effective. For this reason target concentrations utilised as GAC may be based on water quality standards that are appropriate for the intended use or to ensure that objectives for a groundwater or associated water body are met. In England and Wales, the standards selected (as appropriate) include the following:

- **Drinking Water Standards:** The Water Supply (Water Quality) Regulations: 2001 (WSR) (as amended);
- **EQS:** Environmental Quality Standards, The River Basin District Typology, Standards and Groundwater Threshold Values (Water Framework Directive) (England and Wales) Directions 2010;

Secondary sources for GAC include:

- The Private Water Supplies Regulations 2009/2010 (England/Wales);
- European Drinking Water Standards, (Council Directive 98/83/EC);
- World Health Organisation, Guidelines for Drinking Water Quality, Second Addendum to the Third Edition, Volume 1 2008; and
- United States Environmental Protection Agency (USEPA) Region Three, Six and Nine Human Health Medium Specific Risk Based Screening Levels for soils and tap water with dermal exposure routes, which have been derived using human health exposure models consistent with the ASTM Risk Based Corrective Action, approach (ASTM, E1739-95, 1995).

Priority is given to UK standards, however, where data is not available for a specific substance, additional standards such as those published by the WHO or USEPA are used.

Consideration is also given by WSP to River Basin Management Plans required as part of the WFD that have been published and provide surface and groundwater quality classifications, unit descriptions, and future quality targets for specific River Basins.

Petroleum Hydrocarbons

Despite Mineral Oils/Hydrocarbons being a List I (Hazardous) substance there exists no current guidance on the assessment of hydrocarbon fractions in relation to the water environment. At the time of writing, it is understood that the Environment Agency is in the process of producing guidance on this issue. In the meantime, negotiation at a local level will be undertaken to agree the assessment approach.

ECOLOGICAL RISK ASSESSMENT

Where a statutory ecological receptor is identified on, or in proximity to the site, an assessment in accordance with current Environment Agency Ecological Risk Assessment (ERA) Framework will be undertaken. The framework is currently in development (<http://www.environment-agency.gov.uk/research/planning/40375.aspx>)

EXCEEDANCES

Where a GAC is exceeded further work and/or remediation is normally required. For moderate exceedances further work may include progression to a Detailed Quantitative Risk Assessment (DQRA) which is likely to require further data collection. The outcome of the DQRA may be that the risk is not significant or, if the risk is identified as being significant, the generation of site-specific remedial targets.

Where significant exceedances of GAC are identified or there is evidence of potential acute risks remedial measures may be immediately required.

SELECTED REFERENCES

The following key references have been considered (this list is not exhaustive):

CL:AIRE / CIEH (2008), *Guidance on Comparing Soil Contamination Data with a Critical Concentration*, May 2008;

CL:AIRE / EIC (2009), *The Soil Generic Assessment Criteria for Human Health*, December 2009.

Environment Agency & Defra (2002), *R&D Publication CLR8 Priority Contaminants for the Assessment of Land*;

Environment Agency (2003), *Review of fate & transport of selected contaminants in the Environment*, Report P5-079-TR1;

Environment Agency (2004), *Model Procedures for the Management of Land Contamination*, September 2004, ISBN: 1844322955;

Environment Agency (2008a), *Compilation of Data for Priority Organic Pollutants*, Report SC050021/SR7, November 2008;

Environment Agency (2009a), *Human Health Toxicological Assessment of Contaminants in Soil*, Report SC050021/SR2, January 2009;

Environment Agency (2009b), *CLEA Software (Version 1.04) Handbook (and Software)*, Report SC050021/SR4, January 2009;

Environment Agency (2009c), *Updated Technical Background to the CLEA Model*, Report SC050021/SR3, January 2009;

Environment Agency (2009d), *A Review of Body Weight and Height Data Used in the CLEA Model*, Report SC050021/Final Technical Review 1, January 2009;

Nathanial *et. al.*, (2009), *The LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment (2nd edition)*, Land Quality Press, Nottingham, ISBN 0-9547474-7-X

USEPA (2004), *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings*

Appendix H - Chemical Laboratory Results



WSP Environmental
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Attention: Helen Gardiner

CERTIFICATE OF ANALYSIS

Date: 07 November 2012
Customer: H_WSP_BAS
Sample Delivery Group (SDG): 121025-29
Your Reference: 28453
Location: Kingsmere Bicester Phase 2
Report No: 200855

We received 33 samples on Saturday October 06, 2012 and 18 of these samples were scheduled for analysis which was completed on Wednesday November 07, 2012. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

Sonia McWhan

Operations Manager



SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
6397540	TP701	ES1	0.20	02/10/2012
6397552	TP701	ES2	0.60	02/10/2012
6397574	TP702	ES1	0.20	02/10/2012
6397579	TP702	ES2	0.60	02/10/2012
6397580	TP703	ES1	0.10	02/10/2012
6397581	TP703	ES2	1.00	02/10/2012
6397582	TP704	ES1	0.80	02/10/2012
6397584	TP705	ES1	0.50	02/10/2012
6397585	TP705	ES2	1.50	02/10/2012
6397542	TP706	ES1	0.20	02/10/2012
6397543	TP706	ES2	1.50	02/10/2012
6397544	TP708	ES	0.45	02/10/2012
6397545	TP709	ES1	0.30	02/10/2012
6397546	TP710	ES1	0.10	02/10/2012
6397547	TP712	ES1	0.60	02/10/2012
6397548	TP713	ES1	0.50	02/10/2012
6397549	TP714	ES1	0.50	02/10/2012
6397550	TP715	ES1	0.60	02/10/2012
6397551	TP717	ES1	0.40	02/10/2012
6397578	TP718	ES	0.80	02/10/2012
6397554	TP719	ES1	0.40	02/10/2012
6397555	TP719	ES2	1.40	02/10/2012
6397556	WS701	ES1	0.30 - 1.00	02/10/2012
6397557	WS701	ES2	1.10 - 1.50	02/10/2012
6397558	WS702	ES1	0.10 - 0.30	02/10/2012
6397559	WS703	ES1	0.10 - 0.40	02/10/2012
6397560	WS703	ES2	1.20 - 1.50	02/10/2012
6397563	WS704	ES1	0.40 - 0.90	02/10/2012
6397569	WS704	ES1	0.90 - 1.50	02/10/2012
6397572	WS705	ES1	0.30 - 0.50	02/10/2012
6397575	WS705	ES2	1.50 - 2.00	02/10/2012
6397576	WS706	ES1	0.40	02/10/2012
6397577	WS706	ES2	0.60	02/10/2012

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Table with columns: Lab Sample No(s), Customer Sample Reference, AGS Reference, Depth (m), Container, and various test results (Anions, Asbestos, EPH CWG, GRO, Metals, OC, OP Pesticides). Includes a 'SOLID Results Legend' with 'X' for Test and 'N' for No Determination Possible.





CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number: 200855
Report Number:
Superseded Report:

SOLID Results Legend  Test  No Determination Possible	Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
	6397540	TP701	ES1	0.20	400g Tub (ALE214)
	6397552	TP701	ES2	0.60	400g Tub (ALE214)
	6397558	WS702	ES1	0.10 - 0.30	250g Amber Jar (AL)
	6397560 6397559 6397582	WS703 WS703 TP704	ES2 ES1 ES1	1.20 - 1.50 0.10 - 0.40 0.80	250g Amber Jar (AL) 60g VOC (ALE215) 250g Amber Jar (AL) 1kg TUB
6397576 6397584 6397577	WS706 TP705 WS706	ES1 ES1 ES2	0.40 0.50 0.60	250g Amber Jar (AL) 250g Amber Jar (AL) 400g Tub (ALE214)	
6397547 6397545 6397544	TP712 TP709 TP708	ES1 ES1 ES	0.60 0.30 0.45	250g Amber Jar (AL) 250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)	
6397549	TP714	ES1	0.50	250g Amber Jar (AL)	
6397548	TP713	ES1	0.50	60g VOC (ALE215) 400g Tub (ALE214)	
6397554 6397551 6397550	TP719 TP717 TP715	ES1 ES1 ES1	0.40 0.40 0.60	250g Amber Jar (AL) 400g Tub (ALE214) 60g VOC (ALE215) 250g Amber Jar (AL) 400g Tub (ALE214)	
6397549	TP714	ES1	0.50	250g Amber Jar (AL)	
6397549	TP714	ES1	0.50	250g Amber Jar (AL)	
6397549	TP714	ES1	0.50	60g VOC (ALE215) 400g Tub (ALE214)	
6397549	TP714	ES1	0.50	250g Amber Jar (AL)	
6397549	TP714	ES1	0.50	250g Amber Jar (AL)	
6397549	TP714	ES1	0.50	60g VOC (ALE215) 400g Tub (ALE214)	
6397549	TP714	ES1	0.50	250g Amber Jar (AL)	

PAH by GCMS	All	NDPs: 0 Tests: 5																	
pH	All	NDPs: 0 Tests: 11																	
Sample description	All	NDPs: 0 Tests: 17																	
Semi Volatiles in soils by GC-MS	All	NDPs: 0 Tests: 6																	
Total Organic Carbon	All	NDPs: 0 Tests: 6																	
TPH c6-40 Value of soil	All	NDPs: 0 Tests: 6																	
TPH CWG GC (S)	All	NDPs: 0 Tests: 5																	
VOC MS (S)	All	NDPs: 0 Tests: 5																	



SDG: 121025-29
 Job: H_WSP_BAS-71
 Client Reference: 28453

Location: Kingsmere Bicester Phase 2
 Customer: WSP Environmental
 Attention: Helen Gardiner

Order Number:
 Report Number: 200855
 Superseded Report:

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
6397552	TP701	0.60	Light Brown	Loamy Sand	0.063 - 0.1 mm	Stones	Vegetation
6397582	TP704	0.80	Light Brown	Silty Clay Loam	<0.063 mm	Stones	None
6397584	TP705	0.50	Orange	Silty Clay	<0.063 mm	Crystalline Material	N/A
6397544	TP708	0.45	Beige	Clay Loam	0.063 - 0.1 mm	Stones	None
6397545	TP709	0.30	Dark Brown	Silt Loam	0.063 - 0.1 mm	N/A	Stones
6397547	TP712	0.60	Dark Brown	Loamy Sand	0.063 - 0.1 mm	Vegetation	Stones
6397548	TP713	0.50	Light Brown	Silty Clay Loam	0.063 - 0.1 mm	Stones	None
6397549	TP714	0.50	Light Brown	Sand	0.1 - 2 mm	Stones	None
6397550	TP715	0.60	Light Brown	Sand	0.1 - 2 mm	Stones	N/A
6397551	TP717	0.40	Light Brown	Silty Clay Loam	0.063 - 0.1 mm	Concrete/Aggregate	Stones
6397554	TP719	0.40	Light Brown	Silty Clay	<0.063 mm	None	None
6397555	TP719	1.40	Dark Brown	Silty Clay	0.063 - 0.1 mm	N/A	N/A
6397558	WS702	0.10 - 0.30	Dark Brown	Clay Loam	0.063 - 0.1 mm	Stones	N/A
6397559	WS703	0.10 - 0.40	Dark Brown	Loamy Sand	0.063 - 0.1 mm	Stones	Vegetation
6397560	WS703	1.20 - 1.50	Beige	Silty Clay	<0.063 mm	None	None
6397576	WS706	0.40	Light Brown	Silt Loam	<0.063 mm	Stones	None
6397577	WS706	0.60	Orange	Sandy Clay Loam	0.063 - 0.1 mm	Stones	N/A

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Results Legend		Customer Sample R	TP701	TP704	TP705	TP708	TP713	TP714
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.60	0.80	0.50	0.45	0.50	0.50
M	mCERTS accredited.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
S	Deviating sample.		02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
aq	Aqueous / settled sample.		06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012
diss.filt	Dissolved / filtered sample.		121025-29	121025-29	121025-29	121025-29	121025-29	121025-29
tot.unfilt	Total / unfiltered sample.		6397552	6397582	6397584	6397544	6397548	6397549
*	Subcontracted test.		ES2	ES1	ES1	ES	ES1	ES1
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
Component	LOD/Units		Method					
Moisture content ratio	%	PM024	13		13			10
Soil Organic Matter (SOM)	<0.35 %	TM132	0.822				1	
pH	1 pH Units	TM133	8.88	8.29	8.35	8.64	8.37	8.38
TPH >C6-C8	<10 mg/kg	TM154	<10	<10	<10			<10
TPH >C12-C16	<10 mg/kg	TM154	<10	<10	<10			<10
TPH >C16-C21	<10 mg/kg	TM154	<10	<10	<10			<10
TPH >C21-C40	<10 mg/kg	TM154	109	<10	<10			36.8
TPH >C6-C40	<10 mg/kg	TM154	119	<10	<10			36.8
TPH >C8-12	<10 mg/kg	TM154	<10	<10	<10			<10
Arsenic	<0.6 mg/kg	TM181	12.2	15.4	15.7	6.99	45.6	10.5
Cadmium	<0.02 mg/kg	TM181	0.387	0.251	0.43	0.182	0.358	0.262
Chromium	<0.9 mg/kg	TM181	14.4	25.1	23.4	19.7	44.6	9.87
Copper	<1.4 mg/kg	TM181	6.46	11.1	10.3	6.64	16.6	7.4
Lead	<0.7 mg/kg	TM181	17	11.3	11.6	9.47	16.2	7.51
Mercury	<0.14 mg/kg	TM181	0.146	0.273	0.154	0.322	0.32	0.273
Nickel	<0.2 mg/kg	TM181	13.7	23.5	26.3	17.7	41.4	9.84
Selenium	<1 mg/kg	TM181	<1	<1	<1	<1	<1	<1
Zinc	<1.9 mg/kg	TM181	20.4	31	40	52.7	64.8	20.3
Water Soluble Sulphate as SO4 2:1 Extract	<0.008 g/l	TM243		0.0199	<0.008		<0.008	
N-Nitrosodimethylamine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Pyridine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
2-Picoline	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
N-Nitrosomethylethylamine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Methyl Methanesulfonate	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
N-Nitrosodiethylamine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Ethyl Methanesulfonate	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Phenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Aniline	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Pentachloroethane	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Bis(2-chloroethyl)ether	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
2-Chlorophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
1,3-Dichlorobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Results Legend		Customer Sample R	TP701	TP704	TP705	TP708	TP713	TP714
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.60	0.80	0.50	0.45	0.50	0.50
M	mCERTS accredited.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
\$	Deviating sample.		02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
			ES2	ES1	ES1	ES	ES1	ES1
Component	LOD/Units	Method						
1,4-Dichlorobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Benzyl Alcohol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
1,2-Dichlorobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
2-Methylphenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Bis(2-chloroisopropyl)ether	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
N-Nitrosopyrrolidine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
3+4-Methylphenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Acetophenone	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
N-Nitroso-di-N-propylamine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
o-Toluidine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Hexachloroethane	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Nitrobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
N-Nitrosopiperidine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Isophorone	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
2-Nitrophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
2,4-Dimethylphenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Bis(2-chloroethoxy)methane	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
2,4-Dichlorophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
1,2,4-Trichlorobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
3+4-Chlorophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Naphthalene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
p-Chloroaniline	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
2,6-Dichlorophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Hexachloropropene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Hexachlorobutadiene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
N-Nitroso-di-N-butylamine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
4-Chloro-3-Methylphenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Safrole	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
2-Methylnaphthalene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
1,2,4,5-Tetrachlorobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Hexachlorocyclopentadiene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
2,4,5-Trichlorophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Results Legend		Customer Sample R	TP701	TP704	TP705	TP708	TP713	TP714	
#	ISO17025 accredited.								
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.60	0.80	0.50	0.45	0.50	0.50	
S	Deviating sample.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	
aq	Aqueous / settled sample.		02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	
diss.filt	Dissolved / filtered sample.		06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	
tot.unfilt	Total / unfiltered sample.		121025-29	121025-29	121025-29	121025-29	121025-29	121025-29	
*	Subcontracted test.		6397552	6397582	6397584	6397544	6397548	6397549	
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		ES2	ES1	ES1	ES	ES1	ES1	
(F)	Trigger breach confirmed								
Component	LOD/Units		Method						
2,4,6-Trichlorophenol	<1.3 mg/kg		TM322			<1.3	<1.3	<1.3	
Isosafrole	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
2-Chloronaphthalene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
2-Nitroaniline	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
1,4-Naphthoquinone	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Dimethyl Phthalate	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Acenaphthylene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
2,6-Dinitrotoluene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
1,3-Dinitrobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
3-Nitroaniline	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Acenaphthene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
2,4-Dinitrophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
4-Nitrophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Dibenzofuran	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Pentachlorobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
2,4-Dinitrotoluene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
1-Naphthylamine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
2-Naphthylamine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
2,3,4,6-Tetrachlorophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Diethyl Phthalate	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Fluorene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
4-Chlorophenylphenylether	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
5-Nitro-o-toluidine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
4-Nitroaniline	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
2-Methyl-4,6-dinitrophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Diphenylamine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Azobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
1,3,5-Trinitrobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Diallate	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
4-Bromophenylphenylether	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Phenacetin	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		
Hexachlorobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3		



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Results Legend		Customer Sample R	TP701	TP704	TP705	TP708	TP713	TP714
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.		0.60	0.80	0.50	0.45	0.50	0.50
\$	Deviating sample.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.		02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012
(F)	Trigger breach confirmed		121025-29	121025-29	121025-29	121025-29	121025-29	121025-29
			6397552	6397582	6397584	6397544	6397548	6397549
		ES2	ES1	ES1	ES	ES1	ES1	
Component	LOD/Units	Method						
4-Aminobiphenyl	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Pentachlorophenol	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Pronamide	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Pentachloronitrobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Phenanthrene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Anthracene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Dinoseb	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Carbazole	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Di-N-butyl Phthalate	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Isodrin	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Fluoranthene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Benzidine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Pyrene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
p-Dimethylaminoazobenzene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Chlorobenzilate	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
3,3-Dimethylbenzidine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Kepone	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Butyl Benzyl Phthalate	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
2-Acetylaminofluorene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Benzo(a)anthracene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
3,3-Dichlorobenzidine	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Chrysene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Bis(2-ethylhexyl)phthalate	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Di-n-octylphthalate	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Benzo(b)fluoranthene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
7,12-Dimethylbenz(a)anthracene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Benzo(k)fluoranthene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Benzo(a)pyrene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
3-Methylcholanthrene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Indeno(1,2,3-c,d)pyrene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Dibenzo(a,h)anthracene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	
Benzo(g,h,i)perylene	<1.3 mg/kg	TM322			<1.3	<1.3	<1.3	



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Results Legend		Customer Sample R	TP715	TP717	TP719	WS702	WS703	WS703
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.		0.60	0.40	1.40	0.10 - 0.30	0.10 - 0.40	1.20 - 1.50
S	Deviating sample.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.		02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012
(F)	Trigger breach confirmed		121025-29	121025-29	121025-29	121025-29	121025-29	121025-29
			6397550	6397551	6397555	6397558	6397559	6397560
		ES1	ES1	ES2	ES1	ES1	ES2	
Component	LOD/Units	Method						
Moisture content ratio	%	PM024	9.9	13	22			
Soil Organic Matter (SOM)	<0.35 %	TM132	0.517 #		0.905 #		2.43 #	
pH	1 pH Units	TM133	8.74 M	8.37 M	8 M	8.17 M		
TPH >C6-C8	<10 mg/kg	TM154		<10				
TPH >C12-C16	<10 mg/kg	TM154		<10				
TPH >C16-C21	<10 mg/kg	TM154		<10				
TPH >C21-C40	<10 mg/kg	TM154		30.6				
TPH >C6-C40	<10 mg/kg	TM154		30.6 #				
TPH >C8-12	<10 mg/kg	TM154		<10				
Arsenic	<0.6 mg/kg	TM181	8.13 M	24.6 § M	7.55 M	16.5 M		
Cadmium	<0.02 mg/kg	TM181	0.205 M	0.0763 § M	0.478 M	0.526 M		
Chromium	<0.9 mg/kg	TM181	6.94 M	23.9 § M	35.4 M	23.7 M		
Copper	<1.4 mg/kg	TM181	5.18 M	14.5 § M	22 M	12.5 M		
Lead	<0.7 mg/kg	TM181	4.61 M	18.6 § M	17.6 M	31.7 M		
Mercury	<0.14 mg/kg	TM181	0.348 M	<0.14 § M	0.149 M	0.162 M		
Nickel	<0.2 mg/kg	TM181	8.06 M	22.8 § M	32 M	19.8 M		
Selenium	<1 mg/kg	TM181	<1 #	<1 § #	<1 #	<1 #		
Zinc	<1.9 mg/kg	TM181	10.9 M	63.7 § M	81.2 M	46.1 M		
Water Soluble Sulphate as SO4 2:1 Extract	<0.008 g/l	TM243	<0.008 § M	<0.008 § M	0.239 M			0.0348 M
N-Nitrosodimethylamine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Pyridine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
2-Picoline	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
N-Nitrosomethylethylamine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Methyl Methanesulfonate	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
N-Nitrosodiethylamine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Ethyl Methanesulfonate	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Phenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Aniline	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Pentachloroethane	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Bis(2-chloroethyl)ether	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
2-Chlorophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
1,3-Dichlorobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Results Legend		Customer Sample R	TP715	TP717	TP719	WS702	WS703	WS703
#	ISO17025 accredited.							
M	mCERTS accredited.							
S	Deviating sample.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
		Depth (m)	0.60	0.40	1.40	0.10 - 0.30	0.10 - 0.40	1.20 - 1.50
		Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
		Date Sampled	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
		Sample Time						
		Date Received	06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012
		SDG Ref	121025-29	121025-29	121025-29	121025-29	121025-29	121025-29
		Lab Sample No.(s)	6397550	6397551	6397555	6397558	6397559	6397560
		AGS Reference	ES1	ES1	ES2	ES1	ES1	ES2
Component	LOD/Units	Method						
1,4-Dichlorobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Benzyl Alcohol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
1,2-Dichlorobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
2-Methylphenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Bis(2-chloroisopropyl)ether	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
N-Nitrosopyrrolidine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
3+4-Methylphenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Acetophenone	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
N-Nitroso-di-N-propylamine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
o-Toluidine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Hexachloroethane	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Nitrobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
N-Nitrosopiperidine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Isophorone	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
2-Nitrophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
2,4-Dimethylphenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Bis(2-chloroethoxy)methane	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
2,4-Dichlorophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
1,2,4-Trichlorobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
3+4-Chlorophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Naphthalene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
p-Chloroaniline	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
2,6-Dichlorophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Hexachloropropene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Hexachlorobutadiene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
N-Nitroso-di-N-butylamine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
4-Chloro-3-Methylphenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Safrole	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
2-Methylnaphthalene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
1,2,4,5-Tetrachlorobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Hexachlorocyclopentadiene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
2,4,5-Trichlorophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Results Legend		Customer Sample R	TP715	TP717	TP719	WS702	WS703	WS703	
#	ISO17025 accredited.								
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.60	0.40	1.40	0.10 - 0.30	0.10 - 0.40	1.20 - 1.50	
S	Deviating sample.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	
aq	Aqueous / settled sample.		02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	
diss.filt	Dissolved / filtered sample.								
tot.unfilt	Total / unfiltered sample.								
*	Subcontracted test.								
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	
(F)	Trigger breach confirmed		121025-29	121025-29	121025-29	121025-29	121025-29	121025-29	
			6397550	6397551	6397555	6397558	6397559	6397560	
			ES1	ES1	ES2	ES1	ES1	ES2	
Component	LOD/Units		Method						
2,4,6-Trichlorophenol	<1.3 mg/kg		TM322	<1.3		<1.3		<1.3	
Isosafrole	<1.3 mg/kg		TM322	<1.3		<1.3		<1.3	
2-Chloronaphthalene	<1.3 mg/kg		TM322	<1.3		<1.3		<1.3	
2-Nitroaniline	<1.3 mg/kg		TM322	<1.3		<1.3		<1.3	
1,4-Naphthoquinone	<1.3 mg/kg		TM322	<1.3		<1.3		<1.3	
Dimethyl Phthalate	<1.3 mg/kg		TM322	<1.3		<1.3		<1.3	
Acenaphthylene	<1.3 mg/kg		TM322	<1.3		<1.3		<1.3	
2,6-Dinitrotoluene	<1.3 mg/kg		TM322	<1.3		<1.3		<1.3	
1,3-Dinitrobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
3-Nitroaniline	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
Acenaphthene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
2,4-Dinitrophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
4-Nitrophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
Dibenzofuran	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
Pentachlorobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
2,4-Dinitrotoluene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
1-Naphthylamine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
2-Naphthylamine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
2,3,4,6-Tetrachlorophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
Diethyl Phthalate	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
Fluorene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
4-Chlorophenylphenylether	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
5-Nitro-o-toluidine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
4-Nitroaniline	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
2-Methyl-4,6-dinitrophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
Diphenylamine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
Azobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
1,3,5-Trinitrobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
Diallate	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
4-Bromophenylphenylether	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
Phenacetin	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		
Hexachlorobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3		



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Results Legend		Customer Sample R	TP715	TP717	TP719	WS702	WS703	WS703
#	ISO17025 accredited.							
M	mCERTS accredited.							
\$	Deviating sample.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
		Depth (m)	0.60	0.40	1.40	0.10 - 0.30	0.10 - 0.40	1.20 - 1.50
		Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
		Date Sampled	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
		Sample Time						
		Date Received	06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012
		SDG Ref	121025-29	121025-29	121025-29	121025-29	121025-29	121025-29
		Lab Sample No.(s)	6397550	6397551	6397555	6397558	6397559	6397560
		AGS Reference	ES1	ES1	ES2	ES1	ES1	ES2
Component	LOD/Units	Method						
4-Aminobiphenyl	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Pentachlorophenol	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Pronamide	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Pentachloronitrobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Phenanthrene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Anthracene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Dinoseb	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Carbazole	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Di-N-butyl Phthalate	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Isodrin	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Fluoranthene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Benzidine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Pyrene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
p-Dimethylaminoazobenzene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Chlorobenzilate	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
3,3-Dimethylbenzidine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Kepone	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Butyl Benzyl Phthalate	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
2-Acetylaminofluorene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Benzo(a)anthracene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
3,3-Dichlorobenzidine	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Chrysene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Bis(2-ethylhexyl)phthalate	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Di-n-octylphthalate	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Benzo(b)fluoranthene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
7,12-Dimethylbenz(a)anthracene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Benzo(k)fluoranthene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Benzo(a)pyrene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
3-Methylcholanthrene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Indeno(1,2,3-c,d)pyrene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Dibenzo(a,h)anthracene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	
Benzo(g,h,i)perylene	<1.3 mg/kg	TM322	<1.3		<1.3		<1.3	



CERTIFICATE OF ANALYSIS

SDG: 121025-29
 Job: H_WSP_BAS-71
 Client Reference: 28453

Location: Kingsmere Bicester Phase 2
 Customer: WSP Environmental
 Attention: Helen Gardiner

Order Number:
 Report Number: 200855
 Superseded Report:

Results Legend		Customer Sample R	WS706	WS706			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.40	0.60			
M	mCERTS accredited.		Soil/Solid	Soil/Solid			
§	Deviating sample.		02/10/2012	02/10/2012			
aq	Aqueous / settled sample.		.	.			
diss.filt	Dissolved / filtered sample.		06/10/2012	06/10/2012			
tot.unfilt	Total / unfiltered sample.		121025-29	121025-29			
*	Subcontracted test.		6397576	6397577			
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		ES1	ES2			
(F)	Trigger breach confirmed						
Component	LOD/Units		Method				
Moisture content ratio	%	PM024		12			
Soil Organic Matter (SOM)	<0.35 %	TM132	0.864				
pH	1 pH Units	TM133		8.69		M	
TPH >C6-C8	<10 mg/kg	TM154		<10			
TPH >C12-C16	<10 mg/kg	TM154		<10			
TPH >C16-C21	<10 mg/kg	TM154		<10			
TPH >C21-C40	<10 mg/kg	TM154		<10			
TPH >C6-C40	<10 mg/kg	TM154		<10		#	
TPH >C8-12	<10 mg/kg	TM154		<10			
Arsenic	<0.6 mg/kg	TM181		6.96		M	
Cadmium	<0.02 mg/kg	TM181		0.28		M	
Chromium	<0.9 mg/kg	TM181		6.76		M	
Copper	<1.4 mg/kg	TM181		5.42		M	
Lead	<0.7 mg/kg	TM181		3.85		M	
Mercury	<0.14 mg/kg	TM181		0.33		M	
Nickel	<0.2 mg/kg	TM181		10.4		M	
Selenium	<1 mg/kg	TM181		<1		#	
Zinc	<1.9 mg/kg	TM181		23.8		M	
Water Soluble Sulphate as SO4 2:1 Extract	<0.008 g/l	TM243		0.0082		§ M	



SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

OC, OP Pesticides and Triazine Herb

Results Legend		Customer Sample R	TP701	TP705	TP709	TP712	TP719	
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.		0.60	0.50	0.30	0.60	0.40	
S	Deviating sample.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	
aq	Aqueous / settled sample.		02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	
(F)	Trigger breach confirmed		121025-29	121025-29	121025-29	121025-29	121025-29	
			6397552	6397584	6397545	6397547	6397554	
		ES2	ES1	ES1	ES1	ES1		
Component	LOD/Units	Method						
Mevinphos	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Dichlorvos	<0.05 mg/kg	TM073	<0.1	<0.05	<0.05	<0.05	<0.05	
Hexachlorobenzene	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Tecnazene	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
alpha-Hexachlorocyclohexane (HCH / Lindane)	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Trifluralin	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Diazinon	<0.05 mg/kg	TM073	<0.1	<0.05	<0.05	<0.05	<0.05	
Quintozene (PCNB)	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Etrimphos	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Triallate	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
gamma-Hexachlorocyclohexane (HCH / Lindane)	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Propetamphos	<0.05 mg/kg	TM073	<0.1	<0.05	<0.05	<0.05	<0.05	
Dimethoate	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos methyl	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorothalonil	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Aldrin	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-Hexachlorocyclohexane (HCH / Lindane)	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Pirimiphos-methyl	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Telodrin	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos	<0.05 mg/kg	TM073	<0.1	<0.05	<0.05	<0.05	<0.05	
Isodrin	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Methyl parathion	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Malathion	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenthion	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenitrothion	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Triadimefon	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor epoxide	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Pendimethalin	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorfenvinphos	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	
o,p-DDE	<0.05 mg/kg	TM073	<0.05	<0.05	<0.05	<0.05	<0.05	



CERTIFICATE OF ANALYSIS

SDG: 121025-29
 Job: H_WSP_BAS-71
 Client Reference: 28453

Location: Kingsmere Bicester Phase 2
 Customer: WSP Environmental
 Attention: Helen Gardiner

Order Number:
 Report Number: 200855
 Superseded Report:

PAH by GCMS

Results Legend		Customer Sample R	TP701	TP704	TP714	TP717	WS706
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference					
M	mCERTS accredited.		0.60	0.80	0.50	0.40	0.60
S	Deviating sample.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.		02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012
(F)	Trigger breach confirmed		121025-29	121025-29	121025-29	121025-29	121025-29
			6397552	6397582	6397549	6397551	6397577
		ES2	ES1	ES1	ES1	ES2	
Component	LOD/Units	Method					
Naphthalene-d8 % recovery**	%	TM218	96.8 §	103	93.7 §	100 §	92.9
Acenaphthene-d10 % recovery**	%	TM218	96.1 §	101	89.4 §	95.5 §	94.8
Phenanthrene-d10 % recovery**	%	TM218	94.9 §	101	87.4 §	93.2 §	94.3
Chrysene-d12 % recovery**	%	TM218	87 §	92.8	79.9 §	86.5 §	92.1
Perylene-d12 % recovery**	%	TM218	85.8 §	95.8	78.8 §	88.2 §	94
Naphthalene	<0.009 mg/kg	TM218	0.0175 § M	<0.009 M	<0.009 § M	<0.009 § M	0.012 M
Acenaphthylene	<0.012 mg/kg	TM218	0.0293 § M	<0.012 M	<0.012 § M	<0.012 § M	<0.012 M
Acenaphthene	<0.008 mg/kg	TM218	<0.008 § M	<0.008 M	<0.008 § M	<0.008 § M	<0.008 M
Fluorene	<0.01 mg/kg	TM218	<0.01 § M	<0.01 M	<0.01 § M	<0.01 § M	<0.01 M
Phenanthrene	<0.015 mg/kg	TM218	0.223 § M	<0.015 M	<0.015 § M	<0.015 § M	<0.015 M
Anthracene	<0.016 mg/kg	TM218	0.0493 § M	<0.016 M	<0.016 § M	<0.016 § M	<0.016 M
Fluoranthene	<0.017 mg/kg	TM218	0.694 § M	<0.017 M	<0.017 § M	<0.017 § M	<0.017 M
Pyrene	<0.015 mg/kg	TM218	0.641 § M	<0.015 M	<0.015 § M	<0.015 § M	<0.015 M
Benz(a)anthracene	<0.014 mg/kg	TM218	0.312 § M	<0.014 M	<0.014 § M	<0.014 § M	<0.014 M
Chrysene	<0.01 mg/kg	TM218	0.34 § M	<0.01 M	<0.01 § M	<0.01 § M	<0.01 M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218	0.348 § M	<0.015 M	<0.015 § M	<0.015 § M	<0.015 M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218	0.2 § M	<0.014 M	<0.014 § M	<0.014 § M	<0.014 M
Benzo(a)pyrene	<0.015 mg/kg	TM218	0.371 § M	<0.015 M	<0.015 § M	<0.015 § M	<0.015 M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218	0.212 § M	<0.018 M	<0.018 § M	<0.018 § M	<0.018 M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218	0.0566 § M	<0.023 M	<0.023 § M	<0.023 § M	<0.023 M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218	0.293 § M	<0.024 M	<0.024 § M	<0.024 § M	<0.024 M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218	3.79 §	<0.118	<0.118 §	<0.118 §	<0.118



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample R	TP708	TP713	TP715	TP719	WS703	
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	TP708	TP713	TP715	TP719	WS703	
M	mCERTS accredited.		0.45	0.50	0.60	1.40	0.10 - 0.40	
S	Deviating sample.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	
aq	Aqueous / settled sample.		02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012	
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		06/10/2012	06/10/2012	06/10/2012	06/10/2012	06/10/2012	
(F)	Trigger breach confirmed		121025-29	121025-29	121025-29	121025-29	121025-29	
			6397544	6397548	6397550	6397555	6397559	
		ES	ES1	ES1	ES2	ES1		
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM089	121	117	111	104	95	
GRO >C5-C12	<0.044 mg/kg	TM089	<0.044	<0.044	<0.044	<0.044	<0.044	
Methyl tertiary butyl ether (MTBE)	<0.005 mg/kg	TM089	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Aliphatics >C5-C6	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	<0.01	<0.01	
Aliphatics >C6-C8	<0.01 mg/kg	TM089	0.0105	<0.01	<0.01	<0.01	<0.01	
Aliphatics >C8-C10	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	<0.01	<0.01	
Aliphatics >C10-C12	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	<0.01	<0.01	
Aliphatics >C12-C16	<0.1 mg/kg	TM173	3.95	5	4.47	2.67	2.96	
Aliphatics >C16-C21	<0.1 mg/kg	TM173	3	3.92	2.75	2.47	2.97	
Aliphatics >C21-C35	<0.1 mg/kg	TM173	7.21	7.4	5.79	6.16	8.36	
Aliphatics >C35-C44	<0.1 mg/kg	TM173	<0.1	<0.1	1.07	<0.1	<0.1	
Total Aliphatics >C12-C44	<0.1 mg/kg	TM173	14.1	16.3	14.1	11.3	14.3	
Aromatics >EC5-EC7	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	<0.01	<0.01	
Aromatics >EC7-EC8	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	<0.01	<0.01	
Aromatics >EC8-EC10	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	<0.01	<0.01	
Aromatics >EC10-EC12	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	<0.01	<0.01	
Aromatics >EC12-EC16	<0.1 mg/kg	TM173	6.49	13.6	2.33	7.05	7.47	
Aromatics >EC16-EC21	<0.1 mg/kg	TM173	1.05	4.05	1.77	3.54	5.2	
Aromatics >EC21-EC35	<0.1 mg/kg	TM173	<0.1	3.92	4.64	7.28	14.8	
Aromatics >EC35-EC44	<0.1 mg/kg	TM173	<0.1	<0.1	1.35	3.05	5.05	
Aromatics >EC40-EC44	<0.1 mg/kg	TM173	<0.1	<0.1	<0.1	1.01	1.71	
Total Aromatics >EC12-EC44	<0.1 mg/kg	TM173	7.53	21.6	10.1	20.9	32.5	
Total Aliphatics >C5-35	<0.1 mg/kg	TM173	14.2	16.3	13	11.3	14.3	
Total Aromatics >C5-35	<0.1 mg/kg	TM173	7.54	21.6	8.74	17.9	27.5	
Total Aliphatics & Aromatics >C5-35	<0.1 mg/kg	TM173	21.7	37.9	21.7	29.2	41.8	
Total Aliphatics & Aromatics >C5-C44	<0.1 mg/kg	TM173	21.7	37.9	24.2	32.2	46.8	



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

VOC MS (S)

Table with columns for Results Legend, Customer Sample R, and VOC MS (S) components (Benzene, Toluene, Ethylbenzene, p/m-Xylene, o-Xylene, Tert-amyl methyl ether) across various sample types and depths.



SDG: 121025-29
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Superseded Report:

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP701 ES 1 0.20 SOLID 02/10/2012 00:00:00 121025-29 6397540 TM048	3/11/12	Rhodri Williams	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP705 ES 1 0.50 SOLID 02/10/2012 00:00:00 121025-29 6397584 TM048	3/11/12	Rhodri Williams	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP714 ES 1 0.50 SOLID 02/10/2012 00:00:00 121025-29 6397549 TM048	3/11/12	Rhodri Williams	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP715 ES 1 0.60 SOLID 02/10/2012 00:00:00 121025-29 6397550 TM048	3/11/12	Rhodri Williams	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP717 ES 1 0.40 SOLID 02/10/2012 00:00:00 121025-29 6397551 TM048	3/11/12	Rhodri Williams	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	WS702 ES 1 0.10 - 0.30 SOLID 02/10/2012 00:00:00 121025-29 6397558 TM048	3/11/12	Rhodri Williams	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	WS706 ES 2 0.60 SOLID 02/10/2012 00:00:00 121025-29 6397577 TM048	3/11/12	Rhodri Williams	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
6414795	TP701 ES2	0.60	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
6446203	TP717	0.40	SOLID	Metals by iCap-OES (Soil)	Arsenic	Sample holding time exceeded
6446203	TP717	0.40	SOLID	Metals by iCap-OES (Soil)	Cadmium	Sample holding time exceeded
6446203	TP717	0.40	SOLID	Metals by iCap-OES (Soil)	Chromium	Sample holding time exceeded
6446203	TP717	0.40	SOLID	Metals by iCap-OES (Soil)	Copper	Sample holding time exceeded
6446203	TP717	0.40	SOLID	Metals by iCap-OES (Soil)	Lead	Sample holding time exceeded
6446203	TP717	0.40	SOLID	Metals by iCap-OES (Soil)	Mercury	Sample holding time exceeded
6446203	TP717	0.40	SOLID	Metals by iCap-OES (Soil)	Nickel	Sample holding time exceeded
6446203	TP717	0.40	SOLID	Metals by iCap-OES (Soil)	Selenium	Sample holding time exceeded
6446203	TP717	0.40	SOLID	Metals by iCap-OES (Soil)	Zinc	Sample holding time exceeded
6446240	TP717	0.40	SOLID	Anions by Kone (soil)	Water Soluble Sulphate as SO4 2:1 Extract	Sample holding time exceeded
6447575	TP715	0.60	SOLID	Anions by Kone (soil)	Water Soluble Sulphate as SO4 2:1 Extract	Sample holding time exceeded
6448010	TP705	0.50	SOLID	Anions by Kone (soil)	Water Soluble Sulphate as SO4 2:1 Extract	Sample holding time exceeded
6448068	WS706	0.60	SOLID	Anions by Kone (soil)	Water Soluble Sulphate as SO4 2:1 Extract	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
6462112	TP717 ES1	0.40	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
6462233	TP714 ES1	0.50	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded

Note : Test results may be compromised



SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM073	MEWAM BOOK 60 1980,95 1985, HMSO / Modified: US EPA Method 8081A & 8141A	Determination of organochlorine and organophosphorous pesticides by GCMS		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM243		Mixed Anions In Soils By Kone		
TM321		Organic matter Content of Soil By Titration		
TM322		Semi-Volatile Organic Compounds in Soils by GCMS		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.



CERTIFICATE OF ANALYSIS

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Test Completion Dates

Lab Sample No(s)	6397540	6397552	6397582	6397584	6397544	6397545	6397547	6397548	6397549	6397550
Customer Sample Ref.	TP701	TP701	TP704	TP705	TP708	TP709	TP712	TP713	TP714	TP715
AGS Ref.	ES1	ES2	ES1	ES1	ES	ES1	ES1	ES1	ES1	ES1
Depth	0.20	0.60	0.80	0.50	0.45	0.30	0.60	0.50	0.50	0.60
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Anions by Kone (soil)			01-Nov-2012	05-Nov-2012				01-Nov-2012		05-Nov-2012
Asbestos Identification (Soil)	05-Nov-2012			05-Nov-2012					05-Nov-2012	05-Nov-2012
EPH CWG (Aliphatic) GC (S)					01-Nov-2012			01-Nov-2012		06-Nov-2012
EPH CWG (Aromatic) GC (S)					01-Nov-2012			01-Nov-2012		06-Nov-2012
GRO by GC-FID (S)					04-Nov-2012			04-Nov-2012		05-Nov-2012
Metals by iCap-OES (Soil)		31-Oct-2012	01-Nov-2012	05-Nov-2012	01-Nov-2012			01-Nov-2012	05-Nov-2012	05-Nov-2012
OC, OP Pesticides and Triazine Herb		30-Oct-2012		06-Nov-2012		01-Nov-2012	01-Nov-2012			
PAH by GCMS		01-Nov-2012	02-Nov-2012						07-Nov-2012	
pH		02-Nov-2012	02-Nov-2012	02-Nov-2012	02-Nov-2012			02-Nov-2012	02-Nov-2012	02-Nov-2012
Sample description		27-Oct-2012	27-Oct-2012	01-Nov-2012	27-Oct-2012	27-Oct-2012	27-Oct-2012	27-Oct-2012	01-Nov-2012	01-Nov-2012
Semi Volatiles in soils by GC-MS				06-Nov-2012	05-Nov-2012			05-Nov-2012		06-Nov-2012
Total Organic Carbon		29-Oct-2012						30-Oct-2012		06-Nov-2012
TPH c6-40 Value of soil		30-Oct-2012	30-Oct-2012	05-Nov-2012					05-Nov-2012	
TPH CWG GC (S)					04-Nov-2012			04-Nov-2012		06-Nov-2012
VOC MS (S)					02-Nov-2012			03-Nov-2012		02-Nov-2012

Lab Sample No(s)	6397551	6397554	6397555	6397558	6397559	6397560	6397576	6397577
Customer Sample Ref.	TP717	TP719	TP719	WS702	WS703	WS703	WS706	WS706
AGS Ref.	ES1	ES1	ES2	ES1	ES1	ES2	ES1	ES2
Depth	0.40	0.40	1.40	0.10 - 0.30	0.10 - 0.40	1.20 - 1.50	0.40	0.60
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Anions by Kone (soil)	05-Nov-2012		31-Oct-2012			31-Oct-2012		05-Nov-2012
Asbestos Identification (Soil)	05-Nov-2012			05-Nov-2012				05-Nov-2012
EPH CWG (Aliphatic) GC (S)			01-Nov-2012		01-Nov-2012			
EPH CWG (Aromatic) GC (S)			01-Nov-2012		01-Nov-2012			
GRO by GC-FID (S)			05-Nov-2012		05-Nov-2012			
Metals by iCap-OES (Soil)	05-Nov-2012		31-Oct-2012	05-Nov-2012				05-Nov-2012
OC, OP Pesticides and Triazine Herb		01-Nov-2012						
PAH by GCMS	07-Nov-2012							05-Nov-2012
pH	02-Nov-2012		02-Nov-2012	02-Nov-2012				02-Nov-2012
Sample description	01-Nov-2012	27-Oct-2012	27-Oct-2012	01-Nov-2012	27-Oct-2012	27-Oct-2012	27-Oct-2012	01-Nov-2012
Semi Volatiles in soils by GC-MS			05-Nov-2012		05-Nov-2012			
Total Organic Carbon			29-Oct-2012		30-Oct-2012		29-Oct-2012	
TPH c6-40 Value of soil	05-Nov-2012							05-Nov-2012
TPH CWG GC (S)			05-Nov-2012		05-Nov-2012			
VOC MS (S)			02-Nov-2012		02-Nov-2012			

SDG: 121025-29
Job: H_WSP_BAS-71
Client Reference: 28453

Location: Kingsmere Bicester Phase 2
Customer: WSP Environmental
Attention: Helen Gardiner

Order Number:
Report Number: 200855
Superseded Report:

Appendix

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOX THERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOX THERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DOM	SOX THERM	HPLC
PHENOLS BY GCMS	WET	DOM	SOX THERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOX THERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOX THERM	GC-MS
EPH (DFO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWGBY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCBAROCLOR 1254 / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
>C6-C40	WET	HEXANE/ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-FID
SEMIVOLATILE ORGANIC COMPOUNDS	WET	DOM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-FID
PCB7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
PCBAROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVCC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREESULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTOCPOPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GC-MS
TH by INFRARED (IR)	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
MINERAL OIL by R	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
GLYCOLS	NONE	DIRECT INJECTION	GC-FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anorthophyllite	-
Fibrous Tremolite	-

WSP Environmental Basingstoke
Mountbatten House
Basing View
Basingstoke
Hampshire
UK
RG21 4HJ



Certificate of Analysis

Job Number: 07-00723

Report Date: 05-Jun-07
Project Number: 12370178 001
Customer: Countryside Homes
Site Address: Bicester, Whittlelands Farm (off B4030)
Date of Sampling: 05/09/2007
Date of Analysis: 17/05/2007 - 05/06/2007

Dear Christopher Poole

Please find attached your results for the above project.
This report includes the samples we received on 17/05/2007.

Results authorised by:

A handwritten signature in blue ink that reads 'M. Cohen'.

Mike Cohen, Operations Manager.



Any opinions or interpretations indicated are outside the scope of our UKAS accreditation. Chemical Analysis is undertaken in accordance with in-house technical procedures and is subject to quality control procedures.

Table of Results
Solid Samples

Job No: 07-00723
Site: Bicester, Whitehlands Farm (off B4030)



Determination	LOD	Units	Lab No.												
			7638	7639	7640	7641	7642	7643	7644	7645	7646	7647			
Sample Ref	Depth	Method	TP01-E3	TP01-E6	TP01-E8	TP02-E6	TP02-E3	TP06-E2	TP09-E4	TP11-E2	TP13-E4	TP13-E7			
			0.6 - 0.8	1.5 - 2.0	2.1 - 2.7	1.4 - 1.5	0.3 - 0.8	0.1 - 0.2	0.25 - 0.7	0.1 - 0.2	0.3 - 0.6	0.7 - 1.2			
			Loam	Clay	Clay	Granular	Loam	Loam	Clay	Clay	Clay	Sand			
Solid Description															
Moisture	0.1	%	14.8	13.5	11.4	9.3	10.3	12.0	11.6	11.5	11.7	9.8			
pH		pH units	8.1	8.2	8.2	8.3	7.7	8.2	7.4	8.0	8.3	8.4			
Arsenic	2.5	mg/kg	32.4	17.5	< 2.5	8.0	12.5	17.0	27.8	28.2	6.2	7.6			
Cadmium	0.25	mg/kg	1.94	0.29	< 0.25	< 0.25	< 0.25	0.46	0.31	0.41	< 0.25	< 0.25			
Chromium	2.5	mg/kg	38.0	21.9	16.0	11.0	17.5	35.2	34.3	39.3	37.1	12.7			
Copper	2.5	mg/kg	289	17.4	7.1	7.7	9.5	16.4	17.1	21.8	12.3	8.8			
Nickel	2.5	mg/kg	55.9	22.7	8.2	9.8	14.6	24.8	35.9	30.9	14.1	14.0			
Lead	2.5	mg/kg	1230	17.0	4.0	6.3	6.4	24.9	16.2	30.7	10.2	4.5			
Zinc	5	mg/kg	938	239	18.3	13.0	11.6	62.1	36.3	69.7	38.8	29.1			
Mercury	0.2	mg/kg	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20			
Selenium	0.5	mg/kg	1.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5			
w/s Sulphate (2:1)	50	mg/kg	333	< 50.0	< 50.0	< 50.0	< 50.0	108	< 50.0	< 50.0	< 50.0	< 50.0			
Total TPH (C8-C10)	50	mg/kg	< 50	< 50	< 50	< 50	< 50	< 50	< 50.0	< 50.0	< 50.0	< 50.0			
Total TPH (C10-C12)	50	mg/kg	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50			
Total TPH (C12-C16)	50	mg/kg	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50			
Total TPH (C16-C21)	50	mg/kg	64	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50			
Total TPH (C21-C35)	50	mg/kg	330	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50			
Total TPH (C35-C40)	50	mg/kg	110	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50			
Total TPH (C8-C40)	50	mg/kg	504	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50			
Total PRO C6-C8	0.2	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S			
Total PRO C8-C10	0.2	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S			
C6-C8_Aliphatic	0.2	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S			
C8-C10_Aliphatic	0.2	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S			
C10-C12_Aliphatic	35	mg/kg	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35			
C12-C16_Aliphatic	50	mg/kg	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50			
C16-C21_Aliphatic	100	mg/kg	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100			
C21-C35_Aliphatic	100	mg/kg	119	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100			

WSP

Accreditation: * ISO17025, M MCerts, \$ Subcontracted

Table of Results
Solid Samples



Job No: 07-00723
Site: Bicester, Whitelands Farm (off B4030)

Determination	LOD	Units	Lab No.											
			7638	7639	7640	7641	7642	7643	7644	7645	7646	7647		
Sample Ref	Depth	Method	TP01-E3	TP01-E6	TP01-E8	TP02-E6	TP02-E3	TP06-E2	TP09-E4	TP11-E2	TP13-E4	TP13-E7		
			0.6 - 0.8	1.5 - 2.0	2.1 - 2.7	1.4 - 1.5	0.3 - 0.8	0.1 - 0.2	0.25 - 0.7	0.1 - 0.2	0.3 - 0.6	0.7 - 1.2		
Total Aliphatics (C6-C35)	290	mg/kg	< 290	< 290	< 290	< 290	< 290	< 290	< 290	< 290	< 290	< 290		
C6-C7_Aromatic	0.01	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		
C7-C8_Aromatic	0.01	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		
C8-C10_Aromatic	0.01	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		
C10-C12_Aromatic	35	mg/kg	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35		
C12-C16_Aromatic	50	mg/kg	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50		
C16-C21_Aromatic	100	mg/kg	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100		
C21-C35_Aromatic	100	mg/kg	285	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100		
Total Aromatics (C6-C35)	290	mg/kg	< 290	< 290	< 290	< 290	< 290	< 290	< 290	< 290	< 290	< 290		
Total TPH (C10-C35)	50	mg/kg	394	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50		
Total TPH (C6-C35)	50	mg/kg	394	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50		
Benzene	0.01	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		
MTBE	0.01	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		
Toluene	0.01	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		
Ethylbenzene	0.01	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		
m/p-Xylene	0.01	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		
o-Xylene	0.01	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		
Naphthalene	0.3	mg/kg	0.4	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Acenaphthylene	0.3	mg/kg	0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Acenaphthene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Fluorene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Phenanthrene	0.3	mg/kg	6.7	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Anthracene	0.3	mg/kg	1.7	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Fluoranthene	0.3	mg/kg	10.2	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Pyrene	0.3	mg/kg	8.1	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Benzo(a)anthracene	0.3	mg/kg	4.7	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Chrysene	0.3	mg/kg	4.9	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		

Table of Results
Solid Samples

Job No: 07-00723
Site: Bicester, Whitelelands Farm (off B4030)



Determination	LOD	Units	Lab No.										
			7638	7639	7640	7641	7642	7643	7644	7645	7646	7647	
Sample Ref	Depth	Method	TP01-E3	TP01-E6	TP01-E8	TP02-E6	TP02-E3	TP06-E2	TP09-E4	TP11-E2	TP13-E4	TP13-E7	
			0.6 - 0.8	1.5 - 2.0	2.1 - 2.7	1.4 - 1.5	0.3 - 0.8	0.1 - 0.2	0.25 - 0.7	0.1 - 0.2	0.3 - 0.6	0.7 - 1.2	
Benzo(k)fluoranthene	0.3	mg/kg	3.9	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	
Benzo(b)fluoranthene	0.3	mg/kg	3.6	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	
Benzo(a)pyrene	0.3	mg/kg	4.1	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	
Indeno[1,2,3-cd]pyrene	0.3	mg/kg	2.7	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	
Dibenzo(a,h)anthracene	0.3	mg/kg	0.6	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	
Benzo[ghi]perylene	0.3	mg/kg	2.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	
PAH Total (EPA 16)	3	mg/kg	54.2	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
4-Nitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
2,4-Dinitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
2-Nitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
2,4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
2,4,6-Trichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
4-Chloro-3-methylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
2,4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
2-Methyl-4,6-Dinitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Pentachlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Phenols Total	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

Table of Results
Solid Samples

Job No: 07-00723
Site: Bicester, Whitelands Farm (off B4030)



Determination	LOD	Units	Lab No.		7648	7649	7650	7651	7652	7653	7654	7655	7656	7657
			Sample Ref	Depth	Method	TP14-E7	TP15-E2	TP20-E4	TP25-E2	TP26-E4	TP29-E2	TP31-E7	TP34-E2	TP37-E2
Solid Description														
Moisture	0.1	%			Granular	Clay	Clay	Loam	Loam	Clay	Loam	Loam	Clay	Clay
pH		pH units			8.8	12.4	14.6	11.4	10.7	15.9	7.9	11.8	16.2	15.1
Arsenic	2.5	mg/kg			7.2	8.0	7.5	7.6	8.3	7.7	8.2	7.3	7.6	7.4
Cadmium	0.25	mg/kg			11.8	0.31	0.31	0.45	< 0.25	0.60	24.3	13.7	29.0	18.7
Chromium	2.5	mg/kg			0.31	42.3	45.0	34.3	13.2	38.2	18.2	31.4	42.6	34.7
Copper	2.5	mg/kg			9.8	16.9	17.9	21.4	10.6	26.8	19.7	15.0	23.1	15.2
Nickel	2.5	mg/kg			7.2	17.2	29.3	26.2	13.8	36.4	36.9	19.8	35.5	29.6
Lead	2.5	mg/kg			18.9	23.1	21.4	30.0	12.6	30.3	11.7	21.7	33.1	17.5
Zinc	5	mg/kg			3.3	61.7	89.0	60.9	24.1	105	78.8	65.2	99.6	62.5
Mercury	0.2	mg/kg			31.7	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.20	< 0.20
Selenium	0.5	mg/kg			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
w/s Sulphate (2:1)	50	mg/kg			< 50.0	< 50.0	< 50.0	72.2	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Total TPH (C8-C10)	50	mg/kg			219	219	219	219	219	219	219	219	219	219
Total TPH (C10-C12)	50	mg/kg			219	219	219	219	219	219	219	219	219	219
Total TPH (C12-C16)	50	mg/kg			219	219	219	219	219	219	219	219	219	219
Total TPH (C16-C21)	50	mg/kg			219	219	219	219	219	219	219	219	219	219
Total TPH (C21-C35)	50	mg/kg			219	219	219	219	219	219	219	219	219	219
Total TPH (C35-C40)	50	mg/kg			219	219	219	219	219	219	219	219	219	219
Total TPH (C8-C40)	50	mg/kg			219 M*	219	219	219	219	219	219	219	219	219
Total PRO C6-C8	0.2	mg/kg			219	219	219	219	219	219	219	219	219	219
Total PRO C8-C10	0.2	mg/kg			219	219	219	219	219	219	219	219	219	219
C6-C8_Aliphatic	0.2	mg/kg			244	244	244	244	244	244	244	244	244	244
C8-C10_Aliphatic	0.2	mg/kg			244	244	244	244	244	244	244	244	244	244
C10-C12_Aliphatic	35	mg/kg			244	244	244	244	244	244	244	244	244	244
C12-C16_Aliphatic	50	mg/kg			244	244	244	244	244	244	244	244	244	244
C16-C21_Aliphatic	100	mg/kg			244	244	244	244	244	244	244	244	244	244
C21-C35_Aliphatic	100	mg/kg			244	244	244	244	244	244	244	244	244	244

WSP

Accreditation: * ISO17025, M MCerts, \$ Subcontracted

Table of Results
Solid Samples

Job No: 07-00723
Site: Bicester, Whitelands Farm (off B4030)



Determination	LOD	Units	Lab No.		7648	7649	7650	7651	7652	7653	7654	7655	7656	7657
			Sample Ref	Depth	TP14-E7	TP15-E2	TP20-E4	TP25-E2	TP26-E4	TP29-E2	TP31-E7	TP34-E2	TP37-E2	TP41-E4
				Method	1.0 - 1.5	0.1 - 0.2	0.5 - 0.6	0.1	0.8 - 1.2	0.1	0.3 - 0.7	0.1	0.1	0.3-0.65
Total Aliphatics (C6-C35)	290	mg/kg		219										
C6-C7_Aromatic	0.01	mg/kg		244										
C7-C8_Aromatic	0.01	mg/kg		244										
C8-C10_Aromatic	0.01	mg/kg		244										
C10-C12_Aromatic	35	mg/kg		244										
C12-C16_Aromatic	50	mg/kg		244										
C16-C21_Aromatic	100	mg/kg		244										
C21-C35_Aromatic	100	mg/kg		244										
Total Aromatics (C6-C35)	290	mg/kg		219										
Total TPH (C10-C35)	50	mg/kg		219										
Total TPH (C6-C35)	50	mg/kg		219										
Benzene	0.01	mg/kg		219										
MTBE	0.01	mg/kg		219										
Toluene	0.01	mg/kg		219										
Ethylbenzene	0.01	mg/kg		219										
m/p-Xylene	0.01	mg/kg		219										
o-Xylene	0.01	mg/kg		219										
Naphthalene	0.3	mg/kg		206b M*	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Acenaphthylene	0.3	mg/kg		206b M*	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Acenaphthene	0.3	mg/kg		206b M*	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluorene	0.3	mg/kg		206b M*	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	0.3	mg/kg		206b M*	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Anthracene	0.3	mg/kg		206b M*	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	0.3	mg/kg		206b M*	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Pyrene	0.3	mg/kg		206b M*	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	0.3	mg/kg		206b M*	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Chrysene	0.3	mg/kg		206b M*	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Table of Results
Solid Samples

Job No: 07-00723
Site: Bicester, Whitelands Farm (off B4030)



Determination	LOD	Units	Lab No.												
			7648 TP14-E7 1.0 - 1.5	7649 TP15-E2 0.1 - 0.2	7650 TP20-E4 0.5 - 0.6	7651 TP25-E2 0.1	7652 TP26-E4 0.8 - 1.2	7653 TP29-E2 0.1	7654 TP31-E7 0.3 - 0.7	7655 TP34-E2 0.1	7656 TP37-E2 0.1	7657 TP41-E4 0.3-0.65			
Benzo(k)fluoranthene	0.3	mg/kg	< 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
Benzo(b)fluoranthene	0.3	mg/kg	< 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
Benzo(a)pyrene	0.3	mg/kg	< 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
Indeno[1,2,3-cd]pyrene	0.3	mg/kg	< 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
Dibenzo(a,h)anthracene	0.3	mg/kg	< 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
Benzo(ghi)perylene	0.3	mg/kg	< 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
PAH Total (EPA 16)	3	mg/kg	< 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
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dinitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Nitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4,6-Trichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Methyl-4,6-Dinitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pentachlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenols Total	1	mg/kg	< 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

Table of Results
Solid Samples

Job No: 07-00723
Site: Bicester, Whitelands Farm (off B4030)



Determination	LOD	Units	Lab No.												
			7658	7659	7660	7661	7662	7663	7664	7665	7666	7667			
Solid Description	Sample Ref	Method	TP46-E2	TP46-E3	TP48-E4	TP49-E2	TP50-E2	TP51-E3	TP51-E6	TP52-E2	TP52-E2a	TP55-E1			
	Depth		0.0 - 0.2	0.2 - 0.6	0.3-0.6	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2	1.4 - 1.6	0.1	0.5 - 0.8	0.0-0.3			
			Loam	Loam	Clay	Clay	Clay	Clay	Loam	Loam	Loam	Loam			
Moisture	0.1	%	16.2	10.7	26.4	56.8	13.1	7.2	9.6	9.5	10.5	14.0			
pH		pH units	7.2	7.9	7.8	7.0	7.6	7.9	8.1	7.9	8.4	7.3			
Arsenic	2.5	mg/kg	13.4	8.8	22.1	12.1	20.4	22.7	15.6	20.4	13.3	12.4			
Cadmium	0.25	mg/kg	0.34	< 0.25	0.31	0.51	0.44	0.33	< 0.25	0.45	< 0.25	0.34			
Chromium	2.5	mg/kg	20.6	12.3	22.5	19.3	39.6	36.1	18.5	32.1	9.5	24.5			
Copper	2.5	mg/kg	14.5	9.8	17.1	19.7	16.3	14.8	12.5	20.7	9.9	16.5			
Nickel	2.5	mg/kg	16.7	11.0	16.5	14.5	27.2	32.1	18.4	27.5	13.1	16.5			
Lead	2.5	mg/kg	20.6	7.3	24.3	35.1	29.0	33.2	27.7	33.8	5.8	23.9			
Zinc	5	mg/kg	43.3	20.7	41.0	61.8	82.9	54.6	43.2	58.1	8.7	54.2			
Mercury	0.2	mg/kg	< 0.50	< 0.20	0.25	< 0.50	< 0.20	< 0.20	< 0.20	0.21	< 0.20	< 0.20			
Selenium	0.5	mg/kg	< 0.5	< 0.5	1.6	1.0	0.6	< 0.5	< 0.5	< 0.5	< 0.5	0.8			
w/s Sulphate (2:1)	50	mg/kg	< 50.0	< 50.0	151	180	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0			
Total TPH (C8-C10)	50	mg/kg	***	***	***	***	***	< 50	I/S	***	***	***			
Total TPH (C10-C12)	50	mg/kg	***	***	***	***	***	< 50	< 50	***	***	***			
Total TPH (C12-C16)	50	mg/kg	***	***	***	***	***	< 50	< 50	***	***	***			
Total TPH (C16-C21)	50	mg/kg	***	***	***	***	***	< 50	< 50	***	***	***			
Total TPH (C21-C35)	50	mg/kg	***	***	***	***	***	< 50	< 50	***	***	***			
Total TPH (C35-C40)	50	mg/kg	***	***	***	***	***	< 50	< 50	***	***	***			
Total TPH (C8-C40)	50	mg/kg	***	***	***	***	***	< 50	< 50	***	***	***			
Total PRO C6-C8	0.2	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***			
Total PRO C8-C10	0.2	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***			
C6-C8_Aliphatic	0.2	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***			
C8-C10_Aliphatic	0.2	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***			
C10-C12_Aliphatic	35	mg/kg	***	***	***	***	***	< 35	< 35	***	***	***			
C12-C16_Aliphatic	50	mg/kg	***	***	***	***	***	< 50	< 50	***	***	***			
C16-C21_Aliphatic	100	mg/kg	***	***	***	***	***	< 100	< 100	***	***	***			
C21-C35_Aliphatic	100	mg/kg	***	***	***	***	***	< 100	< 100	***	***	***			

WSP

Accreditation: * ISO17025, M MCerts, \$ Subcontracted

Table of Results
Solid Samples



Job No: 07-00723
Site: Bicester, Whitelelands Farm (off B4030)

Determination	LOD	Units	Lab No.											
			7658	7659	7660	7661	7662	7663	7664	7665	7666	7667		
Sample Ref	Depth	Method	TP46-E2	TP46-E3	TP48-E4	TP49-E2	TP50-E2	TP51-E3	TP51-E6	TP52-E2	TP52-E2a	TP55-E1		
Total Aliphatics (C6-C35)	290	mg/kg	0.0 - 0.2	0.2 - 0.6	0.3-0.6	0.1 - 0.2	0.1 - 0.2	0.3 - 0.8	1.4 - 1.6	0.1	0.5 - 0.8	0.0-0.3		
C6-C7_Aromatic	0.01	mg/kg	***	***	***	***	***	< 290	< 290	***	***	***		
C7-C8_Aromatic	0.01	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***		
C8-C10_Aromatic	0.01	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***		
C10-C12_Aromatic	35	mg/kg	***	***	***	***	***	< 35	< 35	***	***	***		
C12-C16_Aromatic	50	mg/kg	***	***	***	***	***	< 50	< 50	***	***	***		
C16-C21_Aromatic	100	mg/kg	***	***	***	***	***	< 100	< 100	***	***	***		
C21-C35_Aromatic	100	mg/kg	***	***	***	***	***	< 100	< 100	***	***	***		
Total Aromatics (C6-C35)	290	mg/kg	***	***	***	***	***	< 290	< 290	***	***	***		
Total TPH (C10-C35)	50	mg/kg	***	***	***	***	***	< 50	< 50	***	***	***		
Total TPH (C6-C35)	50	mg/kg	***	***	***	***	***	< 50	< 50	***	***	***		
Benzene	0.01	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***		
Toluene	0.01	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***		
Ethylbenzene	0.01	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***		
m/p-Xylene	0.01	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***		
o-Xylene	0.01	mg/kg	***	***	***	***	***	I/S	I/S	***	***	***		
Naphthalene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Acenaphthylene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Acenaphthene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Fluorene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Phenanthrene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Anthracene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		
Fluoranthene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	0.3	< 0.3	< 0.3	0.8	< 0.3	< 0.3	< 0.3		
Pyrene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	0.3	< 0.3	< 0.3	0.7	< 0.3	< 0.3	< 0.3		
Benzo(a)anthracene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.5	< 0.3	< 0.3	< 0.3		
Chrysene	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.5	< 0.3	< 0.3	< 0.3		

Table of Results
Solid Samples

Job No: 07-00723
Site: Bicester, Whitelands Farm (off B4030)



Determination	LOD	Units	Lab No.																			
			7658	7659	7660	7661	7662	7663	7664	7665	7666	7667	7668	7669								
Sample Ref	Depth	Method	TP46-E2	TP46-E3	TP48-E4	TP49-E2	TP50-E2	TP51-E3	TP51-E6	TP52-E2	TP52-E2a	TP55-E1	TP46-E2	TP46-E3	TP48-E4	TP49-E2	TP50-E2	TP51-E3	TP51-E6	TP52-E2	TP52-E2a	TP55-E1
Benzo(k)fluoranthene	0.3	mg/kg	< 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	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(b)fluoranthene	0.3	mg/kg	< 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	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)pyrene	0.3	mg/kg	< 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	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Indeno[1,2,3-cd]pyrene	0.3	mg/kg	< 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	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibenzo(a,h)anthracene	0.3	mg/kg	< 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	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(ghi)perylene	0.3	mg/kg	< 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	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
PAH Total (EPA 16)	3	mg/kg	< 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	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dinitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Nitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4,6-Trichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Methyl-4,6-Dinitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pentachlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenols Total	1	mg/kg	< 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	< 1.0	< 1.0	< 1.0

Table of Results
Solid Samples

Job No: 07-00723
Site: Bicester, Whitelands Farm (off B4030)



Determination	LOD	Units	Lab No.											
			7668 TP55-E4 0.3 - 0.5	7669 TP55 - E6 0.5 - 0.8	7670 TP56-E2 0.1 - 0.2	7671 TP56-E3 0.2-0.5	7672 TP56-E6 0.6 - 1.1	7673 TP61-E2 0.1 - 0.25	7674 TP61-E4 0.25 - 0.75	7675 TP61 - E7 1.5 - 2.0	7676 TP65-E2 0.1-0.2			
Sample Ref	Depth	Method												
Solid Description														
Moisture	0.1	%												
pH		pH units												
Arsenic	2.5	mg/kg												
Cadmium	0.25	mg/kg												
Chromium	2.5	mg/kg												
Copper	2.5	mg/kg												
Nickel	2.5	mg/kg												
Lead	2.5	mg/kg												
Zinc	5	mg/kg												
Mercury	0.2	mg/kg												
Selenium	0.5	mg/kg												
w/s Sulphate (2:1)	50	mg/kg												
Total TPH (C8-C10)	50	mg/kg												
Total TPH (C10-C12)	50	mg/kg												
Total TPH (C12-C16)	50	mg/kg												
Total TPH (C16-C21)	50	mg/kg												
Total TPH (C21-C35)	50	mg/kg												
Total TPH (C35-C40)	50	mg/kg												
Total TPH (C8-C40)	50	mg/kg												
Total PRO C6-C8	0.2	mg/kg												
Total PRO C8-C10	0.2	mg/kg												
C6-C8_Aliphatic	0.2	mg/kg												
C8-C10_Aliphatic	0.2	mg/kg												
C10-C12_Aliphatic	35	mg/kg												
C12-C16_Aliphatic	50	mg/kg												
C16-C21_Aliphatic	100	mg/kg												
C21-C35_Aliphatic	100	mg/kg												

Accreditation: * ISO17025, M MCerts, \$ Subcontracted

WSP

Table of Results
Solid Samples

Job No: 07-00723
Site: Bicester, Whitelands Farm (off B4030)



Determination	LOD	Units	Lab No.		7669	7670	7671	7672	7673	7674	7675	7676
			Sample Ref	Depth								
Total Aliphatics (C6-C35)	290	mg/kg										
C6-C7_Aromatic	0.01	mg/kg										
C7-C8_Aromatic	0.01	mg/kg										
C8-C10_Aromatic	0.01	mg/kg										
C10-C12_Aromatic	35	mg/kg										
C12-C16_Aromatic	50	mg/kg										
C16-C21_Aromatic	100	mg/kg										
C21-C35_Aromatic	100	mg/kg										
Total Aromatics (C6-C35)	290	mg/kg										
Total TPH (C10-C35)	50	mg/kg										
Total TPH (C6-C35)	50	mg/kg										
Benzene	0.01	mg/kg										
MTBE	0.01	mg/kg										
Toluene	0.01	mg/kg										
Ethylbenzene	0.01	mg/kg										
m/p-Xylene	0.01	mg/kg										
o-Xylene	0.01	mg/kg										
Naphthalene	0.3	mg/kg										
Acenaphthylene	0.3	mg/kg										
Acenaphthene	0.3	mg/kg										
Fluorene	0.3	mg/kg										
Phenanthrene	0.3	mg/kg										
Anthracene	0.3	mg/kg										
Fluoranthene	0.3	mg/kg										
Pyrene	0.3	mg/kg										
Benzo(a)anthracene	0.3	mg/kg										
Chrysene	0.3	mg/kg										