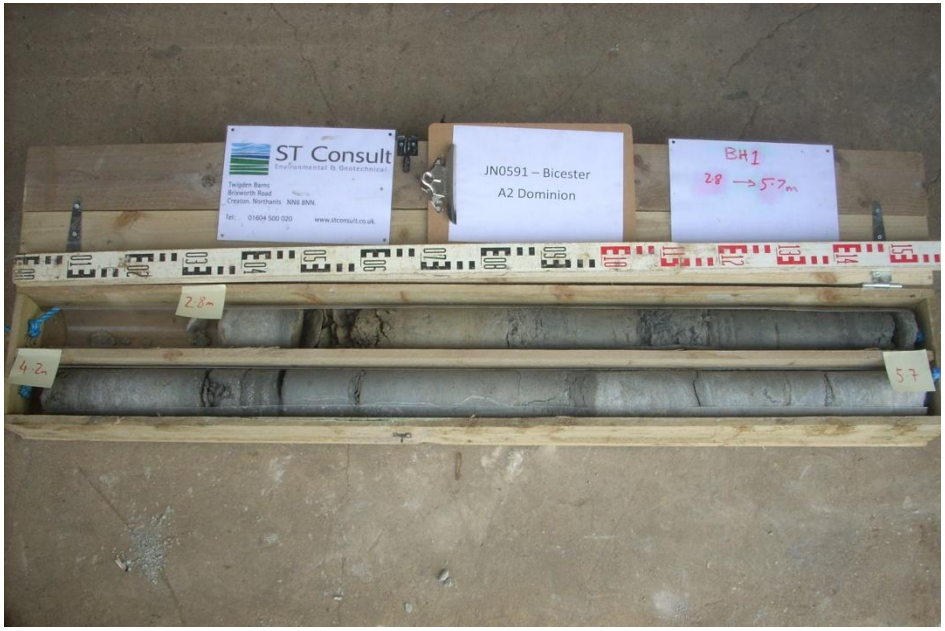
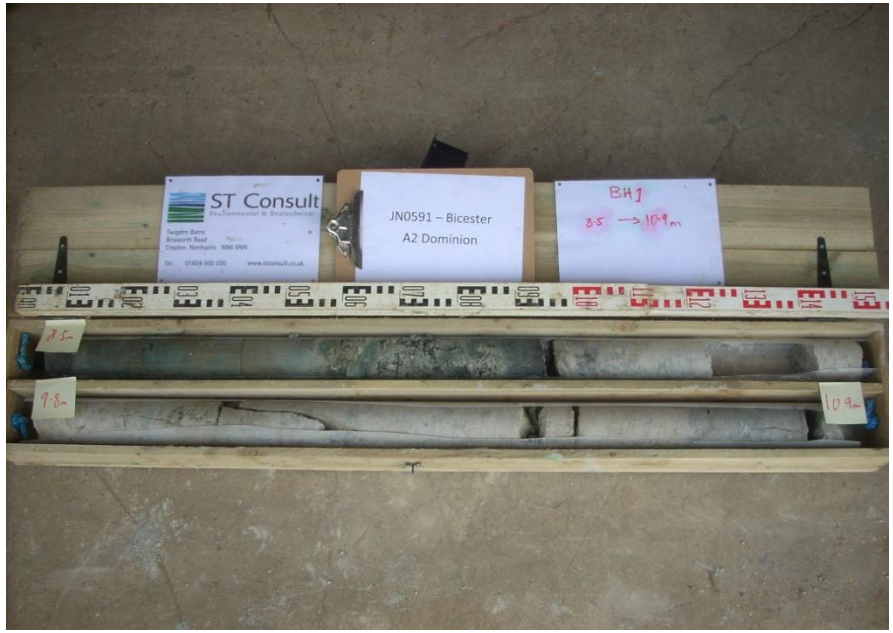
BH1 GL-2.8m



BH1 2.8-5.7m

BH1 5.7-8.5m



BH1 8.5-10.9m


ST Consult
JN0591 – Bicester
A2 Dominion
BH1
10.9 → 15.2 m
10.9m
12.3m
13.8m
15.2m

BH1 10.9-15.2m

BH2 GL-3.9m

BH2 3.9-6.5m

BH2 6.5-9.4m

BH2 9.4-12.5m


ST Consult
JN0591 – Bicester
A2 Dominion
BH2
12.5 → 15 m
12.5m
14 m
15 m

BH2 12.5-15m

BH3 GL-2.8m

BH3 2.8-5.8m

BH4 GL-3.1m

BH4 3.1-5.6m

BH4 5.6-6.9m

BH4 6.9-10.0m

BH4 10.0-12.9m

BH4 12.9-15.0m

APPENDIX B – GEOTECHNICAL LABORATORY RESULTS

SUMMARY OF CHEMICAL TESTS ON SOIL

Borehole No	Sample No	Depth (m)	Type	pH	Total (Acid-soluble) SO_4 (%)	Water-Soluble (2:1 extract) SO_4 (g/L)	Total Sulphur (%)	Water Soluble Chloride (mg/L)	Water Soluble Nitrate (mg/L)	Mg (mg/L)	Organic Content (%)	Carbonate Content (%)
BH1	-	9.00	D	7.8	-	1.3	-	-	-	-	-	-
BH2	-	5.20	D	8.1	-	0.2	-	-	-	-	-	-
BH4	-	11.40	D	7.7	-	2.3	-	-	-	-	-	-

Analysis Performed by: i2 Analytical Ltd, 7 Woodshots Meadow, Croxley Green, Watford, WD18 8YS

Checked and Approved by

JS

J Sturges (Ops Mgr)

Date: 15/04/2014

Project Number:

GEO / 21079

Project Name:

UNDERPASS AT BICESTER

Project number JN0591

GEOLABS®

ASTM D5731-08 / ISRM : 1985 & In-house Technical Procedure TP35

DETERMINATION OF POINT LOAD STRENGTH ON ROCK

Sample details				Test type an direction		Sample width W (m)	Platen separation (mm)		Moisture Content (%)	Failure Load P (kN)	Equiv. Diameter D_e (mm)	I_s P/De^2 (MPa)	Correction Factor F	Point Load Index $I_{s(50)}$ (MPa)
Borehole Ref.	Sample Ref.	Depth (m)	Description				Start D	End D'						
BH3	-	4.30 - 4.50	Strong grey massive fine to medium grained LIMESTONE. Fresh. Strong and sustained effervescence to HCl.	A	R	76.7	46.6	37.1	n/a	20.30	60.2	5.60	1.09	6.09
BH2	-	9.20 - 9.40	Strong grey massive fine to medium grained LIMESTONE. Fresh. Strong and sustained effervescence to HCl.	D	R	89.3	89.3	86.4	n/a	30.00	87.8	3.89	1.29	5.01
BH1	-	13.50	Weak dark grey massive fine to medium grained MUDSTONE. Fresh. Strong and sustained effervescence to HCl.	D	R	89.7	89.7	82.0	n/a	2.76	85.7	0.38	1.27	0.48
BH4	-	15.00	Weak dark grey massive medium to coarse grained MUDSTONE. Fresh. Strong and sustained effervescence to HCl.	D	R	89.1	89.1	85.6	n/a	4.04	87.3	0.53	1.29	0.68

Test type and direction: **D** - Diametral **A** - Axial **B** - Block **L** - Irregular lump **Pd** - Perpendicular to planes of weakness **R** - Random or unknown orientation **Pl** - Parallel to planes of weakness

Checked and Approved by

CC

C Clergeaud (Snr. Geologist)

Date: 15/04/2014

Project Number:

GEO / 21079

Project Name:

UNDERPASS AT BICESTER

Project number JN0591

GEOLABS®

ISRM : 1981 : Part 2 Suggested Methods Uniaxial Compressive Strength of Rock Materials

SUMMARY OF ROCK TESTING

Sample details				Density			Uniaxial Compression Test						
							Mean after prep.						
Borehole Ref.	Sample Ref.	Depth (m)	Description	MC (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Diameter (mm)	Height (mm)	H/D Ratio	Load at Failure (kN)	UCS (MPa)	Failure Sketch	Remarks
BH2	-	14.00 - 14.30	Medium strong grey massive medium to coarse grained WACKESTONE. Fresh. Strong and sustained effervescence to HCL	6.3	2.44	2.30	89.58	288.26	3.2	89.8	14.2		Sample failed along a subvertical joint, tight rough planar clean.
BH1	-	5.00	Medium strong grey massive medium to coarse grained MUDSTONE. Fresh. Strong and sustained effervescence to HCL	3.9	2.56	2.46	89.62	231.62	2.6	151.8	24.1		Sample failed along a subvertical joint, tight to open smooth planar filled with CALCITE.
BH4	-	8.50 - 8.80	Medium strong grey massive medium to coarse grained LIMESTONE. Fresh. Strong and sustained effervescence to HCL	5.6	2.54	2.41	89.54	275.72	3.1	100.6	16.0		

Checked and Approved by

CC

C Clergeaud (Snr. Geologist)

Date: 15/04/2014

Project Number:

GEO / 21079

Project Name:

UNDERPASS AT BICESTER

Project number JN0591

GEOLABS®

Atterberg Limits Test Result Summary Sheet

Test carried out in accordance with BS 1377-2:1990(2003) cl. 3.2, 4.2, 4.3, 5.3 & 5.4

Project No : *JN0591* **Checked By :** *AM* **Date:** *3-Apr-2014*

Project Name : *Underpass, Underpass at Bicester*

Client : *A2 Dominion*

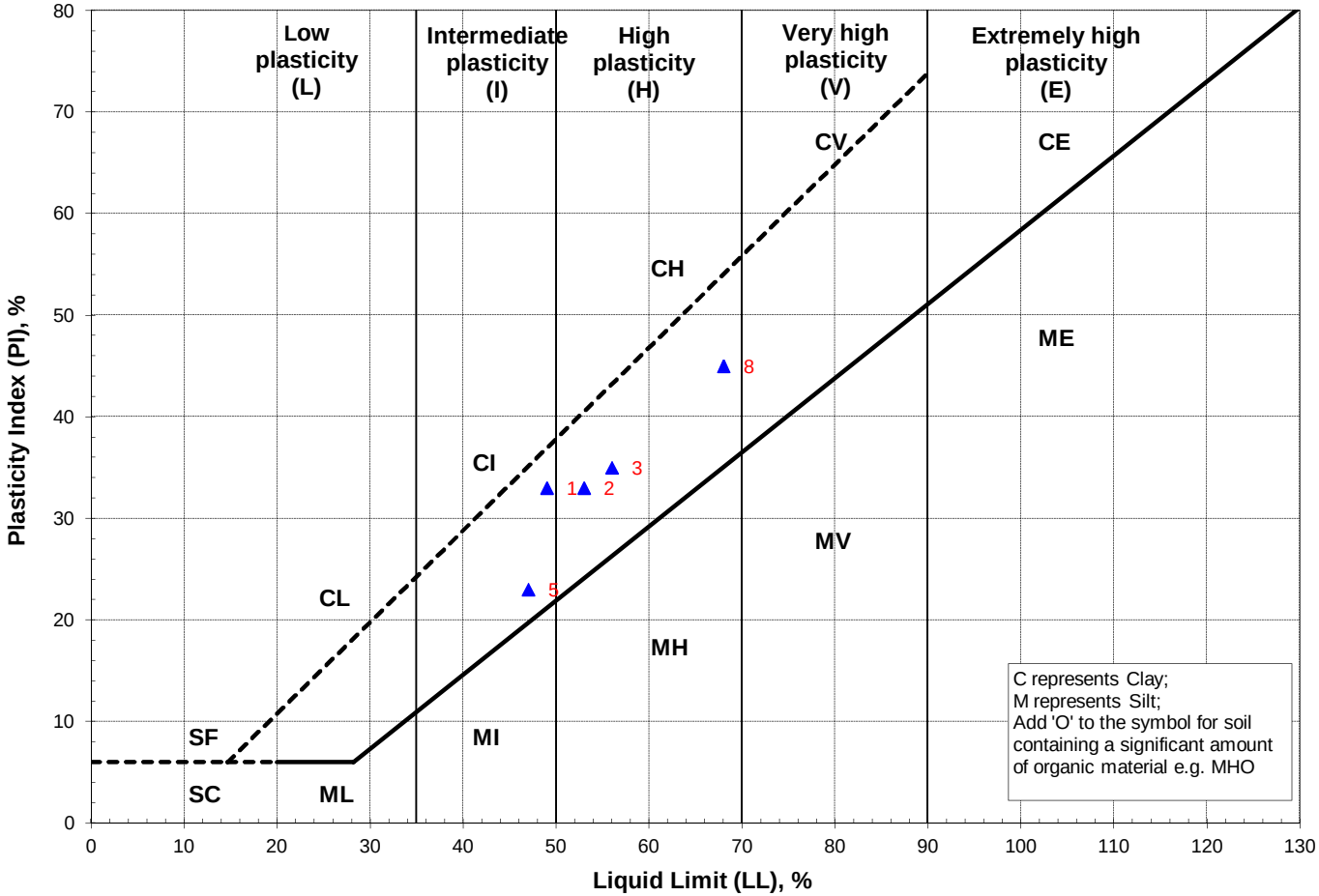
Plot No	TH No.	Depth (m)	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Class-ification	% Passing 425µm (%)	Visual Description
1	*TP1*	*1.00*	*21.9*	*49*	*16*	*33*	*CI*	*86*	*Firm, high strength, yellow brown mottled grey, calcareous, sandy CLAY with frequent, fine to medium, off white calcareous gravel.*
2	*TP2*	*0.50*	*26.4*	*53*	*20*	*33*	*CH*	*96*	*Firm, high strength, yellow brown, calcareous, sandy CLAY with occasional fine to medium limestone gravel and roots.*
3	*TP4*	*0.35*	*25.8*	*56*	*21*	*35*	*CH*	*96*	*Firm, high strength, olive brown veined grey, calcareous CLAY with occasional fine to medium white calcareous gravel.*
4	*TP6*	*0.30*	*19.0*						
5	*TP9*	*0.30*	*22.2*	*47*	*24*	*23*	*CI*	*72*	*Brown, very sandy CLAY with frequent limestone gravel and rootlets.*
6	*TP11*	*0.36*	*19.4*						
7	*TP13*	*0.36*	*19.5*						
8	*TP17*	*1.30*	*28.5*	*68*	*23*	*45*	*CH*	*96*	*Firm, high strength, olive brown veined grey, calcareous CLAY with frequent fine to medium white calcareous gravel.*

Southern Testing

Southern Testing: Keeble House, Stuart Way, East Grinstead, West Sussex RH19 4QA
ST Consult: Twigden Barns, Brixworth Road, Creaton, Northampton NN6 8NN

ST Consult

Plasticity Chart for Atterberg Limit Test Results



Sample List		Statistics	
1	TP1@1m	**Liquid Limit**	
2	TP2@0.5m	Max	68
3	TP4@0.35m	Min	47
4	TP6@0.3m	Average	55
5	TP9@0.3m		
6	TP11@0.36m	**Plastic Limit**	
7	TP13@0.36m	Max	24
8	TP17@1.3m	Min	16
		Average	21
		Plasticity Index	
		Max	45
		Min	23
		Average	34

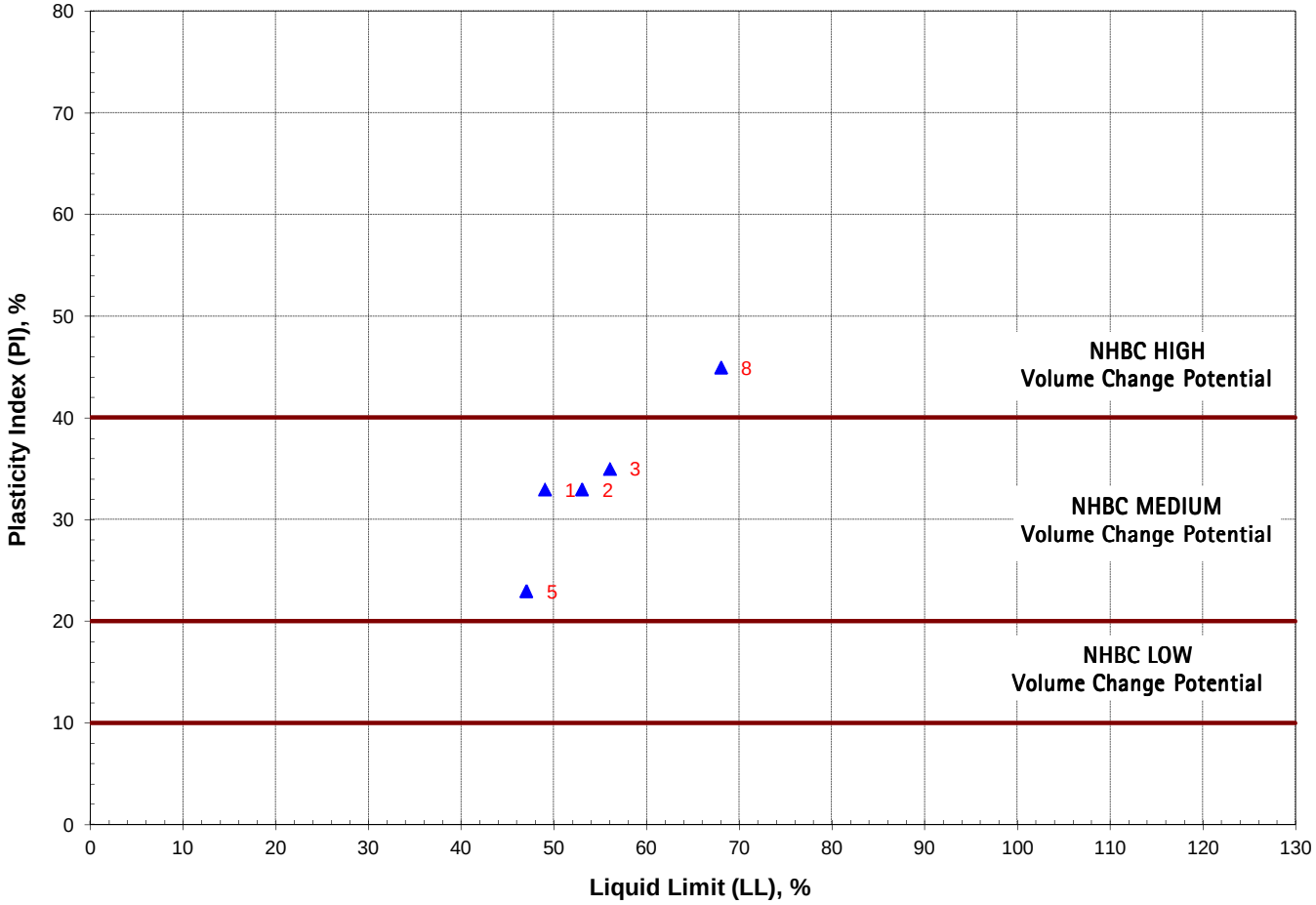
Project Name: *Underpass, Underpass at Bicester*	**Project No:** *JN0591*	**Project Engineer:** *CMN*
Client: *A2 Dominion*	**Date:** *03/04/2014*	*Figure No. 2*

Southern Testing

Southern Testing: Keeble House, Stuart Way, East Grinstead, West Sussex RH19 4QA
ST Consult: Twigden Barns, Brixworth Road, Creaton, Northampton NN6 8NN

ST Consult

Plot Relating Soil Plasticity to NHBC Classification for Volume Change Potential



Sample List

1	TP1@1m
2	TP2@0.5m
3	TP4@0.35m
4	TP6@0.3m
5	TP9@0.3m
6	TP11@0.36m
7	TP13@0.36m
8	TP17@1.3m

Statistics

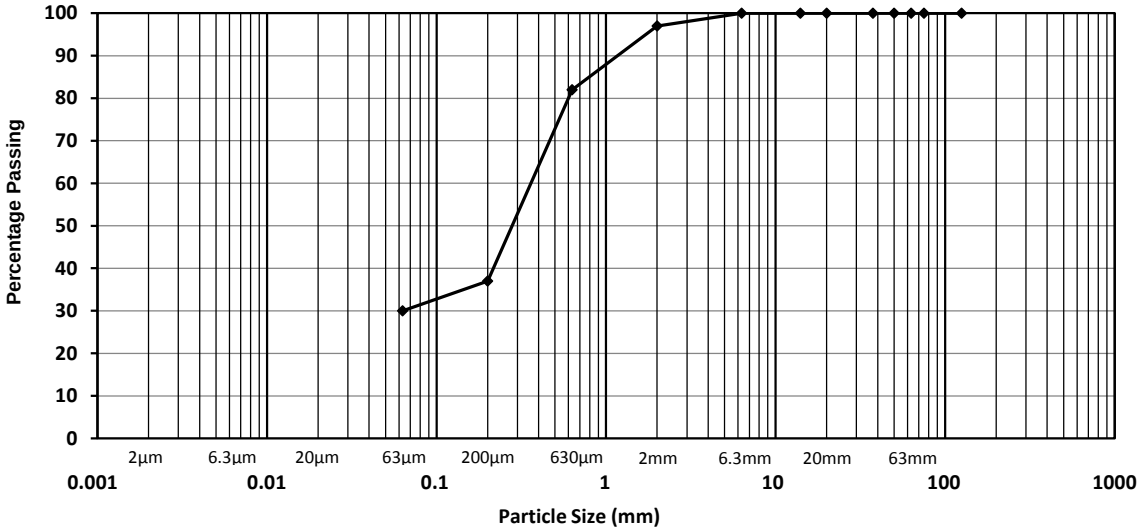
Liquid Limit	
Max	68
Min	47
Average	55
Plastic Limit	
Max	24
Min	16
Average	21
Plasticity Index	
Max	45
Min	23
Average	34

Project Name:	***Underpass, Underpass at Bicester***	**Project No:**	***JN0591***	**Project Engineer:**	***CMN***
Client:	***A2 Dominion***	**Date:**	***03/04/2014***		***Figure No. 3***

Particle Size Distribution - Grading

Project Name	**Underpass, Underpass at Bicester**			**Project No.**	**JN0591**
				Hole ID	**TP4**
Client	**A2 Dominion**	**Project Engineer**	**CMN**	**Depth (m)**	**1.20**
Visual Description of Sample: Grey brown mottled grey and orange, calcareous SAND.				**Sample Type**	S Bag
				Date Issued	**31-Mar-14**
				Tested By	RL
				Checked By	AM

Particle Size Distribution Chart



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			
30%				67%			3%			0%

Particle Size	% Passing
125mm	100
75mm	100
63mm	100
50mm	100
37.5mm	100
20mm	100
14mm	100
6.3mm	100
2mm	97
630µm	82
200µm	37
63µm	30

Particle Density (Assumed)	**2.65** Mg/m³
Coefficient of Uniformity D60/D10	**>5.73**

Comment:

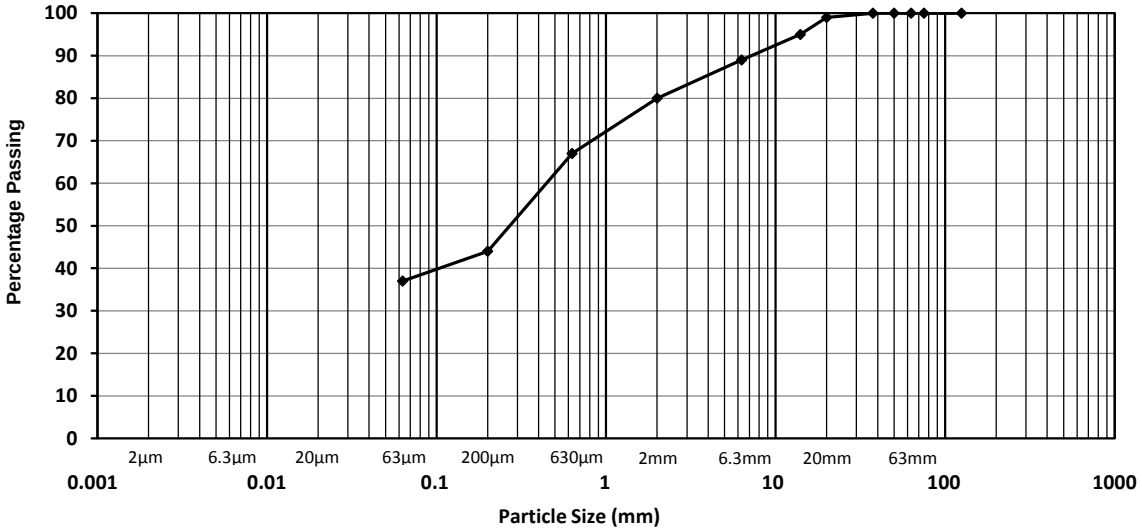
Test Method:

Wet & Dry Grading BS1377-2: 1990 (2003) cl. 9.2 & 9.3

Particle Size Distribution - Grading

Project Name	**Underpass, Underpass at Bicester**			**Project No.**	**JN0591**
				Hole ID	**TP5**
Client	**A2 Dominion**	**Project Engineer**	**CMN**	**Depth (m)**	**1.00**
Visual Description of Sample:				**Sample Type**	S Bag
Yellow brown mottled grey, calcareous, clayey SAND with frequent fine to medium, subangular limestone gravel.				**Date Issued**	**01-Apr-14**
				Tested By	RL
				Checked By	AM

Particle Size Distribution Chart



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			
37%				43%			20%			0%

Particle Size	% Passing
125mm	100
75mm	100
63mm	100
50mm	100
37.5mm	100
20mm	99
14mm	95
6.3mm	89
2mm	80
630µm	67
200µm	44
63µm	37

Particle Density (Assumed)	**2.65** Mg/m³
Coefficient of Uniformity D60/D10	**>7.04**

Comment:

Test Method:

Wet & Dry Grading BS1377-2: 1990 (2003) cl. 9.2 & 9.3

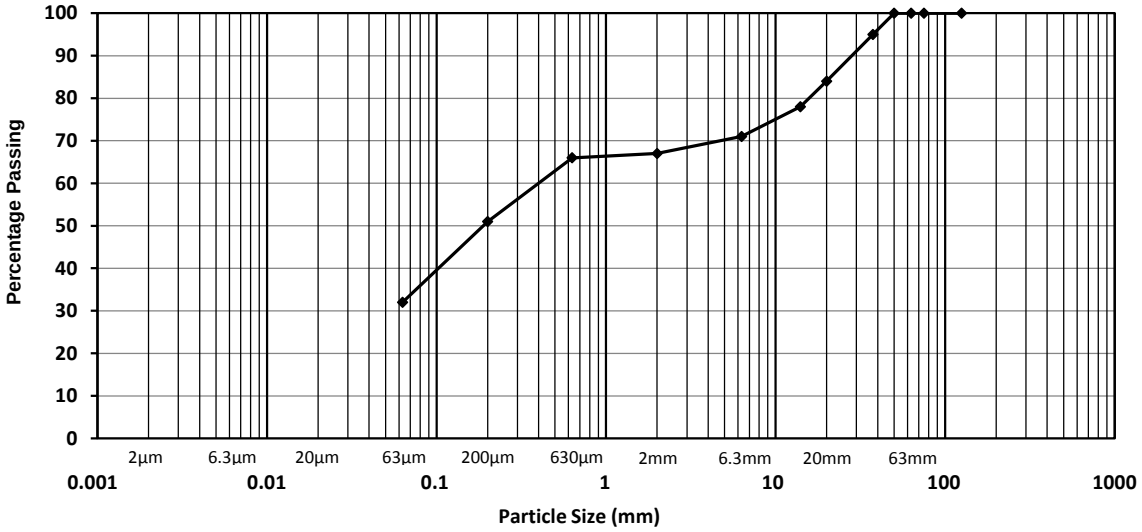
Particle Size Distribution - Grading

Project Name	**Underpass, Underpass at Bicester**			**Project No.**	**JN0591**
				Hole ID	**TP6**
Client	**A2 Dominion**	**Project Engineer**	**CMN**	**Depth (m)**	**0.30**
				Sample Type	S Bag
				Date Issued	**31-Mar-14**
				Tested By	RL
				Checked By	AM

Visual Description of Sample:

Reddish brown, clayey SAND with frequent medium to coarse, angular to subangular limestone gravel.

Particle Size Distribution Chart



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			
32%				36%			33%			0%

Particle Size	% Passing
125mm	100
75mm	100
63mm	100
50mm	100
37.5mm	95
20mm	84
14mm	78
6.3mm	71
2mm	67
630µm	66
200µm	51
63µm	32

Particle Density (Assumed)	**2.65** Mg/m³
Coefficient of Uniformity D60/D10	**>6.24**

Comment:

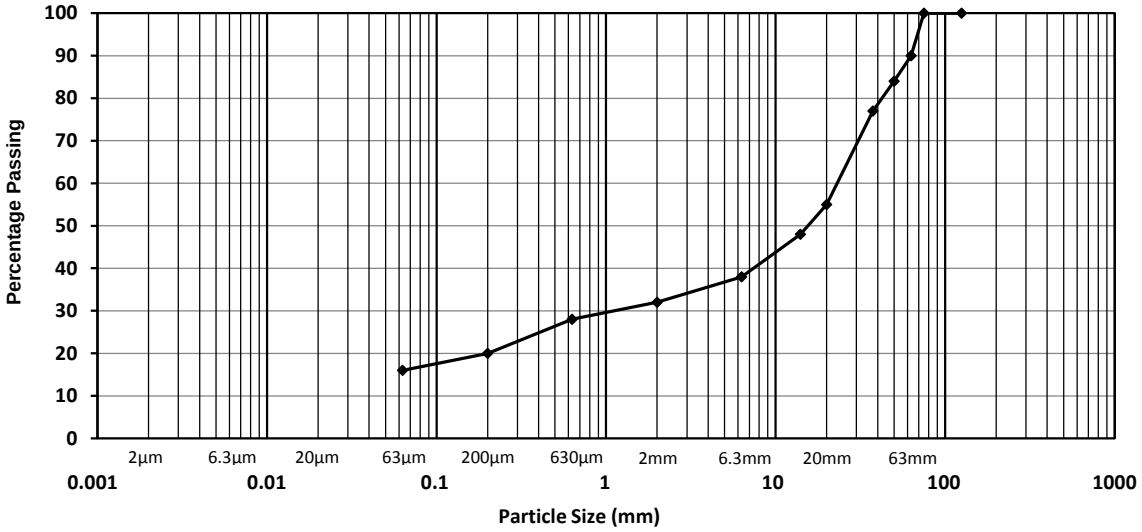
Test Method:

Wet & Dry Grading BS1377-2: 1990 (2003) cl. 9.2 & 9.3

Particle Size Distribution - Grading

Project Name	**Underpass, Underpass at Bicester**			**Project No.**	**JN0591**
				Hole ID	**TP8**
Client	**A2 Dominion**	**Project Engineer**	**CMN**	**Depth (m)**	**1.00**
Visual Description of Sample:				**Sample Type**	S Bag
Yellow brown, calcareous, slightly sandy, medium to coarse, angular to subangular limestone GRAVEL with occasional cobbles.				**Date Issued**	**31-Mar-14**
				Tested By	RL
				Checked By	AM

Particle Size Distribution Chart



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			
16%				16%			57%			10%

Particle Size	% Passing
125mm	100
75mm	100
63mm	90
50mm	84
37.5mm	77
20mm	55
14mm	48
6.3mm	38
2mm	32
630µm	28
200µm	20
63µm	16

Particle Density (Assumed)	**2.65** Mg/m³
Coefficient of Uniformity D60/D10	**>364**

Comment:

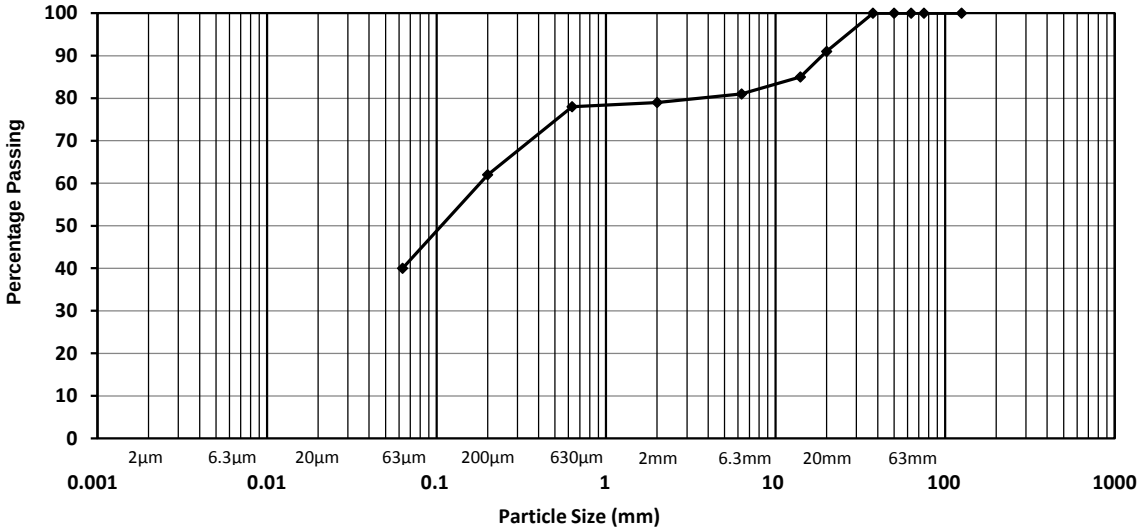
Test Method:

Wet & Dry Grading BS1377-2: 1990 (2003)
cl. 9.2 & 9.3

Particle Size Distribution - Grading

Project Name	**Underpass, Underpass at Bicester**			**Project No.**	**JN0591**
				Hole ID	**TP9**
Client	**A2 Dominion**	**Project Engineer**	**CMN**	**Depth (m)**	**0.30**
Visual Description of Sample:				**Sample Type**	S Bag
Brown, very sandy CLAY with frequent, medium to coarse, angular to subangular limestone gravel and rootlets.				**Date Issued**	**03-Apr-14**
				Tested By	RL
				Checked By	AM

Particle Size Distribution Chart



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			
40%				39%			21%			0%

Particle Size	% Passing
125mm	100
75mm	100
63mm	100
50mm	100
37.5mm	100
20mm	91
14mm	85
6.3mm	81
2mm	79
630µm	78
200µm	62
63µm	40

Particle Density (Assumed)	**2.65** Mg/m³

Coefficient of Uniformity D60/D10	**>2.91**

Comment:

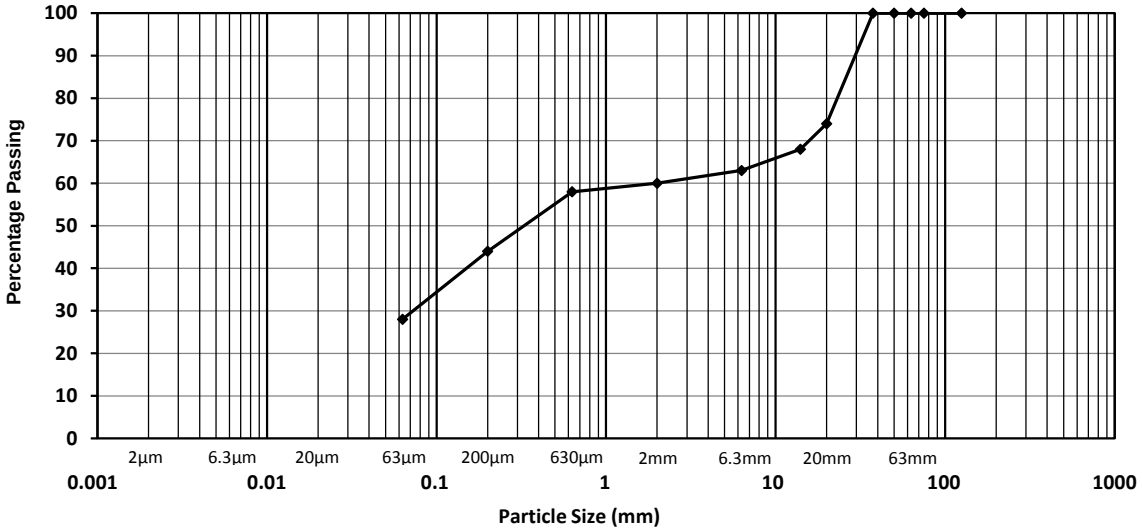
Test Method:

Wet & Dry Grading BS1377-2: 1990 (2003) cl. 9.2 & 9.3

Particle Size Distribution - Grading

Project Name	**Underpass, Underpass at Bicester**			**Project No.**	**JN0591**
				Hole ID	**TP11**
Client	**A2 Dominion**	**Project Engineer**	**CMN**	**Depth (m)**	**0.36**
Visual Description of Sample:				**Sample Type**	S Bag
Brown, calcareous, clayey, very sandy, coarse, angular to subangular limestone GRAVEL and occasional roots.				**Date Issued**	**01-Apr-14**
				Tested By	RL
				Checked By	AM

Particle Size Distribution Chart



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			
28%				32%			40%			0%

Particle Size	% Passing
125mm	100
75mm	100
63mm	100
50mm	100
37.5mm	100
20mm	74
14mm	68
6.3mm	63
2mm	60
630µm	58
200µm	44
63µm	28

Particle Density (Assumed)	**2.65** Mg/m³
Coefficient of Uniformity D60/D10	**>33.5**

Comment:

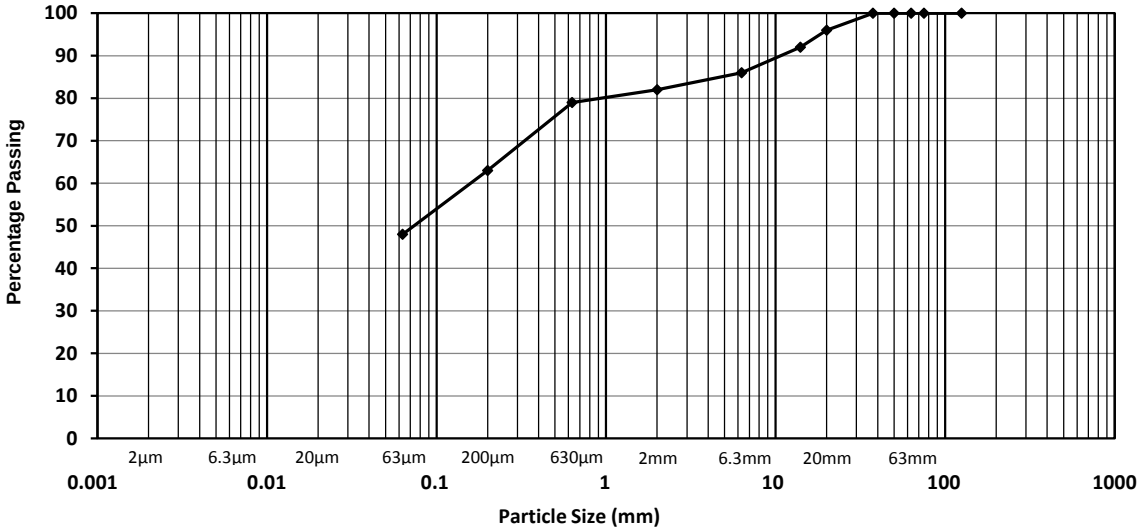
Test Method:

Wet & Dry Grading BS1377-2: 1990 (2003) cl. 9.2 & 9.3

Particle Size Distribution - Grading

Project Name	**Underpass, Underpass at Bicester**			**Project No.**	**JN0591**
				Hole ID	**TP13**
Client	**A2 Dominion**	**Project Engineer**	**CMN**	**Depth (m)**	**0.36**
Visual Description of Sample:				**Sample Type**	S Bag
Brown, calcareous, very sandy CLAY with occasional fine to coarse, angular to subangular limestone gravel and frequent roots.				**Date Issued**	**01-Apr-14**
				Tested By	RL
				Checked By	AM

Particle Size Distribution Chart



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			
48%				34%			18%			0%

Particle Size	% Passing
125mm	100
75mm	100
63mm	100
50mm	100
37.5mm	100
20mm	96
14mm	92
6.3mm	86
2mm	82
630µm	79
200µm	63
63µm	48

Particle Density (Assumed)	**2.75** Mg/m³
Coefficient of Uniformity D60/D10	**>2.57**

Comment:

Test Method:

Wet & Dry Grading BS1377-2: 1990 (2003)
cl. 9.2 & 9.3

APPENDIX C – CONTAMINATION LABORATORY TEST RESULTS

Chris Nolan
ST Consult Ltd
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Brixworth Road
Creaton
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NN6 8NN

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f: 01604 500021
e: cnolan@stconsult.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 14-52354

Project / Site name:	Bicester	**Samples received on:**	21/03/2014
Your job number:	JN0591	**Samples instructed on:**	21/03/2014
Your order number:		**Analysis completed by:**	01/04/2014
Report Issue Number:	1	**Report issued on:**	01/04/2014
Samples Analysed:	21 soil samples		

Signed:

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

Signed:

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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

Analytical Report Number: 14-52354

Project / Site name: Bicester

Lab Sample Number				325360	325361	325362	325363	325364
Sample Reference				TP3	TP4	TP5	TP14	TP15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.15	0.60	1.00
Date Sampled				17/03/2014	17/03/2014	17/03/2014	18/03/2014	18/03/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	17	13	19	12	21
Total mass of sample received	kg	0.001	NONE	1.2	1.4	1.3	1.2	0.97
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	7.8	7.9	6.8	7.5	7.5
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	1
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.018	0.029	0.034	0.045	0.19
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	18	29	34	45	190
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0090	0.015	0.017	0.023	0.093
Sulphide	mg/kg	1	MCERTS	2.9	7.7	6.0	4.2	19
Loss on Ignition @ 450°C	%	0.2	MCERTS	7.7	6.9	8.7	4.7	27
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	0.38
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	0.69
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	0.58
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	0.44
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.46
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	0.47
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	0.29
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	0.33
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	3.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20	15	18	12	38
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	< 0.2	3.4
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	33	16	22	15	34
Copper (aqua regia extractable)	mg/kg	1	MCERTS	27	24	36	84	1700
Lead (aqua regia extractable)	mg/kg	2	MCERTS	37	62	66	23	460
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	1.2
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	25	18	24	17	68
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	59	51	76	78	2400

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Project / Site name: Bicester

Lab Sample Number				325360	325361	325362	325363	325364
Sample Reference				TP3	TP4	TP5	TP14	TP15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.15	0.60	1.00
Date Sampled				17/03/2014	17/03/2014	17/03/2014	18/03/2014	18/03/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-

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Project / Site name: Bicester

Lab Sample Number				325365	325366	325367	325368	325369
Sample Reference				TP15	TP16	TP17	TP9	TP12
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.40	0.35	0.20	0.10	0.42
Date Sampled				18/03/2014	18/03/2014	18/03/2014	18/03/2014	18/03/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	32	8.0	19	23	27
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.1	1.4	0.83
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	-	7.6	7.5	7.5	7.4
Total Cyanide	mg/kg	1	MCERTS	-	< 1	< 1	< 1	1
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	-	0.037	0.028	0.036	0.20
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	-	37	28	36	200
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.018	0.014	0.018	0.10
Sulphide	mg/kg	1	MCERTS	-	6.5	2.6	3.9	14
Loss on Ignition @ 450°C	%	0.2	MCERTS	-	25	8.5	12	23
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	-	0.95	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	-	0.15	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	-	0.56	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	-	17	< 0.20	< 0.20	0.83
Anthracene	mg/kg	0.1	MCERTS	-	3.6	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	-	22	0.54	< 0.20	1.2
Pyrene	mg/kg	0.2	MCERTS	-	15	0.47	< 0.20	0.91
Benzo(a)anthracene	mg/kg	0.2	MCERTS	-	9.2	0.32	< 0.20	0.60
Chrysene	mg/kg	0.05	MCERTS	-	8.2	0.34	< 0.05	0.80
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	-	8.9	0.34	< 0.10	0.69
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	-	4.2	< 0.20	< 0.20	0.32
Benzo(a)pyrene	mg/kg	0.1	MCERTS	-	7.0	0.26	< 0.10	0.62
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	-	3.5	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	-	0.66	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	3.6	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	-	100	2.4	< 1.6	6.0
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	9.5	21	18	68
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	1.5
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	8.7	26	26	42
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	33	32	27	230
Lead (aqua regia extractable)	mg/kg	2	MCERTS	-	93	47	39	780
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	-	13	24	26	97
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	-	46	89	78	970

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Project / Site name: Bicester

Lab Sample Number				325365	325366	325367	325368	325369
Sample Reference				TP15	TP16	TP17	TP9	TP12
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.40	0.35	0.20	0.10	0.42
Date Sampled				18/03/2014	18/03/2014	18/03/2014	18/03/2014	18/03/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	7.3	-	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	72	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	640	-	-	-	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	720	-	-	-	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	24	-	-	-	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	200	-	-	-	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	230	-	-	-	< 10

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Project / Site name: Bicester

Lab Sample Number				325370	325371	325372	325373	325374
Sample Reference				TP12	TP13	WLS1	WLS3	WLS4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.15	0.15	0.60	0.30
Date Sampled				18/03/2014	18/03/2014	18/03/2014	18/03/2014	18/03/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	14	21	14	12	12
Total mass of sample received	kg	0.001	NONE	0.48	1.1	1.7	1.1	1.1
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	7.7	7.7	7.6	8.2	7.9
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.042	0.024	0.021	0.023	0.023
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	42	24	21	23	23
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.021	0.012	0.011	0.012	0.012
Sulphide	mg/kg	1	MCERTS	7.7	3.2	4.9	2.8	2.5
Loss on Ignition @ 450°C	%	0.2	MCERTS	3.3	11	8.6	8.0	5.9
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.28	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.50	< 0.20	< 0.20
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.43	< 0.20	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.28	< 0.20	< 0.20
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.34	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	1.8	< 1.6	< 1.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	23	17	16	23	17
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	8.6	25	20	20	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	23	39	25	18
Lead (aqua regia extractable)	mg/kg	2	MCERTS	12	36	39	34	19
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	27	24	20	29	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	37	64	65	61	43

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Project / Site name: Bicester

Lab Sample Number				325370	325371	325372	325373	325374
Sample Reference				TP12	TP13	WLS1	WLS3	WLS4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.15	0.15	0.60	0.30
Date Sampled				18/03/2014	18/03/2014	18/03/2014	18/03/2014	18/03/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

Petroleum Hydrocarbons

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

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

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Project / Site name: Bicester

Lab Sample Number				325375	325376	325377	325378	325379
Sample Reference				WLS4	TP10	TP11	TP5	TP3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	0.35	1.30	0.35	0.20
Date Sampled				18/03/2014	18/03/2014	18/03/2014	17/03/2014	17/03/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	17	14	16	18	17
Total mass of sample received	kg	0.001	NONE	1.2	2.0	0.38	2.0	1.7
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	-	-
General Inorganics								
pH	pH Units	N/A	MCERTS	7.9	8.2	8.1	8.1	8.0
Total Cyanide	mg/kg	1	MCERTS	< 1	-	-	-	-
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.18	0.020	0.15	0.071	0.021
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	180	20	150	71	21
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.091	0.010	0.074	0.036	0.011
Sulphide	mg/kg	1	MCERTS	28	-	-	-	-
Loss on Ignition @ 450°C	%	0.2	MCERTS	2.4	-	-	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	-	-	-	-
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	-	-	-	-
Fluorene	mg/kg	0.2	MCERTS	< 0.20	-	-	-	-
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	-	-	-	-
Anthracene	mg/kg	0.1	MCERTS	< 0.10	-	-	-	-
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	-	-	-	-
Pyrene	mg/kg	0.2	MCERTS	< 0.20	-	-	-	-
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	-	-	-	-
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.2	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	-	-	-	-
Lead (aqua regia extractable)	mg/kg	2	MCERTS	4.9	-	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	15	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	18	-	-	-	-

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Lab Sample Number				325375	325376	325377	325378	325379
Sample Reference				WLS4	TP10	TP11	TP5	TP3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	0.35	1.30	0.35	0.20
Date Sampled				18/03/2014	18/03/2014	18/03/2014	17/03/2014	17/03/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	-

Petroleum Hydrocarbons

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

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

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Lab Sample Number				325380				
Sample Reference				TP8				
Sample Number				None Supplied				
Depth (m)				0.30				
Date Sampled				17/03/2014				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	21				
Total mass of sample received	kg	0.001	NONE	2.0				
Asbestos in Soil	Type	N/A	ISO 17025	-				
General Inorganics								
pH	pH Units	N/A	MCERTS	8.0				
Total Cyanide	mg/kg	1	MCERTS	-				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.053				
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	53				
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.026				
Sulphide	mg/kg	1	MCERTS	-				
Loss on Ignition @ 450°C	%	0.2	MCERTS	-				
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	-				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-				
Acenaphthylene	mg/kg	0.2	MCERTS	-				
Acenaphthene	mg/kg	0.1	MCERTS	-				
Fluorene	mg/kg	0.2	MCERTS	-				
Phenanthrene	mg/kg	0.2	MCERTS	-				
Anthracene	mg/kg	0.1	MCERTS	-				
Fluoranthene	mg/kg	0.2	MCERTS	-				
Pyrene	mg/kg	0.2	MCERTS	-				
Benzo(a)anthracene	mg/kg	0.2	MCERTS	-				
Chrysene	mg/kg	0.05	MCERTS	-				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	-				
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	-				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	-				
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	-				
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	-				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-				
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	-				
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-				
Lead (aqua regia extractable)	mg/kg	2	MCERTS	-				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-				
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	-				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-				
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	-				

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Lab Sample Number				325380				
Sample Reference				TP8				
Sample Number				None Supplied				
Depth (m)				0.30				
Date Sampled				17/03/2014				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	-				
Toluene	µg/kg	1	MCERTS	-				
Ethylbenzene	µg/kg	1	MCERTS	-				
p & m-xylene	µg/kg	1	MCERTS	-				
o-xylene	µg/kg	1	MCERTS	-				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-				

Petroleum Hydrocarbons

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

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

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
325360	TP3	None Supplied	0.10	Brown topsoil and clay with gravel and vegetation.
325361	TP4	None Supplied	0.10	Brown topsoil and clay with gravel and vegetation.
325362	TP5	None Supplied	0.15	Brown topsoil and clay with gravel and vegetation.
325363	TP14	None Supplied	0.60	Light brown topsoil and clay with gravel and vegetation.
325364	TP15	None Supplied	1.00	Brown topsoil and sand with gravel.
325365	TP15	None Supplied	2.40	Black topsoil and gravel with vegetation.
325366	TP16	None Supplied	0.35	Brown topsoil and clay with gravel and vegetation.
325367	TP17	None Supplied	0.20	Brown topsoil and clay with gravel and vegetation.
325368	TP9	None Supplied	0.10	Brown topsoil and clay with gravel and vegetation.
325369	TP12	None Supplied	0.42	Brown topsoil and sand with gravel and vegetation.
325370	TP12	None Supplied	1.50	Light brown clay and sand with gravel.
325371	TP13	None Supplied	0.15	Brown topsoil and clay with gravel and vegetation.
325372	WLS1	None Supplied	0.15	Brown topsoil and clay with gravel and vegetation.
325373	WLS3	None Supplied	0.60	Brown topsoil and clay with gravel and vegetation.
325374	WLS4	None Supplied	0.30	Light brown clay and topsoil with gravel and vegetation.
325375	WLS4	None Supplied	3.00	Green clay and sand with gravel and vegetation.
325376	TP10	None Supplied	0.35	Brown topsoil and clay with gravel and vegetation.
325377	TP11	None Supplied	1.30	Light brown clay and sand with gravel and vegetation.
325378	TP5	None Supplied	0.35	Light brown clay and sand with gravel and vegetation.
325379	TP3	None Supplied	0.20	Brown topsoil and clay with gravel and vegetation.
325380	TP8	None Supplied	0.30	Light brown clay and sand with gravel and vegetation.

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by extraction with water followed by ICP-OES. Results reported corrected for extraction ratio (soil equivalent) as g/l and mg/kg; and upon the 2:1	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.