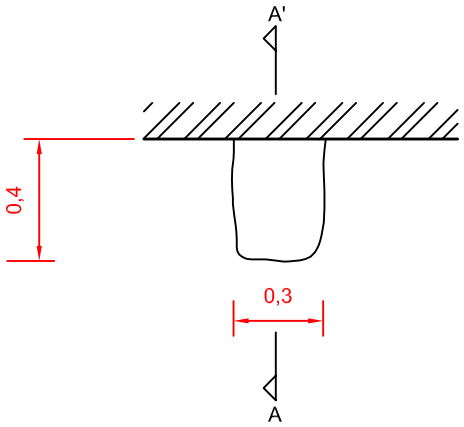
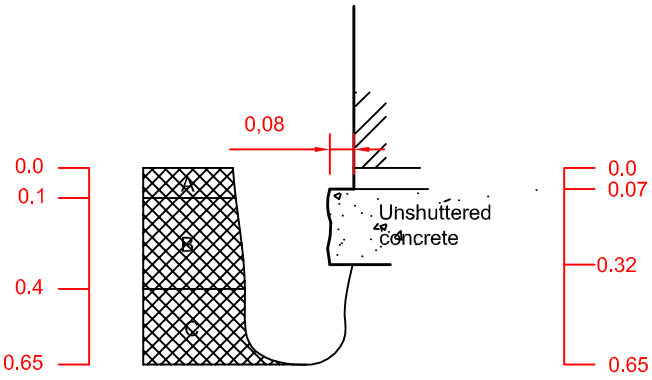
Plan of trial pit TP06



Section A - A' of trial pit TP06 facing west



Photographic record of trial pit TP06

Key

Masonry

Concrete

A Brown clayey slightly gravelly SAND. Gravel consists of brick and flint. (MADE GROUND)

B Firm brown sandy slightly gravelly CLAY. Gravel consists of brick and flint. (MADE GROUND)

C Firm orange brown sandy slightly gravelly CLAY. Gravel consists of brick and flint. (MADE GROUND)

Notes.

1. Trial pit excavated using hand tools
2. Trial pit sides remained stable
3. No groundwater encountered
4. All dimensions shown in metres

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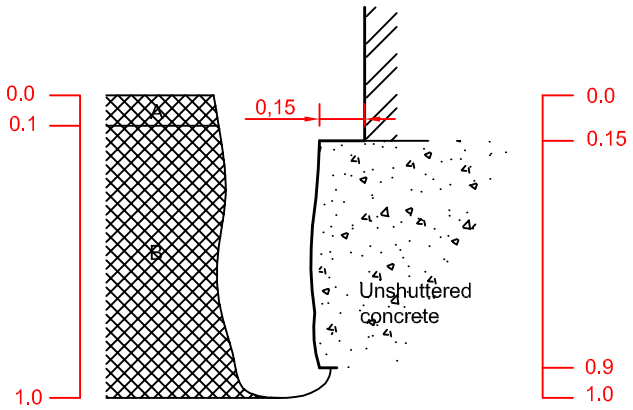
Project
Richmond-Upon-Thames College, Egerton Road, Twickenham.

Title
Detail of foundation exposed in Trial pit TP06

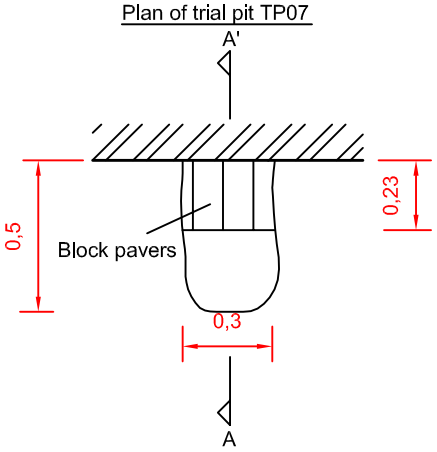
scale	date	drawn by	checked by
1:25 @ A4	28.05.08	MOW	

project ref	drg No.	revision
STE1297R	TP06	

Section A - A' of trial pit TP07 facing west



Plan of trial pit TP07



Photographic record of trial pit TP07

Key

Masonry

Concrete

A Grass onto dark brown sandy slightly gravelly CLAY. Gravel consists of brick. (MADE GROUND)

B Firm brown orange dark grey sandy gravelly CLAY with occasional cobbles of sandstone. Gravel consists of brick, coal, ash and sandstone. (MADE GROUND)

Notes.

1. Trial pit excavated using hand tools
2. Trial pit sides remained stable
3. No groundwater encountered
4. All dimensions shown in metres

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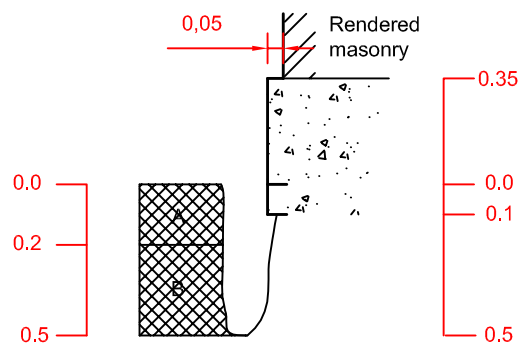
Project
Richmond-Upon-Thames College, Egerton Road, Twickenham.

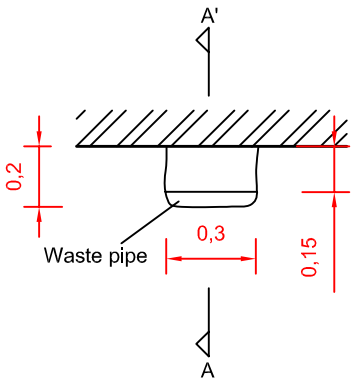
Title
Detail of foundation exposed in Trial pit TP07

scale	date	drawn by	checked by
1:25 @ A4	28.05.08	MOW	
project ref		drg No.	revision
STE1297R		TP07	

Section A - A' of trial pit TP08 facing east



Plan of trial pit TP08



Photographic record of trial pit TP08

Key

Masonry

Concrete

A Grass onto dark brown slightly gravelly CLAY. Gravel consists of glass and brick. (MADE GROUND)

B Firm dark brown and brown slightly gravelly sandy CLAY. Gravel consists of ash, brick, coal and glass. (MADE GROUND)

Notes.

1. Trial pit excavated using hand tools
2. Trial pit sides remained stable
3. No groundwater encountered
4. All dimensions shown in metres

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Project

Richmond-Upon-Thames College, Egerton Road, Twickenham.

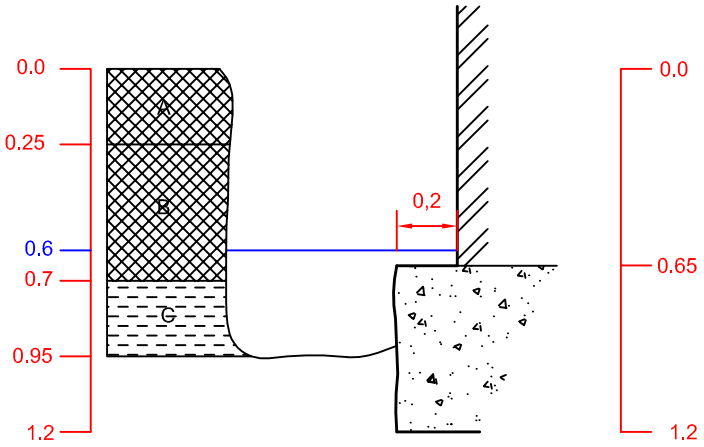
Title

Detail of foundation exposed in Trial pit TP08

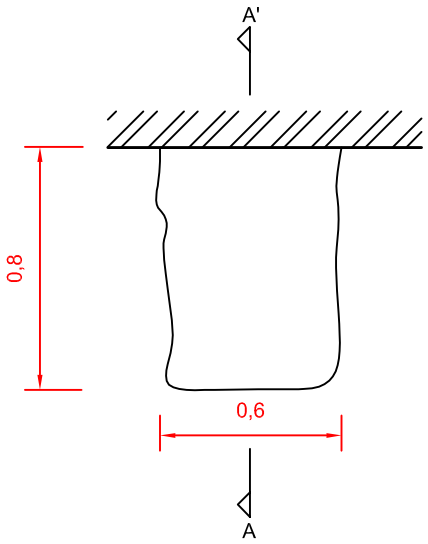
scale	date	drawn by	checked by
1:25 @ A4	28.05.08	MOW	

project ref	drg No.	revision
STE1297R	TP08	

Section A - A of trial pit TP09 facing north



Plan of trial pit TP09



Photographic record of trial pit TP09

Key

Masonry

Concrete

A 70mm thick unreinforced concrete over 50mm thick pavor over 50mm concrete. (MADE GROUND)

B Brown and dark brown gravelly sandy CLAY. Gravel consists of brick, ash and flint. (MADE GROUND)

C Orange brown sandy gravelly CLAY. Gravel consists of coarse flint. (KEMPTON PARK GRAVEL)

Notes.

1. Trial pit excavated using hand tools
2. Trial pit sides remained stable
3. Groundwater encountered at 0.6m
4. Trial pit terminated at 0.95m due to water inflow
5. 0.1-0.2m hydrocarbon odour from one end of the pit
6. Steel bar used to estimate base of foundation
7. All dimensions shown in metres
8. Jar sample taken from 0.1-0.2m depth

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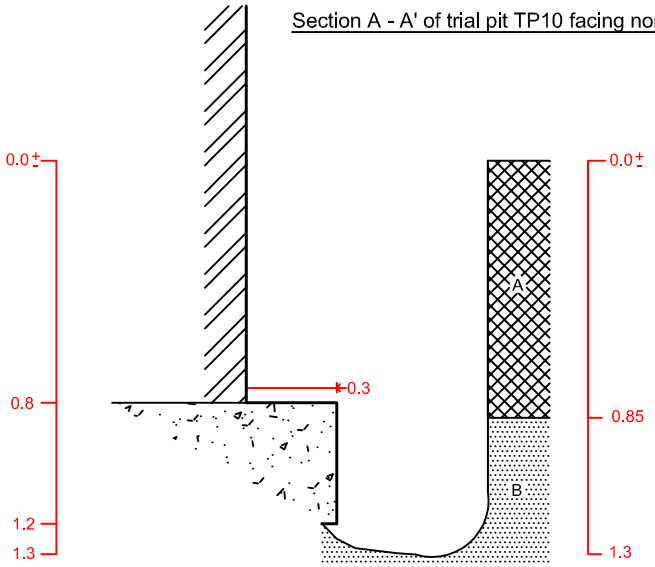
Project
Richmond-Upon-Thames College, Egerton Road, Twickenham.

Title
Detail of foundation exposed in Trial pit TP09

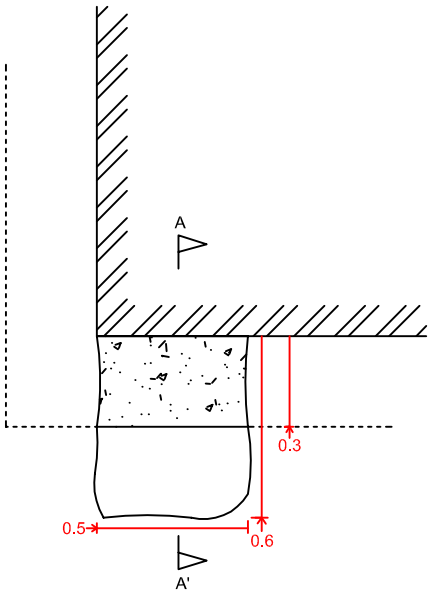
scale	date	drawn by	checked by
1:25 @ A4	28.05.08	MOW	

project ref	drg No.	revision
STE1297R	TP09	

Section A - A' of trial pit TP10 facing north



Plan of trial pit TP10



Photographic record of trial pit TP10

Key

Masonry

Concrete

A - Loose brown sandy gravelly SILT, with some roots. Gravel consists of sub-rounded flint and brick.
(MADE GROUND)

B - Loose orange brown clayey silty SAND and GRAVEL. Gravel consists of sub-rounded flint.
(KEMPTON PARK GRAVEL)

Notes.

1. Trial pit excavated using hand tools
2. Trial pit sides remained stable and no groundwater encountered.
3. All dimensions shown in metres

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Project
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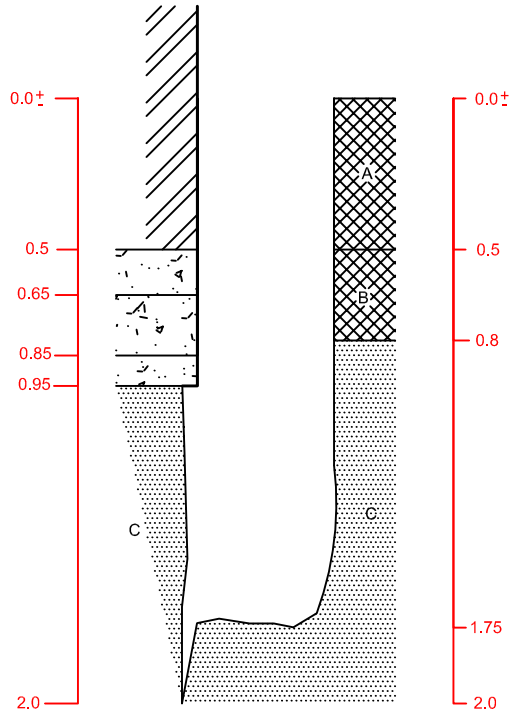
Title
Detail of foundation exposed in Trial pit TP10

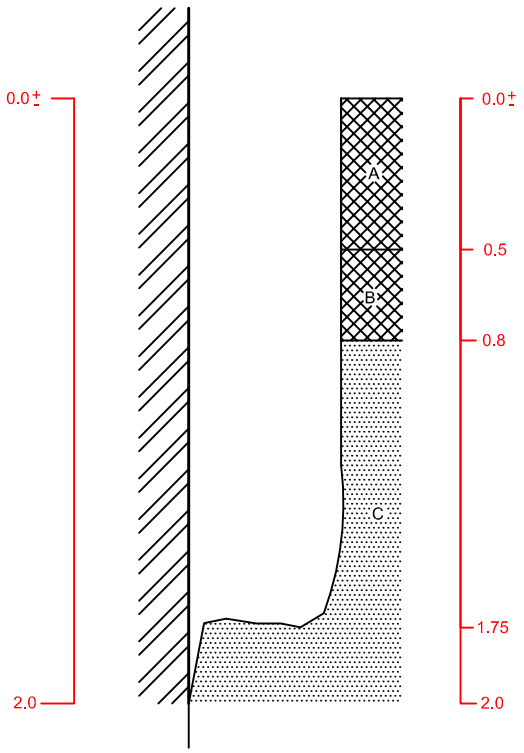
scale	date	drawn by	checked by
1:25 @ A4	28.05.08	RC	

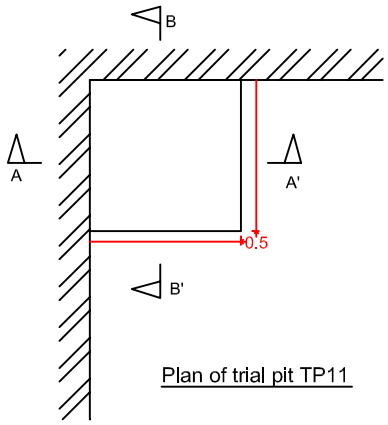
project ref	drg No.	revision
STE1297R	TP10	

Section A - A' looking south



Section B - B' looking east





Plan of trial pit TP11

Photographic record of trial pit TP11

Key

Masonry

Concrete

A - Loose brown sandy gravelly SILT, with some roots. Gravel consists of sub-rounded flint.
(MADE GROUND)

B - Loose orange brown silty SAND and GRAVEL, with occasional cobbles of brick. Gravel consists of sub-rounded flint and brick.
(MADE GROUND)

C - Loose to medium dense orange brown clayey silty SAND and GRAVEL. Gravel consists of sub-rounded flint.
(KEMPTON PARK GRAVEL)

Notes.

1. Trial pit excavated using hand tools
2. Trial pit sides remained stable and no groundwater encountered.
3. All dimensions shown in metres
4. Steel bar used to estimate presence of foundation below 1.75m

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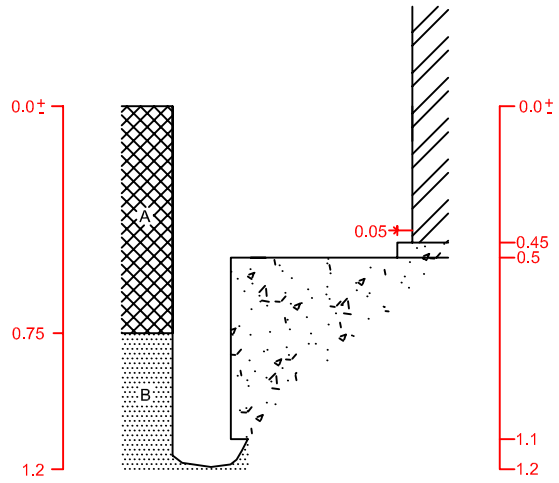
Project
Richmond-Upon-Thames College, Egerton Road, Twickenham.

Title
Detail of foundation exposed in Trial pit TP11

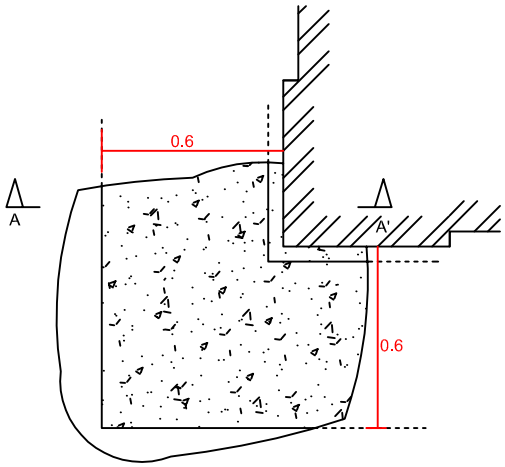
scale	date	drawn by	checked by
1:25 @ A4	28.05.08	RC	

project ref	drg No.	revision
STE1297R	TP11	

Section A - A' of trial pit TP12 facing west



Plan of trial pit TP12



Photographic record of trial pit TP12

Key

Masonry

Concrete

A - Loose brown sandy gravelly SILT, with some roots. Gravel consists of sub-rounded flint and brick.
(MADE GROUND)

B - Loose orange brown clayey silty SAND and GRAVEL. Gravel consists of sub-rounded flint.
(KEMPTON PARK GRAVEL)

Notes.

1. Trial pit excavated using hand tools
2. Trial pit sides remained stable and no groundwater encountered.
3. All dimensions shown in metres

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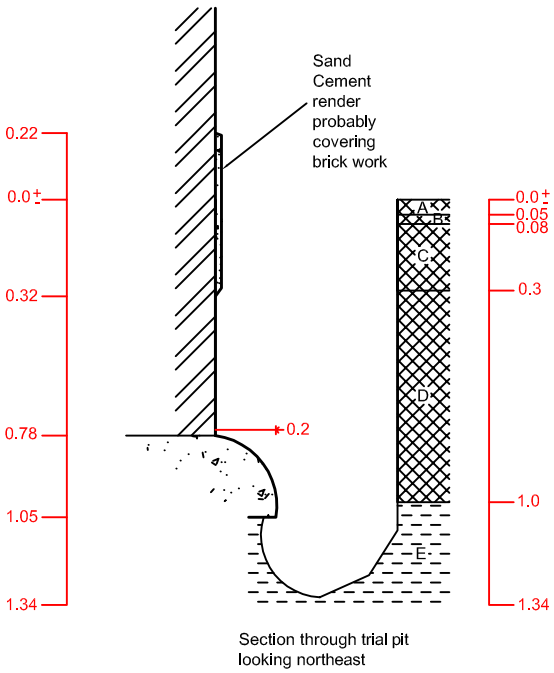
Project
Richmond-Upon-Thames College, Egerton Road, Twickenham.

Title
Detail of foundation exposed in Trial pit TP12

scale	date	drawn by	checked by
1:25 @ A4	28.05.08	RC	

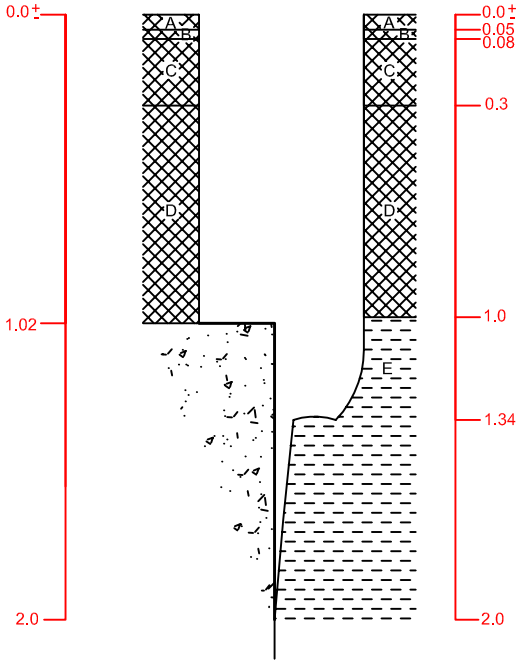
project ref	drg No.	revision
STE1297R	TP12	

Section A - A' looking north

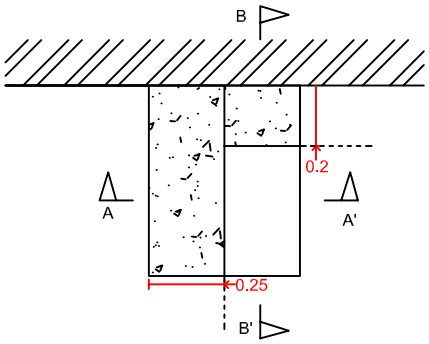


Section through trial pit looking northeast

Section B - B' looking west



Plan of trial pit TP13



Key

Masonry

Concrete

A - Concrete pavour.

B - Loose light orange SAND.
(MADE GROUND)

C - Loose to medium dense dark grey and dark brown sandy GRAVEL, with many cobbles of brick. Gravel consists of clinker, ash and brick.
(MADE GROUND)

D - Stiff brown orange and dark grey sandy gravelly CLAY. Gravel consists of flint, brick and occasional metal and concrete.
(MADE GROUND)

E - Very stiff orange brown sandy gravelly CLAY. Gravel consists of flint.
(KEMPTON PARK GRAVEL)

Photographic record of trial pit TP13

Notes.

1. Trial pit excavated using hand tools
2. Trial pit sides remained stable and no groundwater encountered.
3. All dimensions shown in metres
4. Steel bar used to estimate presence of foundation below 1.75m

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Project
Richmond-Upon-Thames College, Egerton Road, Twickenham.

Title
Detail of foundation exposed in Trial pit TP13

scale	date	drawn by	checked by
1:25 @ A4	28.05.08	RC	

project ref	drg No.	revision
STE1297R	TP13	

DESCRIPTION	LEGEND	DEPTH (m)	SAMPLE DEPTH TYPE	INSITU SHEAR STRENGTH TEST DATA		
				DEPTH	TYPE	RESULT
Dark brown slightly gravelly SAND, with occasional roots and rootlets. Gravel consists of flint. (TOPSOIL)		0.0 0.12	0.1m J 0.3m J			
Light brown gravelly SAND, with occasional roots. Gravel consists of flint. (TOPSOIL)		0.42	0.4m J			
TRIAL PIT TERMINATED AT 0.42m Notes: 1. Trial pit sides were upright and stable. 2. No groundwater encountered. 3. Creosote odour between depths of 0.0-0.2m.						

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

TRIAL PIT RECORD PAGE 1 OF 1

SOILTECHNICS
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GROUND LEVEL	METHOD OF EXCAVATION: **Hand tools**
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **27.05.08**
PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**	
PROJECT REF.: **STE1297R**	TRIAL PIT No: **TP14**

DESCRIPTION	LEGEND	DEPTH (m)	SAMPLE DEPTH TYPE	INSITU SHEAR STRENGTH TEST DATA		
				DEPTH	TYPE	RESULT
Grass onto dark brown slightly gravelly SAND, with occasional roots and rootlets. Gravel consists of flint and brick.		0.0				
(MADE GROUND)		0.3				
Loose light brown silty gravelly SAND, with occasional roots. Gravel consists of flint grading into brown silty SAND. (KEMPTON PARK GRAVELS)			B 0.4-0.7m			
		0.7				
TRIAL PIT TERMINATED AT 0.7m Notes: 1. Trial pit sides were upright and stable. 2. No groundwater encountered.						

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

TRIAL PIT RECORD PAGE 1 OF 1

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Tel: (01604) 781877 Fax: (01604) 781007 E-mail: mail@soiltechnics.net

GROUND LEVEL	METHOD OF EXCAVATION: **Hand tools**
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **20.06.08**
PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**	
PROJECT REF.: **STE1297R**	TRIAL PIT No: **TP15**

DESCRIPTION	LEGEND	DEPTH (m)	SAMPLE DEPTH TYPE	INSITU SHEAR STRENGTH TEST DATA		
				DEPTH	TYPE	RESULT
Grass onto dark brown slightly gravelly SAND, with occasional roots and rootlets. Gravel consists of flint and brick. (MADE GROUND)		0.0				
Light brown silty gravelly SAND, with occasional roots. Gravel consists of flint and brick (MADE GROUND)		0.3	B 0.4-0.7			
TRIAL PIT TERMINATED AT 0.7m Notes: 1. Trial pit sides were upright and stable. 2. No groundwater encountered.		0.7				

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

TRIAL PIT RECORD PAGE 1 OF 1

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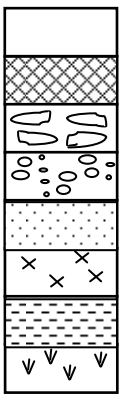
GROUND LEVEL	METHOD OF EXCAVATION: **Hand tools**
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **20.06.08**
PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**	
PROJECT REF.: **STE1297R**	TRIAL PIT No: **TP16**

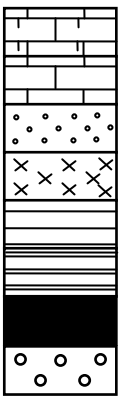
KEY TO LEGENDS (Extract from BS 5930;1999 table 11)

SOILS



Topsoil
Made ground
Boulders & Cobbles
Gravel
Sand
Silt
Clay
Peat/Organic clays

SEDIMENTARY ROCKS



Chalk
Limestone
Sandstone
Siltstone
Mudstone
Shale
Coal
Conglomerate

Note : Composite soil types are signified by combined symbols.

KEY TO TEST RESULTS COLUMN

Type and depth column: indicates depth that test was carried out i.e. at 2.1m or between 2.1m and 2.55m.

P or V: in this column, records of pocket penetrometer (P) or shear vane test (V) carried out on disturbed or undisturbed samples at depth shown, with results recorded in the test results column.

SPT / SPT (C): in this column records Standard Penetration Test (SPT) or Standard Penetration Test utilising a solid cone (SPT(C)).

Casing Depth and Water columns: record depth of casing and depth of water measured prior to each Standard Penetration Test (SPT)

Result column: records actual un-corrected test results obtained. For SPT results, seating blows are recorded in brackets before actual "N" value.

KEY TO SAMPLING COLUMNS

From (m) to (m): indicates depth(s) of sampling.

Type: indicates type of sample obtained.

U	undisturbed sample	**D**	disturbed sample	**W**	water sample
(32)	number of blows to obtain undisturbed sample	**B**	bulk sample	**J**	jar sample

WATER MEASUREMENTS

refer to notes at base of borehole sheet

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STANDARD KEY TO BOREHOLE RECORDS (CABLE AND TOOL PERCUSSION DRILLING)

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Dark brown slightly gravelly CLAY. Gravel consists of flint. (MADE GROUND)		0.0					
				0.4			0.6		D
		Firm dark brown and light brown slightly sandy slightly gravelly CLAY. Gravel		0.9					
--	Dry	consists of flint and ash. (MADE GROUND)			SPT(C)	(1)6			
					1.2-1.65m		1.4		D
		Loose brown very silty gravelly SAND. Gravel consists of fine		1.8					
2.1	1.1	to medium flint. (KEMPTON PARK GRAVEL)			SPT(C)	(4)18	2.0		D
					2.1-2.55m		2.2	2.6	B
		Medium dense brown slightly silty SAND and GRAVEL of flint.							
3.0	2.4	(KEMPTON PARK GRAVEL)			SPT(C)	(3)7			
				3.3	3.1-3.55m				
		Loose grey brown slightly gravelly very silty SAND. Gravel consists of flint.					3.4		D
4.0	2.6	(KEMPTON PARK GRAVEL)			SPT(C)	(1)6			
					4.0-4.45m				
							4.3		D
				4.6					
		Medium dense brown SAND and GRAVEL of flint.							
5.1	3.1	(KEMPTON PARK GRAVEL)			SPT(C)	(5)23	4.8		D
					5.1-5.55m				
							5.2	5.6	B
6.5	3.1				SPT(C)	(7)30			
					6.5-6.95m				

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	25.5m	Approximately 3.5m	Slow inflow, water being added to assist drilling at time of water strike	9.5m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 1 OF 4

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**22.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**BH01**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
							6.7		D
8.0	4.6				SPT(C) 8.0-8.45m	(3)26	8.1	8.5	B
				9.3					
		Stiff dark grey CLAY					9.5		D
9.5	9.1	(LONDON CLAY)			SPT 9.6-10.05m	(3)17	9.6	10.05	D
9.5	13.4						11.5	11.9	U100 (24)
							12.0		D
9.5	Dry				SPT 13.5-13.95m	(5)22	13.5	13.95	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	25.5m	Approximately 3.5m	Slow inflow, water being added to assist drilling at time of water strike	9.5m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 2 OF 4

SOILTECHNICS
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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No **STE1297R-02**	DATE OF EXCAVATION **22.05.08**

PROJECT
Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**BH01**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Stiff dark grey CLAY (LONDON CLAY)							
9.5	Dry				SPT 15.6-15.95m	(6)24	15.6	15.95	D
9.5	Dry				SPT 17-5-17.95m	(6)27	17.5	17.95	D
9.5	Dry				SPT 19.5-19.95m	(6)29	19.5	19.95	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	25.5m	Approximately 3.5m	Slow inflow, water being added to assist drilling at time of water strike	9.5m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 3 OF 4

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**22.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**BH01**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
9.5	Dry	Stiff becoming very stiff dark grey CLAY (LONDON CLAY)					21.6 22.1	22.0	U100 (34) D
9.5	Dry				SPT 23.6-24.05m	(6)32	23.6	24.05	D
9.5	Dry	BOREHOLE TERMINATED AT 25.5m Note 1. Water added between 1.7-4.0m to assist drilling. 2. Gas/water monitoring standpipe installed to 6.0m.		25.5	SPT 25.5-25.95m	(8)35	25.5	25.95	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	25.5m	Approximately 3.5m	Slow inflow, water being added to assist drilling at time of water strike	9.5m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 4 OF 4

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **22.05.08**

PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**

PROJECT REF.	BOREHOLE No
STE1297R	**BH01**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Dark brown slightly gravelly CLAY. Gravel consists of flint. (MADE GROUND)		0.0					
				0.2			0.2		D
							0.5		D
		Medium dense orange brown very silty slightly gravelly SAND. Gravel consists of flint. (MADE GROUND)							
--	Dry			1.3	SPT(C)	(5)24			
		Medium dense brown sandy GRAVEL of flint. Grading to SAND with depth.			1.2-1.65m		1.4		D
2.0	1.1	(KEMPTON PARK GRAVEL)			SPT(C)	(4)17	2.1	2.5	B
					2.0-2.45m				
3.0	2.4				SPT(C)	(1)18			
					3.1-3.55m		3.3		D
4.0	2.6				SPT(C)	(1)20			
					4.1-4.55m				
5.0	3.1				SPT(C)	(5)22			
				5.3	5.0-5.45m		5.2		D
		Stiff dark grey CLAY (LONDON CLAY)					5.4		D
6.4	3.1						6.0	6.4	U100 (22)
							6.5		D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	25.0m	Approximately 3.0m	Slow inflow, water being added to assist drilling at time of water strike	5.6m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 1 OF 4

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**26.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**BH02**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Stiff dark grey CLAY (LONDON CLAY)							
5.6	Dry				SPT 8.1-8.55m	(4)20	8.1	8.55	D
5.6	Dry				SPT 10.0-10.45m	(4)21	10.0	10.45	D
5.6	Dry				SPT 12.2-12.65m	(5)22	12.2	12.65	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	25.0m	Approximately 3.0m	Slow inflow, water being added to assist drilling at time of water strike	5.6m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 2 OF 4

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **26.05.08**

PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**

PROJECT REF.	BOREHOLE No
STE1297R	**BH02**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
5.6	Dry	Stiff dark grey CLAY (LONDON CLAY)			SPT 14.1-14.55m	(6)22	14.1	14.55	D
5.6	Dry				SPT 16.1-16.55m	(6)25	16.1	16.55	D
5.6	Dry				SPT 18.0-18.45m	(6)26	18.0	18.45	D
5.6	Dry				SPT 20.1-20.55m	(6)32	20.1	20.55	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	25.0m	Approximately 3.0m	Slow inflow, water being added to assist drilling at time of water strike	5.6m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 3 OF 4

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **26.05.08**

PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**

PROJECT REF.	BOREHOLE No
STE1297R	**BH02**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Stiff becoming very stiff dark grey CLAY (LONDON CLAY)							
5.6	Dry				SPT 22.2-22.65m	(7)33	22.2		D
5.6	Dry						24.0	24.4	U100 (40)
							24.5		D
				25.0			25.0		D
		BOREHOLE TERMINATED AT 25.0m Note 1. Water added between 1.3-3.5m to assist drilling. 2. Gas/water monitoring standpipe installed to 6.0m.							

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	25.0m	Approximately 3.0m	Slow inflow, water being added to assist drilling at time of water strike	5.6m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 4 OF 4

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **26.05.08**

PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**

PROJECT REF.	BOREHOLE No
STE1297R	**BH02**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	DEPTH (m)	TEST RESULTS		SAMPLING		
				TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Black bituminous bound material	0.0					
		(MADE GROUND)	0.1					
		Firm brown and yellow brown gravelly sandy CLAY. Gravel consists of flint, brick and ash.	0.25			0.3		D
		(MADE GROUND)	1.2			0.5		D
1.5	0.6	Medium dense grey brown very clayey gravelly SAND. Gravel consists of flint, brick and ash.				1.3		D
		(MADE GROUND)		SPT(c) 1.5-1.95m	(11)41	1.6	2.0	B
2.6	1.2	Medium dense brown SAND and GRAVEL of flint. (KEMPTON PARK GRAVEL)		SPT(c) 2.6-3.05m	(10)38	2.7		D
3.5	2.4			SPT(c) 3.5-3.95m	(7)31	3.7		D
		Medium dense dark grey SAND and GRAVEL of flint.	3.6			3.8	4.2	B
4.5	2.3	(KEMPTON PARK GRAVEL)		SPT(c) 4.5-4.95m	(4)16			
		Stiff dark grey CLAY (LONDON CLAY)	4.8			5.0		D
5.5	Dry			SPT 5.6-6.05m	(3)14			

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.5m	Slow inflow, water being added to assist drilling at time of water strike	5.5m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 1 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **27-28.05.08**

PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**

PROJECT REF.	BOREHOLE No
STE1297R	**BH03**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Stiff dark grey CLAY. (LONDON CLAY)							
5.5	Dry						7.5	7.9	U100 (22)
							8.0		D
5.5	Dry				SPT 9.5-9.95m	(4)21	9.5	9.95	D
5.5	Dry				SPT 11.4-11.85m	(5)22	11.4	11.85	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.5m	Slow inflow, water being added to assist drilling at time of water strike	5.5m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 2 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27-28.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**BH03**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
5.5	Dry	Stiff dark grey CLAY. (LONDON CLAY)			SPT 13.6-14.05m	(5)24	13.6	14.05	D
5.5	Dry				SPT 15.5-15.95m	(6)25	15.5	15.95	D
5.5	Dry						17.5	17.9	U100 (38)
		BOREHOLE TERMINATED AT 20.0m		20.0					
5.5	Dry	Note 1. Water added between 1.2-3.0m to assist drilling. 2. Gas/water monitoring standpipe installed to 5.0m.			SPT 19.6-20.05m	(6)28	19.6	20.05	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.5m	Slow inflow, water being added to assist drilling at time of water strike	5.5m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 3 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **27-28.05.08**

PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**

PROJECT REF.	BOREHOLE No
STE1297R	**BH03**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Black bituminous bound material (MADE GROUND)		0.0 0.1 0.25			0.3		D
		Medium dense brown sandy GRAVEL of brick and concrete. (MADE GROUND)		0.9			0.6 1.1		D D
1.2	Dry	Firm grey mottled orange brown slightly sandy slightly gravelly CLAY. Gravel consists of brick, flint and ash. (MADE GROUND)			SPT(C) 1.2-1.85m	(16)47	1.3	1.6	B
2.0	1.1	Dense brown slightly silty SAND and GRAVEL of flint. (KEMPTON PARK GRAVEL)			SPT(C) 2.0-2.45m	(14)40	2.2		D
3.0	2.0	Medium dense dark grey SAND and GRAVEL of flint. Grading to grey brown SAND with depth. (KEMPTON PARK GRAVEL)		2.9	SPT(C) 3.1-3.55m	(10)36	3.2		D
4.0	2.1				SPT(C) 4.1-4.55m	(8)23	4.2	4.5	B
5.0	2.4				SPT(C) 5.1-5.55m	(1)19	5.2		D
6.0	2.7				SPT(C)	(4)18			
		Stiff dark grey CLAY. (LONDON CLAY)		6.3	6.0-6.45m		6.2 6.5		D D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.5m	Slow inflow, water being added to assist drilling at time of water strike	6.3m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 1 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No **STE1297R-02**	DATE OF EXCAVATION **29.05.08**

PROJECT
Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**BH04**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Stiff dark grey CLAY. (LONDON CLAY)							
4.5	Dry				SPT 7.6-8.05m	(3)18	7.6	8.05	D
4.5	Dry				SPT 9.5-9.95m	(4)21	9.5	9.95	D
4.5	Dry				SPT 11.6-12.05m	(5)24	11.6	12.05	D
4.5	Dry				SPT 13.5-13.95m	(5)25	13.5	13.95	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.5m	Slow inflow, water being added to assist drilling at time of water strike	6.3m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 2 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**29.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**BH04**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Stiff dark grey CLAY. (LONDON CLAY)							
4.5	Dry						15.6	16.0	U100 (37)
							16.1		D
4.5	Dry				SPT 17.7-18.15m	(6)28	17.7	18.15	D
		BOREHOLE TERMINATED AT 20.0m		20.0					
4.5	Dry	Note 1. Water added between 1.2-3.0m to assist drilling. 2. Gas/water monitoring standpipe installed to 6.0m.			SPT 19.5-20.05m	(6)31	19.5	20.05	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.5m	Slow inflow, water being added to assist drilling at time of water strike	6.3m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 3 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **29.05.08**

PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**

PROJECT REF.	BOREHOLE No
STE1297R	**BH04**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Dark brown slightly gravelly CLAY. Gravel consists of brick and flint.		0.0			0.2		D
		(MADE GROUND)		0.4			0.6		D
		Dark brown slightly clayey SAND and GRAVEL of flint and brick.		1.1			1.3		D
1.5	Dry	(MADE GROUND)			SPT(C) 1.5-1.95m	(2)17			
		Firm orange brown mottled dark brown slightly gravelly slightly sandy CLAY. Gravel consists of flint and brick.		1.9			2.0		D
							2.1	2.5	B
2.5	1.4	(MADE GROUND)			SPT(C) 2.5-2.95m	(12)30			
		Medium dense brown sandy GRAVEL of flint. (KEMPTON PARK GRAVEL)							
3.5	2.3				SPT(C) 3.5-3.95m	(15)29	3.7		D
		Stiff dark grey CLAY.		4.2			4.4		D
4.5	4.6	(LONDON CLAY)			SPT 4.6-5.05m	(2)12			
4.5	Dry						5.5	5.9	U100 (17)
							6.0		D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.5m	Slow inflow, water being added to assist drilling at time of water strike	4.2m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 1 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**28-29.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**BH05**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
4.5	Dry	Stiff dark grey CLAY. (LONDON CLAY)			SPT 7.6-8.05m	(3)18	7.6	8.05	D
4.5	Dry				SPT 9.5-9.95m	(4)21	9.5	9.95	D
4.5	Dry				SPT 11.6-12.05m	(5)24	11.6	12.05	D
4.5	Dry				SPT 13.5-13.95m	(5)25	13.5	13.95	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.5m	Slow inflow, water being added to assist drilling at time of water strike	4.2m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 2 OF 3

SOILTECHNICS
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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **28-29.05.08**

PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**

PROJECT REF.	BOREHOLE No
STE1297R	**BH05**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Stiff dark grey CLAY. (LONDON CLAY)							
4.5	Dry						15.6	16.0	U100 (37)
							16.1		D
4.5	Dry				SPT 17.7-18.15m	(6)28	17.7	18.15	D
		BOREHOLE TERMINATED AT 20.0m		20.0					
4.5	Dry	Note 1. Water added between 1.9-3.0m to assist drilling. 2. Gas/water monitoring standpipe installed to 5.0m.			SPT 19.5-19.95m	(6)31	19.5	19.95	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.5m	Slow inflow, water being added to assist drilling at time of water strike	4.2m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 3 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **28-29.05.08**

PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**

PROJECT REF.	BOREHOLE No
STE1297R	**BH05**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Black bituminous bound material		0.0					
		(MADE GROUND)		0.1			0.2		D
							0.5		D
		Soft dark grey very gravelly slightly sandy CLAY. Gravel consists of flint, brick and ash. (MADE GROUND)		1.3					
1.4	Dry	Dense brown sandy GRAVEL of flint. (KEMPTON PARK GRAVEL)			SPT(C) 1.4-1.85m	(15)43	1.5		D
2.0	1.1				SPT(C) 2.1-2.55m	(12)38	2.1	2.5	U100 (18)
3.0	2.2				SPT(C) 3.1-3.55m	(11)34	3.2		D
4.0	3.0				SPT(C) 4.0-4.45m	(5)14	4.3		D
				4.2					
		Stiff dark grey CLAY (LONDON CLAY)							
4.5	5.0				SPT 5.0-5.45m	(3)15	5.0	5.45	D
							6.0	6.4	U100 (38)
							6.5		D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.8m	Slow inflow, water being added to assist drilling at time of water strike	4.5m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 1 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**BH06**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Stiff dark grey CLAY. (LONDON CLAY)							
4.5	Dry				SPT 8.1-8.55m	(5)19	8.1	8.55	D
4.5	Dry				SPT 10.2-10.65m	(5)21	10.2	10.65	D
4.5	Dry				SPT 12.1-12.55m	(6)22	12.1	12.55	D

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.8m	Slow inflow, water being added to assist drilling at time of water strike	4.5m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 2 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No: **STE1297R-02**	DATE OF EXCAVATION: **27.05.08**

PROJECT: **Richmond-Upon-Thames College, Egerton Road, Twickenham.**

PROJECT REF.	BOREHOLE No
STE1297R	**BH06**

CASING DEPTH (m)	WATER (m)	STRATA DESCRIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
4.5	Dry	Stiff dark grey CLAY. (LONDON CLAY)			SPT 14.0-14.45m	(6)24	14.0	14.45	D
4.5	Dry				SPT 16.1-16.55m	(6)26	16.1	16.55	D
4.5	Dry				SPT 18.2-18.65m	(6)29	18.2	18.65	D
4.5	Dry	BOREHOLE TERMINATED AT 20.0m Note 1. Water added to assist drilling. 2. Gas/water monitoring standpipe installed to 4.0m.		20.0			20.0	20.4	U100 (38)

DRILLING			GROUNDWATER		
DIAMETER	FROM	TO	DEPTH(S) STRUCK	BEHAVIOUR	DEPTH SEALED
150mm	0.0m	20.0m	Approximately 2.8m	Slow inflow, water being added to assist drilling at time of water strike	4.5m

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

BOREHOLE RECORD SHEET 3 OF 3

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

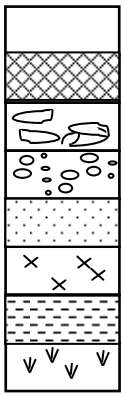
PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**BH06**

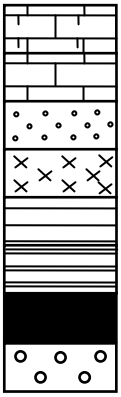
KEY TO LEGENDS (Extract from BS 5930;1999 table 11)

SOILS



Topsoil
Made ground
Boulders & Cobbles
Gravel
Sand
Silt
Clay
Peat/Organic clays

SEDIMENTARY ROCKS



Chalk
Limestone
Sandstone
Siltstone
Mudstone
Shale
Coal
Conglomerate

Note : Composite soil types are signified by combined symbols.

KEY TO TEST RESULTS COLUMN

Type and depth column: Records depth that test was carried out i.e. at 2.1m or between 2.1m and 2.55m.

P or V : in this column records pocket penetrometer (P) or hand held shear vane test (V) carried out on disturbed or undisturbed sample at depth shown with results recorded in the test results column.

SPT / SPT ©: in this column records Standard Penetration Test (SPT)or Standard Penetration Test utilising an end cone (SPT©) carried out.

Result Column : records actual un-corrected test results obtained. For SPT results, seating blows are recorded in brackets before actual "N" value.

KEY TO SAMPLING COLUMNS

From (m) to (m) : indicates depth(s) of sampling.

Type: indicates type of sample obtained.

U	undisturbed sample	**B**	small bulk disturbed sample
(32)	number of blows to obtain undisturbed sample	**W**	water sample
		J	jar sample
D	disturbed sample		

WATER MEASUREMENTS

refer to notes at base of borehole sheet

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STANDARD KEY TO DRIVEN TUBE SAMPLING BOREHOLE RECORDS

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Brown slightly silty slightly gravelly sandy TOPSOIL with some rootlets and occasional roots. Gravel consists of flint.		0.0			0.1	0.25	D
Brown and light brown, slightly gravelly sandy TOPSOIL with occasional roots. Gravel consists of flint.		0.3			0.4	0.55	D
Loose light brown, slightly silty, very clayey, slightly gravelly SAND. Gravel consists of flint. (KEPMTON PARK GRAVEL)		0.6			0.6	0.8	D
Medium dense to dense light brown sandy GRAVEL, with occasional lenses of soft light brown, very sandy CLAY. (KEPMTON PARK GRAVEL)		0.95			1.0	1.5	D
					1.8	2.0	D
					2.4	2.6	D
BOREHOLE TERMINATED AT 3.0m Notes: 1. Unable to excavate below 3m due to density of gravel		3.0					

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	None encountered	NA	DCP01	NA

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS01**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Grass onto dark brown very clayey slightly silty gravelly SAND with some rootlets. Gravel consists of flint, ash, timber and glass. (MADE GROUND)		0.0 0.2					
Loose brown slightly gravelly SAND. (KEMPTON PARK GRAVEL)		0.4	0.4m P	1.0	0.4	0.6	D
Firm slightly gravelly very sandy CLAY. Gravel consists of flint. (KEMPTON PARK GRAVEL)		0.8					
Medium dense light brown thinly to medium bedded sandy GRAVEL. Gravel consists of flint. (KEMPTON PARK GRAVEL)					1.0	1.2	D
					2.0	2.2	D
		3.0					
BOREHOLE TERMINATED AT 3.0m Notes: 1. Unable to excavate below 3m due to density of gravel							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	1.1m measured 5 minutes after drilling	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS02**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Dark grey bituminous-bound material.		0.0					
(MADE GROUND)		0.06			0.06	0.2	D
Medium dense light brown very sandy GRAVEL. Gravel consists of flint.		0.2			0.2	0.4	D
(MADE GROUND)							
Medium dense light brown and red gravelly SAND. Gravel consists of brick and flint.		0.6					
(MADE GROUND)			0.7m P	0.5	0.7	0.9	D
Soft brown sandy slightly gravelly CLAY. Gravel consists of flint.							
(KEMPTON PARK GRAVEL)		1.0			1.0	1.4	D
Medium dense light brown very gravelly SAND. Gravel consists of flint.							
(KEMPTON PARK GRAVEL)							
		3.0					
BOREHOLE TERMINATED AT 3.0m							
Notes:							
1. Unable to excavate below 3m due to density of gravel							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	None encountered	Yes	DCP02	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS03**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Loose brown and dark grey sandy GRAVEL. Gravel consists of flint and clinker. (MADE GROUND)		0.0					
		0.3			0.3	0.35	J
Loose dark grey and dark brown clayey slightly gravelly SAND. Gravel consists of brick and ash (MADE GROUND)		0.55					
Loose brown, slightly clayey, slightly silty, gravelly SAND, with occasional roots. Gravel consists of flint and clinker. (MADE GROUND)		0.8					
Grey concrete recovered as sandy GRAVEL. (MADE GROUND)		0.81					
BOREHOLE TERMINATED AT 0.81m							
Notes: 1. Unable to excavate below 0.81m due to concrete.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	None observed	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS04**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Loose GRAVEL.		0.0					
(MADE GROUND)		0.06			0.2	0.35	D
Loose dark grey, sandy GRAVEL. Gravel consists of clinker.		0.18					
(MADE GROUND)		0.36	0.4m P	2.0			
Medium dense light brown and grey, sandy GRAVEL. Gravel consists of brick, clinker and flint.							
(MADE GROUND)			0.7m P	2.0			
Stiff dark brown, slightly silty, very sandy, slightly gravelly CLAY, becoming stiff orange, slightly sandy CLAY. Gravel consists of flint and occasional ash.					0.8	1.0	D
(MADE GROUND)		1.0					
Medium dense becoming dense orange very gravelly SAND. Gravel consists of flint.							
(KEMPTON PARK GRAVEL)					1.5	1.7	D
					2.5	2.7	D

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	1.55m measured 5 minutes after drilling	NA	DCP03a and DCP03b	NA

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 2

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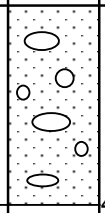
GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS05**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Dense orange very gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL)		4.0					
BOREHOLE TERMINATED AT 4.0m Notes: 1. Unable to excavate below 4m due to density of gravel							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	1.55m measured 5 minutes after drilling	None	DCP03a and DCP03b	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 2 OF 2

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS05**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Grass onto dark brown clayey slightly silty slightly gravelly SAND with many rootlets. Gravel consists of flint, ash and brick.		0.0			0.05	0.2	D
(MADE GROUND)		0.26	0.3m P	4.0			
Very stiff becoming stiff light brown orange sandy CLAY. (KEMPTON PARK GRAVEL)					0.5	0.7	D
			0.6m P	2.5			
		0.85					
Loose becoming medium dense light brown sandy GRAVEL. Gravel consists of flint. (KEMPTON PARK GRAVEL)					1.5	2.0	D
		3.0					
BOREHOLE TERMINATED AT 3.0m Notes: 1. Unable to excavate below 3m due to density of gravel.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	1.34m measured 5 minutes after drilling	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS06**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Grass onto clayey, slightly silty, slightly gravelly SAND, with some rootlets. Gravel consists of flint and ash. (MADE GROUND)		0.0			0.05	0.2	D
Stiff light brown orange sandy gravelly CLAY. Gravel consists of flint. (KEMPTON PARK GRAVEL)		0.35			0.5	0.7	D
Medium dense light brown orange very gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL)		0.9			1.3	1.5	D
					2.3	2.5	D
BOREHOLE TERMINATED AT 3.0m Notes: 1. Unable to excavate below 3m due to density of gravel.		3.0					

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	1.05m measured 5 minutes after drilling	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**28.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS07**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Grass onto dark brown slightly clayey slightly silty slightly gravelly SAND with some rootlets. Gravel consists of ash and flint. (MADE GROUND)		0.0			0.05	0.2	D
Loose becoming medium dense light brown orange very gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL)		0.3			1.2	1.5	D
BOREHOLE TERMINATED AT 2.0m		2.0					

Notes:

1. Infiltration test undertaken - refer to Appendix D.

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	Standing water level of 1.09m	No	DCP06 approximately 15m to north east	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**28.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS08**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Bituminous bound material.		0.0					
(MADE GROUND)		0.1					
Loose brown grey and red sandy GRAVEL with occasional cobbles of brick. Gravel consists of brick, flint and limestone.					0.2	0.4	D
(MADE GROUND)		0.4			0.5	0.7	D
Loose becoming medium dense light brown slightly clayey sandy GRAVEL. Gravel consists of flint.							
(KEMPTON PARK GRAVEL)							
					2.0	2.4	D
		3.0					
BOREHOLE TERMINATED AT 3.0m							
Notes:							
1. Unable to excavate below 3m due to density of gravel.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	1.17m measured 5 minutes after drilling	Yes	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**28.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS09**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Bituminous bound material.		0.0					
(MADE GROUND)		0.08			0.1	0.3	D
Loose light brown sandy GRAVEL. Gravel consists of flint, brick and limestone.							
(MADE GROUND)		0.35	0.4m P	2.5	0.35	0.55	D
Stiff brown sandy CLAY with some roots.		0.56					
(KEMPTON PARK GRAVEL)							
Loose becoming medium dense light brown orange very sandy GRAVEL. Gravel consists of flint.					0.8	1.0	D
(KEMPTON PARK GRAVEL)					1.2	1.7	D
					2.0	2.3	D
		3.0					
BOREHOLE TERMINATED AT 3.0m							
Notes:							
1. Unable to excavate below 3m due to density of gravel.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	0.87m measured 5 minutes after drilling	Yes	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**28.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS10**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Grass over dark brown silty slightly gravelly SAND (MADE GROUND)		0.0			0.1	0.2	D
		0.2			0.2	0.3	D
Soft brown sandy slightly gravelly CLAY. Gravel consist of quartz, sandstone, coal and brick (MADE GROUND)					0.3	0.4	D
		0.5	0.5-0.6m P	1.5/1.5/1.5	0.5	0.6	D
Stiff light brown mottled orange slightly gravelly sandy CLAY. Gravel consists of angular flint (KEMPTON PARK GRAVEL)			0.6-0.7m P	2.0/2.0/1.5			
			0.8-0.9m P	2.0/2.0/2.0			
					0.9	1.0	D
		1.0					
Medium dense orange brown SAND and GRAVEL (KEMPTON PARK GRAVEL)		1.1					
Medium dense orange brown gravelly silty fine SAND (KEMPTON PARK GRAVEL)					1.3	1.4	D
					1.7	2.5	D
		1.8					
Medium dense orange brown SAND and GRAVEL (KEMPTON PARK GRAVEL)							
Stiff grey gravelly CLAY (KEMPTON PARK GRAVEL)		2.9	2.9m P	2.0/2.0/1.5	2.9	3.0	D
		3.0					
BOREHOLE TERMINATED AT 3.0m							

Notes:

1. Unable to excavate below 3m due to density of gravel.

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	Struck at 2m rising to 1.5m in 10mins	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS11**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Grass over dark brown sandy SILT		0.0			0.0	0.1	D
(MADE GROUND)		0.1					
Orange brown slightly gravelly silty SAND					0.2	0.3	D
(MADE GROUND)		0.35					
Loose brown slightly gravelly silty SAND. Gravel consists of flint, brick and coal					0.5	0.6	D
(MADE GROUND)		0.7			0.7	0.8	D
Soft light brown very sandy CLAY		0.8	0.8-0.9m P	2.0/2.0/2.5	0.8	0.9	D
(KEMPTON PARK GRAVEL)							
Stiff light brown mottled orange slightly gravelly slightly sandy CLAY			1.1-1.2m P	2.0/2.0/2.0			
(KEMPTON PARK GRAVEL)		1.2					
Medium dense orange brown clayey SAND and GRAVEL		1.3					
(KEMPTON PARK GRAVEL)					1.4	1.5	D
Medium dense orange and grey silty fine SAND							
(KEMPTON PARK GRAVEL)		1.6					
Medium dense orange brown SAND and GRAVEL							
(KEMPTON PARK GRAVEL)							
		2.9					
Medium dense orange brown silty fine SAND		3.0					
(KEMPTON PARK GRAVEL)							
BOREHOLE TERMINATED AT 3.0m							
1. Borehole sides unstable and therefore not possible to excavate below 3m.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	Struck at 1.8m. Standing water level at 1.8m	No	DCP09	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS12**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Moss over loose brown slightly gravelly clayey SAND. Gravel consists of coal, glass, sandstone, brick and flint. (MADE GROUND)		0.0			0.0	0.1	D
					0.2	0.3	D
					0.5	0.6	D
		0.6					
Loose brown slightly gravelly clayey SAND (MADE GROUND)		0.7	0.7-1.0m P	2.0/2.0/2.0	0.7	0.8	D
					0.8	0.9	D
Stiff orange light brown slightly gravelly slightly sandy CLAY (KEMPTON PARK GRAVEL)							
		1.1					
Medium dense orange brown clayey SAND and GRAVEL (KEMPTON PARK GRAVEL)							
		1.35			1.4	1.5	D
Medium dense orange, buff, grey and light brown SAND and GRAVEL (KEMPTON PARK GRAVEL)							
		3.0					
BOREHOLE TERMINATED AT 3.0m Notes: 1. Unable to excavate below 3m due to density of gravel							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	Struck at 2.0m. Standing water level at 2.45m	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS13**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Bituminous bound GRAVEL (MADE GROUND)		0.0			0.2	0.3	D
		0.3					
Firm black and grey green sandy CLAY exhibiting slight organic odour (MADE GROUND)			0.5m P	1.0/0.5/1.0	0.4	0.5	D
					0.7	0.8	D
		0.7					
Firm orange light brown very sandy very gravelly CLAY (KEMPTON PARK GRAVEL)					0.9	1.0	D
		0.9					
Medium dense orange brown clayey SAND and GRAVEL (KEMPTON PARK GRAVEL)					1.5	2.0	D
		1.9					
Medium dense grey silty fine SAND (KEMPTON PARK GRAVEL)		2.0					
Medium dense orange brown clayey SAND and GRAVEL (KEMPTON PARK GRAVEL)							
		3.0					
BOREHOLE TERMINATED AT 3.0m Notes: 1. Unable to excavate below 3m due to density of gravel.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	Struck at 2.5m. Standing water level at 1.3m	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS14**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Grass onto loose dark brown slightly clayey slightly silty slightly gravelly SAND with some rootlets. Gravel consists of flint.		0.0					
(MADE GROUND)		0.15			0.05	0.15	D
Loose light yellow sandy GRAVEL with many cobbles of limestone. Gravel consists of limestone.		0.3					
(MADE GROUND)					0.65	0.85	D
Loose brown, sandy GRAVEL with occasional cobbles of brick and limestone. Gravel consists of concrete, limestone, flint and brick.							
(MADE GROUND)		1.15					
Very stiff dark grey and dark brown, sandy, slightly gravelly CLAY. Gravel consists of flint and ash.			1.2m P	3.5	1.2	1.4	D
(MADE GROUND)		1.3	1.4m P	2.5			
Stiff becoming firm brown and light brown, sandy, slightly gravelly CLAY. Gravel consists of flint.					1.6	1.8	D
(KEMPTON PARK GRAVEL)			1.8m P	1.0			
		2.0					
Dense light brown orange slightly clayey slightly silty gravelly SAND. Gravel consists of flint.					2.2	2.5	D
(KEMPTON PARK GRAVEL)							
		3.0					
BOREHOLE TERMINATED AT 3.0m							
Notes:							
1. Unable to excavate below 3m due to density of gravel.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	None observed	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**29.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS15**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Grass onto loose brown slightly clayey slightly gravelly SAND with some rootlets. Gravel consists of flint. (MADE GROUND)		0.0 0.1			0.1	0.25	D
Loose orange and brown slightly clayey very gravelly SAND. Gravel consists of flint. (MADE GROUND)		0.3	0.4m P	4.5	0.45	0.65	D
Very stiff brown, orange and dark grey, sandy, slightly gravelly CLAY. Gravel consists of ash, brick and flint. (MADE GROUND)		0.7	0.6m P	4.5			
Medium dense becoming dense orange and light brown gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL)					1.0	1.5	D
BOREHOLE TERMINATED AT 2.5m Notes: 1. Unable to excavate below 3m due to density of gravel.		2.5					

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	1.2m measured 5 minutes after drilling	NA	DCP11 15m to north east	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**29.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS16**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Bituminous bound material.		0.0					
(MADE GROUND)		0.1					
Cobbles of red brick recovered as sandy GRAVEL.							
(MADE GROUND)		0.3			0.3	0.5	D
Medium dense light brown sandy GRAVEL with occasional cobbles of concrete. Gravel consists of flint, brick and concrete.		0.5			0.5	0.0.7	D
(MADE GROUND)		0.7					
Very stiff brown sandy slightly gravelly CLAY					0.8	1.0	D
(KEMPTON PARK GRAVEL)							
Medium dense light brown orange clayey gravelly SAND. Gravel consists of flint.		1.0					
(KEMPTON PARK GRAVEL)							
Medium dense Light brown and orange very gravelly SAND. Gravel consists of flint.							
(KEMPTON PARK GRAVEL)					1.7	2.0	D
		2.0					
BOREHOLE TERMINATED AT 2.0m							
Notes:							
1. Infiltration test undertaken – refer to Appendix D.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	Standing water level at 1.41m	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**27.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS17**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Bituminous bound material		0.0					
(MADE GROUND)		0.03					
Loose dark grey gravelly SAND. Gravel consists of ash and clinker.		0.2			0.2	0.4	
(MADE GROUND)							
Loose brown and dark grey clayey slightly gravelly SAND with occasional roots. Gravel consists of ash, brick and flint.		0.6			0.6	0.8	
(MADE GROUND)							
Loose becoming medium dense light brown and light grey sandy GRAVEL. Gravel consists of flint.					1.3	1.5	
(KEMPTON PARK GRAVEL)							
					2.7	3.0	

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	2.3m measured 5 minutes after drilling	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 2

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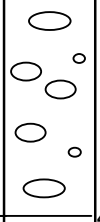
GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**28.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS18**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Loose becoming medium dense light brown and light grey sandy GRAVEL. Gravel consists of flint. (KEMPTON PARK GRAVEL)							
		4.0					
BOREHOLE TERMINATED AT 4.0m							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	2.3m measured 5 minutes after drilling	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 2 OF 2

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**28.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS18**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Bituminous bound material.		0.0					
(MADE GROUND)		0.03					
Loose dark grey sandy GRAVEL. Gravel consists of ash and clinker.		0.2			0.2	0.4	D
(MADE GROUND)							
Loose dark grey and brown slightly clayey slightly silty gravelly SAND. Gravel consists of ash, clinker, flint and limestone.		0.61					
(MADE GROUND)		0.8			0.8	1.0	D
Loose red light brown and grey gravelly SAND. Gravel consists of brick ash and flint.							
(MADE GROUND)							
Loose brown clayey, silty, gravelly SAND. Gravel consists of ash, flint and concrete.		1.2					
(MADE GROUND)							
BOREHOLE TERMINATED AT 1.2m							
Notes:							
1. Unable to excavate below 3m due to density of gravel.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	None observed	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

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GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**28.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS19**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Bituminous bound material.		0.0					
(MADE GROUND)		0.03					
Loose dark grey sandy GRAVEL. Gravel consists of ash and clinker.							
(MADE GROUND)		0.3			0.4	0.6	D
Loose dark grey slightly clayey slightly silty gravelly SAND. Gravel consists of ash, clinker, flint and brick.							
(MADE GROUND)					0.7	0.9	D
		0.9					
Loose light brown, very clayey, sandy GRAVEL. Gravel consists of flint.		1.0					
(KEMPTON PARK GRAVEL)					1.2	1.5	D
Medium dense light brown sandy GRAVEL. Gravel consists of flint.							
(KEMPTON PARK GRAVEL)							
					2.1	2.5	D
		3.0					
BOREHOLE TERMINATED AT 3.0m							
Notes:							
1. Unable to excavate below 3m due to density of gravel.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	2.0m measured 5 minutes after drilling	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

SOILTECHNICS
GEOTECHNICAL ENGINEERS, ENVIRONMENTAL CONSULTANTS
Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY.
Tel: (01604) 781877 Fax: (01604) 781007 E-mail: mail@soiltechnics.net

GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**28.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS20**

STRATA DESCRIPTION (following BS5930:1999)	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
			TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
Bituminous bound material.		0.0					
(MADE GROUND)		0.03					
Loose dark grey sandy GRAVEL. Gravel consists of ash and clinker.		0.2	0.3m P	1.0	0.2	0.4	D
(MADE GROUND)							
Firm becoming soft dark grey becoming light brown very sandy CLAY, with occasional roots.					0.6	0.8	D
(KEMPTON PARK GRAVEL)			0.7m P	0.5			
		0.95					
Medium dense becoming dense light brown sandy GRAVEL. Gravel consists of flint.					1.0	1.5	D
(KEMPTON PARK GRAVEL)							
		3.0					
BOREHOLE TERMINATED AT 3.0m							
Notes:							
1. Unable to excavate below 3m due to density of gravel.							

SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE CORING	DYNAMIC PROBING WITHIN 1.0m	STANDPIPE INSTALLATION
101mm – 68mm	None observed	No	No	None

REFER TO KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOLS

DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1

SOILTECHNICS
GEOTECHNICAL ENGINEERS, ENVIRONMENTAL CONSULTANTS
Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY.
Tel: (01604) 781877 Fax: (01604) 781007 E-mail: mail@soiltechnics.net

GROUND LEVEL	CO-ORDINATES
LOCATION PLAN ON DRAWING No	DATE OF EXCAVATION
STE1297R-02	**28.05.08**

PROJECT

Richmond-Upon-Thames College, Egerton Road, Twickenham.

PROJECT REF.	BOREHOLE No
STE1297R	**DTS21**

ALcontrol Laboratories

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email: langley@alcontrol.com

Lydia Drew
Soiltechnics
Cedar Barn
White Lodge
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Northampton
NN6 9PY

12 June 2008

TEST REPORT

Our Report Number: 08-50996

Your Order Reference: 8983

2 soil samples received on 04/06/2008

Final instructions received on 04/06/2008 (CoC No. 38963)

Project Name: Richmond-upon-Thames College

Project Code: STE1297R

Laboratory analysis started on 04 June 2008
All laboratory analysis completed by 12 June 2008

Sharon Googh
Project Co-Ordinator
ALCONTROL LABORATORIES

Daljit Jandu
Project Co-Ordinator
ALCONTROL LABORATORIES

ALcontrol Laboratories
Sample Description

Job Number: 08-50996
Client: Soiltechnics
Project Code: STE1297R

Matrix: Soil
Project Name: Richmond-upon-Thames College

Laboratory Reference No	Sample Reference	Sample Depth (m)	Date Sampled	Sample Description
320381	TP09	0.1-0.2	-	Dark brown sandy clay
320382	TP14	0.4	-	Dark brown sandy clay with vegetation

ALcontrol Laboratories
Table Of Results

Job Number : 08-50996
Matrix : Soil
Project Code: STE1297R

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Sample Reference	TP09	TP14				Method No	Units	LOD
Sample Depth (m)	0.1-0.2	0.4						
Date Sampled	-	-						
Date Scheduled	04/06/08	04/06/08						
Laboratory Reference No	320381	320382						
Analysis								
Moisture Content (Dry Weight)	31.0	13.3					%	0.1
Moisture Content (Wet Weight)	23.6	11.8					%	0.1
Organic Matter	5.1	4.5				092[I]	%	0.2
Organic Carbon	2.9	2.6				092[IM]	%	0.1

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-50996
Matrix : Soil
Project Code: STE1297R

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Sample Reference	TP09	TP14				Method No	Units	LOD
Sample Depth (m)	0.1-0.2	0.4						
Date Sampled	-	-						
Date Scheduled	04/06/08	04/06/08						
Laboratory Reference No	320381	320382						
Analysis								
* * PAH SUITE * *								
Naphthalene	0.10	0.15				022S[IM]	mg/kg	0.1
Acenaphthylene	< 0.1	0.45				022S[IM]	mg/kg	0.1
Acenaphthene	< 0.1	19				022S[IM]	mg/kg	0.1
Fluorene	< 0.1	12				022S[IM]	mg/kg	0.1
Phenanthrene	0.17	41				022S[IM]	mg/kg	0.1
Anthracene	< 0.1	10				022S[IM]	mg/kg	0.1
Fluoranthene	0.38	19				022S[IM]	mg/kg	0.1
Pyrene	0.34	12				022S[IM]	mg/kg	0.1
Benzo(a)anthracene	0.16	2.8				022S[IM]	mg/kg	0.1
Chrysene	0.22	2.5				022S[IM]	mg/kg	0.1
Benzo(b)fluoranthene	0.21	1.8				022S[IM]	mg/kg	0.1
Benzo(k)fluoranthene	< 0.1	0.62				022S[IM]	mg/kg	0.1
Benzo(a)pyrene	0.16	1.0				022S[IM]	mg/kg	0.1
Indeno(1,2,3-cd)pyrene	< 0.1	0.34				022S[IM]	mg/kg	0.1
Dibenzo(a,h)anthracene	< 0.1	< 0.1				022S[IM]	mg/kg	0.1
Benzo(g,h,i)perylene	0.12	0.40				022S[IM]	mg/kg	0.1
PAH (Sum of EPA 16)	1.86	123.11				022S[I]	mg/kg	1.6

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-50996
Matrix : Soil
Project Code: STE1297R

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Sample Reference	TP09	TP14				Method No	Units	LOD
Sample Depth (m)	0.1-0.2	0.4						
Date Sampled	-	-						
Date Scheduled	04/06/08	04/06/08						
Laboratory Reference No	320381	320382						
Analysis								
* * CWG SUITE * *								
Aliphatic C5-C6	0.02	0.02				CWGS	mg/kg	0.01
Aliphatic >C6-C8	0.01	0.02				CWGS	mg/kg	0.01
Aliphatic >C8-C10	0.05	0.02				CWGS	mg/kg	0.01
Aliphatic >C10-C12	0.13	0.09				CWGS	mg/kg	0.01
Aliphatic >C12-C16	26	28				CWGS[I]	mg/kg	1
Aliphatic >C16-C21	4.2	40				CWGS[I]	mg/kg	1
Aliphatic >C21-C35	9.7	52				CWGS[I]	mg/kg	5
Aromatic C6-C7	< 0.01	< 0.01				CWGS	mg/kg	0.01
Total Aliphatics (C5-C35)	40	120				CWGS	mg/kg	5
Aromatic >C7-C8	< 0.01	< 0.01				CWGS	mg/kg	0.01
Aromatic >C8-C10	0.07	0.04				CWGS	mg/kg	0.01
Aromatic >C10-C12	0.20	0.13				CWGS	mg/kg	0.01
Aromatic >C12-C16	16	140				CWGS[I]	mg/kg	1
Aromatic >C16-C21	3.7	240				CWGS[I]	mg/kg	1
Aromatic >C21-C35	18	220				CWGS[I]	mg/kg	5
Total Aromatics (C5-C35)	38	600				CWGS	mg/kg	5
Volatile Hydrocarbons (C5-C12)	0.48	0.32				CWGS	mg/kg	0.01
Extractable Hydrocarbons (C12-C35)	78	720				CWGS	mg/kg	5
Total Hydrocarbons (C5-C35)	78	720				CWGS	mg/kg	5
MTBE	< 0.010	< 0.010				CWGS[IM]	mg/kg	0.01
Benzene	< 0.010	< 0.010				CWGS[IM]	mg/kg	0.01
Toluene	< 0.010	< 0.010				CWGS[IM]	mg/kg	0.01
Ethylbenzene	< 0.010	< 0.010				CWGS[IM]	mg/kg	0.01
m,p-Xylenes	< 0.010	< 0.010				CWGS[IM]	mg/kg	0.01
o-Xylene	< 0.010	< 0.010				CWGS[IM]	mg/kg	0.01
1,3,5-Trimethylbenzene	< 0.010	< 0.010				CWGS[IM]	mg/kg	0.01
1,2,4-Trimethylbenzene	< 0.010	< 0.010				CWGS[IM]	mg/kg	0.01

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results - Appendix

Job Number : 08-50996

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Project Code: STE1297R

Method No.	Reference	Description	
022S	In-house method	Determination of PAH compounds in soil samples by hexane / acetone extraction followed by GC-MS detection [Note: this method does not separate benzo(j)fluoranthene, and this PAH will be included in the sum of benzo(b)fluoranthene & benzo(k)fluoranthene]	W
CWGS	In-house method based on "Total Petroleum Hydrocarbon Criteria Working Group" series, 1998-9	Determination of "CWG" banded petroleum hydrocarbons in soil samples using a combination of headspace GC-FID (C5-C12) and hexane:acetone extraction / silica-alumina aliphatic - aromatic split / GC-FID (C12-C35) techniques with banding by comparison to alkane standards	W
092	In-house method	Determination of organic matter in soil samples by combustion analyser	D

Appendix

Code	Description
On Results	
*	Detection limit(s) raised due to matrix interference
¥	Detection limit(s) raised due to reduced amount of sample available for analysis
‡	Dilution factor applied due to nature of sample
NAD	No asbestos detected
$	Analysis sub-contracted
U/S	Analysis unsuitable for sample due to its matrix or properties
I/S	Insufficient sample
M/S	Sample cannot be located within the laboratory
ND	Not detected (below relevant analytical detection limit)
ç	Sample filtered prior to analysis
§	Please note product present, therefore this result is for indicative purpose only
On the Sample Numbers	
†	Sample type outside the scope of our MCERTS accreditation since matrix not included in method validation
¢	Unsuitable for analysis due to asbestos content
General Statements	
æ	Please note TOC's & LOI's have been repeated and the apparently anomalous results confirmed
¶	UKAS and/or MCERTS accreditation removed due to duration of sample in laboratory prior to testing
¤	The BOD analysis was carried out prior to the COD analysis and included an oily layer, which is the likely cause of the anomalous results
Note:	Analysis carried out for organic compounds on water samples containing free product is on a "best endeavour" basis
Note:	All results calculated from organic carbon on a dry weight basis
Note:	Fe(II) and dissolved Fe are analysed by different methods, sometimes leading to slight discrepancy between results
Note:	"Total" results calculated by summing individual components are not rounded
Note:	The reporting limit stated in the LOD column is the standard method reporting limit, derived statistically from validation data, however it is occasionally necessary to raise reporting limits due to matrix interference or limited sample availability
Note:	During soil preparation, best efforts are made to produce analytical subsamples representative of the entire submitted sample, without exclusion of stones

ALcontrol Laboratories

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17 June 2008

TEST REPORT

Our Report Number: 08-51154

Your Order Reference: 8990

18 soil samples received on 06/06/2008

Final instructions received on 06/06/2008

Project Name: Richmond-upon-Thames College

Project Code: STE1297R

Laboratory analysis started on 06 June 2008
All laboratory analysis completed by 17 June 2008

Sharon Googh
Project Co-Ordinator
ALCONTROL LABORATORIES

Rhys Ashton
Project Co-Ordinator
ALCONTROL LABORATORIES

ALcontrol Laboratories
Sample Description

Job Number: 08-51154
Client: Soiltechnics
Project Code: STE1297R

Matrix: Soil
Project Name: Richmond-upon-Thames College

Laboratory Reference No	Sample Reference	Sample Depth (m)	Date Sampled	Sample Description
321091	DTS10	0.1-0.3	-	Brown sandy clay with gravel
321092	DTS08	1.2-1.5	-	Brown sandy clay with gravel
321093	DTS06	0.05-0.2	-	Dark brown sandy clay with gravel and vegetation
321094	DTS01	0.4-0.55	-	Brown sandy clay with gravel and vegetation
321095	DTS03	0.2-0.4	-	Brown sandy clay with gravel and coal / coke
321096	DTS11	0.9-1.0	-	Brown sandy clay with gravel
321097	DTS16	0.1-0.25	-	Brown sandy clay with gravel and vegetation
321098	DTS12	0.5-0.6	-	Dark brown sandy clay with gravel and coal / coke
321099	DTS13	0.2-0.3	-	Dark brown sandy clay with gravel and coal / coke
321100	DTS05	0.2-0.35	-	Grey & brown sandy clay with gravel and coal / coke
321101	DTS19	0.2-0.4	-	Dark brown sandy clay with gravel and coal / coke
321102	DTS18	0.2-0.4	-	Brown sandy clay with gravel and vegetation
321103	DTS07	2.3-2.5	-	Brown sandy clay with gravel
321104 †	BH03	3.7	-	Grey & brown gravel with sand
321105	BH02	5.4	-	Grey clay
321106	BH03	8	-	Grey clay
321107	BH02	5.2	-	Brown sand with gravel
321108	BH05	9.5	-	Grey clay

ALcontrol Laboratories
Table Of Results

Job Number : 08-51154
Matrix : Soil
Project Code: STE1297R

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Sample Reference	DTS10	DTS08	DTS06	DTS01	DTS03	Method No	Units	LOD
Sample Depth (m)	0.1-0.3	1.2-1.5	0.05-0.2	0.4-0.55	0.2-0.4			
Date Sampled	-	-	-	-	-			
Date Scheduled	06/06/08	06/06/08	06/06/08	06/06/08	06/06/08			
Laboratory Reference No	321091	321092	321093	321094	321095			
Analysis								
Moisture Content (Wet Weight)	13.0	8.7	19.6	13.3	23.0		%	0.1
Moisture Content (Dry Weight)	15.0	9.6	24.3	15.3	29.8		%	0.1
Arsenic	13	12	20	11	15	069S[IM]	mg/kg	3
Beryllium	3.4	< 0.5	1.2	0.7	0.9	069S[IM]	mg/kg	0.5
Cadmium	0.7	< 0.5	0.8	< 0.5	0.5	069S[IM]	mg/kg	0.5
Chromium	20	15	23	24	26	069S[IM]	mg/kg	10
Lead	130	< 10	300	78	290	069S[IM]	mg/kg	10
Mercury	< 0.6	< 0.6	1.7	0.7	< 0.6	069S[IM]	mg/kg	0.6
Nickel	15	22	21	12	13	069S[IM]	mg/kg	4
Selenium	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	069S[IM]	mg/kg	2.5
Sulphate (Total Acid Soluble) as SO4	2800	< 200	700	320	9700	025a[IM]	mg/kg	200
W/S Sulphate as SO4	0.72	< 0.02	0.02	0.02	1.5	074[IM]	g/l	0.02
Sulphur (Total)	2400	< 100	540	200	3700	069S	mg/kg	100
Vanadium	55	26	42	37	36	069S[IM]	mg/kg	3
Free Cyanide	< 1	< 1	< 1	< 1	< 1	061S[IM]	mg/kg	1
Complex Cyanide	2.7	< 1	< 1	< 1	< 1	061S[I]	mg/kg	1
Total Cyanide	3.0	< 1	< 1	< 1	< 1	061S[IM]	mg/kg	1
Organic Matter	1.8	< 0.2	8.5	2.6	0.85	092[I]	%	0.2
Organic Carbon	1.0	< 0.1	4.9	1.5	0.49	092[IM]	%	0.1
pH	10.2	7.5	6.6	6.7	10.1	084S[IM]	pH Units	1
Elemental Sulphur	760	< 100	< 100	< 100	< 100	032[IM]	mg/kg	100

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-51154
Matrix : Soil
Project Code: STE1297R

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Sample Reference	DTS11	DTS16	DTS12	DTS13	DTS05	Method No	Units	LOD
Sample Depth (m)	0.9-1.0	0.1-0.25	0.5-0.6	0.2-0.3	0.2-0.35			
Date Sampled	-	-	-	-	-			
Date Scheduled	06/06/08	06/06/08	06/06/08	06/06/08	06/06/08			
Laboratory Reference No	321096	321097	321098	321099	321100			
Analysis								
Moisture Content (Wet Weight)	13.1	10.3	20.9	14.0	8.5		%	0.1
Moisture Content (Dry Weight)	15.1	11.5	26.4	16.2	9.3		%	0.1
Arsenic	11	16	20	24	8.8	069S[IM]	mg/kg	3
Beryllium	0.8	0.7	1.6	4.4	0.6	069S[IM]	mg/kg	0.5
Cadmium	< 0.5	< 0.5	0.7	0.9	< 0.5	069S[IM]	mg/kg	0.5
Chromium	27	21	24	34	13	069S[IM]	mg/kg	10
Lead	17	84	300	400	75	069S[IM]	mg/kg	10
Mercury	< 0.6	< 0.6	0.9	1.9	< 0.6	069S[IM]	mg/kg	0.6
Nickel	22	15	23	30	13	069S[IM]	mg/kg	4
Selenium	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	069S[IM]	mg/kg	2.5
Sulphate (Total Acid Soluble) as SO4	< 200	320	540	540	680	025a[IM]	mg/kg	200
W/S Sulphate as SO4	< 0.02	< 0.02	0.03	0.03	0.05	074[IM]	g/l	0.02
Sulphur (Total)	< 100	190	400	580	440	069S	mg/kg	100
Vanadium	43	34	48	58	23	069S[IM]	mg/kg	3
Free Cyanide	< 1	< 1	< 1	< 1	< 1	061S[IM]	mg/kg	1
Complex Cyanide	< 1	< 1	< 1	< 1	< 1	061S[I]	mg/kg	1
Total Cyanide	< 1	< 1	< 1	< 1	< 1	061S[IM]	mg/kg	1
Organic Matter	0.35	1.9	10	8.6	5.8	092[I]	%	0.2
Organic Carbon	0.20	1.1	5.8	5.0	3.4	092[IM]	%	0.1
pH	6.9	7.1	6.0	7.1	9.1	084S[IM]	pH Units	1
Elemental Sulphur	< 100	< 100	< 100	< 100	890	032[IM]	mg/kg	100

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-51154
Matrix : Soil
Project Code: STE1297R

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Sample Reference	DTS19	DTS18	DTS07	BH03	BH02	Method No	Units	LOD
Sample Depth (m)	0.2-0.4	0.2-0.4	2.3-2.5	3.7	5.4			
Date Sampled	-	-	-	-	-			
Date Scheduled	06/06/08	06/06/08	06/06/08	06/06/08	06/06/08			
Laboratory Reference No	321101	321102	321103	321104 †	321105			
Analysis								
Moisture Content (Wet Weight)	19.6	13.6	11.8	6.3	21.3		%	0.1
Moisture Content (Dry Weight)	24.5	15.8	13.4	6.7	27.1		%	0.1
Arsenic	43	21	-	-	-	069S[IM]	mg/kg	3
Beryllium	4.8	1.2	-	-	-	069S[IM]	mg/kg	0.5
Cadmium	1.4	0.8	-	-	-	069S[IM]	mg/kg	0.5
Chromium	37	42	-	-	-	069S[IM]	mg/kg	10
Lead	1100	390	-	-	-	069S[IM]	mg/kg	10
Mercury	< 0.6	1.3	-	-	-	069S[IM]	mg/kg	0.6
Nickel	65	23	-	-	-	069S[IM]	mg/kg	4
Selenium	< 2.5	< 2.5	-	-	-	069S[IM]	mg/kg	2.5
Sulphate (Total Acid Soluble) as SO4	860	560	< 200	320	500	025a[IM]	mg/kg	200
W/S Sulphate as SO4	0.05	0.09	< 0.02	0.10	0.32	074[IM]	g/l	0.02
Sulphur (Total)	900	360	< 100	840	6800	069S	mg/kg	100
Vanadium	100	45	-	-	-	069S[IM]	mg/kg	3
Free Cyanide	< 1	< 1	-	-	-	061S[IM]	mg/kg	1
Complex Cyanide	< 1	< 1	-	-	-	061S[I]	mg/kg	1
Total Cyanide	< 1	< 1	-	-	-	061S[IM]	mg/kg	1
Organic Matter	11	5.1	-	-	-	092[I]	%	0.2
Organic Carbon	6.4	3.0	-	-	-	092[IM]	%	0.1
pH	6.5	5.9	7.5	7.3	7.6	084S[IM]	pH Units	1
Elemental Sulphur	< 100	< 100	-	-	-	032[IM]	mg/kg	100

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-51154
Matrix : Soil
Project Code: STE1297R

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Sample Reference	BH03	BH02	BH05			Method No	Units	LOD
Sample Depth (m)	8	5.2	9.5					
Date Sampled	-	-	-					
Date Scheduled	06/06/08	06/06/08	06/06/08					
Laboratory Reference No	321106	321107	321108					
Analysis								
Moisture Content (Wet Weight)	21.1	7.4	21.4				%	0.1
Moisture Content (Dry Weight)	26.7	8.0	27.3				%	0.1
Arsenic	-	-	-			069S[IM]	mg/kg	3
Beryllium	-	-	-			069S[IM]	mg/kg	0.5
Cadmium	-	-	-			069S[IM]	mg/kg	0.5
Chromium	-	-	-			069S[IM]	mg/kg	10
Lead	-	-	-			069S[IM]	mg/kg	10
Mercury	-	-	-			069S[IM]	mg/kg	0.6
Nickel	-	-	-			069S[IM]	mg/kg	4
Selenium	-	-	-			069S[IM]	mg/kg	2.5
Sulphate (Total Acid Soluble) as SO4	350	< 200	390			025a[IM]	mg/kg	200
W/S Sulphate as SO4	0.27	0.05	0.28			074[IM]	g/l	0.02
Sulphur (Total)	3600	620	4100			069S	mg/kg	100
Vanadium	-	-	-			069S[IM]	mg/kg	3
Free Cyanide	-	-	-			061S[IM]	mg/kg	1
Complex Cyanide	-	-	-			061S[I]	mg/kg	1
Total Cyanide	-	-	-			061S[IM]	mg/kg	1
Organic Matter	-	-	-			092[I]	%	0.2
Organic Carbon	-	-	-			092[IM]	%	0.1
pH	7.7	7.4	7.9			084S[IM]	pH Units	1
Elemental Sulphur	-	-	-			032[IM]	mg/kg	100

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-51154
Matrix : Soil
Project Code: STE1297R

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Sample Reference	DTS10	DTS08	DTS06	DTS01	DTS03	Method No	Units	LOD
Sample Depth (m)	0.1-0.3	1.2-1.5	0.05-0.2	0.4-0.55	0.2-0.4			
Date Sampled	-	-	-	-	-			
Date Scheduled	06/06/08	06/06/08	06/06/08	06/06/08	06/06/08			
Laboratory Reference No	321091	321092	321093	321094	321095			
Analysis								
* * PAH SUITE * *								
Naphthalene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	022S[IM]	mg/kg	0.1
Acenaphthylene	0.92	< 0.1	0.20	< 0.1	< 0.1	022S[IM]	mg/kg	0.1
Acenaphthene	3.7	< 0.1	< 0.1	< 0.1	0.21	022S[IM]	mg/kg	0.1
Fluorene	4.6	< 0.1	< 0.1	< 0.1	0.14	022S[IM]	mg/kg	0.1
Phenanthrene	61	< 0.1	0.47	< 0.1	2.0	022S[IM]	mg/kg	0.1
Anthracene	18	< 0.1	0.17	< 0.1	0.52	022S[IM]	mg/kg	0.1
Fluoranthene	89	< 0.1	1.4	0.21	2.9	022S[IM]	mg/kg	0.1
Pyrene	68	< 0.1	1.5	0.18	2.4	022S[IM]	mg/kg	0.1
Benzo(a)anthracene	30	< 0.1	0.60	0.10	1.1	022S[IM]	mg/kg	0.1
Chrysene	26	< 0.1	0.99	0.12	1.2	022S[IM]	mg/kg	0.1
Benzo(b)fluoranthene	23	< 0.1	1.1	0.18	1.5	022S[IM]	mg/kg	0.1
Benzo(k)fluoranthene	9.9	< 0.1	0.32	< 0.1	0.56	022S[IM]	mg/kg	0.1
Benzo(a)pyrene	18	< 0.1	0.66	0.13	0.97	022S[IM]	mg/kg	0.1
Indeno(1,2,3-cd)pyrene	6.4	< 0.1	0.25	< 0.1	0.51	022S[IM]	mg/kg	0.1
Dibenzo(a,h)anthracene	1.6	< 0.1	< 0.1	< 0.1	0.13	022S[IM]	mg/kg	0.1
Benzo(g,h,i)perylene	6.7	< 0.1	0.31	< 0.1	0.58	022S[IM]	mg/kg	0.1
PAH (Sum of EPA 16)	365.66	ND	7.98	ND	14.59	022S[I]	mg/kg	1.6

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-51154
Matrix : Soil
Project Code: STE1297R

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Sample Reference	DTS11	DTS16	DTS12	DTS13	DTS05	Method No	Units	LOD
Sample Depth (m)	0.9-1.0	0.1-0.25	0.5-0.6	0.2-0.3	0.2-0.35			
Date Sampled	-	-	-	-	-			
Date Scheduled	06/06/08	06/06/08	06/06/08	06/06/08	06/06/08			
Laboratory Reference No	321096	321097	321098	321099	321100			
Analysis								
* * PAH SUITE * *								
Naphthalene	< 0.1	< 0.1	< 0.1	< 0.1	2.2	022S[IM]	mg/kg	0.1
Acenaphthylene	< 0.1	< 0.1	< 0.1	< 0.1	16	022S[IM]	mg/kg	0.1
Acenaphthene	< 0.1	< 0.1	< 0.1	< 0.1	23	022S[IM]	mg/kg	0.1
Fluorene	< 0.1	< 0.1	< 0.1	< 0.1	24	022S[IM]	mg/kg	0.1
Phenanthrene	< 0.1	0.18	0.81	0.77	130	022S[IM]	mg/kg	0.1
Anthracene	< 0.1	< 0.1	0.21	0.16	52	022S[IM]	mg/kg	0.1
Fluoranthene	< 0.1	0.32	1.5	2.0	200	022S[IM]	mg/kg	0.1
Pyrene	< 0.1	0.29	1.3	1.7	150	022S[IM]	mg/kg	0.1
Benzo(a)anthracene	< 0.1	0.12	0.64	0.90	68	022S[IM]	mg/kg	0.1
Chrysene	< 0.1	0.12	0.71	1.1	64	022S[IM]	mg/kg	0.1
Benzo(b)fluoranthene	< 0.1	0.14	0.80	1.5	74	022S[IM]	mg/kg	0.1
Benzo(k)fluoranthene	< 0.1	< 0.1	0.29	0.51	28	022S[IM]	mg/kg	0.1
Benzo(a)pyrene	< 0.1	0.10	0.72	1.1	58	022S[IM]	mg/kg	0.1
Indeno(1,2,3-cd)pyrene	< 0.1	< 0.1	0.32	0.50	26	022S[IM]	mg/kg	0.1
Dibenzo(a,h)anthracene	< 0.1	< 0.1	< 0.1	0.12	6.4	022S[IM]	mg/kg	0.1
Benzo(g,h,i)perylene	< 0.1	< 0.1	0.34	0.58	26	022S[IM]	mg/kg	0.1
PAH (Sum of EPA 16)	ND	ND	7.72	10.88	940.56	022S[I]	mg/kg	1.6

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-51154
Matrix : Soil
Project Code: STE1297R

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Sample Reference	DTS19	DTS18				Method No	Units	LOD
Sample Depth (m)	0.2-0.4	0.2-0.4						
Date Sampled	-	-						
Date Scheduled	06/06/08	06/06/08						
Laboratory Reference No	321101	321102						
Analysis								
* * PAH SUITE * *								
Naphthalene	< 0.1	< 0.1				022S[IM]	mg/kg	0.1
Acenaphthylene	< 0.1	< 0.1				022S[IM]	mg/kg	0.1
Acenaphthene	< 0.1	0.17				022S[IM]	mg/kg	0.1
Fluorene	< 0.1	0.10				022S[IM]	mg/kg	0.1
Phenanthrene	0.51	1.7				022S[IM]	mg/kg	0.1
Anthracene	< 0.1	0.36				022S[IM]	mg/kg	0.1
Fluoranthene	1.3	2.5				022S[IM]	mg/kg	0.1
Pyrene	1.3	2.3				022S[IM]	mg/kg	0.1
Benzo(a)anthracene	0.61	1.0				022S[IM]	mg/kg	0.1
Chrysene	0.75	1.3				022S[IM]	mg/kg	0.1
Benzo(b)fluoranthene	0.80	1.3				022S[IM]	mg/kg	0.1
Benzo(k)fluoranthene	0.29	0.49				022S[IM]	mg/kg	0.1
Benzo(a)pyrene	0.61	0.98				022S[IM]	mg/kg	0.1
Indeno(1,2,3-cd)pyrene	0.34	0.43				022S[IM]	mg/kg	0.1
Dibenzo(a,h)anthracene	< 0.1	0.10				022S[IM]	mg/kg	0.1
Benzo(g,h,i)perylene	0.41	0.51				022S[IM]	mg/kg	0.1
PAH (Sum of EPA 16)	6.91	13.32				022S[I]	mg/kg	1.6

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results - Appendix

Job Number : 08-51154

Project Name: Richmond-upon-Thames College
Client : Soiltechnics

Project Code: STE1297R

Summary of methods contained within report :

Method No.	Reference	Description	Wet/Dry Analysis
061S	In-house method based on Method 4500-CN, "Standard Methods for the Examination of Water and Waste Water", APHA AWWA WEF, Edition 18, 1992	Determination of cyanides and thiocyanate in soil samples by continuous flow colorimetry (Skalar)	W
022S	In-house method	Determination of PAH compounds in soil samples by hexane / acetone extraction followed by GC-MS detection [Note: this method does not separate benzo(j)fluoranthene, and this PAH will be included in the sum of benzo(b)fluoranthene & benzo(k)fluoranthene]	W
084S	In-house method referencing BS1377: Part 3: 1990 and Second Site Property: Environmental Assessment Guidance Version 3: March 2003	Determination of pH by addition of water followed by electrometric measurement	D
074	In-house method based on BS1377 Part 3, "Chemical and Electrochemical Tests", 1990	Determination of 2:1 water soluble sulphate in soil samples by Inductively Coupled Plasma - Optical Emission Spectrometry (ICP-OES)	D
069S	In-house method based on MEWAM "Methods for the Determination of Metals in Soil", HMSO, 1986	Determination of metals in soil samples by aqua-regia digestion followed by ICP-OES detection	D
032	In-house method	Determination of elemental sulphur (with simultaneous PAH screening) by dichloromethane extraction followed by HPLC-UV detection	D
025a	In-house method based on BS1377 Part 3, "Chemical and Electrochemical Tests", 1990	Determination of hydrochloric acid soluble sulphate in soil samples by Inductively Coupled Plasma - Optical Emission Spectrometry (ICP-OES)	D
092	In-house method	Determination of organic matter in soil samples by combustion analyser	D

Soil results are expressed on a dry weight basis. Where the test uses as-received sample, a moisture correction factor is applied to the wet weight result. This factor is determined gravimetrically using weight loss on drying at 30º (+/-5) C.

Appendix

Code	Description
On Results	
*	Detection limit(s) raised due to matrix interference
¥	Detection limit(s) raised due to reduced amount of sample available for analysis
‡	Dilution factor applied due to nature of sample
NAD	No asbestos detected
$	Analysis sub-contracted
U/S	Analysis unsuitable for sample due to its matrix or properties
I/S	Insufficient sample
M/S	Sample cannot be located within the laboratory
ND	Not detected (below relevant analytical detection limit)
ç	Sample filtered prior to analysis
§	Please note product present, therefore this result is for indicative purpose only
On the Sample Numbers	
†	Sample type outside the scope of our MCERTS accreditation since matrix not included in method validation
¢	Unsuitable for analysis due to asbestos content
General Statements	
æ	Please note TOC's & LOI's have been repeated and the apparently anomalous results confirmed
¶	UKAS and/or MCERTS accreditation removed due to duration of sample in laboratory prior to testing
¤	The BOD analysis was carried out prior to the COD analysis and included an oily layer, which is the likely cause of the anomalous results
Note:	Analysis carried out for organic compounds on water samples containing free product is on a "best endeavour" basis
Note:	All results calculated from organic carbon on a dry weight basis
Note:	Fe(II) and dissolved Fe are analysed by different methods, sometimes leading to slight discrepancy between results
Note:	"Total" results calculated by summing individual components are not rounded
Note:	The reporting limit stated in the LOD column is the standard method reporting limit, derived statistically from validation data, however it is occasionally necessary to raise reporting limits due to matrix interference or limited sample availability
Note:	During soil preparation, best efforts are made to produce analytical subsamples representative of the entire submitted sample, without exclusion of stones

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Cedar Barn
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08 July 2008

TEST REPORT

Our Report Number: 08-51972

Your Order Reference: 9054

6 water samples received on 27/06/2008

Final instructions received on 27/06/2008 (CoC No. 41242)

Project Name: Richmond- Upon- Thames College

Project Code: STE1297R

Laboratory analysis started on 27 June 2008
All laboratory analysis completed by 08 July 2008

Rexona Rahman
Analytical Reporting Manager
ALCONTROL LABORATORIES

Sharon Googh
Project Co-Ordinator
ALCONTROL LABORATORIES

ALcontrol Laboratories
Table Of Results

Job Number : 08-51972
Matrix : Water
Project Code: STE1297R

Project Name: Richmond- Upon- Thames College
Client : Soiltechnics

Sample Reference	BH01	BH02	BH03	BH04	BH05	Method No	Units	LOD
Sample Depth (m)	-	-	-	-	-			
Date Sampled	-	-	-	-	-			
Date Scheduled	27/06/08	27/06/08	27/06/08	27/06/08	27/06/08			
Laboratory Reference No	324614	324615	324616	324617	324618			
Analysis								
Arsenic (Dissolved)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	080W[I]	mg/l	0.005
Barium (Dissolved)	0.035	0.045	0.044	0.062	0.045	080W[I]	mg/l	0.005
Beryllium (Dissolved)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	080W[I]	mg/l	0.001
Boron (Dissolved)	0.30	0.48	0.14	0.23	0.072	080W[I]	mg/l	0.005
Cadmium (Dissolved)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	080W[I]	mg/l	0.001
Chromium (Dissolved)	0.007	0.006	< 0.005	< 0.005	< 0.005	080W[I]	mg/l	0.005
Copper (Dissolved)	0.006	< 0.005	< 0.005	< 0.005	< 0.005	080W[I]	mg/l	0.005
Lead (Dissolved)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	080W[I]	mg/l	0.005
Magnesium (Dissolved)	-	14	-	-	-	062W[I]	mg/l	0.1
Mercury (Dissolved)	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	080W[I]	mg/l	0.00005
Nickel (Dissolved)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	080W[I]	mg/l	0.005
Selenium (Dissolved)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	080W[I]	mg/l	0.005
Vanadium (Dissolved)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	080W[I]	mg/l	0.005
Zinc (Dissolved)	0.010	0.007	< 0.005	< 0.005	< 0.005	080W[I]	mg/l	0.005
Ammoniacal Nitrogen as NH4	-	0.13	-	-	-	057W[I]	mg/l	0.065
Ammoniacal Nitrogen as N	-	0.10	-	-	-	057W[I]	mg/l	0.05
Free Cyanide	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	061W[I]	mg/l	0.02
Total Cyanide	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	061W[I]	mg/l	0.02
Nitrate as N	5.5	2.4	2.7	< 0.5	< 0.5	086W[I]	mg/l	0.5
pH	7.3	7.1	7.2	7.2	7.0	084W[I]	pH Units	1
Sulphide	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	055W[I]	mg/l	0.05
Sulphate as SO4	40	79	66	300	18	086W[I]	mg/l	10

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-51972
Matrix : Water
Project Code: STE1297R

Project Name: Richmond- Upon- Thames College
Client : Soiltechnics

Sample Reference	BH06					Method No	Units	LOD
Sample Depth (m)	-							
Date Sampled	-							
Date Scheduled	27/06/08							
Laboratory Reference No	324619							
Analysis								
Arsenic (Dissolved)	< 0.005					080W[I]	mg/l	0.005
Barium (Dissolved)	0.075					080W[I]	mg/l	0.005
Beryllium (Dissolved)	< 0.001					080W[I]	mg/l	0.001
Boron (Dissolved)	0.30					080W[I]	mg/l	0.005
Cadmium (Dissolved)	< 0.001					080W[I]	mg/l	0.001
Chromium (Dissolved)	< 0.005					080W[I]	mg/l	0.005
Copper (Dissolved)	< 0.005					080W[I]	mg/l	0.005
Lead (Dissolved)	< 0.005					080W[I]	mg/l	0.005
Magnesium (Dissolved)	11					062W[I]	mg/l	0.1
Mercury (Dissolved)	< 0.00005					080W[I]	mg/l	0.00005
Nickel (Dissolved)	0.007					080W[I]	mg/l	0.005
Selenium (Dissolved)	< 0.005					080W[I]	mg/l	0.005
Vanadium (Dissolved)	< 0.005					080W[I]	mg/l	0.005
Zinc (Dissolved)	0.006					080W[I]	mg/l	0.005
Ammoniacal Nitrogen as NH4	0.22					057W[I]	mg/l	0.065
Ammoniacal Nitrogen as N	0.17					057W[I]	mg/l	0.05
Free Cyanide	< 0.02					061W[I]	mg/l	0.02
Total Cyanide	< 0.02					061W[I]	mg/l	0.02
Nitrate as N	2.9					086W[I]	mg/l	0.5
pH	7.3					084W[I]	pH Units	1
Sulphide	< 0.05					055W[I]	mg/l	0.05
Sulphate as SO4	180					086W[I]	mg/l	10

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-51972
Matrix : Water
Project Code: STE1297R

Project Name: Richmond- Upon- Thames College
Client : Soiltechnics

Sample Reference	BH01	BH02	BH03	BH04	BH05	Method No	Units	LOD
Sample Depth (m)	-	-	-	-	-			
Date Sampled	-	-	-	-	-			
Date Scheduled	27/06/08	27/06/08	27/06/08	27/06/08	27/06/08			
Laboratory Reference No	324614	324615	324616	324617	324618			
Analysis								
* * PAH SUITE * *								
Naphthalene	< 0.0001	< 0.0001	< 0.0001	0.0012	< 0.0001	022W[I]	mg/l	0.0001
Acenaphthylene	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	022W[I]	mg/l	0.0001
Acenaphthene	< 0.0001	< 0.0001	< 0.0001	0.0010	< 0.0001	022W[I]	mg/l	0.0001
Fluorene	< 0.0001	< 0.0001	< 0.0001	0.0007	< 0.0001	022W[I]	mg/l	0.0001
Phenanthrene	< 0.0001	< 0.0001	< 0.0001	0.0012	< 0.0001	022W[I]	mg/l	0.0001
Anthracene	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	022W[I]	mg/l	0.0001
Fluoranthene	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	022W[I]	mg/l	0.0001
Pyrene	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	022W[I]	mg/l	0.0001
Benzo(a)anthracene	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	022W[I]	mg/l	0.0001
Chrysene	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	022W[I]	mg/l	0.0001
Benzo(b)fluoranthene	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	022W[I]	mg/l	0.0001
Benzo(k)fluoranthene	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	022W[I]	mg/l	0.0001
Benzo(a)pyrene	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	022W[I]	mg/l	0.0001
Indeno(1,2,3-cd)pyrene	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	022W[I]	mg/l	0.0001
Dibenzo(a,h)anthracene	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	022W[I]	mg/l	0.0001
Benzo(g,h,i)perylene	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	022W[I]	mg/l	0.0001
PAH (Sum of EPA 16)	ND	ND	ND	0.0051	ND	022W[I]	mg/l	0.0001

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results

Job Number : 08-51972
Matrix : Water
Project Code: STE1297R

Project Name: Richmond- Upon- Thames College
Client : Soiltechnics

Sample Reference	BH06					Method No	Units	LOD
Sample Depth (m)	-							
Date Sampled	-							
Date Scheduled	27/06/08							
Laboratory Reference No	324619							
Analysis								
* * PAH SUITE * *								
Naphthalene	< 0.0001					022W[I]	mg/l	0.0001
Acenaphthylene	< 0.0001					022W[I]	mg/l	0.0001
Acenaphthene	< 0.0001					022W[I]	mg/l	0.0001
Fluorene	< 0.0001					022W[I]	mg/l	0.0001
Phenanthrene	< 0.0001					022W[I]	mg/l	0.0001
Anthracene	< 0.0001					022W[I]	mg/l	0.0001
Fluoranthene	< 0.0001					022W[I]	mg/l	0.0001
Pyrene	< 0.0001					022W[I]	mg/l	0.0001
Benzo(a)anthracene	< 0.0001					022W[I]	mg/l	0.0001
Chrysene	< 0.0001					022W[I]	mg/l	0.0001
Benzo(b)fluoranthene	< 0.0001					022W[I]	mg/l	0.0001
Benzo(k)fluoranthene	< 0.0001					022W[I]	mg/l	0.0001
Benzo(a)pyrene	< 0.0001					022W[I]	mg/l	0.0001
Indeno(1,2,3-cd)pyrene	< 0.0001					022W[I]	mg/l	0.0001
Dibenzo(a,h)anthracene	< 0.0001					022W[I]	mg/l	0.0001
Benzo(g,h,i)perylene	< 0.0001					022W[I]	mg/l	0.0001
PAH (Sum of EPA 16)	ND					022W[I]	mg/l	0.0001

[I] ISO 17025 accredited.
[M] MCERTS accredited for sand, loam and clay.

ALcontrol Laboratories
Table Of Results - Appendix

Job Number : 08-51972

Project Name: Richmond- Upon- Thames College
Client : Soiltechnics

Project Code: STE1297R

Summary of methods contained within report :

Method No.	Reference	Description	Wet/Dry Analysis
086W	In-house method	Determination of anion content in aqueous samples using ion chromatographic determination with electrical conductivity detector	
084W	In-house method	Determination of pH in aqueous samples by direct electrometric measurement	
080W	In-house method based on MEWAM "Inductively Coupled Plasma Spectrometry", HMSO, 1996	Determination of metals in aqueous samples by nitric acid digestion followed by Inductively Coupled Plasma - Mass Spectrometry detection (ICP-MS)	
062W	In-house method based on MEWAM "Inductively Coupled Plasma Spectrometry", HMSO, 1996	Determination of metals in aqueous samples by nitric digestion followed by ICP-OES detection	
061W	In-house method based on Method 4500-CN, "Standard Methods for the Examination of Water and Waste Water", APHA AWWA WEF, Edition 18, 1992	Determination of cyanides and thiocyanate in aqueous samples by continuous flow colorimetry (Skalar)	
057W	In-house method based on Method 18.13 "Environmental Assessment Guidance" Version 3, Second Site Property, March 2003	Determination of ammoniacal nitrogen in aqueous samples by ion selective electrode	
055W	In-house method based on MEWAM "Sulphide in Waters and Effluents", HMSO, 1983	Determination of sulphide in aqueous samples by direct colourimetry	
022W	In-house method	Determination of PAH compounds in aqueous samples by pentane extraction followed by GC-MS detection [Note: this method does not separate benzo(j)fluoranthene, and this PAH will be included in the sum of benzo(b)fluoranthene & benzo(k)fluoranthene]	

Appendix

Code	Description
On Results	
*	Detection limit(s) raised due to matrix interference
¥	Detection limit(s) raised due to reduced amount of sample available for analysis
‡	Dilution factor applied due to nature of sample
NAD	No asbestos detected
$	Analysis sub-contracted
U/S	Analysis unsuitable for sample due to its matrix or properties
I/S	Insufficient sample
M/S	Sample cannot be located within the laboratory
ND	Not detected (below relevant analytical detection limit)
ç	Sample filtered prior to analysis
§	Please note product present, therefore this result is for indicative purpose only
On the Sample Numbers	
†	Sample type outside the scope of our MCERTS accreditation since matrix not included in method validation
¢	Unsuitable for analysis due to asbestos content
General Statements	
æ	Please note TOC's & LOI's have been repeated and the apparently anomalous results confirmed
¶	UKAS and/or MCERTS accreditation removed due to duration of sample in laboratory prior to testing
¤	The BOD analysis was carried out prior to the COD analysis and included an oily layer, which is the likely cause of the anomalous results
Note:	Analysis carried out for organic compounds on water samples containing free product is on a "best endeavour" basis
Note:	All results calculated from organic carbon on a dry weight basis
Note:	Fe(II) and dissolved Fe are analysed by different methods, sometimes leading to slight discrepancy between results
Note:	"Total" results calculated by summing individual components are not rounded
Note:	The reporting limit stated in the LOD column is the standard method reporting limit, derived statistically from validation data, however it is occasionally necessary to raise reporting limits due to matrix interference or limited sample availability
Note:	During soil preparation, best efforts are made to produce analytical subsamples representative of the entire submitted sample, without exclusion of stones

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19 June 2008

TEST REPORT

Our Report Number: 08-51146

Your Order Reference: 8991

2 soil samples submitted for analysis on 06/06/2008

Project Name: Richmond- Upon- Thames College

Project Code: STE1297R

Laboratory analysis started on 06/06/2008
All laboratory analysis completed by 19 June 2008

Rexona Rahman
Analytical Reporting Manager
ALCONTROL LABORATORIES

Sharon Googh
Project Co-Ordinator
ALCONTROL LABORATORIES

TEST REPORT

WAC ANALYTICAL RESULTS

Our Report No: 08-51146

Your Order No: 8991

CLIENT: Soiltechnics

2 soil samples submitted for analysis on 06 June 2008

DATE OF ISSUE: 19 June 2008

Project Name: Richmond- Upon- Thames College

Project Code: STE1297R

Lab Reference	**321071**				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	**-**				**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID	**Bulk 1**						
Sample Depth (m)	**-**						
Solid Waste Analysis							
092 Total Organic Carbon (%)	**0.53**				3	5	6
019 Loss on Ignition (%)	**3.4**				-	-	10
071 Sum of BTEX (mg/kg)	**<0.15**				6	-	-
039 Sum of 7 PCBs (mg/kg)	**<0.014**				1	-	-
065 Mineral Oil (mg/kg)	**< 25**				500	-	-
022 PAH Sum of 17 (mg/kg)	**<1.7**				100	-	-
084 pH (pH Units)	**7.8**				-	>6	-
096 ANC to pH 6 (mol/kg)	**< 0.10**				-	to be evaluated	to be evaluated
096 ANC to pH 4 (mol/kg)	**< 0.10**				-	to be evaluated	to be evaluated
Eluate Analysis	**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
	mg/l		**mg/kg**				
080 Arsenic	< 0.005	< 0.005	< 0.010	**< 0.050**	0.5	2	25
080 Barium	0.013	0.006	0.025	**0.065**	20	100	300
080 Cadmium	< 0.001	< 0.001	< 0.002	**< 0.010**	0.04	1	5
080 Chromium	< 0.005	< 0.005	< 0.010	**< 0.050**	0.5	10	70
080 Copper	< 0.005	< 0.005	< 0.010	**< 0.050**	2	50	100
080 Mercury	< 0.00005	< 0.00005	< 0.00010	**< 0.00050**	0.01	0.2	2
080 Molybdenum	0.029	0.010	0.058	**0.11**	0.5	10	30
080 Nickel	< 0.005	< 0.005	< 0.010	**< 0.050**	0.4	10	40
080 Lead	< 0.005	< 0.005	< 0.010	**< 0.050**	0.5	10	50
080 Antimony	0.002	< 0.001	0.003	**< 0.010**	0.06	0.7	5
080 Selenium	< 0.005	< 0.005	< 0.010	**< 0.050**	0.1	0.5	7
080 Zinc	< 0.005	< 0.005	< 0.010	**< 0.050**	4	50	200
086 Chloride	< 10	< 10	< 20	**< 100**	800	15000	25000
086 Fluoride	0.83	0.45	1.7	**4.7**	10	150	500
086 Sulphate as SO_4	36	< 10	71	**< 100**	1000	20000	50000
029 Total Dissolved Solids	-	-	-	**-**	4000	60000	100000
020 Phenol Index	< 0.01	< 0.01	< 0.02	**< 0.1**	1	-	-
010 Dissolved Organic Carbon	7.8	6.80	16	**69**	500	800	1000
Leach Test Information							
084 pH (pH Units)	7.6	7.4					
084 Conductivity (µS/cm)	222	131					
078 Temperature (°C)	18.0	18.0					
021 Mass Sample (kg)	0.150						
021 Dry Matter (kg)	0.12						
021 Moisture (% Dry Weight)	20.3						
Stage 1							
078 Volume Leachant, L_2 (l)	0.224						
078 Filtered Eluate Volume, VE_1 (l)	0.070						
Stage 2							
078 Volume Leachant, L_8 (l)	0.997						

Results are expressed on a dry weight basis, after correction for moisture content where applicable

Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepencies with current legislation

TEST REPORT

WAC ANALYTICAL RESULTS

Our Report No: 08-51146

Your Order No: 8991

CLIENT: Soiltechnics

2 soil samples submitted for analysis on 06 June 2008

DATE OF ISSUE: 19 June 2008

Project Name: Richmond- Upon- Thames College

Project Code: STE1297R

Lab Reference	**321072**				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	**-**				**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID	**Bulk 2**						
Sample Depth (m)	**-**						
Solid Waste Analysis							
092 Total Organic Carbon (%)	**< 0.1**				3	5	6
019 Loss on Ignition (%)	**1.4**				-	-	10
071 Sum of BTEX (mg/kg)	**<0.15**				6	-	-
039 Sum of 7 PCBs (mg/kg)	**<0.014**				1	-	-
065 Mineral Oil (mg/kg)	**< 25**				500	-	-
022 PAH Sum of 17 (mg/kg)	**<1.7**				100	-	-
084 pH (pH Units)	**7.2**				-	>6	-
096 ANC to pH 6 (mol/kg)	**< 0.10**				-	to be evaluated	to be evaluated
096 ANC to pH 4 (mol/kg)	**< 0.10**				-	to be evaluated	to be evaluated
Eluate Analysis	**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
	mg/l		**mg/kg**				
080 Arsenic	< 0.005	< 0.005	< 0.010	**< 0.050**	0.5	2	25
080 Barium	0.014	0.005	0.027	**0.059**	20	100	300
080 Cadmium	< 0.001	< 0.001	< 0.002	**< 0.010**	0.04	1	5
080 Chromium	< 0.005	< 0.005	< 0.010	**< 0.050**	0.5	10	70
080 Copper	< 0.005	< 0.005	< 0.010	**< 0.050**	2	50	100
080 Mercury	< 0.00005	< 0.00005	< 0.00010	**< 0.00050**	0.01	0.2	2
080 Molybdenum	< 0.005	< 0.005	< 0.010	**< 0.050**	0.5	10	30
080 Nickel	< 0.005	< 0.005	< 0.010	**< 0.050**	0.4	10	40
080 Lead	< 0.005	< 0.005	< 0.010	**< 0.050**	0.5	10	50
080 Antimony	< 0.001	< 0.001	< 0.002	**< 0.010**	0.06	0.7	5
080 Selenium	< 0.005	< 0.005	< 0.010	**< 0.050**	0.1	0.5	7
080 Zinc	< 0.005	< 0.005	< 0.010	**< 0.050**	4	50	200
086 Chloride	< 10	< 10	< 20	**< 100**	800	15000	25000
086 Fluoride	0.9	0.54	1.8	**5.6**	10	150	500
086 Sulphate as SO_4	32	< 10	64	**< 100**	1000	20000	50000
029 Total Dissolved Solids	-	-	-	**-**	4000	60000	100000
020 Phenol Index	< 0.01	< 0.01	< 0.02	**< 0.1**	1	-	-
010 Dissolved Organic Carbon	6	5.60	12	**56**	500	800	1000
Leach Test Information							
084 pH (pH Units)	7.4	6.8					
084 Conductivity (µS/cm)	247	104					
078 Temperature (°C)	18.0	18.0					
021 Mass Sample (kg)	0.150						
021 Dry Matter (kg)	0.14						
021 Moisture (% Dry Weight)	9.4						
Stage 1							
078 Volume Leachant, L_2 (l)	0.261						
078 Filtered Eluate Volume, VE_1 (l)	0.076						
Stage 2							
078 Volume Leachant, L_8 (l)	1.100						

Results are expressed on a dry weight basis, after correction for moisture content where applicable

Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepencies with current legislation

Waste Acceptance Method Appendix

Our Report No: 08-51146

Your Order No: 8991

CLIENT: Soiltechnics

DATE OF ISSUE: 19 June 2008

Project Name: Richmond- Upon- Thames College

Project Code: STE1297R

Method Reference / Parameter	Extraction Summary	Detection Technique	ISO17025 Accredited?
Solid Waste Analysis			
092 Total Organic Carbon		Carbon Analyser	✓
019 Loss on Ignition	Oven heated at 450°C	Gravimetry	✓
071 Sum of BTEX	Headspace	GC-MS	
Benzene			✓
Toluene			✓
Ethylbenzene			✓
m,p-Xylenes			✓
o-Xylene			✓
039 Sum of 7 PCBs	Hexane / acetone	GC-MS	
PCB Congener 28			✓
PCB Congener 52			✓
PCB Congener 101			✓
PCB Congener 118			✓
PCB Congener 138			✓
PCB Congener 153			✓
PCB Congener 180			✓
065 Mineral Oil (C_8-C_{40})	Hexane / acetone with silica / alumina clean-up	GC-FID	✗
022 PAH (Sum of 17 listed)	Hexane / acetone	GC-MS	
Naphthalene			✓
Acenaphthylene			✓
Acenaphthene			✓
Fluorene			✓
Phenanthrene			✓
Anthracene			✓
Fluoranthene			✓
Pyrene			✓
Benzo (a) anthracene			✓
Chrysene			✓
Benzo (b) fluoranthene			✓
Benzo (k) fluoranthene			✓
Benzo (a) pyrene			✓
Indeno (1,2,3-cd) pyrene			✓
Dibenzo (a,h) anthracene			✓
Benzo (g,h,i) perylene			✓
Coronene			✓
084 pH	Water addition	Potentiometric	✓
096 Acid Neutralisation Capacity (ANC)	Water addition	Titration	✗
021 Moisture Content	Dried at 105 (+/-5) °C	Gravimetry	✓
Leachate Analysis†			
078 Leachate Preparation	In accordance with BS EN 12457-3	-	✗
080 Metals	Nitric acidification	ICP-MS	✓
086 Chloride	-	Ion chromatography	✓
086 Fluoride	-	Ion chromatography	✓
086 Sulphate	-	Ion chromatography	✓
029 Total Dissolved Solids	Evaporation	Gravimetry	✓
020 Monohydric Phenols (Phenol Index)	-	HPLC - electrochemical detection	✓
010 Dissolved Organic Carbon	Persulphate oxidation	Infra-red detection	✓
084 pH	-	pH meter	✓
084 Conductivity	-	Conductivity meter	✓

†Note: ISO17025 accreditation does not cover leachate analysis as the preparation stage is not accredited

#REF!

Appendix

Code	Description
On Results	
*	Detection limit(s) raised due to matrix interference
¥	Detection limit(s) raised due to reduced amount of sample available for analysis
‡	Dilution factor applied due to nature of sample
NAD	No asbestos detected
$	Analysis sub-contracted
U/S	Analysis unsuitable for sample due to its matrix or properties
I/S	Insufficient sample
M/S	Sample cannot be located within the laboratory
ND	Not detected (below relevant analytical detection limit)
ç	Sample filtered prior to analysis
§	Please note product present, therefore this result is for indicative purpose only
On the Sample Numbers	
†	Sample type outside the scope of our MCERTS accreditation since matrix not included in method validation
¢	Unsuitable for analysis due to asbestos content
General Statements	
æ	Please note TOC's & LOI's have been repeated and the apparently anomalous results confirmed
¶	UKAS and/or MCERTS accreditation removed due to duration of sample in laboratory prior to testing
¤	The BOD analysis was carried out prior to the COD analysis and included an oily layer, which is the likely cause of the anomalous results
Note:	Analysis carried out for organic compounds on water samples containing free product is on a "best endeavour" basis
Note:	All results calculated from organic carbon on a dry weight basis
Note:	Fe(II) and dissolved Fe are analysed by different methods, sometimes leading to slight discrepancy between results
Note:	"Total" results calculated by summing individual components are not rounded
Note:	The reporting limit stated in the LOD column is the standard method reporting limit, derived statistically from validation data, however it is occasionally necessary to raise reporting limits due to matrix interference or limited sample availability
Note:	During soil preparation, best efforts are made to produce analytical subsamples representative of the entire submitted sample, without exclusion of stones

Table Comparing Cumulative Compound Concentrations with Hazardous Waste Threshold Values

Category of danger		Irritant	Harmful	Toxic		Carcinogenic		Toxic for reproduction		Mutagenic		Ecotoxic		
Risk Phrase		Xi	Xn	T+	T	Carc Cat 1 or 2	Carc Cat 3	Repr Cat 1 or 2	Repr Cat 3	Muta Cat 2	Muta Cat 3	∑N : R50-53/0.25 +∑N : R51-53/2.5 +∑N : R52-53/25	∑N : 50-53 +∑N : R50	∑N : 50-53 +∑N : 51-53 +∑N : 52-54 +∑N : R53
Contaminant	Highest concentration	H4 (%)	H5 (%)	H6 (%)	H6 (%)	H7 (%)	H7 (%)	H10 (%)	H10 (%)	H11 (%)	H11 (%)	H14	H14	H14
Metals														
Arsenic	43.00			0.0057	0.0066	0.0066						0.7188	0.0066	0.0066
Beryllium	4.80	0.0013		0.0013	0.0013	0.0013								0.0013
Cadmium	1.40		0.0002		0.0002	0.0002								
Chromium	42.00					0.0068							0.0068	0.0068
Lead	1100.00		0.1186					0.1186	0.1186				0.1186	0.1186
Mercury	1.90			0.0002									0.0002	0.0002
Nickel	65.00		0.0083				0.0083		0.0083				0.0083	0.0083
Selenium	2.50				0.0003								0.0003	0.0003
Vanadium	100.00	0.0147	0.0147		0.0147				0.0147		0.0147			0.0147
PAH														
Naphthalene	2.20		0.0002										0.0002	0.0002
Benzo(a)anthracene	68.00				0.0068	0.0068							0.0068	0.0068
Chrysene	64.00				0.0064	0.0064					0.0064		0.0064	0.0064
Benzo(b)fluoranthene	74.00				0.0074	0.0074							0.0074	0.0074
Benzo(k)fluoranthene	28.00				0.0028	0.0028							0.0028	0.0028
Benzo(a)pyrene	58.00					0.0058		0.0058		0.0058			0.0058	0.0058
Dibenzo(a,h)anthracene	6.40				0.0006	0.0006							0.0006	0.0006
TPH														
Benzene	0.01				0.0000	0.0000								
1,2,4-trimethylbenzene	0.01	0.0000	0.0000											0.0000
PRO (C6 - C10)	0.17		0.0000			0.0000								0.0000
DRO (C10 - C35)	720.00		0.0720				0.0720							0.0720
Total (or greatest)		0.0160	0.2139	0.0072	0.0471	(0.0074)	(0.072)	(0.1186)	(0.1186)	(0.0058)	(0.0147)	0.7188	0.1707	0.2588
Threshold		20%	25%	0.10%	3%	0.10%	1%	0.50%	5%	0.10%	1%	1	25%	25%
Exceeded Y/N		N	N	N	N	N	N	N	N	N	N	N	N	N

Table Comparing Test Data With Landfill Waste Criteria

Proposed redevelopment of Richmond-Upon-Thames College, Twickenham

Landfill waste acceptance criteria				Laboratory test data	
Parameter	**Inert waste landfill**	**Stable non-reactive hazardous waste in non – hazardous landfill**	**Hazardous waste landfill**	**Bulk 1 Made Ground**	**Bulk 2 Kempton Park Gravel**
Parameters determined on the waste					
Total organic carbon (w/w%)	3%	5%	6%*	0.53	<0.1
Loss of ignition			10%*	3.4	1.4
BTEX (mg kg ^{1})	6			<0.15	<0.15
PCBs (7 congeners) (mg kg ^{1})	1			<0.014	<0.014
Mineral oil C_{10}-C_{40} (mg kg ^{1})	500			<25	<25
PAHs	100			<1.7	<1.7
pH		>6		7.8	7.2
Acid neutralisation capacity		To be evaluated	To be evaluated	<0.1	<0.1
Limit values (mg kg ^{1}) fir compliance leaching test using BS EN 12457-3 at L/S 10 1 kg ^{1}					
As (arsenic)	0.5	2	25	<0.05	<0.05
Ba (barium)	20	100	300	0.065	0.059
Cd (cadmium)	0.04	1 (UK0.1) §	5 (UK1) §	<0.01	<0.01
Cr (chromium (total))	0.5	10	70	<0.05	<0.05
Cu (copper)	2	50	100	<0.05	<0.05
Hg (mercury)	0.01	0.2 (UK0.02) §	2(UK0.4) §	<0.0005	<0.0005
Mo (molybdenum)	0.5	10	30	0.11	<0.05
Ni (nickel)	0.4	10	40	<0.05	<0.05
Pb (lead)	0.5	10	50	<0.05	<0.05
Sb (antimony)	0.06	0.7	5	<0.01	<0.01
Se (selenium)	0.1	0.5	7	<0.05	<0.05
Zn (zinc)	4	50	200	<0.05	<0.05
Cl (chloride)	800	15,000	25,000	<100	<100
F (fluoride)	10	150	500	4.7	5.6
SO_4 (sulphate)	1,000#	20,000	50,000	<100	<100
Total dissolved solids (TDS) +	4,000	60,000	100,000	-	-
Phenol index	1			<0.1	<0.1
Dissolved organic carbon at own pH or pH 7.5 – 8.0@	500	800	1,000	69	56

* Either TOC or LOI must be used for hazardous wastes

§ The lower limit values for Cd and Hg may apply within the UK (see above)

\# If an inert waste does not meet the SO_4L/S10 limit, alternative values of 1500 mg 1 ^{1} SO_4 at C_o(initial eluate from The percolation test (prEN 14405) and 6000 mg kg ^{1} SO_4 at L/S10 (either from the percolation test or batch test BS EN 12457-3), can be used to demonstrate compliance with the acceptance criteria for inert wastes

\+ The value for TDS can be used instead of the values for Cl and SO_4

@ DOC at pH 7.5-8.0 and L/S10 can be determined or eluate derived from a modified version of the pH dependence Test, prEN 14429, if the limit value at own pH (BS EN 12457 eluate) is not met

Assessed waste type

Inert waste

BASIC CATEGORISATION SCHEDULE FOR London Clay

Produced following the requirements of The Landfill (England and Wales) (Amendment) Regulations 2004 Part 2 (5)

(a)	*Source and origin of waste* **Proposed redevelopment Richmond-Upon-Thames College, Egerton Road, Twickenham**
(b)	*Process producing the waste* **Foundation excavations**
(c)	*Statement on waste treatment* **Refer to pre-treatment confirmation form**
(d)	*Composition of the waste* **Stiff grey clay**
(e)	*Appearance of the waste* **As above**
(f)	*European waste catalogue code* **17-05-04**
(g)	*Hazardous waste properties* **None**
(h)	*Is the waste prohibited under regulation 9?* **No**
(i)	*Landfill class* **Inert based on soil being of natural origin and likely to be unaffected by artificial contamination**
(j)	*Additional precautions required at landfill* **None**
(k)	*Can waste be recycled or recovered?* **Refer to pre-treatment confirmation form**
(l)	*Name and address of waste producer* **Richmond-Upon-Thames College, Egerton Road, Twickenham, Middlesex TW2 7SJ**
(m)	*Name and address of consultant* **Soiltechnics Limited, Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY.** **Tel: (01604) 781877 Fax: (01604) 781007 E-mail: mail@soiltechnics.net**

Schedule Date: **July 2008**	Signed  p.p. **Lydia Drew B.Sc. (Hons)** **Geo-environmental Engineer for Soiltechnics Limited**
Soiltechnics reference **STE1297R-L01**	

BASIC CATEGORISATION SCHEDULE FOR Kempton Park Gravel

Produced following the requirements of The Landfill (England and Wales) (Amendment) Regulations 2004 Part 2 (5)

(a)	*Source and origin of waste* **Proposed development at Richmond-Upon-Thames College, Egerton Road, Twickenham**
(b)	*Process producing the waste* **Foundation excavations**
(c)	*Statement on waste treatment* **Refer to pre-treatment confirmation form**
(d)	*Composition of the waste* **Orange, brown clayey sand and gravel**
(e)	*Appearance of the waste* **As above**
(f)	*European waste catalogue code* **17-05-04**
(g)	*Hazardous waste properties* **None**
(h)	*Is the waste prohibited under regulation 9?* **No**
(i)	*Landfill class* **Inert**
(j)	*Additional precautions required at landfill* **None**
(k)	*Can waste be recycled or recovered?* **Refer to pre-treatment confirmation form**
(l)	*Name and address of waste producer* **Richmond-Upon-Thames College, Egerton Road, Twickenham, Middlesex TW2 7SJ**
(m)	*Name and address of consultant* **Soiltechnics Limited, Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY.** **Tel: (01604) 781877 Fax: (01604) 781007 E-mail: mail@soiltechnics.net**

Schedule Date: **July 2008**	signed 
Soiltechnics reference **STE1297R-L01**	p.p. **Lydia Drew B.Sc. (Hons)** **Geo-environmental Engineer for Soiltechnics Limited**

BASIC CATEGORISATION SCHEDULE FOR Made Ground (hydrocarbon impacted)

Produced following the requirements of The Landfill (England and Wales) (Amendment) Regulations 2004 Part 2 (5)

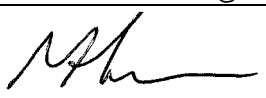
(a)	*Source and origin of waste* **Proposed development at Richmond-Upon-Thames College, Egerton Road, Twickenham**
(b)	*Process producing the waste* **Foundation excavations, general site clearance or remediation**
(c)	*Statement on waste treatment* **Refer to pre-treatment confirmation form**
(d)	*Composition of the waste* **Dark and light brown slightly gravelly sand**
(e)	*Appearance of the waste* **As above**
(f)	*European waste catalogue code* **17-05-04**
(g)	*Hazardous waste properties* **None**
(h)	*Is the waste prohibited under regulation 9?* **No**
(i)	*Landfill class* **Non-hazardous**
(j)	*Additional precautions required at landfill* **None**
(k)	*Can waste be recycled or recovered?* **Refer to pre-treatment confirmation form**
(l)	*Name and address of waste producer* **Richmond-Upon-Thames College, Egerton Road, Twickenham, Middlesex TW2 7SJ**
(m)	*Name and address of consultant* **Soiltechnics Limited, Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY.** **Tel: (01604) 781877 Fax: (01604) 781007 E-mail: mail@soiltechnics.net**

Schedule Date: **July 2008**	signed 
Soiltechnics reference **STE1297R-L01**	p.p. **Lydia Drew B.Sc. (Hons)** **Geo-environmental Engineer for Soiltechnics Limited**

BASIC CATEGORISATION SCHEDULE FOR Made Ground

Produced following the requirements of The Landfill (England and Wales) (Amendment) Regulations 2004 Part 2 (5)

(a)	*Source and origin of waste* **Proposed development at Richmond-Upon-Thames College, Egerton Road, Twickenham**
(b)	*Process producing the waste* **Foundation excavations and general site clearance**
(c)	*Statement on waste treatment* **Refer to pre-treatment confirmation form**
(d)	*Composition of the waste* **Orange, brown and grey gravelly sand and sandy gravelly clay**
(e)	*Appearance of the waste* **As above**
(f)	*European waste catalogue code* **17-05-04**
(g)	*Hazardous waste properties* **None**
(h)	*Is the waste prohibited under regulation 9?* **No**
(i)	*Landfill class* **Inert**
(j)	*Additional precautions required at landfill* **None**
(k)	*Can waste be recycled or recovered?* **Refer to pre-treatment confirmation form**
(l)	*Name and address of waste producer* **Richmond-Upon-Thames College, Egerton Road, Twickenham, Middlesex TW2 7SJ**
(m)	*Name and address of consultant* **Soiltechnics Limited, Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY.** **Tel: (01604) 781877 Fax: (01604) 781007 E-mail: mail@soiltechnics.net**

Schedule Date: **July 2008**	signed  p.p. **Lydia Drew B.Sc. (Hons)** **Geo-environmental Engineer for Soiltechnics Limited**
Soiltechnics reference **STE1297R-L01**	

PRE TREATMENT CONFIRMATION FORM
(Extract from 'Treatment of non-hazardous wastes for landfill' published by the Environment Agency)

Company Name _____

_____

Company Address _____

_____

_____

_____

_____

Waste Description _____

_____

_____

Intended disposal site _____

_____

_____

EWC Code _____

How has the waste been treated ? _____

_____

_____

What processes are employed?

Is there any segregation of waste?		Yes		No
Separate collection		Yes		No
Screening		Yes		No
Hand picking		Yes		No
Magnetic segregation		Yes		No
Thermal		Yes		No

Other (please specify)_____

_____

_____

What materials are segregated?

Wood		Yes		No
Paper		Yes		No
Cardboard		Yes		No
Glass		Yes		No
Plastics		Yes		No
Green waste		Yes		No
Ferrous		Yes		No
Non-ferrous		Yes		No
Waste electrical and Electronic equipment (WEEE)		Yes		No

Other (please specify) _____

_____

Which of the wastes are sent for recovery or recycling?

Wood		Yes		No
Paper		Yes		No
Cardboard		Yes		No
Glass		Yes		No
Green waste		Yes		No
Ferrous		Yes		No
Non-ferrous		Yes		No
Waste electrical and electronic equipment (WEEE)		Yes		No

Other (please specify)_____

_____

What percentage of the total waste is sent for recovery/recycling? _____

_____

If treatment has not been carried out, please state why treatment is not considered necessary

_____

_____

_____

_____

I / We confirm that the waste delivered by the above Named company and herein described has been treated as detailed above. Note: Treatment is a physical / chemical / thermal or biological process including sorting that also changes the characteristics of the waste and must do so in order to:

i reduce its volume; or

ii reduce its hazardous nature; or

iii facilitate its handling ; or

iv enhance its recovery

Name _____

Signature _____

Position in Company _____

_____

Date _____