Brief soil description and strata for borehole DTS17:

DESCRIPTION	LEGEND	DEPTH (m)
Bituminous bound material.		0.0
(MADE GROUND)	 	0.1
Cobbles of red brick recovered as sandy GRAVEL.		
(MADE GROUND)		0.3
Medium dense light brown sandy GRAVEL with		
occasional cobbles of concrete. Gravel consists of	<u> </u>	0.5
flint, brick and concrete.		
(MADE GROUND)	<u> </u>	0.7
Very stiff brown CLAY.	0	
(KEMPTON PARK GRAVEL)		
Medium dense light brown orange clayey gravelly		1.0
SAND. Gravel consists of flint.	[:O::::	
(KEMPTON PARK GRAVEL)		
Medium dense light brown and orange very gravelly	0	
SAND. Gravel consists of flint.		
(KEMPTON PARK GRAVEL)	[.O	
	O:	
	ļ.Ω	
	<u> O . :</u>	2.0
BOREHOLE TERMINATED AT 2.0m		
Notes:		
 Temporary slotted standpipe installed to 		
2.0m to maintain borehole stability.		

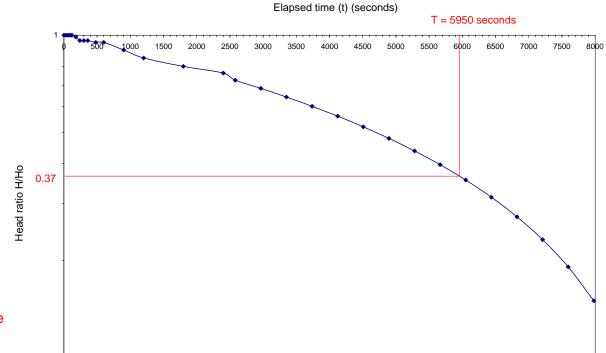
Test observations:

Time (seconds)	Water level (from GL)	Head of water above ground water level (H)
0	0.61	0.8
30	0.61	0.8
60	0.61	0.8
90	0.61	0.8
120	0.61	0.8
180	0.62	0.79
240	0.64	0.77
300	0.64	0.77
360	0.64	0.77
480	0.65	0.76
600	0.65	0.76
900	0.69	0.72
1200	0.73	0.68
1800	0.77	0.64
2400	0.8	0.61

Note:

1. The graph has been extrapolated to obtain a value for t -value as the time taken to achieve the H/Ho was restricted thus only an indicative soil infiltration rate can be calculated.

The basic time lag (T) is obtained from the plot of the head ratio H/H α (log scale) against elapsed time t (seconds). The basic time lag corresponds to a value of H/H α = 0.37 where H α denotes the head at the start of the test and H is time measured head at the elapsed time t. The plot and identification of T is shown below.



Adopting the basic time lag method

$$k = permeability = \frac{A}{FT}$$

Where F = intake factor (adopting fig 6D of BS5930)

$$F = \frac{2\pi L}{In\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]} = 1.6$$

Then indicative soil infiltration rate

$$k = \frac{0.008}{1.6 \times 5950} = 8.4 \text{ x } 10^{-7} \text{ ms}^{-1}$$

DETERMINATION OF PERMEABILITY OF Soils between 0.61 and 0.8m in borehole DTS17

Following BS 5930: 1999, (Section 25.4) and CIRIA special publication 25 'site investigation manual' (Variable Head Test)

Test 1

Permanent slotted casing installed between 1.0 m - 2.0 m

Borehole depth - 2.00 m



Project

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

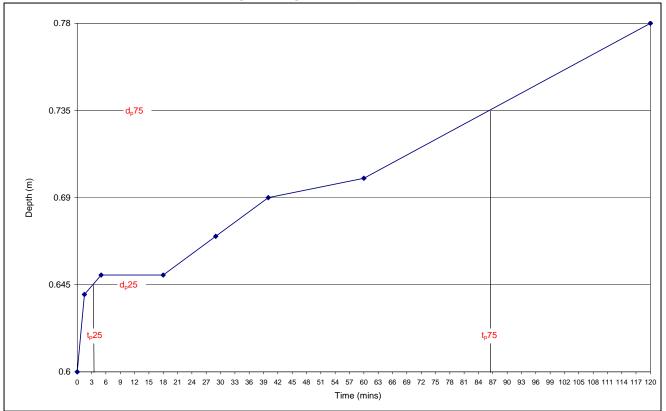
Title

Falling Head Test carried out in borehole DTS17 following BS 5930: 1999, (Section 25.4) and CIRIA special publication 25 'site investigation manual'

Scale	Date	drawn by	checked by
		-	-
N/A	27.05.08	RC	
.071			
project ref		location	revision
OTE4007D		DT04-	
STE1297R		DTS17	

DESCRIPTION	LEGEND	DEPTH (m)
Dark brown sandy slightly gravelly silty TOPSOIL. Gravel consists of flint.		0.0
Brown sandy gravelly silty TOPSOIL. Gravel consists of sub-angular to sub-rounded flint. Loose orange brown clayey SAND and GRAVEL. Gravel consists of flint (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 0.85m Notes: 1. Trial pit sides remained upright and stable. 2. No groundwater encountered.	o O	0.4 0.6 0.85

Tε	st obse	ervations	:
	TIME (mins)	DEPTH TO WATER (m)	
	0	0.6	
	1.3	0.64	
	5	0.65	
	18	0.65	
	29	0.67	
	40	0.69	
	60	0.7	
	120	0.78	



Trial pit depths/dimensions:

Depth of trial pit at start of test: 0.85m Depth to water at start of test: 0.6m

Trial pit width: 0.26m Trial pit breadth: 0.26m Trial pit depth at completion of test: 0.85m

Calculations:

Soil infiltration rate,
$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

where: V_{p75-25} = effective storage volume of water in the trial pit between 75% (d_{p75}) and 25% (d_{p25}) effective depth = ($d_{p75} - d_{p25}$) x width x breadth $(0.735 - 0.645) \times 0.26 \times 0.26 = 0.00608$ m³

 a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area; = $(d_{p75} - d_{p25}) x$ (width + breadth) x 2 + (width x breadth) $(0.735 - 0.645) \times (0.26 + 0.26) \times 2 + (0.26 \times 0.26) = 0.1612m^2$

 t_{p75} – t_{p25} = the time for the water level to fall from 75% to 25% effective depth

= 87 - 3 = 84 (mins) $= 84 \times 60 = 5040$ (seconds)

therefore:

$$f = \frac{0.00608}{0.1612 \times 5040} =$$
7.5 x 10⁻⁶ ms⁻¹



Project

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

SOIL INFILTRATION TEST for trial pit SA01 (generally in accordance with **Building Research Establishment Digest**

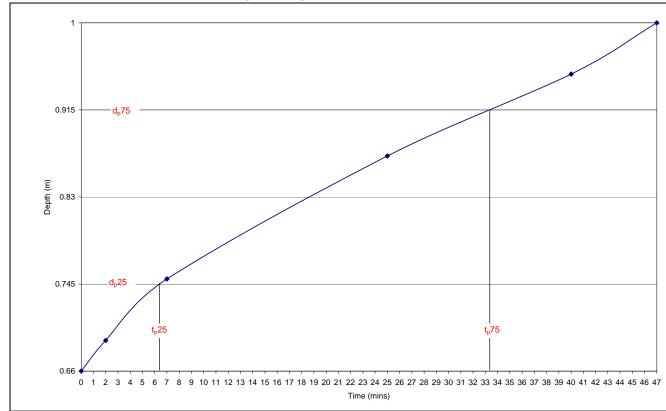
365 2007	7).		_
Scale	Date	drawn by	checked by
N/A	27.05.08	RC	
project ref		location	revision
STE1297R		SA01	

DESCRIPTION	LEGEND	DEPTH
		(m)
Loose brown silty sandy GRAVEL, with occasional cobbles of brick. Gravel consists of flint, brick and timber. (MADE GROUND)		0.0
Loose orange brown clayey SAND and GRAVEL. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m	0 0	1.0
Notes: 1. Trial pit sides remained upright and stable. 2. No groundwater encountered.		

Tost observations:

Tε	est obse	ervations	:
	TIME (mins)	DEPTH TO WATER (m)	
	0	0.66	
	2	0.69	
	7	0.75	
	25	0.87	
	40	0.95	
	47	1.0	

Plot showing time against depth of water:



Trial pit depths/dimensions:

Depth of trial pit at start of test: 1.0m Depth to water at start of test: 0.66m

Trial pit width: 0.3m Trial pit breadth: 0.3m Trial pit depth at completion of test: 1.0m

Calculations:

Soil infiltration rate,
$$f = \frac{V_{p75-25}}{a_{p50} \times tp_{75-25}}$$

where: V_{p75-25} = effective storage volume of water in the trial pit between 75% (d_{p75}) and 25% (d_{p25}) effective depth = ($d_{p75} - d_{p25}$) x width x breadth $(0.915 - 0.745) \times 0.3 \times 0.3 = 0.0153$ m³

 a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area; = $(d_{p75} - d_{p25}) x$ (width + breadth) x 2 + (width x breadth) $(0.915 - 0.745) \times (0.3 + 0.3) \times 2 + (0.3 \times 0.3) = 0.294m^2$

 t_{p75} – t_{p25} = the time for the water level to fall from 75% to 25% effective depth

= 33.5 - 6.5 = 27 (mins) $= 27 \times 60 = 1620$ (seconds)

therefore:

$$f = \frac{0.0153}{0.294 \times 1620} =$$
3.2 x **10**⁻⁵ ms⁻¹



Project

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SOIL INFILTRATION TEST for trial pit SA02 (generally in accordance with **Building Research Establishment Digest**

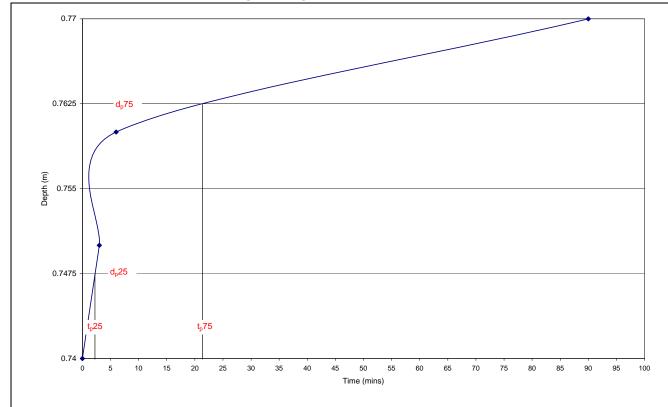
365 2007).				
Scale	Date	drawn by	checked by	
N/A	27.05.08	RC		
project ref		location	revision	
STE1297R		SA02		

DESCRI	PTION	LEGEND	DEPTH (m)
			(111)
	rown slightly clayey slightly silty sandy		0.0
•	gravelly TOPSOIL, with occasional	+	0.12
rootlets	s and roots. Gravel consists of flint.		
Brown	slightly silty sandy slightly gravelly		
TOPSO	OIL, with occasional roots. Gravel		
consist	s of flint.		
0-4	and an analysis of the state of		0.8
	own and orange slightly silty, sandy with some roots.		0.85
	TON PARK GRAVEL)		
(1\LIVII	TONT ARR GRAVEL)		
TRIAL	PIT TERMINATED AT 0.85m		
Notes:			
1.	Trial pit sides were upright and stable.		
2.	No groundwater encountered.		

T

Γ	est obse	ervations:	
	TIME (mins)	DEPTH TO WATER (m)	
		WATER	

Plot showing time against depth of water:



Trial pit depths/dimensions:

Depth of trial pit at start of test: 0.84m Depth to water at start of test: 0.74m

Trial pit width: 0.3m Trial pit breadth: 0.3m Trial pit depth at completion of test: 0.77m

Calculations:

Soil infiltration rate,
$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

where: V_{p75-25} = effective storage volume of water in the trial pit between 75% (d_{p75}) and 25% (d_{p25}) effective depth = ($d_{p75} - d_{p25}$) x width x breadth $(0.7625 - 0.7475) \times 0.3 \times 0.3 = 0.00135$ m³

 a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area; = $(d_{p75} - d_{p25}) x$ (width + breadth) x 2 + (width x breadth) $(0.7625 - 0.7475) \times (0.3 + 0.3) \times 2 + (0.3 \times 0.3) = 0.108m^2$

 t_{p75} – t_{p25} = the time for the water level to fall from 75% to 25% effective depth

= 45 - 3.5 = 41.5 (mins) $= 41.5 \times 60 = 2490$ (seconds)

therefore:

$$f = \frac{0.00135}{0.108 \times 2490} =$$
5.0 x 10⁻⁶ ms⁻¹



Project

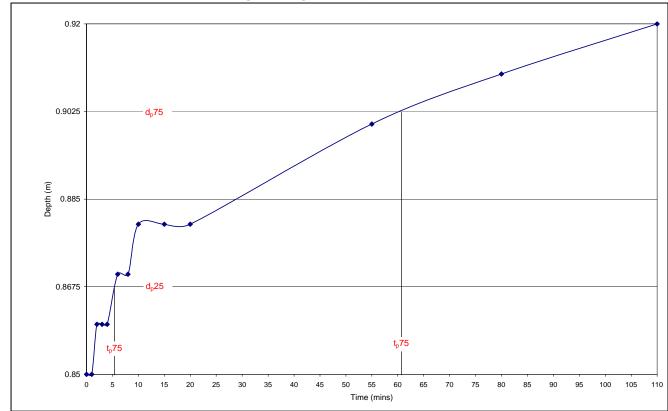
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SOIL INFILTRATION TEST for trial pit SA03 (generally in accordance with Building Research Establishment Digest

365 2007	′).		
Scale	Date	drawn by	checked by
N/A	27.05.08	RC	
project ref		location	revision
STE1297R		SA03	

SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) Medium dense brown and orange very clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m	DESCRI	PTION	LEGEND	DEPTH (m)
Medium dense brown, dark grey and light brown very gravelly SAND, with some cobbles of brick. Gravel consists of brick, ash, clinker and flint. (MADE GROUND) Medium dense dark brown clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) Medium dense brown and orange very clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.		· ·		0.0
Medium dense brown, dark grey and light brown very gravelly SAND, with some cobbles of brick. Gravel consists of brick, ash, clinker and flint. (MADE GROUND) Medium dense dark brown clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) Medium dense brown and orange very clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.	(MADE	GROUND)		0.0
consists of brick, ash, clinker and flint. (MADE GROUND) Medium dense dark brown clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) Medium dense brown and orange very clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.	Medium	dense brown, dark grey and light brown very		0.2
(MADE GROUND) Medium dense dark brown clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) Medium dense brown and orange very clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.	gravelly	SAND, with some cobbles of brick. Gravel		0.44
Medium dense dark brown clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) Medium dense brown and orange very clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.	consists	of brick, ash, clinker and flint.		
(KEMPTON PARK GRAVEL) Medium dense brown and orange very clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.	(MADE	GROUND)		0.64
gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.	Medium	dense dark brown clayey slightly gravelly		
Medium dense brown and orange very clayey slightly gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.	SAND.	Gravel consists of flint.		
gravelly SAND. Gravel consists of flint. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.	-	/		
(KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.	Medium	dense brown and orange very clayey slightly	<u> </u>	1.0
TRIAL PIT TERMINATED AT 1.0m Notes: 1. Trial pit sides remained upright and stable.	gravelly	SAND. Gravel consists of flint.		
Notes: 1. Trial pit sides remained upright and stable.	(KEMP)	FON PARK GRAVEL)		
Trial pit sides remained upright and stable.	TRIAL F	PIT TERMINATED AT 1.0m		
	Notes:			
No groundwater encountered.	1.	Trial pit sides remained upright and stable.		
	2.	No groundwater encountered.		

Γ	est observations:					
	TIME (mins)	DEPTH TO WATER (m)				



Trial pit depths/dimensions:

Depth of trial pit at start of test: 1.0m Depth to water at start of test: 0.85m

Trial pit width: 0.2m Trial pit breadth: 0.2m Trial pit depth at completion of test: 0.92m

Calculations:

Soil infiltration rate,
$$f = \frac{V_{p75-25}}{a_{p50} \times tp_{75-25}}$$

where: V_{p75-25} = effective storage volume of water in the trial pit between 75% (d_{p75}) and 25% (d_{p25}) effective depth = ($d_{p75} - d_{p25}$) x width x breadth $(0.9025 - 0.8675) \times 0.2 \times 0.2 = 0.0014m^3$

 a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area; = $(d_{p75} - d_{p25}) x$ (width + breadth) x 2 + (width x breadth) $(0.9025 - 0.8675) \times (0.2 + 0.2) \times 2 + (0.2 \times 0.2) = 0.068m^2$

 t_{p75} – t_{p25} = the time for the water level to fall from 75% to 25% effective depth

= 61 - 5.5 = 55.5 (mins) $= 55.5 \times 60 = 3330$ (seconds)

therefore:

$$f = \frac{0.0014}{0.068 \times 3330} = 6.1 \text{ x } 10^{-6} \text{ ms}^{-1}$$



Project

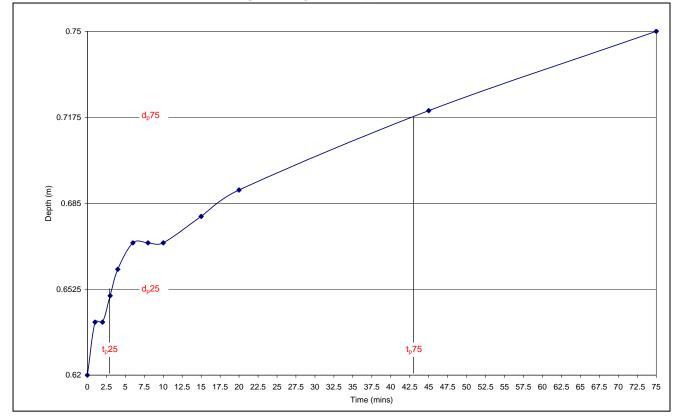
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SOIL INFILTRATION TEST for trial pit SA04 (generally in accordance with **Building Research Establishment Digest**

365 2007).				
Scale	Date	drawn by	checked by	
N/A 27.05.08		RC		
project ref		location	revision	
STE12	297R	SA04		

DESCRI	DTION	LEGEND	DEDTIL
DESCRI	PHON	LEGEND	DEPTH (m)
gravelly of flint, o (MADE Medium cobbles	dense dark brown slightly clayey slightly silty SAND with many rootlets. Gravel consists chalk, limestone and brick. GROUND) dense brown gravelly SAND with occasional of brick and concrete. Gravel consists of flint, ne, brick, concrete, glass, ceramic and		0.0 0.1
	ous bound material.		
(MADE	GROUND)		0.93
TRIAL F	PIT TERMINATED AT 0.93m		0.93
1. 2. 3.	Trial pit sides remained upright and stable. No groundwater encountered. Disturbed samples taken at 0.05m and 0.7m depths.		

Te	Test observations:					
	TIME (mins)	DEPTH TO WATER (m)				



Trial pit depths/dimensions:

Depth of trial pit at start of test: 0.93m Depth to water at start of test: 0.62m

Trial pit width: 0.2m Trial pit breadth: 0.2m Trial pit depth at completion of test: 0.75m

Calculations:

Soil infiltration rate,
$$f = \frac{V_{p75-25}}{a_{p50} \times tp_{75-25}}$$

where: V_{p75-25} = effective storage volume of water in the trial pit between 75% (d_{p75}) and 25% (d_{p25}) effective depth = ($d_{p75} - d_{p25}$) x width x breadth $(0.7175 - 0.6525) \times 0.2 \times 0.2 = 0.0026m^3$

 a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area; = $(d_{p75} - d_{p25}) x$ (width + breadth) x 2 + (width x breadth) $(0.7175 - 0.6525) \times (0.2 + 0.2) \times 2 + (0.2 \times 0.2) = 0.092m^2$

 t_{p75} – t_{p25} = the time for the water level to fall from 75% to 25% effective depth

= 43 - 3 = 40 (mins) $= 40 \times 60 = 2400$ (seconds)

therefore:

$$f = \frac{0.0026}{0.092 \times 2400} =$$
1.2 x **10**⁻⁵ ms⁻¹



Project

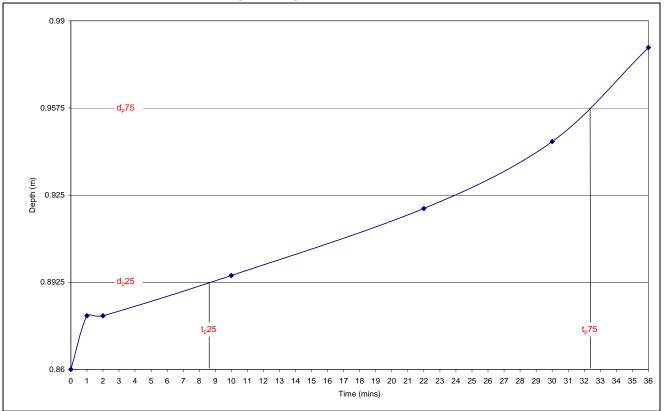
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SOIL INFILTRATION TEST for trial pit SA05 (generally in accordance with **Building Research Establishment Digest**

365 2007).				
Scale	Date	drawn by	checked by	
N/A	27.05.08	RC		
project ref		location	revision	
projecties				
STE12	297R	SA05		

DESCRIPTION	LEGEND	DEPTH (m)
Firm brown very sandy slightly gravelly CLAY with some rootlets and occasional roots and a cobble of brick. Gravel consists of flint and occasional ash. (MADE GROUND)		0.0
Firm light brown mottled brown silty slightly sandy CLAY. (KEMPTON PARK GRAVEL) TRIAL PIT TERMINATED AT 0.99m Notes: 1. Trial pit sides remained upright and stable. 2. No groundwater encountered.		0.7 0.99

Test observations:				
	TIME (mins)	DEPTH TO WATER (m)		
	(mins) 0 1 2 10 22 30 36	0.86 0.88 0.895 0.92 0.945 0.98		



Trial pit depths/dimensions:

Depth of trial pit at start of test: 0.99m Depth to water at start of test: 0.86m

Trial pit width: 0.25m Trial pit breadth: 0.25m Trial pit depth at completion of test: 0.98m

Calculations:

Soil infiltration rate,
$$f = \frac{V_{p75-25}}{a_{p50} \times tp_{75-25}}$$

where: V_{p75-25} = effective storage volume of water in the trial pit between 75% (d_{p75}) and 25% (d_{p25}) effective depth = ($d_{p75} - d_{p25}$) x width x breadth $(0.9575 - 0.8925) \times 0.25 \times 0.25 = 0.00406$ m³

 a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area; = $(d_{p75} - d_{p25}) x$ (width + breadth) x 2 + (width x breadth) $(0.9575 - 0.8925) \times (0.25 + 0.25) \times 2 + (0.25 \times 0.25)$ **0.1275m²**

 t_{p75} – t_{p25} = the time for the water level to fall from 75% to 25% effective depth

= 32.5 - 8.5 = 24 (mins) $= 24 \times 60 = 1440$ (seconds)

therefore:

$$f = \frac{0.00406}{0.1275 \times 1440} =$$
2.2 x 10⁻⁵ ms⁻¹



Project

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

SOIL INFILTRATION TEST for trial pit SA06 (generally in accordance with **Building Research Establishment Digest**

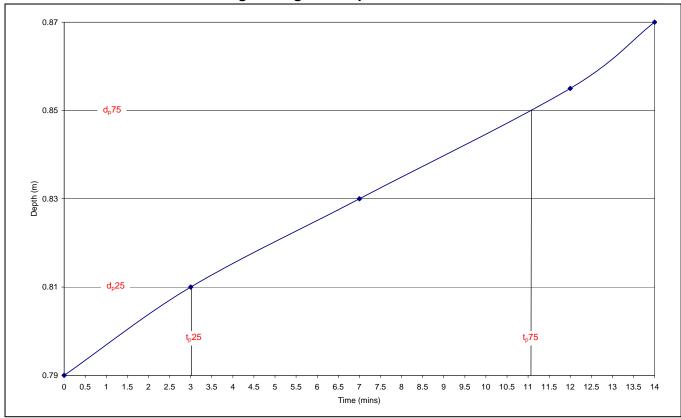
<u>365 2007</u>	<u>').</u>		
Scale	Date	drawn by	checked by
N/A	30.05.08	RC	
projec	t ref	location	revision
CTE4	0070	SA06	
STE1297R		SAUG	

Brief soil description and strata for trial pit SA07:

DESCRI	PTION	LEGEND	DEPTH (m)
	nto loose dark brown slightly clayey slightly htly gravelly SAND with some roots and		0.0
	and occasional cobbles of brick. Gravel of flint, concrete and occasional brick.		
	GROUND)	<u> </u>	0.4
Firm ligh	nt brown orange silty sand CLAY. ΓΟΝ PARK GRAVEL)		0.87
Notes:	PIT TERMINATED AT 0.87m		
1.	Trial pit sides remained upright and stable.		
2.	No groundwater encountered.		
3.	Disturbed samples taken at 0.1m, 0.5m and 0.7m depths.		

Test observations:				
	TIME (mins)	DEPTH TO WATER (m)		
	(mins) 0 3 7 12 14	0.79 0.81 0.83 0.855 0.87		
		i		

Plot showing time against depth of water:



Trial pit depths/dimensions:

Depth of trial pit at start of test: 0.87m Depth to water at start of test: 0.79m

Trial pit width: 0.3m Trial pit breadth: 0.25m Trial pit depth at completion of test: 0.87m

Calculations:

Soil infiltration rate,
$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

where: V_{p75-25} = effective storage volume of water in the trial pit between 75% (d_{p75}) and 25% (d_{p25}) effective depth = ($d_{p75} - d_{p25}$) x width x breadth $(0.85 - 0.81) \times 0.3 \times 0.25 = 0.003 \text{m}^3$

 a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area; = $(d_{p75} - d_{p25}) x$ (width + breadth) x 2 + (width x breadth) $(0.85 - 0.81) \times (0.3 + 0.25) \times 2 + (0.3 \times 0.25) = 0.119m^2$

 t_{p75} – t_{p25} = the time for the water level to fall from 75% to 25% effective depth

= 11 - 3 = 8 (mins) $= 8 \times 60 = 480$ (seconds)

therefore:

$$f = \frac{0.003}{0.119 \times 480} =$$
5.2 x 10⁻⁵ ms⁻¹



Project

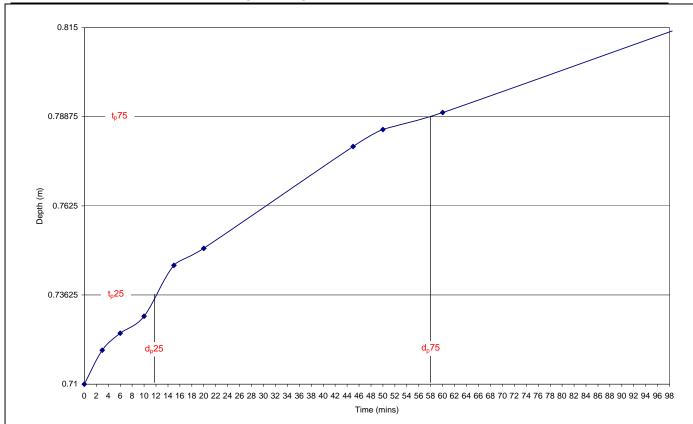
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SOIL INFILTRATION TEST for trial pit SA07 (generally in accordance with **Building Research Establishment Digest**

365 2007).				
Scale	Date	drawn by	checked by	
N/A	30.05.08	RC		
project ref		location	revision	
		SA07		
STE1297R		SAU		

DESCRI	PTION	LEGEND	DEPTH
			(m)
Grass c	onto medium dense dark brown slightly clayey	*****	0.0
slightly	silty gravelly SAND, with some roots and		0.16
rootlets	. Gravel consists of flint and occasional ash.	*****	
`	GROUND)		
Medium	n dense brown gravelly SAND, with occasional	*****	
roots. (Gravel consists of flint and occasional ash and		
clinker.		XXXXXX	0.6
(MADE	GROUND)		
Medium	n dense light brown and orange		0.89
slightly	clayey silty gravelly SAND.		
(KEMP	TON PARK GRAVEL)		
TRIAL I	PIT TERMINATED AT 0.89m		
Notes:			
1.	Trial pit sides remained upright and stable.		
2.	No groundwater encountered.		
3.	Disturbed samples taken at 0.05m, 0.2m and		
	0.6m depths.		

Te	est obse	ervations:
	TIME (mins)	DEPTH TO WATER (m)
	0 3 6 10 15 20 45 50 60 100	



Trial pit depths/dimensions:

Depth of trial pit at start of test: 0.89m Depth to water at start of test: 0.71m

Trial pit width: 0.25m Trial pit breadth: 0.3m Trial pit depth at completion of test: 0.815m

Calculations:

Soil infiltration rate,
$$f = \frac{V_{p75-25}}{a_{p50} \times tp_{75-25}}$$

where: V_{p75-25} = effective storage volume of water in the trial pit between 75% (d_{p75}) and 25% (d_{p25}) effective depth = ($d_{p75} - d_{p25}$) x width x breadth $(0.78875 - 0.73625) \times 0.25 \times 0.3 = 0.00394m^3$

 a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area; = $(d_{p75} - d_{p25}) x$ (width + breadth) x 2 + (width x breadth) $(0.78875 - 0.73625) \times (0.25 + 0.3) \times 2 + (0.25 \times 0.3) = 0.13275 \text{m}^2$

 $t_{p75-}t_{p25}$ = the time for the water level to fall from 75% to 25% effective depth

= 58 - 12 = 46 (mins) $= 46 \times 60 = 2760$ (seconds)

therefore:

$$f = \frac{0.00394}{0.13275 \times 2760} = 1.1 \text{ x } 10^{-5} \text{ ms}^{-1}$$



Project

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

SOIL INFILTRATION TEST for trial pit SA08 (generally in accordance with **Building Research Establishment Digest**

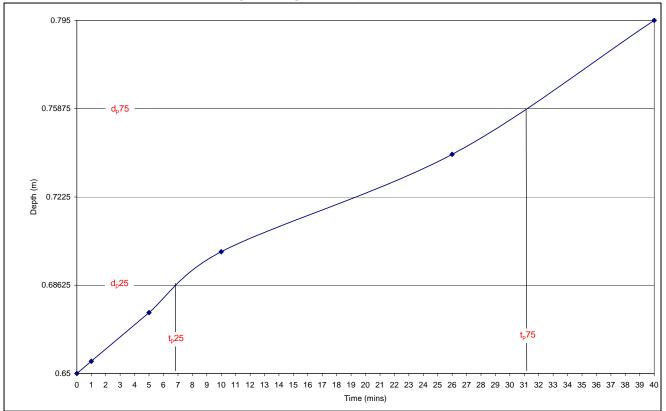
365 2007	').		
Scale	Date	drawn by	checked by
N/A	27.05.08	RC	
projec	t ref	location	revision
STE12	007D	SA08	
31612	297 K	3700	

DESCRI	PTION	LEGEND	DEPTH
			(m)
Grass o	nto brown slightly clayey slightly silty slightly	******	0.0
gravelly	SAND with many rootlets. Gravel consists of		0.1
flint and	l clinker.		0.27
(MADE	GROUND) / /	0 0	
Loose d	lark brown slightly clayey slightly silty		
slightly	gravelly SAND with some roots and		
rootlets.	. Gravel consists of flint.		
(MADE	GROUND)		0.795
Medium	dense orange brown clayey silty gravelly		
SAND b	pecoming very gravelly SAND with		
occasio	nal roots. Gravel consists of flint.		
`	TON PARK GRAVEL)		
TRIAL F	PIT TERMINATED AT 0.795m		
Notes:			
1.	Trial pit sides remained upright and stable.		
2.	No groundwater encountered.		
3.	Disturbed samples taken from 0.1m, 0.3m		
	and 0.6m depths.		

Test observations:

16	est obse	ervations	•
	TIME (mins)	DEPTH TO WATER (m)	
		WATER	

Plot showing time against depth of water:



Trial pit depths/dimensions:

Depth of trial pit at start of test: 0.795m Depth to water at start of test: 0.65m

Trial pit width: 0.3m Trial pit breadth: 0.25m Trial pit depth at completion of test: 0.795m

Calculations:

Soil infiltration rate,
$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

where: V_{p75-25} = effective storage volume of water in the trial pit between 75% (d_{p75}) and 25% (d_{p25}) effective depth = ($d_{p75} - d_{p25}$) x width x breadth $(0.75875 - 0.68625) \times 0.3 \times 0.25 = 0.00544$ m³

 a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area; = $(d_{p75} - d_{p25}) x$ (width + breadth) x 2 + (width x breadth) $(0.75875 - 0.68625) \times (0.3 + 0.25) \times 2 + (0.3 \times 0.25) = 0.1548m^2$

 $t_{p75-}t_{p25}$ = the time for the water level to fall from 75% to 25% effective depth

= 31 - 7 = 24 (mins) $= 24 \times 60 = 1440$ (seconds)

therefore:

$$f = \frac{0.00544}{0.1548 \times 1440} =$$
2.4 x 10⁻⁵ ms⁻¹



Project

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

SOIL INFILTRATION TEST for trial pit SA09 (generally in accordance with Building Research Establishment Digest 365 2007).

303 2007	<i>)</i> .		
Scale	Date	drawn by	checked by
N/A	27.05.08	RC	
projec	t ref	location	revision
N/A 27.05.0 project ref STE1297R		SA09	

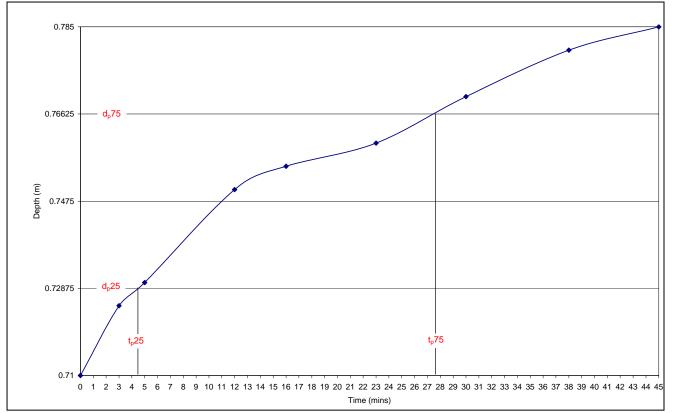
Brief soil description and strata for trial pit SA10:

DESCRI	PTION	LEGEND	DEPTH (m)
slightly occasio (MADE Medium SAND v	ento dark brown slightly clayey slightly silty gravelly SAND with many rootlets and nal roots. Gravel consists of flint and ash. GROUND) I dense orange brown clayey slightly gravelly with some roots. Gravel consists of flint. FON PARK GRAVEL)	ly clayey slightly silty nany rootlets and sists of flint and ash. In clayey slightly gravelly yel consists of flint. In clayey very gravelly nt. In clayey very gravelly nt.	0.0 0.25 0.7
(KEMP	Gravel consists of flint. FON PARK GRAVEL) PIT TERMINATED AT 0.9m	[:::0::::	0.9
Notes: 1. 2. 3.	Trial pit sides remained upright and stable. No groundwater encountered. Disturbed samples taken at 0.1m, 0.4m and 0.8m depths.		

Test observations:

T	est obse		:
	TIME (mins)	WATER (m)	
	3 5 12 16 23 30 38	0.71 0.725 0.73 0.75 0.755 0.76 0.77 0.78	

Plot showing time against depth of water:



Trial pit depths/dimensions:

Depth of trial pit at start of test: 0.9m
Depth to water at start of test: 0.71m

Trial pit width: 0.3m
Trial pit breadth: 0.2m
Trial pit depth at completion of test: 0.785m

Calculations:

Soil infiltration rate,
$$f = \frac{V_{p75-25}}{a_{p50} \times tp_{75-25}}$$

where: V_{p75-25} = effective storage volume of water in the trial pit between 75% (d_{p75}) and 25% (d_{p25}) effective depth = (d_{p75} - d_{p25}) x width x breadth (0.76625 - 0.72875) x 0.3 x 0.2 = **0.00225m³**

 a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area; = $(d_{p75} - d_{p25}) \times (width + breadth) \times 2 + (width \times breadth) \times (0.76625 - 0.72875) \times (0.3 + 0.2) \times 2 + (0.3 \times 0.2) = 0.0975 m^2$

 t_{p75} – t_{p25} = the time for the water level to fall from 75% to 25% effective depth

= 27.5 - 4.5 = 23 (mins) = $23 \times 60 = 1380$ (seconds)

therefore:

$$f = \frac{0.00225}{0.0975 \times 1380} =$$
1.7 x 10⁻⁵ ms⁻¹



Project

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

Title

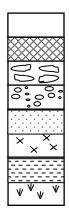
SOIL INFILTRATION TEST for trial pit SA10 (generally in accordance with Building Research Establishment Digest 365 2007)

365 2007	').		
Scale	Date	drawn by	checked by
N/A	27.05.08	RC	
projec	t ref	location	revision
STE12	297R	SA10	

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

SOILS

SEDIMENTARY ROCKS



Topsoil

Made ground

Boulders & Cobbles

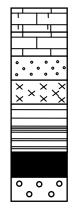
Gravel

Sand

Silt

Clay

Peat/Organic clays



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
 (32) number of blows to obtain undisturbed sample
 D disturbed sample
 bulk sample
 J jar sample
 jar sample

WATER MEASUREMENTS

refer to notes at base of borehole sheet



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

CASING DEPTH (m)	WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
						TYPE AND DEPTH	RESU	LT	FROM (m)	TO (m)	TYPE
		CLAY.	own slightly gravelly Gravel consists of flint.		0.0						
			GROUND) k brown and light		0.4				0.6		D
		brown s	ightly sandy slightly	/ O · · ·	0.9						
	Dry	1 .	CLAY. Gravel of flint and ash.			SPT(C)	(1)6				
		1,	GROUND) rown very silty gravelly	0		1.2-1.65m			1.4		D
2.1	1.1	1	Gravel consists of fine	0	1.8	SPT(C)	(4)1	8	2.0		D
1	'''	(KEMPT	ON PARK GRAVEL)			2.1-2.55m	(-7)	O	2.2	2.6	В
		1	dense brown slightly ND and GRAVEL of	0							
3.0	2.4	(KEMPT	ON PARK GRAVEL)	0 0	3.3	SPT(C) 3.1-3.55m	(3)7				
		gravelly	rey brown slightly very silty SAND. onsists of flint.	О					3.4		D
4.0	2.6		ON PARK GRAVEL)	0.		SPT(C) 4.0-4.45m	(1)6		4.2		
			L L CAND	0	4.6				4.3		D
5.1	3.1	and GR	dense brown SAND AVEL of flint.	0 0		SPT(C)	(5)2	3	4.8		D
		(KEMP)	ON PARK GRAVEL)	0		5.1-5.55m			5.2	5.6	В
				0 0							
6.5	3.1			0 0		SPT(C) 6.5-6.95m	(7)3	0			
DRILLING			GROUNDWATER	•		•					-
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	BEHAVIOUR					DEPTH S	EALED	
150mm	0.0m	25.5m	Approximately 3.5m			v, water being ng at time of v				9.5m	
	REFER TO	O KEY AT	BEGINNING OF THIS				ITA	ON O	F SYMBO	OLS	
			BOREHOLE R	GROUND LE		1 07 4		CO-ORI	DINATES		
		(4)		LOCATION P	LAN ON DE	RAWING No		DATE O	OF EXCAVATIO	N.	
					1297R-				2.05.08		
GEOTECH	INICAL ENGINEE	RS, ENVIRONM	ENTAL CONSULTANTS Northampton, NN6 9PY.	Twic	kenhar	Upon-Thar n.	nes	Colle	ge, Egeri	ton Ro	ad,
Tel: (01604) 7	81877 Fax: (01	1604) 781007	E-mail: mail@soiltechnics.net	1				BORE	HOLE No	1	
				STE	1297R				BH01		

CASING DEPTH (m)	WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS	,	SAMPLING		
		+			-	TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
				0				6.7		D
				0						
				0 0	•					
				: O:						
				0	1					
8.0	4.6			0		SPT(C)	(3)26	8.1	8.5	В
				0		8.0-8.45m				
					:					
				0 0						
					9.3					
0.5	0.4	•	k grey CLAY					9.5	40.05	D
9.5	9.1	CLONDO	ON CLAY)			SPT 9.6-10.05m	(3)17	9.6	10.05	D
						9.0-10.03111				
9.5	13.4							11.5	11.9	U100
										(24)
								12.0		D
9.5	Dry					SPT				
DRILLING			GROUNDWATER	-1-1-1-1		13.5-13.95m	(5)22	13.5	13.95	טן
DIAMETER	FROM	То	DEPTH(S) STRUCK	RF	HAVIOL	IR		DEPTH SI	FALED	
								52, 1110		
150mm	0.0m	25.5m	Approximately 3.5m			, water being ng at time of w			9.5m	
	REFER TO	D KEY AT	BEGINNING OF TH				ATION	OF SYMBO	DLS	
			BOREHOLE	GROUND LEV		2 OF 4	Ico	PRDINATES		
				GROUND LEV	CL		00-0	RDINATES		
	(\sim		LOCATION PL	AN ON DR	AWING No	DATE	OF EXCAVATIO	N	
				STE1	297R-0)2	:	22.05.08		
(1)	III T			PROJECT			I			
GEOTECH	NICAL ENGINEE	RS, ENVIRONI	HNICS MENTAL CONSULTANTS , Northampton. NN6 9PY.		nond-l kenhan	Jpon-Tham n.	nes Coll	ege, Egert	on Roa	ad,
			, Northampton, NN6 9F1. 'E-mail: mail@soiltechnics.i	FROJECTIKE			BOR	EHOLE No		
				STE1	297R			BH01		

CASING DEPTH (m)	WATER (m)	STRATA DESCR	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
					_	TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
		1	grey CLAY								
		(LONDC	N CLAY)		1						
				7-7-7-7	1						
					3						
					1						
					1						
]						
				<u> </u>	3						
9.5	D.m.(7-7-7-7	1	ODT	(0)04		15.6	15.05	_
9.5	Dry					SPT	(6)24		15.6	15.95	D
					-	15.6-15.95m					
					1						
					-						
					1						
					1						
]						
9.5	Dry					SPT	(6)27		17.5	17.95	D
					=	17-5-17.95m					
]						
				-7-7-7-7	=						
				-1-1-1-1							
]						
				<u> </u>	3						
				-7-7-7-7	=						
9.5	Dry				1	SPT	(6)29		19.5	19.95	D
]	19.5-19.95m					
					1						
DRILLING			GROUNDWATER								
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	ВІ	EHAVIOL	IR		D	EPTH S	EALED	
150mm	0.0m	25.5m	Approximately 3.5m			, water being a ng at time of w				9.5m	
	REFER TO) KEY AT	BEGINNING OF TH	IIS APPEN	DIX FO	R EXPLAN	ATION	1 OF :	SYMB	OLS	
			BOREHOLE	1		3 OF 4					
				GROUND LEV	/EL		co	-ORDINA	ATES		
		(4)		LOCATIONS	ANIONES	AVA/INIO NI		TE OF F	XCAVATIO	NI.	
				LOCATION P	297R-0		DA		5.08	N	
((H T		INICC	PROJECT							
GEOTECH	INICAL ENGINEE	RS, ENVIRONM	HNICS ENTAL CONSULTANTS Northeameter NAS CRY		mond-l kenhan	Jpon-Tham າ.	ies Co	llege	, Eger	ton Roa	ıd,
Cedar Ba Tel: (01604) 78	rn, White Lodg 31877 Fax: (01	ne, Walgrave, 604) 781007	Northampton. NN6 9PY. E-mail: mail@soiltechnics.r	ret PROJECT RE	F.		ВС	OREHOLI	E No		
				1	297R		- 1		BH01		

CASING DEPTH (m)	WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
						TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
			oming very stiff dark		크					
		grey CL			딈					
		(LONDC	N CLAY)		킠					
					크					
9.5	Dry				3			21.6	22.0	U100
					듸					(34)
					ヨ			22.1		D
					듸					
					3					
					=					
					딐					
					듸					
9.5	Dry					SPT	(6)32	23.6	24.05	D
					=	23.6-24.05m				
					딐					
					긬					
					크					
					3					
					크					
					킠					
9.5	Dry			7_7_7_7_	25.5	SPT	(8)35	25.5	25.95	D
		BOREH	OLE TERMINATED A	т		25.5-25.95m				
		25.5m								
		Note								
		1. Water	added between 1.7-							
		4.0m to	assist drilling.							
			vater monitoring							
		standpip	e installed to 6.0m.							
DRILLING			GROUNDWATER							
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	-	BEHAVIOL	JR		DEPTH S	EALED	
150mm	0.0m	25.5m	Approximately 3.5m	Ş	Slow inflow assist drilli	v, water being and time of w	added to ater strik	ie	9.5m	
	REFER TO	KEY AT	L BEGINNING OF THI	S APPE	NDIX FC	R EXPLAN	IATION	I OF SYMB	OLS	
			BOREHOLE R			4 OF 4				
				GROUND L	EVEL		CO-	-ORDINATES		
		5		10047:0::	DI ANI OTT T	AMUNIC N		TE OF EVO		
					PLAN ON DR 1297R-0		DA	TE OF EXCAVATION 22.05.08	iN	
CV	HT		INICS	PROJECT						
•••••	• • • • • • • • •	•••••	ENTAL CONSULTANTS		nmond-l ckenhar		nes Co	llege, Eger	ton Ro	ad,
	1476.00	. 147.7	Maritha and a series and a series	1						
Cedar Ba	rn, White Lodg 81877 Fax: (01	e, Walgrave, 604) 781007	Northampton. NN6 9PY. E-mail: mail@soiltechnics.net	PROJECT F	REF.		ВО	REHOLE No		

CASING DEPTH (m)	WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
		<u> </u>				TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
			own slightly gravelly		0.0					
		1	Bravel consists of flint.		0.2			0.2		D
		`	GROUND)	/‱				0.5		D
		1	dense orange brown		*					
			y slightly gravelly		Ä					
		SAND.	Gravel consists of flint.		Ä					
	Dry	1.	GROUND)	XXXXXX	1.3	SPT(C)	(5)24			
		Medium	dense brown sandy	0:0		1.2-1.65m		1.4		D
		GRAVE	L of flint. Grading to							
			vith depth.	0 0						
2.0	1.1	(KEMP)	ON PARK GRAVEL)	0.0	1	SPT(C)	(4)17	2.1	2.5	В
					1	2.0-2.45m				
				0	1					
				0 0	1					
3.0	2.4				1	SPT(C)	(1)18			
					}	3.1-3.55m		3.3		D
				0						
					1					
4.0	2.6			0.]	SPT(C)	(1)20			
					1	4.1-4.55m				
					1					
5.0	3.1					SPT(C)	(5)22			
		Otite -1	OI AV		5.3	5.0-5.45m		5.2		D
		1	k grey CLAY		3			5.4		D
		(LONDC	ON CLAY)		-					
6.4	2.4				1			60	6.4	11400
6.4	3.1]			6.0	6.4	U100
]			6.5		(22)
					-			6.5		D
DRILLING			GROUNDWATER							
DIAMETER	FROM	То	DEPTH(S) STRUCK	l _D r	EHAVIOL	ID.		DEPTH S	ENLED	
DIAMETER		10						DEFINS	EALED	
150mm	0.0m	25.0m	Approximately 3.0m			, water being ng at time of w		:	5.6m	
F	L REFER TO	L KEY AT	_I TBEGINNING OF THIS	<u> </u>	DIX FO	R EXPLAN	IATION	OF SYMB	OLS	
			BOREHOLE R							
				GROUND LEV	/EL		CO-C	ORDINATES		
		つ		LOCATION PI			DATE	OF EXCAVATION	N	
				STE1	297R-0	02		26.05.08		
()	II T		INICS	PROJECT			•			
3 U	LLL		1 IV I C 3			Jpon-Than	nes Coll	lege, Eger	ton Ro	oad,
• • • • • • • •	• • • • • • • •	• • • • • • • •	•••••	Twic	kenhan	n.				
			IENTAL CONSULTANTS Northampton. NN6 9PY.							
			E-mail: mail@soiltechnics.net	FROJECTIKE			BOR	REHOLE No		
				STE1	297R			BH02	4	

CASING DEPTH (m)	WATER (m)	STRATA DESCR	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
						TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
		1	grey CLAY								
		(LONDC	N CLAY)								
									<u>.</u> .		
5.6	Dry						(4)20		8.1	8.55	D
						8.1-8.55m					
5.6	Dry					CDT	(4)21		10.0	10.45	D
J.U	Dry					SPT 10.0-10.45m	(4)41		10.0	10.45	ا
						10.0-10.4311					
				<u> </u>							
5.6	Dry					SPT	(5)22		12.2	12.65	D
	1					12.2-12.65m	` ′				
DRILLING		•	GROUNDWATER	,	•		•		•	•	•
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	BE	HAVIOU	R			DEPTH S	EALED	
150mm	0.0m	25.0m	Approximately 3.0m			, water being a g at time of w				5.6m	
	REFER TO) KEY AT	BEGINNING OF TH	IIS APPEN	DIX FO	R EXPLAN	OITA	N OF	SYMB	OLS	
			BOREHOLE	1		2 OF 4					
				GROUND LEV	EL		cc)-ORDIN	IATES		
	(51		LOCATION PL	AN ON DE	AWING No	DA	TE OF F	EXCAVATIO	N	
				1	297R-0				05.08	IN.	
()	HT		INICS	PROJECT			1				
GEOTECH	INICAL ENGINEE	RS, ENVIRONM	ENTAL CONSULTANTS		nond-L cenhan	Jpon-Tham า.	ies Co	llege	e, Eger	ton Roa	ad,
Cedar Ba Tel: (01604) 7	rn, White Lodg 81877 Fax: (01	e, Walgrave, 604) 781007	Northampton. NN6 9PY. E-mail: mail@soiltechnics.n	et PROJECT RE	F.		В	OREHOL	LE No		
					297R				BH02		

CASING DEPTH (m)	WATER (m)	STRATA DESCR	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAME	PLING		
		<u> </u>				TYPE AND DEPTH	RESULT	FROM	/I (m)	TO (m)	TYPE
			grey CLAY								
		(LONDC	N CLAY)								
5.6	Dry					SPT	(6)22	14.	1	14.55	D
						14.1-14.55m					
					}						
5.6	Dry					SPT	(6)25	16.	1	16.55	D
						16.1-16.55m					
				-1-1-1-1-1							
5.6	Dry					SPT	(6)26	18.	0	18.45	D
	J.,					18.0-18.45m		10.	•		
						10.0 10.1011					
F.G.	D						(0) 00	200	,	20.55	
5.6	Dry					SPT	(6)32	20.	1	20.55	טן
DDILLING			COUNDWATER	-1-1-1-1-		20.1-20.55m					
DRILLING DIAMETER	FROM	Тто	GROUNDWATER DEPTH(S) STRUCK	lor	HAVIOU	D		Inept	H CI	EALED	
									11 3		
150mm	0.0m	25.0m	Approximately 3.0m			, water being a g at time of w				5.6m	
	REFER TO	KEY AT	BEGINNING OF TH	IIS APPENI	OIX FO	R EXPLAN	ATION	I OF SYI	МВС	DLS	
			BOREHOLE			3 OF 4					
				GROUND LEV	EL		CO	-ORDINATES			
		イムゴ					_				
	\			LOCATION PL	an on dr. 297R-0		DA	TE OF EXCAV 26.05.0		N	
C O	H T	 	INICC	PROJECT							
3 U		Lli	INICS		nond-U cenhan	Jpon-Tham n.	ies Co	llege, E	gert	on Roa	ıd,
Cedar Bai	rn White Lodo	e Walarave	ENTAL CONSULTANTS Northampton, NN6 9PY.								
Tel: (01604) 78	11877 Fax: (01	604) 781007	E-mail: mail@soiltechnics.n	PROJECT RE	÷.		ВС	REHOLE No			
				STE1	207D			R	H02		

CASING DEPTH (m)	WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m) TEST RESULTS			SAMPLING		
						TYPE AND DEPTH	RESUL	Т	FROM (m)	TO (m)	TYPE
		Stiff bed	coming very stiff dark								
		grey CL	AY								
		(LOND)	ON CLAY)		딐						
					3						
				D-I-I-I-I							
					덬						
					3						
5.6	Dry				=	SPT	(7)33	3	22.2		D
					덬	22.2-22.65m					
					덬						
				7-7-7-7	핔						
					크						
5.6	Dry				ヨ				24.0	24.4	U100
0.0	Di y								21.0		(40)
					=				24.5		D
					덬						
				<u> </u>	25.0				25.0		D
		BOREH	OLE TERMINATED A	т							
		25.0m									
		Note									
		1. Wate	r added between 1.3-								
		1	assist drilling.								
		1	water monitoring								
		standpip	be installed to 6.0m.								
DRILLING			GROUNDWATER								
DIAMETER	FROM	То	DEPTH(S) STRUCK	- I	BEHAVIO	LID			DEPTH S	EVIED	
DIAMETER	PROM	10	DEI III(3) 31KOOK		BEHAVIO	UK			DEI III 3		
150mm	0.0m	25.0m	Approximately 3.0m			w, water being ing at time of w				5.6m	
F	L REFER TO	L O KEY AT	_I Γ BEGINNING OF THI	S APPE	NDIX F	OR EXPLAN	IATIO	ON O	I F SYMB(OLS	
			BOREHOLE R	ECORD	SHEET	7 4 OF 4					
				GROUND L	EVEL			CO-ORE	INATES		
		(5)		LOCATION	PLAN ON D	RAWING No		DATE O	F EXCAVATIO	N	
	`			STE	1297R-	02		26	3.05.08		
()	II T			PROJECT			J				
3W			HNICS	Ricl	nmond-	Upon-Than	nes (Collec	ge, Eger	ton Ro	ad,
					ckenha			- •	. J		,
			MENTAL CONSULTANTS								
Cedar Bari Tel: (01604) 78:	n, White Lod 1877 Fax: (0	ge, Walgrave 1604) 781007	, Northampton. NN6 9PY. 'E-mail: mail@soiltechnics.net	PROJECT	REF.		- 1	BOREH	IOLE No		
				1	1297R				BH02	2	

CASING DEPTH (m)) WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
						TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Black bit	tuminous bound		0.0					
		material			0.1					
		(MADE	GROUND)	/ 	0.25			0.3		D
		<u> </u>	wn and yellow brown	· / XXXX	Ž .			0.5		Ь
			sandy CLAY. Gravel		8					
		1-	of flint, brick and ash	I KXXXXX	8					
		1	GROUND)	" XXXX	1.2			1.3		D
1.5	0.6	,	dense grey brown ve		:]'	SPT(c)	(11)41	1.0		٦
1.0	0.0	1	ravelly SAND. Grave	. //	-	1.5-1.95m	(11)-11	1.6	2.0	В
		1	of flint, brick and ash	11.0.5		1.5-1.55111		1.0	2.0	٦
		1	GROUND)		:1					
			dense brown SAND		:					
2.6	1.2		AVEL of flint.		:	SPT(c)	(10)38	2.7		D
2.0	1.2		ON PARK GRAVEL)	0.0	:}	2.6-3.05m	(10)36	2.7		٦
		(IXEIVII I	ON I AIN ONAVEL)	0	-	2.0-3.03111				
				0						
3.5	2.4				3	ODT(-)	(7)24			
3.3	2.4			0.0	3.6	SPT(c)	(7)31	3.7		
		Madium	danaa dark aray	0:::		3.5-3.95m		3.7	4.2	D B
			dense dark grey	O	:			3.8	4.2	B
4.5			nd GRAVEL of flint.	[2]2]2]2]2	:]					
4.5	2.3	(KEMP)	ON PARK GRAVEL)	0 0	:	SPT(c)	(4)16			
					·]	4.5-4.95m				
		0	0.4.		4.8					_
		1	k grey CLAY		3			5.0		D
		(LONDC	N CLAY)		3					
					3					
5.5	Dry				=	SPT	(3)14			
					3	5.6-6.05m				
					3					
					3					
					3					
					Ξ					
					3					
DRILLING	!	<u> </u>	GROUNDWATER		- 1					•
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	В	EHAVIO	UR		DEPTH S	EALED	
150mm	0.0m	20.0m	Approximately 2.5m			v, water being			5.5m	
	REFER TO) KEY AT	L BEGINNING OF TH						OLS.	
		- 11-1711	BOREHOLE I					. J. J. WID		
			SOMETICEL	GROUND LE		. 5. 6	со	-ORDINATES		
	($\langle \sim \rangle$		LOCATIONS	N AN ON DE	NAMINO NA		TE OF EVOAVATIO	NA I	
				LOCATION P	1297R-		DA	re of excavation 27-28.05.0		
CA	HIT		HNICS	PROJECT						
		T () 1	1 N I L 3	Rich		Upon-Thai	mes Co	llege, Eger	ton Ro	oad,
GEOTEC	CHNICAL ENGINEE	RS, ENVIRONM	IENTAL CONSULTANTS	Twic	kenhar	m.				
GEOTEC	CHNICAL ENGINEE	RS, ENVIRONM	• • • • • • • • • • • • • • • • • • • •			m.	BC	PREHOLE No		

CASING DEPTH (m)	WATER (m)	STRATA DESCR	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPL	NG	
						TYPE AND DEPTH	RESULT	FROM (m) TO (m)	TYPE
			grey CLAY.							
		(LONDC	N CLAY)							
5.5	Dry							7.5	7.9	U100
										(22)
								8.0		D
				F-3-3-3-3						
5.5	Dry					SPT	(4)21	9.5	9.95	D
	' '					9.5-9.95m	(7/41		5.55	٦
						J.J-J.JJIII				
				F-3-3-3-3						
	D					0.0.7	(=).00	44.4	14.05	
5.5	Dry						(5)22	11.4	11.85	D
						11.4-11.85m				
DRILLING		_	GROUNDWATER							
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	BEI	HAVIOU	R 		DEPTH	SEALED	
150mm	0.0m	20.0m	Approximately 2.5m	Slo ass	w inflow, sist drillin	, water being a g at time of w	added to ater stril	ke	5.5m	
	REFER TO	KEY AT	L BEGINNING OF TH	IIS APPEND	OIX FO	R EXPLAN	ATION	I OF SYM	BOLS	
			BOREHOLE	RECORD S	HEET	2 OF 3				
	4			GROUND LEVE	EL		CC	-ORDINATES		
		4								
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			STE12	an on dra 297 R-0		DA	TE OF EXCAVA 27-28.05		
	III T	C (I	INICS	PROJECT						
			4 M I I X		ond II	lpon-Tham	es Co	llogo Eg	orton Do	ad
GEOTECH	INICAL ENGINEEI	RS, ENVIRONM	ENTAL CONSULTANTS	Richm Twick				inege, Lg	erton Ro	au,
GEOTECH Cedar Ba	INICAL ENGINEES	RS, ENVIRONM	• • • • • • • • • • • • • • • • • • • •	Twick	enham			DREHOLE No	erton Ro	au,

CASING DEPTH (m)	WATER (m)	STRATA DESCR	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
						TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
5.5	Dry	1	grey CLAY. N 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)
5.5	Dry	AT 20.0i Note 1. Water 3.0m to 2. Gas/w	added between 1.2- assist drilling. vater monitoring		20.0	SPT 19.6-20.05m	(6)28		19.6	20.05	D
DRILLING		standpip	e installed to 5.0m. TGROUNDWATER								
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	E	EHAVIOL	JR		D	EPTH S	EALED	
150mm	0.0m	20.0m	Approximately 2.5m	a	ssist drillir	y, water being and at time of w	ater stri	ke		5.5m	
	KEFER TO) KEY AT	BEGINNING OF THIS				IA HOI	N OF	SYMBO	JLS	
			BOREHOLE R	GROUND LE		3 OF 3	CC	D-ORDINA	ATES		
		2		LOCATION F	PLAN ON DR 1297R-(DA		XCAVATIO 28.05.0		
GEOTECH	NICAL ENGINEE	RS, ENVIRONM	ENTAL CONSULTANTS Northampton. NN6 9PY.	Twic	kenhan	Jpon-Tham n.	nes Co	ollege	, Eger	ton Roa	nd,
Tel: (01604) 78	11877 Fax: (01	604) 781007	E-mail: mail@soiltechnics.net		EF. 1297R		В	OREHOLI	E No BH03	3	

CASING DEPTH (m)	WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS			AMPLING		_
				 		TYPE AND DEPTH	RESULT	F	ROM (m)	TO (m)	TYPE
		material			0.0 0.1			c).3		D
		Medium	GROUND) dense brown sandy L of brick and concrete		0.25			c).6		D
			GROUND)	·	0.9				1.1		D
1.2	Dry	<u> </u>	ey mottled orange			SPT(C)	(16)47	1	1.3	1.6	В
	′	1 -	lightly sandy slightly			1.2-1.85m					
		gravelly	CLAY. Gravel								
		consists	of brick, flint and ash.								
2.0	1.1	<u> </u>	GROUND)			SPT(C)	(14)40				
		1	prown slightly silty			2.0-2.45m		2	2.2		D
			nd GRAVEL of flint.								
		(KEMP)	ON PARK GRAVEL)								
3.0	2.0	Modium	dense dark grey		2.9	SPT(C)	(10)36	,			
3.0	2.0		nd GRAVEL of flint.			3.1-3.55m	(10)30		3.2		D
			to grey brown SAND			5.1-5.55111			<u>~</u>		۲
		with dep	- ·								
		1	ON PARK GRAVEL)								
4.0	2.1					SPT(C)	(8)23				
						4.1-4.55m		4	1.2	4.5	В
5.0	2.4					SPT(C)	(1)19	۔ ا	- 0		
						5.1-5.55m		5	5.2		D
6.0	2.7					SPT(C)	(4)18				
				1.1.1.1.1.1	6.3	6.0-6.45m		6	3.2		D
		1	k grey CLAY. DN CLAY)					6	6.5		D
DRILLING			GROUNDWATER		1		<u> </u>			<u> </u>	1
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	В	EHAVIOL	JR		DE	PTH SE	EALED	
150mm	0.0m	20.0m	Approximately 2.5m			, water being ng at time of w				6.3m	
F	REFER TO	O KEY AT	BEGINNING OF THIS				IATIO	N OF S	YMBC	DLS	
			BOREHOLE RI	GROUND LE		1 UF 3	10	O-ORDINAT	FS		
				0.100.15 22			ľ	0 0.15.1.01.			
		(\sim)		LOCATION P	I AN ON DR	AWING No		ATE OF EXC	CAVATION	J	
	•				297R-0		ا ا	29.05		•	
()	II T	T (INICC	PROJECT							
10		t ()	INICS	Rich	mond-l	Jpon-Tham	nes C	olleae	Eaert	on Ro	ad.
GEOTECHI	NICAL ENGINEE	RS, ENVIRON	IENTAL CONSULTANTS		kenhan			3 -,	_9		,
			, Northampton. NN6 9PY. E-mail: mail@soiltechnics.net	PROJECT RE	F.		E	BOREHOLE	No		
•					297R				BH04		

CASING DEPTH (m)	WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
						TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		•	k grey CLAY.							
		(LONDC	ON CLAY)							
					==					
4.5	Dry				==	SPT	(3)18	7.6	8.05	D
					==	7.6-8.05m				
					==					
					==					
					==					
					==					
4.5	Dry					SPT	(4)21	9.5	9.95	D
						9.5-9.95m				
					==					
				-1-1-1-1						
								14.0		
4.5	Dry				===	SPT	(5)24	11.6	12.05	טן
						11.6-12.05m				
					==					
					<u></u>					
					==					
						SPT				
4.5	Drv			-3-3-3		13.5-13.95m	(5)25	13.5	13.95	l _D
DRILLING	le. A		GROUNDWATER	<u> </u>	<u></u>	10.0 10.00111	10720	110.0	10.00	<u> </u>
DIAMETER	FROM	То	DEPTH(S) STRUCK		BEHAVIOL	IR		DEPTH SI	EALED	
150mm	0.0m	20.0m	Approximately 2.5m		Slow inflow assist drilling	, water being a ng at time of w	added to ater strike		6.3m	
F	REFER TO	KEY AT	 BEGINNING OF TH	IIS APPE	NDIX FO	R EXPLAN	ATION	OF SYMBO	DLS	
			BOREHOLE	RECORE	SHEET	2 OF 3				
				GROUND I	_EVEL		CO-0	RDINATES		
		6		L						
		つ		LOCATION	I PLAN ON DRA	AWING No	DATE	OF EXCAVATIO	N	
				STI	E1297R-0)2	:	29.05.08		
CU	II T		ANICS	PROJECT			<u> </u>			
3 U			1 IN I C 3	Ric	hmond-l	Jpon-Tham	es Coll	ege, Egert	on Roa	ad,
					ckenhan			·		-
			IENTAL CONSULTANTS							
			, Northampton. NN6 9PY. E-mail: mail@soiltechnics.r	net PROJECT	REF.		BOR	EHOLE No		
	•		-	I KOSLOT	E1297R			BH04	L	
				311	- 120/11				r	

CASING DEPTH (m)	WATER (m)	STRATA DESCR	RIPTION	LEGEND	DI	EPTH (m)	TEST RESULTS			SAMPLING		
					_		TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
		Stiff dark	grey CLAY.									
		(LONDO	N CLAY)									
					33							
					33							
4.5	Dry				33					15.6	16.0	U100
												(37)
										16.1		D
4.5	Dry				33		SPT	(6)28		17.7	18.15	D
							17.7-18.15m					
		BOREH	OLE TERMINATED \									
		AT 20.0r	m \									
4.5	Dry		,	\	33		SPT	(6)31		19.5	20.05	D
		Note		\[====			19.5-20.05m					
			added between 1.2-	\ <u></u>		20.0						
		1	assist drilling.		ľ	.0.0						
		1	ater monitoring									
		standpip	e installed to 6.0m.									
DRILLING			GROUNDWATER									
DIAMETER	FROM	ТО	DEPTH(S) STRUCK		BEH	IAVIOU	R			DEPTH SI	EALED	
150mm	0.0m	20.0m	Approximately 2.5m				, water being a g at time of wa				6.3m	
F	REFER TO	KEY AT	BEGINNING OF THI	S APPE	ND	IX FO	R EXPLAN	ATIO	N OF	SYMBO	OLS	
			BOREHOLE R	ECORI	D SH	IEET	3 OF 3					
				GROUND	LEVEL	-		С	O-ORDI	INATES		
	(5)		LOCATIO	N PLAN	N ON DRA	AWING No	D	ATE OF	EXCAVATIO	N	
				ST	E12	97R-0	2		29	.05.08		
(1)	II T	E C L	INICS	PROJECT								
GEOTECHN	IICAL ENGINEEI	RS, ENVIRONM	ENTAL CONSULTANTS			ond-L enham	Ipon-Tham 1.	ies C	olleg	je, Egert	ton Roa	ıd,
Cedar Barr Tel: (01604) 781	n, White Lodg 1877 Fax: (01	e, Walgrave, 604) 781007	Northampton. NN6 9PY. E-mail: mail@soiltechnics.net	PROJECT	REF.			T E	BOREHO	OLE No		
				1		97R				BH04	ļ	
						\					•	

CASING DEPTH (m	n) WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
		ļ				TYPE AND DEPTH	H RESULT	FROM (m)	TO (m)	TYPE
		1	own slightly gravelly	*****	§0.0					
		CLAY.	Gravel consists of brick	*****	8			0.2		D
		and flint			{ 0.4					
		(MADE	GROUND)	′‱	8			0.6		D
			own slightly clayey)					
		SAND a	nd GRAVEL of flint and	J XXXXX	₹1.1					
		brick.		/ >>>>	8			1.3		D
1.5	Dry	(MADE	GROUND) /	· >>>>	8	SPT(C)	(2)17			
		Firm ora	nge brown mottled	*****	8	1.5-1.95m				
		dark bro	wn slightly gravelly	XXXX	1.9					
		slightly s	sandy CLAY. Gravel	/ O : : :	3			2.0		D
		consists	of flint and brick.	0.0	:			2.1	2.5	В
2.5	1.4	(MADE	GROUND)	0 0	:]	SPT(C)	(12)30			
		Medium	dense brown sandy	0 0		2.5-2.95m				
		GRAVE	∟ of flint.							
		(KEMPT	ON PARK GRAVEL)	0	3					
				0	:					
3.5	2.3			0	:]	SPT(C)	(15)29			
				0	1	3.5-3.95m		3.7		D
				0	3					
					4.2					
		1	k grey CLAY.					4.4		D
4.5	4.6	(LONDC	N CLAY)		3	SPT	(2)12			
					3	4.6-5.05m				
					3					
					3					
4.5	Dry							5.5	5.9	U100
					3					(17)
					3					
					3			6.0		D
					3					
					3					
DRILLING	•		GROUNDWATER	_		•		•		
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	В	EHAVIO	JR		DEPTH S	EALED	
150mm	0.0m	20.0m	Approximately 2.5m			v, water being			4.2m	
	REFER TO	L KEY AT	L BEGINNING OF THIS						OLS	
			BOREHOLE R	ECORD	SHEET	1 OF 3				
				GROUND LE	VEL		СО	-ORDINATES		
	(\sim 1		LOCATION P	LAN ON DF	RAWING No	DA	TE OF EXCAVATION)N	
				STE	1297R-	02		28-29.05.0	8	
C 0	TII		INICS	PROJECT			<u> </u>			
_ \ / \		ГІГ	1 N I L 3		mond-	Upon-Thai	mes Co	llege, Eger	ton Ro	oad,
GEOTEC	CHNICAL ENGINEE	RS, ENVIRONM	IENTAL CONSULTANTS	Twic	kenhar	n.				
GEOTEC	CHNICAL ENGINEE	RS, ENVIRONM	• • • • • • • • • • • • • •			n.	ВС	DREHOLE No		

CASING DEPTH (m)	WATER (m)	STRATA DESCR	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
		1				TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
		1	grey CLAY.	-7-7-7-7-7							
		(LONDC	N CLAY)								
	_									0.05	
4.5	Dry				·l		(3)18		7.6	8.05	D
				-1-1-1-1-		7.6-8.05m					
4.5	Dry					SPT	(4)21		9.5	9.95	D
+.5	Ыу				.1	9.5-9.95m	(4)21		9.5	9.93	יין
					1						
				-1-1-1-1-							
				-1-1-1-1-							
4.5	Dry					SPT	(5)24		11.6	12.05	D
						11.6-12.05m					
				I-I-I-I-I-I							
						SPT					
4.5	Dry					13.5-13.95m	(5)25		13.5	13.95	D
DRILLING		1	GROUNDWATER								
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	BE	HAVIOU	R			DEPTH S	EALED	
150mm	0.0m	20.0m	Approximately 2.5m			, water being a g at time of w				4.2m	
	REFER TO	KEY AT	BEGINNING OF TH	IIS APPEN	DIX FO	R EXPLAN	ATIOI	N OF	SYMBO	DLS	
			BOREHOLE			2 OF 3	,				
				GROUND LEV	ΈL		CC)-ORDII	NATES		
		5		1.00:7:0::	AN 011 5 = 1	NAME N		TE 05	EVO 4: =: -		
				STE1	AN ON DRA 297R-0		DA		EXCAVATIO -29.05.0		
Ω	HT		INICC	PROJECT							
GEOTECH	NICAL ENGINEE	RS, ENVIRONM	ENTAL CONSULTANTS		nond-U kenhan	Jpon-Tham າ.	ies Co	olleg	e, Egert	on Roa	ıd,
Cedar Bai Tel: (01604) 78	rn, White Lodg 31877 Fax: (01	e, Walgrave, 604) 781007	Northampton. NN6 9PY. E-mail: mail@soiltechnics.n	et PROJECT RE	F.		В	OREHO	DLE No		
				1	297R		1		BH05		

CASING DEPTH (m)	WATER (m)	STRATA DESCR	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
						TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		Stiff dark	grey CLAY.	E-3-3-3	딐					
		(LONDC	N CLAY)							
					==					
					==					
					<u> </u>					
				E-3-3-3						
				=====						
4.5	Dry							15.6	16.0	U100
	′				33					(37)
					<u> </u>			16.1		Ď ĺ
				E-3-3-3						
					<u> </u>					
				=====						
				E-3-3-3						
4.5	Dry					SPT	(6)28	17.7	18.15	D
1.0	lo, y					17.7-18.15m		'' ''	10.10	٦
						17.7-10.15111				
					33					
					33					
		DODEH.	OLE TERMINATED	E-3-3-3						
		AT 20.0i	\							
		A 1 20.01	\			SPT	(6)31	19.5	19.95	D
4.5	Dry	Note	· ·	\				19.5	19.93	ا
4.5	ыу	1	added between 1.9-	\	딐	19.5-19.95m				
		1		¥	20.0					
		1	assist drilling.							
		1	vater monitoring e installed to 5.0m.							
DDULINO		Standpip								
DRILLING	I	I-o	GROUNDWATER					la cartita		
DIAMETER	FROM	ТО	DEPTH(S) STRUCK		BEHAVIO	JR		DEPTH S	EALED	
150mm	0.0m	20.0m	Approximately 2.5m		Slow inflov assist drilli	v, water being and time of w	added to ater strike	e	4.2m	
	REFER TO	KEY AT	BEGINNING OF THIS	S APPE	NDIX FO	OR EXPLAN	IATION	OF SYMB	OLS	
			BOREHOLE R	ECORE	SHEET	3 OF 3				
				GROUND	LEVEL		CO-	ORDINATES		
		(1								
	(つ)		1	N PLAN ON DF		DAT	E OF EXCAVATION	N	
				STI	E1297R-	02		28-29.05.0	8	
()	11 T	ር / ሀ	INICS	PROJECT						
) U		しし「	111163			Upon-Tham	nes Col	lege, Eger	ton Roa	ad,
•••••	• • • • • • • • •	•••••	• • • • • • • • • • • • • • • •	Twi	ickenhar	n.				
Cedar Bai	rn White Loda	e Walgrave	ENTAL CONSULTANTS Northampton. NN6 9PY.							
Tel: (01604) 78	31877 Fax: (01	604) 781007	E-mail: mail@soiltechnics.net	1			ВОІ	REHOLE No		
I				STI	E1297R			BH0	5	

CASING DEPTH (m)	WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
				· ××××		TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
		Black bit	tuminous bound		§0.0						
		material			{ 0.1				0.2		D
		(MADE	GROUND)	/ >>>>	8				0.5		D
		Soft darl	k grey very gravelly	- XXXX	8						
		slightly s	andy CLAY. Gravel		8						
		consists	of flint, brick and ash	ı. 💹	3						
		(MADE	GROUND)	XXXXX	₹1.3						
1.4	Dry	Dense b	rown sandy GRAVEL	<u>_</u> [0:0:	3	SPT(C)	(15)43	3	1.5		D
		of flint.			:	1.4-1.85m					
		(KEMPT	ON PARK GRAVEL)	0	:]						
2.0	1.1			0 0		SPT(C)	(12)38	3	2.1	2.5	U100
						2.1-2.55m					(18)
				0							` ′
					:						
				0 0	:						
3.0	2.2			0	:]	SPT(C)	(11)34	ļ			
				0		3.1-3.55m			3.2		D
				0	.1						
				0.0	:						
				: :O: :	:						
4.0	3.0			0	:]	SPT(C)	(5)14				
				1	4.2	4.0-4.45m			4.3		D
		Stiff dark	c grey CLAY		3						
		1	N CLAY)		3						
		[`	,								
4.5	5.0					SPT	(3)15		5.0	5.45	b
					3	5.0-5.45m	,				
					3						
					3						
									6.0	6.4	U100
					3						(38)
					3				6.5		Ď Í
DRILLING			GROUNDWATER		1	I					
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	В	EHAVIO	JR		D	EPTH S	EALED	
150mm	0.0m	20.0m	Approximately 2.8m			v, water being				4.5m	
	REFFR TO	 D KEY AT	L BEGINNING OF TH						SYMR	OLS	
			BOREHOLE I								
				GROUND LE			С	O-ORDINA	ATES		
		5		LOCATION F	LAN ON DR	AWING No	D	ATE OF E	XCAVATIO	N	
					1297R-				5.08		
()	HIT		INICS	PROJECT			<u> </u>				
•••••	HNICAL ENGINEE	RS, ENVIRONM	IENTAL CONSULTANTS		mond-l kenhar	Upon-Thar n.	nes C	ollege	, Eger	ton Ro	ad,
_	arn White Indi	ge, Walgrave,	Northampton. NN6 9PY.	1							
Cedar Ba Tel: (01604) 7	81877 Fax: (01	1604) 781007	E-mail: mail@soiltechnics.ne	et PROJECT R	ΞF.		E	BOREHOL	E No		

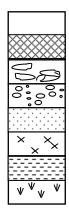
CASING DEPTH (m)	WATER (m)	STRATA DESC	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING	3	
		ļ				TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE
		II.	c grey CLAY.							
		(LONDC	ON CLAY)							
					-					
					1				l	
4.5	Dry				-		(5)19	8.1	8.55	D
						8.1-8.55m				
					1					
					1					
]					
					3					
					1					
				-1-1-1-1	1					
					3					
					3					
4.5	Dry				1	SPT	(5)21	10.2	10.65	D
1.0	lo i y				1	10.2-10.65m	(3)21	10.2	10.00	٦
					3	10.2 10.0011				
					∄					
					1					
					1					
					∄					
4.5	Dry					SPT	(6)22	12.1	12.55	D
					3	12.1-12.55m				
					1					
					1					
]					
					=					
ORILLING			GROUNDWATER	<u> </u>						
DIAMETER	FROM	ТО	DEPTH(S) STRUCK	В	EHAVIOL	IR		DEPTH S	SEALED	
150mm	0.0m	20.0m	Approximately 2.8m	S	ow inflow sist drillir	, water being a	added to ater stri	o ke	4.5m	
	REFER TO	KEY AT	BEGINNING OF TH	IIS APPEN	DIX FO	R EXPLAN	OITA	N OF SYME	OLS	
			BOREHOLE			2 OF 3				
				GROUND LE	/EL		cc	O-ORDINATES		
		5		LOCATIONS	LANIONIDO	ANA/INIO NI-		TE OF EVO *\'*=	ON	
				LOCATION P	27.05.08	of excavation 27.05.08				
()	II T	ברו	INICS	PROJECT			1			
GEOTECH	NICAL ENGINEE	RS, ENVIRONM	IENTAL CONSULTANTS		mond-l kenhan		ies Co	ollege, Ege	ton Ro	ad,
Tel: (01604) 78	rn, wnite Lodg 31877 Fax: (01	e, walgrave, 604) 781007	Northampton. NN6 9PY. E-mail: mail@soiltechnics.n	PROJECT RE	F.		В	OREHOLE No		
					297R		- 1	BH0	_	

CASING DEPTH (m)	WATER (m)	STRATA DESCR	RIPTION	LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING	3			
		<u> </u>				TYPE AND DEPTH	RESULT	FROM (m)	TO (m)	TYPE		
		Stiff dark	grey CLAY.									
		(LONDO	N CLAY)		킈							
4.5	Dry				듸	SPT	(6)24	14.0	14.45	D		
					듸	14.0-14.45m						
					=							
					=							
					크							
					3							
					3							
					3							
4.5	Dry				3	SPT	(6)26	16.1	16.55	D		
					3	16.1-16.55m						
					<u>-</u>							
					크							
					듸							
				-3-3-3-3	3							
				-3-3-3-3	3							
				-3-3-3-3	3							
				-3-3-3-3	3							
l. -	L											
4.5	Dry											
						SPT	(6)29	18.2	18.65	D		
						18.2-18.65m						
		BOREH	OLE TERMINATED									
		AT 20.0r	n \									
			,	\ E33								
		Note		\	-							
		1 Water	added to assist	\								
		drilling.	added to decict	\	-							
4.5	Dry	_	ater monitoring		20.0			20.0	20.4	U100		
4.5	Dry	1	~		20.0			20.0	20.4			
		standpip	e installed to 4.0m.							(38)		
DRILLING		_	GROUNDWATER									
DIAMETER	FROM	ТО	DEPTH(S) STRUCK		BEHAVIOL			DEPTH S	SEALED			
150mm	0.0m	20.0m	Approximately 2.8m			, water being and time of w			4.5m			
R	EFER TO) KEY AT	BEGINNING OF THI	S APPE	NDIX FC	R EXPLAN	ATION	I OF SYME	OLS			
			BOREHOLE F	RECORD	SHEET	3 OF 3						
				GROUND L	EVEL		CO	-ORDINATES				
	(\sim 1		LOCATION	PLAN ON DR	AWING No	DA ⁻	TE OF EXCAVATI	 ON			
					1297R-(27.05.08				
CVI	I T		INICS	PROJECT			<u> </u>					
3U		ロして	1 IV I L 3	Ricl	nmond-l	Jpon-Tham	nes Co	llege, Ege	rton Roa	ad,		
	· ••• • • • • • • • • • • • • • • • • •				ckenhan			- · •		-		
			ENTAL CONSULTANTS									
Cedar Barn Tel: (01604) 781	, White Lodg 877 Fax: (01	e, Walgrave, 604) 781007	Northampton. NN6 9PY. E-mail: mail@soiltechnics.ne	PRO JECT !	REE		BC.	REHOLE No				
<u> </u>	•		-		1297R			BH0	6			
				1 316								

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

SOILS

SEDIMENTARY ROCKS



Topsoil

Made ground

Boulders & Cobbles

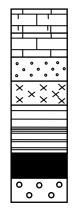
Gravel

Sand

Silt

Clay

Peat/Organic clays



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
 (32) number of blows to
 B small bulk disturbed sample
 W water sample

obtain undisturbed sample **J** jar sample

D disturbed sample

WATER MEASUREMENTS

refer to notes at base of borehole sheet



STANDARD KEY TO DRIVEN TUBE SAMPLING BOREHOLE RECORDS

STRATA DESCRIPTION (following BS593	80:1999)			DEPTH (m)	TEST RESULTS	SAMPLING					
,	,		LEGEND			ULT	FROM (m)	TO (m)	TYPE		
	itly gravelly sandy TOPS sional roots. Gravel con			0.0			0.1	0.25	D		
Brown and light brown, with occasional roots. (slightly gravelly sandy T Gravel consists of flint.	OPSOIL		0.3			0.4	0.55	D		
Loose light brown, sligh	tly silty, very clayey, slig	htly gravelly		0.6			0.6	0.8	D		
(KEPMTON PARK GRA Medium dense to dense	AVEL) e light brown sandy GRA ft light brown, very sand		000	0.95			1.0	1.5	D		
			00000				1.8	2.0	D		
			0.0000				2.4	2.6	D		
BOREHOLE TERMINA Notes: 1. Unable to exca gravel	TED AT 3.0m avate below 3m due to d	lensity of		3.0							
SAMPLER DIAMETER	GROUNDWATER	SURFAC	 E CORING	 	YNAMIC PROBIN	NG S	 TANDPIPE	INSTAL	I ATION		
RANGE 101mm – 68mm	OBSERVATIONS None encountered		NA NA		WITHIN 1.0m DCP01			NA			
REFER TO	O KEY AT BEGINNIN	G OF THIS	ΔΡΡΕΝΙ	DIX EC	DE EXPLANAT		E SYMBO) S			
THE ENT	DRIVEN TUBE SA										
			GROUND LEV			1	DINATES				
	(S)	-	LOCATION PL	AN ON DR 297R-0			7.05.08	N			
• • • • • • • • • • • • • • • • • • • •	EERS, ENVIRONMENTAL CONSI	•••••		nond-l cenhar	Jpon-Thames n.	Colle	ge, Egeri	ton Ro	ad,		
Cedar Barn, White Lodg	ge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@sc	IN6 9PY.	PROJECT REF. STE1297R				BOREHOLE No DTS01				

STRATA DESCRIPTION (following BS59	30:1999)	LEGEND DEPTH (m		TEST RESULTS		SAMPLING				
, y ====	•			` ′	TYPE AND DEPTH	RESULT			TO (m)	TYPE
	very clayey slightly silty of the consists of flires. Gravel consists of flires.			0.0						
Loose brown slightly gr (KEMPTON PARK GR.		consists of		0.4	0.4m P	1.0		0.4	0.6	D
flint. (KEMPTON PARK GR.	<u> </u>			0.8						
Medium dense light brown thinly to medium bedded sandy GRAVEL. Gravel consists of flint. (KEMPTON PARK GRAVEL)								1.0	1.2	D
			0 0 0 0							
			0°000°00	3.0				2.0	2.2	D
BOREHOLE TERMINA Notes:	ATED AT 3.0m									
 Unable to exc gravel 	avate below 3m due to de	ensity of								
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFAC	E CORING		YNAMIC PRO WITHIN 1.0		STA	NDPIPE	INSTAL	LATION
101mm – 68mm	1.1m measured 5 minutes after drilling		No		No			1	None	
REFER T	O KEY AT BEGINNIN	G OF THIS	APPENI	OIX FO	R EXPLAN	ATIO	N OF	SYMBO	DLS	
	DRIVEN TUBE SA		OREHOL GROUND LEV		ORD SHEE		OF 1	ATES		
			GROUND LEV	EL			O-ORDIN	AIES		
			STE1	an on dr. 297R- (XCAVATION	_ <u></u>	
• • • • • • • • • • • • • • • • • • • •	TECHNI IEERS, ENVIRONMENTAL CONSU	• • • • • • •		nond-l cenhan	Jpon-Tham n.	ies C	ollege	e, Egert	on Ro	ad,
Cedar Barn, White Loo	lge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@so	N6 9PY.	PROJECT REF. STE1297R				BOREHOLE No DTS02			

STRATA DESCRIPTION (following BS5930:1999)			LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING				
			<u></u> _			RESULT	FROM (r	n) TO (m)	TYPE		
Dark grey bituminous-b	ound material.			0.0			0.06	0.2			
Medium dense light bro	wn very sandy CDAVEL	Gravel		0.06 0.2			0.06	0.2	D D		
consists of flint.	wii very sandy GRAVEL	Graver	′‱	0.2			0.2	0.4	ا		
(MADE GROUND)											
Medium dense light bro	wn and red gravelly SAN	JD Gravel									
consists of brick and flir		ND. Glavel		0.6							
(MADE GROUND)	и.			0.0	0.7m P	0.5	0.7	0.9	D		
·	ly gravelly CLAY. Grave	 al consists o	f		0.7111 F	0.5	0.7	0.5	ا		
flint.	y gravery OLYTT. Grave	21 001101010	`								
(KEMPTON PARK GRA	AVEL)	_		1.0			1.0	1.4	D		
Medium dense light bro	•	Gravel									
consists of flint.	, 0										
KEMPTON PARK GRA	AVEL)		0::::								
	,			1							
			0								
			0								
				1							
			0								
				1							
			0								
				3.0							
BOREHOLE TERMINA	TED AT 3.0m										
Notes:											
	avate below 3m due to d	ensity of									
gravel											
SAMPLER DIAMETER	GROUNDWATER OBSERVATIONS	SURFAC	CE CORING		YNAMIC PRO WITHIN 1.0r		STANDPIF	E INSTAL	LATION		
RANGE 101mm – 68mm	None encountered		Yes		DCP02	11		None			
	None encountered				DOI 02			110110			
REFER TO	O KEY AT BEGINNIN	G OF THIS	APPENI	DIX FC	R EXPLAN	ATIO	N OF SYM	BOLS			
	DRIVEN TUBE SA							*			
	_		GROUND LEV		United		O-ORDINATES				
	(5)		LOCATION PL		AWING No		ATE OF EXCAVAT	ION			
				297R-0			27.05.08	ION			
	^				-						
ΓΙΙΛΊ	ECHNI		PROJECT								
3011					Jpon-Tham	es C	ollege, Ege	erton Ro	oad,		
			Twick	kenhar	n.						
GEOTECHNICAL ENGIN	EERS, ENVIRONMENTAL CONSI	ULTANTS									
Cedar Barn, White Lodg	ge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@sc	IN6 9PY.	PROJECT REI	F.		E	BOREHOLE No				
(, , , , , , , , , , , ,	,		STE1	297R			DTS	S 03			

	30:1999)		LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
					TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
Loose brown and dark consists of flint and clin (MADE GROUND)	grey sandy GRAVEL. G lker.	Gravel		0.0						
Loose dark grey and da SAND. Gravel consists (MADE GROUND)	ark brown clayey slightly s of brick and ash	gravelly		0.3 0.55				0.3	0.35	J
· , , , , , , , , , , , , , , , , , , ,	lavov olightly cilty grave	NIV SAND								
	layey, slightly silty, grave Gravel consists of flint ar	-		0.8 0.81						
Grey concrete recovere	ed as sandy GRAVFI	/ /	1	0.01						
(MADE GROUND) BOREHOLE TERMINA Notes:		/								
Unable to exc.	avate below 0.81m due t	to concrete.								
								I		
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFAC	DE CORING	D	YNAMIC PRC WITHIN 1.0		STA	NDPIPE I	NSTALL	ATION
			CE CORING	D			STA		NSTALL None	ATION
RANGE 101mm – 68mm	OBSERVATIONS None observed O KEY AT BEGINNIN	IG OF THIS	No S APPENI	DIX FO	WITHIN 1.0 No R EXPLAN	m ATIO	N OF	١	lone	ATION
RANGE 101mm – 68mm	OBSERVATIONS None observed	IG OF THIS	No S APPENI	DIX FO	WITHIN 1.0 No R EXPLAN	ATIO	N OF	SYMBC	lone	ATION
RANGE 101mm – 68mm	OBSERVATIONS None observed O KEY AT BEGINNIN	IG OF THIS	No S APPENI OREHOL GROUND LEV	DIX FO	WITHIN 1.0 No PR EXPLAN	ATIO	N OF DF 1 O-ORDIN	SYMBO	None	ATION
RANGE 101mm – 68mm	OBSERVATIONS None observed O KEY AT BEGINNIN	IG OF THIS	NO S APPENI OREHOL GROUND LEV	DIX FO	WITHIN 1.0 No REXPLAN CORD SHEE	ATIO	N OF DF 1 O-ORDIN	SYMBC	None	ATION
RANGE 101mm – 68mm REFER T	OBSERVATIONS None observed O KEY AT BEGINNIN	IG OF THIS	NO S APPENI OREHOL GROUND LEV LOCATION PL STE1: PROJECT Richn	DIX FO E REC EL AN ON DR 297R-0	WITHIN 1.0 No REXPLAN ORD SHEE AWING No 12 Jpon-Tham	ATIO	N OF 1 O-ORDIN	SYMBC ATES EXCAVATION 05.08	DLS	

STRATA DESCRIPTION (following BS59)	30:1999)		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
,	GRAVEL. Gravel consi	ists of		0.18						
clinker.		/	/ IXXXXXX	0.36						
(MADE GROUND)			/ >>>>		0.4m P	2.0				
·	wn and grey, sandy GR	AVEL. /								
Gravel consists of brick	, clinker and flint.	/								
(MADE GROUND)					0.7m P	2.0				
Stiff dark brown, slightly	y silty, very sandy, slightl	y gravelly						0.8	1.0	D
CLAY, becoming stiff or	range, slightly sandy CLA	AY. Gravel								
consists of flint and occ	asional ash.		XXXXX	1.0						
(MADE GROUND)		/								
Medium dense becomir	ng dense orange very gra	avelly	0]						
SAND. Gravel consists	s of flint.									
(KEMPTON PARK GRA	AVEL)									
								1.5	1.7	D
				1						
			O:							
			0							
]						
				}						
								2.5	2.7	D
			0	}						
			0							
SAMPLER DIAMETER	GROUNDWATER	SURFAC	_L · · · · · · · · · · · · · · · · · · ·	1 	I DYNAMIC PR	I OBING	STA	<u>I</u> NDPIPE	INSTAI	Ι Ι ΔΤΙΩΝΙ
RANGE	OBSERVATIONS				WITHIN 1.					
101mm – 68mm	1.55m measured 5		NA	D	CP03a and D	CP03b			NA	
	minutes after drilling									
REFER T	O KEY AT BEGINNIN	G OF THIS	S APPEN	DIX FC	R EXPLAN	NATIC	N OF	SYMB	OLS	
	DRIVEN TUBE SA	MPLER B	OREHOL	E REC	ORD SHE	ET 1	OF 2			
			GROUND LEV	EL		C	CO-ORDIN	ATES		
	(c)									
	(\sim)		LOCATION PL	AN ON DR	AWING No	[DATE OF E	XCAVATIO	N	
			STE1	297R-0	02		27.0	05.08		
		0.0	PROJECT							
					la ec T'		II -		4	
JUILI	TECHNI	LJ		nond-l cenhar	Jpon-Than	nes C	ollege	e, Eger	ton Ro	ad,
		••••	I WICI	kennan	II.					
	IEERS, ENVIRONMENTAL CONSU		<u> </u>							
	ge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@sc		PROJECT RE				BOREHOL			
, , ,			STE1	297R				DTS)5	

STRATA DESCRIPTION (following BS59)	30:1999)		LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					TYPE AND DEPTH R	ESULT	FROM (m)	TO (m)	TYPE
Dense orange very gra (KEMPTON PARK GRA	velly SAND. Gravel cons AVEL)	sists of flint.	0 0 0 0						
BOREHOLE TERMINA	TED AT 4.0m			4.0					
Unable to exca gravel	avate below 4m due to d	ensity of							
	CDOUNDWATER	Louperd				wo l			
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFAC	E CORING		YNAMIC PROB WITHIN 1.0m		STANDPIPE	INSTAL	LATION
101mm – 68mm	1.55m measured 5 minutes after drilling	N	lone	С	CP03a and DCF	P03b		None	
REFER T	O KEY AT BEGINNIN	G OF THIS	APPENI	OIX FC	R EXPLANA	TION	OF SYMBO	DLS	
	DRIVEN TUBE SA	MPLER B			ORD SHEET				
	(C)		GROUND LEV	EL		СО	-ORDINATES		
			STE1	AN ON DR 297R- (DA	27.05.08	N	
•••••	SOILTECHNICS	• • • • • • •		nond-l cenhar	Jpon-Thame n.	s Co	llege, Egert	on Ro	ad,
GEOTECHNICAL ENGINEERS, ENVIRONMENTAL CONSULTANTS Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY. Tel: (01604) 781877 Fax: (01604) 781007 E-mail: mail@soiltechnics.net		PROJECT REF	<u> </u>		ВС	DREHOLE No			

STRATA DESCRIPTION (following BS593	30:1999)		LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
					TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
SAND with many rootle brick. (MADE GROUND)	clayey slightly silty slight ts. Gravel consists of flir	nt, ash and		0.0 0.26	0.3m P	4.0		0.05	0.2	D
(KEMPTON PARK GRA	light brown orange sand	ly CLAY.			0.6m P	2.5		0.5	0.7	D
Loose becoming mediu GRAVEL. Gravel consi (KEMPTON PARK GRA		dy	0 0 0 0	0.85						
			000000					1.5	2.0	D
			000000							
	TED AT 3.0m	ensity of		3.0						
gravel.	GROUNDWATER	SUDEAC	E CORING		OYNAMIC PRO	DINC	I OTA	NDDIDE	INICTAL	LATION
SAMPLER DIAMETER RANGE 101mm – 68mm	OBSERVATIONS 1.34m measured 5		No No	- '	WITHIN 1.0		SIA	NDPIPE	None	LATION
_ :	minutes after drilling					–				
REFER TO	O KEY AT BEGINNIN							SYMBO	OLS	
	DRIVEN TUBE SA	MIPLEK B	GROUND LEV		JUKU SHE		OF 1	ATES		
	(5)		LOCATION PL			1		XCAVATIO	N	
• • • • • • • • • • • • • • • • • • • •	EERS, ENVIRONMENTAL CONSU	• • • • • • •	PROJECT Richr	297R- nond-l kenhar	Upon-Tham	nes C		05.08 	ton Ro	ead,
Cedar Barn, White Lod	ge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@sc	N6 9PY.	PROJECT REI				BOREHOL	E No)6	

ntly silty, slightly gravelly consists of flint and ash. sandy gravelly CLAY. G			0.0	TYPE AND DEPTH RES	BULT	FROM (m) 0.05	TO (m) 0.2	TYPE D
consists of flint and ash.						0.05	0.2	D
sandy gravelly CLAY. G	Naval	F	ハスム					
AVEL)	aravei		0.35			0.5	0.7	D
	SAND.	0 0	0.9			1.3	1.5	D
		0 0 0				2.3	2.5	D
TED AT 2.0		[-1-1-1-1-1-1	3.0					
.1∟U A1 3.UM								
avate below 3m due to de	ensity of							
	-							
GROUNDWATER OBSERVATIONS	SURFAC	E CORING			NG ST	ANDPIPE	INSTAL	LATION
1.05m measured 5 minutes after drilling		No		No			None	
١	G OF THIS	APPEND	OIX FC	R EXPLANAT	ION OF	SYMB(OLS	
DRIVEN TUBE SA	MPLER B	OREHOL	E REC	ORD SHEET	1 OF 1			
		GROUND LEVE	<u> </u>		CO-ORD	INATES		
(6)	[
		LOCATION PLA				EXCAVATIO 8.05.08	N	
					1			
FERS ENVIRONMENTAL CONSU	• • • • • • •	PROJECT Richm Twick		Jpon-Thames n.	Colleg	ge, Eger	ton Ro	oad,
EERS, ENVIRONMENTAL CONSU ge, Walgrave, Northampton. N. 1604) 781007 E-mail: mail@so	JLTANTS N6 9PY.	Richm	enhan		Colleg		ton Ro	oad,
	AVEL) TED AT 3.0m avate below 3m due to d GROUNDWATER OBSERVATIONS 1.05m measured 5 minutes after drilling O KEY AT BEGINNIN	TED AT 3.0m avate below 3m due to density of GROUNDWATER OBSERVATIONS 1.05m measured 5 minutes after drilling O KEY AT BEGINNING OF THIS	AVEL) AVEL) O O O O O O O O O O O O O	AVEL) O ATED AT 3.0m avate below 3m due to density of GROUNDWATER OBSERVATIONS 1.05m measured 5 minutes after drilling O KEY AT BEGINNING OF THIS APPENDIX FOR DRIVEN TUBE SAMPLER BOREHOLE RECOground Level.	AVEL) 3.0 TED AT 3.0m avate below 3m due to density of GROUNDWATER OBSERVATIONS 1.05m measured 5 minutes after drilling O KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANAT DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET	AVEL) 3.0 TED AT 3.0m avate below 3m due to density of GROUNDWATER OBSERVATIONS 1.05m measured 5 minutes after drilling O KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF THIS APPENDIX FOR	AVEL) 1.3 2.3 TED AT 3.0m avate below 3m due to density of GROUNDWATER OBSERVATIONS 1.05m measured 5 minutes after drilling O KEY AT BEGINNING OF THIS APPENDIX FOR EXPLANATION OF SYMBOL DRIVEN TUBE SAMPLER BOREHOLE RECORD SHEET 1 OF 1 GROUND LEVEL GROUND LEVEL CO-ORDINATES	AVEL) 1.3 1.5 AVEL) 2.3 2.5 TED AT 3.0m avate below 3m due to density of GROUNDWATER OBSERVATIONS 1.05m measured 5 minutes after drilling No No No No No No No No No N

STRATA DESCRIPTION (following BS59	30:1999)		LEGEND	DEPTH (m)	TEST RESULTS		Į.	SAMPLING		
					TYPE AND DEPTH	RESULT	F	FROM (m)	TO (m)	TYPE
gravelly SAND with sor and flint. (MADE GROUND)	slightly clayey slightly sil ne rootlets. Gravel cons m dense light brown ora	ists of ash		0.0			(0.05	0.2	D
gravelly SAND. Gravel (KEMPTON PARK GR.				2.0			,	1.2	1.5	D
BOREHOLE TERMINA	TED AT 2 0m		<u> </u>	2.0						
Notes: 1. Infiltration test	undertaken - refer to Ap	pendix D.								
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFAC	E CORING	1	DYNAMIC PROE WITHIN 1.0n		STAN	IDPIPE	INSTAL	LATION
101mm – 68mm	Standing water level of 1.09m		No		OCP06 approxim			1	None	
REFER T	O KEY AT BEGINNIN	G OF THIS	S APPEN	OIX FO	OR EXPLANA	TIO	N OF S	SYMBO	DLS	
	DRIVEN TUBE SA	MPLER B			CORD SHEE					
	(5)		GROUND LEV		RAWING No.		O-ORDINATE OF EX		N.	
			STE1				28.0		•	
•••••	EERS, ENVIRONMENTAL CONSU	• • • • • • •	PROJECT Richn Twick		Upon-Thame m.	es Co	ollege,	Egert	on Ro	ad,
Cedar Barn, White Lod	ge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@sc	IN6 9PY.	PROJECT REF			В	OREHOLE	No DTS0	8	

STRATA DESCRIPTION (following BS593	30:1999)		LEGEND	DEPTH (m)	TEST RESULTS		S	AMPLING		
	,					SULT		ROM (m)	TO (m)	TYPE
Bituminous bound mate	erial.			0.0	1					
(MADE GROUND)				0.1						
	red sandy GRAVEL with	occasional		0.1			ا).2	0.4	D
	el consists of brick, flint a						ľ	,. <u> </u>	0.7	۲
limestone.	or consists of brick, fillit a	iiu		0.4						
				0.4			را).5	0.7	
(MADE GROUND)	as along a limbt bassius alia	<u></u>					ا	າ.ວ	0.7	D
_	m dense light brown slig	ntiy ciayey	0							
sandy GRAVEL. Grave			00							
(KEMPTON PARK GRA	AVEL)									
			0							
			0							
			0 0							
			0							
			1 _							
							2	2.0	2.4	D
			"							
			0							
			0							
				3.0						
BOREHOLE TERMINA	TED AT 3.0m			0.0						
Notes:	TED AT 5.0III									
	avete below 2m due to d	anaity of								
	avate below 3m due to d	cusity of								
gravel.	0.001/1.2	T .	<u> </u>	<u> </u>	<u> </u>	1				
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS		E CORING	[DYNAMIC PROBI WITHIN 1.0m	NG	STANI	DPIPE	INSTAL	LATION
101mm – 68mm	1.17m measured 5 minutes after drilling)	es/es		No			ı	None	
REFER TO	O KEY AT BEGINNIN	G OF THIS	APPENI	DIX FO	OR EXPLANA	ΓΙΟΝ	OF S	YMBO	DLS	
	DRIVEN TUBE SA	MPLER B	OREHOL	E REC	CORD SHEET	1 01	F 1_			
			GROUND LEV	EL		CO-	ORDINAT	ES		
	(S)	}	LOCATION PL	AN ON DE	RAWING No	DAT	E OF EXC	CAVATIO	N	
				297R-			28.05			
			PROJECT							
(niit	ECHNI								_	
JUIL				nond-l cenhai	Upon-Thames	Col	nege,	⊏gert	on Ro	oaα,
			IWIC	kennai	III.					
	EERS, ENVIRONMENTAL CONSU									
Cedar Barn, White Lod	ge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@sc	IN6 9PY.	PROJECT REI	F.		ВО	REHOLE I	No		
(1.11.) / 5.5// / dx. (0	,		STE1	297R				DTS0	9	

STRATA DESCRIPTION (following BS593	80:1999)		LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
	•••			()	TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
Bituminous bound mate	erial.		XXXX	0.0						
(MADE GROUND)		_		0.08				0.1	0.3	D
*	y GRAVEL. Gravel cons	sists of flint						J		
brick and limestone.	, 0.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		0.35				0.35	0.55	D
(MADE GROUND)				0.00	0.4m P	2.5		0.00	0.00	
Stiff brown sandy CLAY	with some roots			0.56	0.1111	0				
(KEMPTON PARK GRA			1 0	0.00						
	m dense light brown ora	nge verv								
sandy GRAVEL. Grave	=	ingo vory						0.8	1.0	D
(KEMPTON PARK GRA								0.0	'.0	
(NEIM FORT / WAR OF U	··· ==/									
			°					1.2	1.7	D
			0					'.2	'-'	
			0							
			0							
								2.0	2.3	D
								2.0	2.0	
			~ ~							
			0							
				3.0						
BOREHOLE TERMINA	TED AT 3.0m			0.0						
Notes:	125711 0.0111									
	avate below 3m due to d	ensity of								
gravel.	soloti olli ddo to d	J.1011, 01								
	GROUNDWATER	CLIDEAG	E CODINO	<u> </u>) DINIO	1 0=:	NDD:SE	 	 ATION
SAMPLER DIAMETER RANGE	OBSERVATIONS	SURFAC	E CORING	' L	DYNAMIC PRO WITHIN 1.0		STA	NDPIPE	INSTALI	LATION
101mm – 68mm	0.87m measured 5 minutes after drilling	\	⁄es		No				None	
REFER TO	O KEY AT BEGINNIN	G OF THIS	APPENI	DIX FC	OR EXPLAN	ATIC	N OF	SYMBO	DLS	
	DRIVEN TUBE SA	MPLER B	OREHOL	E REC	CORD SHEE	ET 1	OF 1			
			GROUND LEV	EL		C	CO-ORDIN	ATES		
	(\sim)	}	LOCATION PL	AN ON DR	RAWING No		DATE OF E	XCAVATIO	N	
			STE1	297R-(02		28.0	05.08		
			PROJECT							
(NII T	ECHNI				· · · · · · · · · · · · · · · · · · ·			_		1
JUIL		LJ		nond-l cenhar	Upon-Tham	ies C	ollege	, Egert	on Ro	ad,
			IWICE	veriila!	11.					
	EERS, ENVIRONMENTAL CONSU									
	ge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@sc		PROJECT REI				BOREHOL			
	9		STE1	297R				DTS1	0	

STRATA DESCRIPTION (following BS593	30:1999)		LEGEND	DEPTH (m)) TEST RESULTS			SAMPLING		
· -				L	TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
Grass over dark brown	silty slightly gravelly SAN	ND	XXXX	0.0						
(MADE GROUND)	, , , , ,							0.1	0.2	D
(0.2				0.2	0.3	D
Soft brown candy clight	ly gravelly CLAY. Grave	al consist of		0.2				0.3	0.4	D
		ei corisist oi						0.5	0.4	ا
quartz, sandstone, coal	and brick					l		0.5		
(MADE GROUND)				0.5	0.5-0.6m P	1.5/1.		0.5	0.6	D
-	orange slightly gravelly	sandy			0.6-0.7m P	2.0/2.	0/1.5			
CLAY. Gravel consists	•									
(KEMPTON PARK GRA	AVEL)				0.8-0.9m P	2.0/2.	0/2.0			
								0.9	1.0	D
				1.0						
Medium dense orange l	brown SAND and GRAV	ΈL	J:0:::	1.1						
KEMPTON PARK GRA										
•	brown gravelly silty fine s	SAND						1.3	1.4	D
(KEMPTON PARK GRA		57 (1 1 D						1.0	l	٦
(INLINI TOTAL ANTOTO	AVEL)									
						1			-	_
								1.7	2.5	D
				1.8						
Medium dense orange l	brown SAND and GRAV	EL	0							
(KEMPTON PARK GRA	AVEL)		O							
			:::::::							
			0							
			0							
Stiff grey gravelly CLAY	•		\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	2.9	2.9m P	2.0/2.	0/1.5	2.9	3.0	D
(KEMPTON PARK GRA	AVEL)		10	3.0						
BOREHOLE TERMINA	TED AT 3.0m									
Notes:										
Unable to exca	avate below 3m due to d	ensity of								
gravel.	avate below oill due to d	Choity Of								
				<u> </u>						
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFA	CE CORING	i	DYNAMIC PRO WITHIN 1.0		STA	NDPIPE	INSTAL	LATION
101mm – 68mm			No		No	J111	+		None	
10 1111111 - 00111111	Struck at 2m rising to 1.5m in 10mins				INU				140116	
<u></u>	O KEY AT BEGINNIN	C OE TUI	2 ADDEN			IATIO		CVMD	OI 6	
KEFEK I								STIVIB	OLO	
	DRIVEN TUBE SA	MIPLERE	GROUND LEV		COKD SHE		OF 1	IATES		
			GROUND LEV	EL.		١	O-OKDIN	MILO		
	10.3		L							
	(\sim)		LOCATION PL	AN ON DE	RAWING No		ATE OF I	EXCAVATIO)N	
			STE1	297R-	02		27 .	05.08		
			DDO IECE							
TIIIAJ	ECHNI	((PROJECT							
3011	ГІПИІ	1.1			Upon-Than	nes C	ollege	e, Eger	ton Ro	ad,
JUIL			Twick	kenha	m.					
CEUTECHNICAL ENGIN	EERS, ENVIRONMENTAL CONSU	II TANTC								
	EERS, ENVIRONMENIAL CONSC ge, Walgrave, Northampton. N		DDO IEST SE				BOREHO	I E No		
	1604) 781007 E-mail: mail@sc		PROJECT RE	_{F.} 297R			DOKEHU	DTS	14	
			31⊑1	431 K				פוס		

STRATA DESCRIPTION (following BS59	30:1999)		LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING	i	
					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			3				0.2	0.3	D
(MADE GROUND)				0.35						
Loose brown slightly gr	avelly silty SAND. Grave	el consists c	f 🔆 🔆							
flint, brick and coal								0.5	0.6	D
(MADE GROUND)				1						
				0.7				0.7	0.8	D
Soft light brown very sa	andy CLAY			0.8	0.8-0.9m P	2.0/2.	0/2.5	0.8	0.9	D
(KEMPTON PARK GR	AVEL)			}						
Stiff light brown mottled	d orange slightly gravelly	slightly								
sandy CLAY					1.1-1.2m P	2.0/2.	0/2.0			
(KEMPTON PARK GR	AVEL)		<u> </u>	1.2						
Medium dense orange	brown clayey SAND and	GRAVEL	<u> </u>	1.3						
(KEMPTON PARK GR	AVEL)			}				1.4	1.5	D
Medium dense orange	and grey silty fine SAND			}						
(KEMPTON PARK GR	= -	_	<u> </u>	1.6						
	brown SAND and GRAV	EL	0	1						
(KEMPTON PARK GR	AVEL)									
,			\sim	1						
				}						
			0							
			0							
				1						
			0	}						
				ļ						
				2.9						
Medium dense orange	brown silty fine SAND		<u> </u>	3.0						
(KEMPTON PARK GR	<u> </u>									
BOREHOLE TERMINA	•									
	able and therefore not po	ssible to								
lexcavate below 3m.	able and incretere net pe	001010 10								
	GROUNDWATER	OUDEAC	T CODING	<u> </u>)		1 0 = 1			1 4 1 0 1 1
SAMPLER DIAMETER RANGE	OBSERVATIONS	SURFAC	CE CORING	i L	OYNAMIC PRO WITHIN 1.0		STA	ANDPIPE	INSTAL	LATION
101mm – 68mm	Struck at 1.8m. Standing		No		DCP09				None	
	water level at 1.8m									
REFER T	O KEY AT BEGINNIN	G OF THIS	APPEN	DIX FO	OR EXPLAN	IATIO	N OF	SYMB	OLS	
	DRIVEN TUBE SA									
	DINIVER TODE 3A	um LLIX D	GROUND LEV		JOIND OHE		O-ORDIN	NATES		
								-		
	161		100175	AN 00: -		_	ATE ==	EVO=		
			LOCATION PL	AN ON DE 297R-				EXCAVATION	NI	
			31E1	231 K-			<u> </u>	05.08		
Γ	TECHNI		PROJECT							
\(() ()	 		Richr	nond-	Upon-Than	nes C	ollege	e, Eger	ton Ro	ad,
JUIL		UJ		kenhai			J			-
CENTECUNICAL ENGIN	IEEDC ENVIDONMENTAL CONC	II TANTC								
Cedar Barn, White Loc	IEERS, ENVIRONMENTAL CONSL Ige, Walgrave, Northampton. N	IN6 9PY.	PROJECT RE	F		- 1	BOREHO	I F No		
	11604) 781007 E-mail: mail@sc			⊦. 297R			POINEHO	DTS	12	
			SIEI	201 K				טוט		

STRATA DESCRIPTION (following BS59	30:1999)		LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
			<u></u> _		TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
	slightly gravelly clayey S glass, sandstone, brick			0.0				0.0	0.1	D D
				0.6				0.5	0.6	D
Loose brown slightly gr (MADE GROUND) Stiff orange light brown (KEMPTON PARK GR.	slightly gravelly slightly s	sandy CLAY	,	0.7	0.7-1.0m P	2.0/2.	0/2.0	0.7 0.8	0.8	D D
Medium dense orange (KEMPTON PARK GR.	brown clayey SAND and AVEL)	GRAVEL	•	1.1 1.35				1.4	1.5	D
GRAVEL (KEMPTON PARK GR. BOREHOLE TERMINA Notes:				3.0				1.4		
SAMPLER DIAMETER	GROUNDWATER OBSERVATIONS	SURFAC	I CE CORING	<u> </u>	YNAMIC PRO		STA	<u>I</u> NDPIPE	I INSTAL	<u>I</u> LATION
RANGE 101mm – 68mm	Struck at 2.0m. Standing water level at 2.45m		No		WITHIN 1.0	1111			None	
REFER T	O KEY AT BEGINNIN	I G OF THIS	S APPENI	DIX FC	R EXPLAN	IATIO	N OF	SYMB	OLS	
	DRIVEN TUBE SA	MPLER B	OREHOL	E REC	ORD SHE	ET 1 (OF 1			
	(5)		GROUND LEV LOCATION PL STE1					ATES EXCAVATION 15.08	PΝ	
• • • • • • • • • • • • • • • • • • • •	EERS, ENVIRONMENTAL CONSU	• • • • • • •		nond-l cenhar	Jpon-Tham n.	nes C	ollege	e, Eger	ton Ro	ad,
Cedar Barn, White Lod	lge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@sc	IN6 9PY.	PROJECT RE			1	BOREHOL	E No	13	

STRATA DESCRIPTION (following BS593)	0:1999)		LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
					TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
Bituminous bound GRA (MADE GROUND)	VEL			0.0				0.2	0.3	D
organic odour	en sandy CLAY exhibitir	ng slight		0.3	0.5m P	1.0/0.	5/1.0	0.4	0.5	D
(MADE GROUND)				0.7				0.7	0.8	D
(KEMPTON PARK GRA	prown clayey SAND and		0	0.9				0.9	1.0	D
			° 0 0 0 0					1.5	2.0	D
Medium dense grey silty (KEMPTON PARK GRA Medium dense orange b (KEMPTON PARK GRA	AVEL) prown clayey SAND and	GRAVEL	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.9						
BOREHOLE TERMINA Notes: 1. Unable to exca	TED AT 3.0m	ensitv of		5.0						
gravel.										
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFAC	E CORING		YNAMIC PRO WITHIN 1.0		STA	NDPIPE	INSTAL	LATION
	Struck at 2.5m. Standing water level at 1.3m		No		No				None	
L REFER T(<u> </u>	G OF THIS	S APPEN	DIX FC	R EXPLAN	IATIO	N OF	SYMBO	DLS	
	DRIVEN TUBE SA	MPLER B	OREHOL	E REC	ORD SHE	ET 1 (OF 1			
			GROUND LEV	EL		C	O-ORDIN	ATES		
	(5)		LOCATION PL					EXCAVATION	N	
•••••	EERS, ENVIRONMENTAL CONSU	• • • • • • •	PROJECT Richr	297R-0 mond-l cenhar	Jpon-Than	nes C		05.08 	on Ro	ad,
Cedar Barn, White Lodg	ge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@so	N6 9PY.	PROJECT RE	_{F.} 297R		1	BOREHOL	LE No	4	

STRATA DESCRIPTION (following BS593	0:1999)		LEGEND	DEPTH (m)	TEST RESULTS		SAMI	PLING	
					TYPE AND DEPTH	RESULT	FROM	M (m) TO (m)	TYPE
	orown slightly clayey slig vith some rootlets. Grav			0.0 0.15			0.0	5 0.15	D
of limestone. Gravel co (MADE GROUND) Loose brown, sandy GF	RAVEL with occasional c	cobbles		0.3			0.6	5 0.85	D
(MADE GROUND)	dark brown, sandy, sligh	htly gravelly		1.15 1.3	1.2m P	3.5	1.2	1.4	D
Stiff becoming firm brow gravelly CLAY. Gravel	tiff becoming firm brown and light brown, sandy, slightly ravelly CLAY. Gravel consists of flint. KEMPTON PARK GRAVEL)				1.4m P	2.5	1.6	1.8	D
(KEMPTON PARK GRA	AVEL)		0		1.8m P	1.0			
Dense light brown orang gravelly SAND. Gravel (KEMPTON PARK GRA		/ silty	О •	3.0			2.2	2.5	D
BOREHOLE TERMINA Notes: 1. Unable to exca gravel.	TED AT 3.0m avate below 3m due to d	lensity of							
SAMPLER DIAMETER	GROUNDWATER OBSERVATIONS	SURFAC	E CORING		I YNAMIC PRO WITHIN 1.0		STANDF	PIPE INSTA	<u>I</u> LLATION
RANGE 101mm – 68mm	None observed		No		No	2111	1	None	
REFER TO	O KEY AT BEGINNIN	I G of this	S APPENI	I DIX FO	R EXPLAN	IATIO	N OF SYI	MBOLS	
	DRIVEN TUBE SA	MPLER B	OREHOL	E REC	ORD SHE	ET 1 (OF 1		
			GROUND LEV				CO-ORDINATES		
	(5)		LOCATION PL	an on dr. 297R- (D	29.05.0		
• • • • • • • • • • • • • • • • • • • •	EERS ENVIDONMENTAL CONSI	•••••		nond-l enhan	Jpon-Tham n.	nes C	ollege, E	gerton R	oad,
	EERS, ENVIRONMENTAL CONSL ge, Walgrave, Northampton, N		PROJECT REF				BOREHOLE No		

STRATA DESCRIPTION (following BS59	30:1999)		LEGEND	DEPTH (m)	TEST RESULTS	9.	SAMPLING			
					TYPE AND DEPTH	RESULT		ROM (m)	TO (m)	TYPE
SAND with some rootle (MADE GROUND)	n slightly clayey slightly g	nt.		0.0			O).1	0.25	D
Loose orange and brov SAND. Gravel consists (MADE GROUND)	vn slightly clayey very gra of flint.	avelly		0.3	0.4m P	4.5	o).45	0.65	D
Very stiff brown, orange	e and dark grey, sandy, Gravel consists of ash,	/		0.7	0.6m P	4.5				
Medium dense becomii gravelly SAND. Gravei (KEMPTON PARK GR.	AVEL)	nt brown	0 0	2.5			1	.0	1.5	D
BOREHOLE TERMINA Notes: 1. Unable to exc gravel.	TED AT 2.5m	ensity of								
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFAC	E CORING	D	YNAMIC PRO WITHIN 1.0		STANI	DPIPE I	I INSTALL	ATION
101mm – 68mm	1.2m measured 5 minutes after drilling	1	NA		OCP11 15m to east	north		١	None	
REFER T	O KEY AT BEGINNIN							YMBC	DLS	
	DRIVEN TUBE SA		GROUND LEV		OKU SHEE		OF 1 O-ORDINAT	ES		
• • • • • • • • • • • • • • • • • • • •	TECHNI IEERS, ENVIRONMENTAL CONSU	CS	PROJECT Richn	297R-0)2 Jpon-Tham		29.05	5.08		ad,
Cedar Barn, White Loo	ge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@sc	N6 9PY.	PROJECT REF			ВС	OREHOLE	No DTS1	6	

Bituminous bound mate (MADE GROUND) Cobbles of red brick re (MADE GROUND) Medium dense light br			GEND DEPTH (n) TEST RESULTS	SAMPLING				
(MADE GROUND) Cobbles of red brick re (MADE GROUND)	erial			,	SULT	FROM (m)	TO (m)	TYPE	
(MADE GROUND) Cobbles of red brick re (MADE GROUND)		×	0.0						
Cobbles of red brick re (MADE GROUND)		_8	0.1						
(MADE GROUND)	ecovered as sandy GRAV	EL.							
,	octorou do cama, crati		0.3			0.3	0.5	Ь	
	own sandy GRAVEL with	occasional	*****						
=	Gravel consists of flint, bri	K.X	0.5			0.5	0.0.7	b	
concrete.	, a	/E							
(MADE GROUND)		/ /=	0.7						
·	slightly gravelly CLAY	 //[:				0.8	1.0	b	
(KEMPTON PARK GF		/ [:							
	own orange clayey grave	IIV SAND.	1.0						
Gravel consists of flint									
(KEMPTON PARK GF		/ :							
`	rown and orange very gra	avelly SAND	D						
Gravel consists of flint									
(KEMPTON PARK GF									
(==/								
						1.7	2.0	Ь	
							"	<u> </u>	
		[:]	0						
		·:-	2.0						
							2.0		
	I CDOUNDWATER	L QUESTOS G			no I				
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFACE C	CORING	DYNAMIC PROBI WITHIN 1.0m	NG STA	NDPIPE	INSTALL	ATION	
	OBSERVATIONS Standing water level at	SURFACE C	CORING		NG STA			ATION	
RANGE 101mm – 68mm	OBSERVATIONS Standing water level at 1.41m	No		WITHIN 1.0m No		!	None	ATION	
RANGE 101mm – 68mm	OBSERVATIONS Standing water level at 1.41m O KEY AT BEGINNIN	No G OF THIS AI	PPENDIX F	WITHIN 1.0m No OR EXPLANA	TION OF	!	None	ATION	
RANGE 101mm – 68mm	OBSERVATIONS Standing water level at 1.41m	No G OF THIS AI	PPENDIX F	WITHIN 1.0m No OR EXPLANA	TION OF	SYMBO	None	ATION	
RANGE 101mm – 68mm	OBSERVATIONS Standing water level at 1.41m O KEY AT BEGINNIN	No G OF THIS AI	PPENDIX F	WITHIN 1.0m No OR EXPLANA	TION OF 1 OF 1	SYMBO	None	ATION	
RANGE 101mm – 68mm	OBSERVATIONS Standing water level at 1.41m O KEY AT BEGINNIN	G OF THIS AI	PPENDIX FI	WITHIN 1.0m No OR EXPLANA CORD SHEET	TION OF 1 OF 1 CO-ORDIN	SYMB(None DLS	ATION	
RANGE 101mm – 68mm	OBSERVATIONS Standing water level at 1.41m O KEY AT BEGINNIN	G OF THIS AI	PPENDIX FOR BEHOLE REDUND LEVEL	WITHIN 1.0m No OR EXPLANA CORD SHEET RAWING No	TION OF 1 OF 1 CO-ORDIN	SYMBO	None DLS	ATION	
RANGE 101mm – 68mm	OBSERVATIONS Standing water level at 1.41m O KEY AT BEGINNIN	G OF THIS AI	PPENDIX FI	WITHIN 1.0m No OR EXPLANA CORD SHEET RAWING No	TION OF 1 OF 1 CO-ORDIN	SYMB(None DLS	ATION	
RANGE 101mm – 68mm REFER	OBSERVATIONS Standing water level at 1.41m TO KEY AT BEGINNIN DRIVEN TUBE SA	G OF THIS AI AMPLER BOR GRC LOC LOC PRO	PPENDIX FOR EMPLOYEE PROPERTY OF THE PROPERTY	WITHIN 1.0m No OR EXPLANA CORD SHEET RAWING No -02	TION OF 1 OF 1 CO-ORDIN DATE OF E 27.0	SYMBO	None DLS		
RANGE 101mm – 68mm REFER GEOTECHNICAL ENGLE Cedar Barn, White Lo	OBSERVATIONS Standing water level at 1.41m TO KEY AT BEGINNIN DRIVEN TUBE SA	G OF THIS AI AMPLER BOR GRO LOC LOC LOC LOC LOC LOC LOC L	PPENDIX FOR EMPLOYEE STEPPENDIX FOR EMPLOYEE STEPPENDI	WITHIN 1.0m No OR EXPLANA CORD SHEET RAWING No -02	TION OF 1 OF 1 CO-ORDIN DATE OF E 27.0	SYMBO IATES EXCAVATION 05.08	None DLS		
1. Infiltration tes	t undertaken – refer to Ap						E INSTAL None OLS		

STRATA DESCRIPTION (following BS59	30:1999)		LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING			
, , , , , , , , , ,	,			. ,		SULT		FROM (m)	TO (m)	TYPE
Bituminous bound mate	arial		XXXX	0.0	 			<u> </u>	<u> </u>	1
	51 Iai			al .						
(MADE GROUND)	L. CAND. O			0.03						1
	ly SAND. Gravel consist	s of ash	/	0.2				0.2	0.4	
and clinker.				1						
(MADE GROUND)				1						
Loose brown and dark	grey clayey slightly grave	elly		1						
SAND with occasional			<u> </u>	0.6				0.6	0.8	
of ash, brick and flint.										
			10							
(MADE GROUND)			0							
=	ım dense light brown and	light grey								
sandy GRAVEL. Grave	el consists of flint.									
(KEMPTON PARK GRA	AVEL)									
			0							
								1.3	1.5	
										1
										1
			10°							1
										1
			0							
			~							
			0							
								2.7	20	
			0 0					2.7	3.0	
				<u> </u>	<u> </u>			<u> </u>	3.0	1
SAMPLER DIAMETER	GROUNDWATER	SURFAC	E CORING	i	DYNAMIC PROBI	NG	STA	NDPIPE	INSTALI	ATION
RANGE	OBSERVATIONS				WITHIN 1.0m					
101mm – 68mm	2.3m measured 5 minutes		No		No			ı	None	
	after drilling									
REFER T	O KEY AT BEGINNIN	G OF THIS	APPEN	DIX FO	OR EXPLANA	ΓΙΟΝ	N OF	SYMBO	DLS	
	DRIVEN TUBE SA	MPLER B	OREHOL	E RE	CORD SHEET	10	F 2			
			GROUND LEV		. J.13 VIIII	\neg	-ORDIN	ATES		
	16	Ļ				\perp				
	(つ)		LOCATION PL	AN ON DE	RAWING No	DA	TE OF E	XCAVATIO	N	
			STE1	297R-	02		28.0	5.08		
			PROJECT			1				
(VII)	「ECHNI									
<u> </u>					Upon-Thames	s Co	llege	, Egert	on Ro	ad,
JUIL			Twick	kenhai	m.					
CEUTECHNICAL ENGIN	IEERS, ENVIRONMENTAL CONSU	II TANTC								
	IEER), ENVIRONMENIAL CONSU Ige, Walgrave, Northampton. N	ME ODY F	DD0 1507 5-	-			DREHOL	E No		
	1604) 781007 E-mail: mail@so		PROJECT RE			l RC	ZKEHUL		0	
			STE1297R DTS18						Q	

STRATA DESCRIPTION (following BS5930:1999)		LEGEND	DEPTH (m)	TEST RESULTS		SAMPLING		
					SULT	FROM (m)	TO (m)	TYPE
Loose becoming medium dense light brown and sandy GRAVEL. Gravel consists of flint. (KEMPTON PARK GRAVEL)	light grey	0 0 0 0						
BOREHOLE TERMINATED AT 4.0m			4.0					
SAMPLER DIAMETER GROUNDWATER	SURFAC	E CORING		YNAMIC PROB	-	STANDPIPE	INSTALL	ATION
RANGE OBSERVATIONS 101mm – 68mm 2.3m measured 5 minutes		No		WITHIN 1.0m			None	
101mm – 68mm 2.3m measured 5 minutes after drilling	ľ	10		No			None	
REFER TO KEY AT BEGINNING	G OF THIS	APPENI	DIX FC	R EXPLANA	TION	OF SYMBO	DLS	
DRIVEN TUBE SAI	MPLER BO	DREHOL	E REC	ORD SHEET	2 01	F 2		
SOILTECHNI	<u>-</u> 	PROJECT	an on dr 297R-()2	DAT	PE OF EXCAVATION 28.05.08		
GEOTECHNICAL ENGINEERS, ENVIRONMENTAL CONSUL Cedar Barn, White Lodge, Walgrave, Northampton. NN Tel: (01604) 781877 Fax: (01604) 781007 E-mail: mail@soi.	LTANTS N6 9PY.	Twick	enhan	Jpon-Thame		REHOLE No		au,
. , , , , , , , , , , , , , , , , , , ,		STE1	297R			DTS1	8	

	030:1999)		LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
					TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
ash and clinker. (MADE GROUND) Loose dark grey and brigravelly SAND. Gravellint and limestone. (MADE GROUND)	erial. GRAVEL. Gravel consist rown slightly clayey slight consists of ash, clinker, and grey gravelly SAND.	tly silty	· ×××××	0.0 0.03 0.2 0.61		RESULT			0.4 1.0	D D
		vel		1.2						
	avata halow 3m dua ta d	leneity of								
gravel.	avate below 3m due to d	icribity Of								
									INSTAL	
	GROUNDWATER OBSERVATIONS	SURFAC	CE CORING		DYNAMIC PRO WITHIN 1.0		STA	ANDPIPE I	INSTAL	LATION
SAMPLER DIAMETER RANGE 101mm – 68mm			DE CORING				STA			LATION
RANGE 101mm – 68mm	OBSERVATIONS None observed		No		WITHIN 1.0 No)m		1	None	LATION
RANGE 101mm – 68mm	OBSERVATIONS None observed O KEY AT BEGINNIN	G OF THIS	No S APPENI	DIX FO	WITHIN 1.0 No OR EXPLAN	ATIO	N OF	1	None	LATION
RANGE 101mm – 68mm	OBSERVATIONS None observed	G OF THIS	No S APPENI OREHOL	DIX FO	WITHIN 1.0 No OR EXPLAN	ATIO	N OF	SYMBO	None	LATION
RANGE 101mm – 68mm	OBSERVATIONS None observed O KEY AT BEGINNIN	G OF THIS	No S APPENI	DIX FO	WITHIN 1.0 No OR EXPLAN	ATIO	N OF OF 1	SYMBO	None	LATION
RANGE 101mm – 68mm	OBSERVATIONS None observed O KEY AT BEGINNIN	G OF THIS	NO S APPENI OREHOL GROUND LEV LOCATION PL	DIX FO	WITHIN 1.0 No OR EXPLAN CORD SHEE	ATIO	N OF OF 1 O-ORDIN	SYMBO	None	LATION
RANGE 101mm – 68mm REFER T	OBSERVATIONS None observed O KEY AT BEGINNIN DRIVEN TUBE SA E CHN	G OF THIS	NO S APPENI OREHOL GROUND LEV LOCATION PL STE1 PROJECT Richn	DIX FO E REC EL AN ON DR 297R-0	WITHIN 1.0 No OR EXPLAN CORD SHEE	ATIO	N OF 1 O-ORDIN	SYMBO	None DLS	
RANGE 101mm – 68mm REFER T GEOTECHNICAL ENGING Cedar Barn, White Load	OBSERVATIONS None observed O KEY AT BEGINNIN DRIVEN TUBE SA	IG OF THIS AMPLER B ULTANTS WAS 9PY.	NO S APPENI OREHOL GROUND LEV LOCATION PL STE1 PROJECT Richn	DIX FO E REC EL AN ON DR 297R-C	WITHIN 1.0 No OR EXPLAN CORD SHEE	ATIO	N OF 1 O-ORDIN	SYMBC JATES EXCAVATION 05.08 E, Egert	None DLS	

STRATA DESCRIPTION (following BS5930:	1999)		LEGEND	DEPTH (m)	TEST RESULTS		Į:	SAMPLING		
			<u>_</u>			SULT		FROM (m)	TO (m)	TYPE
Bituminous bound materi	al.			0.0						
(MADE GROUND)	DAVEL On discussion	1		0.03						
Loose dark grey sandy G	RAVEL. Gravel consis	sts of ash								
and clinker.				0.3						_
(MADE GROUND)		/						0.4	0.6	D
Loose dark grey slightly o		elly SAND.								
Gravel consists of ash, cl	linker, flint and brick.									
(MADE GROUND)								0.7	0.9	D
			*****	1						
			$\overset{\sim}{\bigcirc}$	0.9						
Loose light brown, very c	layey, sandy GRAVEL.	,	1 - 5	1.0						
Gravel consists of flint.										
(KEMPTON PARK GRA)	/EL)	/	0					1.2	1.5	D
Medium dense light brow	n sandy GRAVEL.									
Gravel consists of flint.										
(KEMPTON PARK GRAV	/EL)		0						1	
			°							
								2.1	2.5	D
			10							
			°							
			lo°							
			0							
			0	3.0						
BOREHOLE TERMINAT	FD AT 3 0m			0.0						
Notes:	LD / (1 0.0III									
	rate below 3m due to de	ensity of								
	ato polow oill due to di	orionly Of								
gravel.	ODOLINDA/ATES			<u> </u>	\ <u>\</u>		<u> </u>		<u> </u>	<u> </u>
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFAC	CE CORING		OYNAMIC PROB WITHIN 1.0m		STAN	NDPIPE	INSTAL	LATION
	.0m measured 5 minutes		No		No				None	
DEEED TO	after drilling	0.05.71.0	ADDEN		ND EVEL ANIA	TIO.		2) (1 4 7 2	21.0	
REFER TO	KEY AT BEGINNING							SYMB(JLS	
	DRIVEN TUBE SA	IVIFLER B	GROUND LEV		יטעט אוובבן	-	O-ORDINA	TES		
			GROUND LEV	CL.			-ONDINA	IILO		
						\perp				
	しつし		LOCATION PL			DA		CAVATIO	N	
			STE1	297R-	02		28.0	5.08		
CALLT	FCHALL	C C	PROJECT							
\ (1)	ECHNI			nond.l	Upon-Thame	د (۲	ممواا	Faor	on Po	ad
JUILI	LUIIII	UJ		nona- cenhar		3 00	nege,	, Lyen	JII KU	au,
• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • •		uI						
	ERS, ENVIRONMENTAL CONSU									
	e, Walgrave, Northampton. N 104) 781007 E-mail: mail@so		PROJECT RE	- 297R		В	OREHOLE	No DTS2	_	
101. (01001) 101011 1 ax. (010	,									

STRATA DESCRIPTION (following BS593	30:1999)		LEGEND	DEPTH (m)	TEST RESULTS			SAMPLING		
			<u> </u>		TYPE AND DEPTH	RESULT		FROM (m)	TO (m)	TYPE
Bituminous bound mate (MADE GROUND)				0.0 0.03				0.0	0.4	
Loose dark grey sandy and clinker. (MADE GROUND)	GRAVEL. Gravel consis	sts of ash		0.2	0.3m P	1.0		0.2	0.4	D
Firm becoming soft darl sandy CLAY, with occase (KEMPTON PARK GRA		own very			0.7m P	0.5		0.6	0.8	D
	•		1	0.95	0.71111	0.0				
Medium dense becomir GRAVEL. Gravel consi (KEMPTON PARK GRA		ndy	0					1.0	1.5	D
			0							
			0							
			°							
			0 0							
			0 °							
			0000							
BOREHOLE TERMINA	TED AT 3.0m			3.0						
Notes: 1. Unable to exca gravel.	avate below 3m due to d	ensity of								
SAMPLER DIAMETER RANGE	GROUNDWATER OBSERVATIONS	SURFAC	I E CORING		I DYNAMIC PRO WITHIN 1.0		STA	<u>I</u> NDPIPE	I INSTALI	_ATION
101mm – 68mm	None observed		No		No				None	
REFER TO	O KEY AT BEGINNIN	G OF THIS	APPEN	DIX FC	R EXPLAN	ATIC	N OF	SYMBO	OLS	
	DRIVEN TUBE SA	MPLER B			ORD SHEE					
			GROUND LEV	EL			O-ORDIN	ATES		
	(S)		STE1	AN ON DR 297R- (XCAVATIO)5.08	N	
• • • • • • • • • • • • • • • • • • • •	ECHNI	• • • • • • •		nond-l cenhar	Upon-Tham n.	es C	ollege	, Egeri	ton Ro	ad,
Cedar Barn, White Lod	EERS, ENVIRONMENTAL CONSI ge, Walgrave, Northampton. N 1604) 781007 E-mail: mail@sc	IN6 9PY.	PROJECT RE				BOREHOL		·4	
			STE1	297R				DTS2	<u> </u>	



TEST CERTIFICATE

Road Peterborough

I: 01733 555525 f: 01733 315280

e: admin @ enverity . co . uk

Determination of Liquid & Plastic Limits

Tested in accordance with BS 1377-2:1990; Method 4.4 & 5; One Point Method

Client:

Soiltechnics

Certificate Number: PL1419-2/4/704

Client Address:

Cedar Barn

White Lodge, Walgrave,

Client Reference: STE1297R

Northampton. NN6 9PY

Job Number: PL1419-2

Date Sampled: Unknown Date Received: 04.06.2008

Date Tested: 16.06.2008

Contact:

Lydia Drew

Sampling Certificate No.: N/A

Site Name: Site Address: Richmond Upon Thames College

Certificate of Sampling: N/A

Sampled By: Client

Test Results:

Laboratory Reference:

Sample Reference:

PL1419-2/4 Not Given

Sample Description:

Firm brown orange brown slightly gravelly sandy CLAY

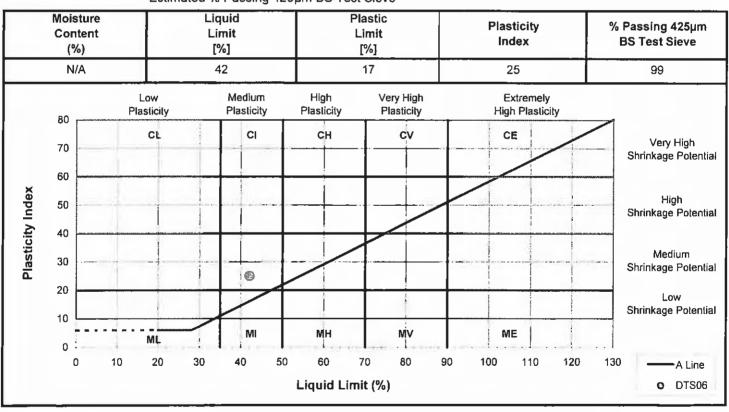
Location:

Depth Top: 0.50m

As Received Sample Preparation:

Depth Base: 0.70m

Estimated % Passing 425µm BS Test Sieve



Comments:

Approved Signatory:

[] G. Meadows - Deputy Lab Manager

[] C. Reynolds - Deputy Lab Manager

J. Chapman - Team Leader

Date Reported:

20.06.2008

Page 1 of 1

Form Number:

EN/C/704 Version 1

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the issuing laboratory

Signed:

A DIVISION OF XPLOR LIMITED Registered in England & Wales Registration Number 3096780 Reg Office 7 Laureate Paddocks Newmarket Suffolk CB8 0AP



Client Address:

TEST CERTIFICATE

Newark Road Peterborough

t: 01733 555525 f: 01733 315280

e: admin @ enverity . co . uk

Determination of Liquid & Plastic Limits

Tested in accordance with BS 1377-2:1990; Method 4.4 & 5; One Point Method

Client:

Soiltechnics

Cedar Barn

White Lodge, Walgrave,

Northampton, NN6 9PY

Client Reference: STE1297R

Job Number: Pl 1419-2

Certificate Number: PL1419-2/5/704

Date Sampled: Unknown Date Received: 04.06.2008

Date Tested: 16.06.2008

Contact:

Lydia Drew

Sampling Certificate No.: N/A

Certificate of Sampling: N/A

Sampled By: Client

Site Name:

Richmond Upon Thames College

Site Address:

Test Results:

Laboratory Reference:

PL1419-2/5

Sample Reference:

Not Given

Sample Description:

Stiff brown slightly sandy slightly gravelly CLAY

Location:

DTS07

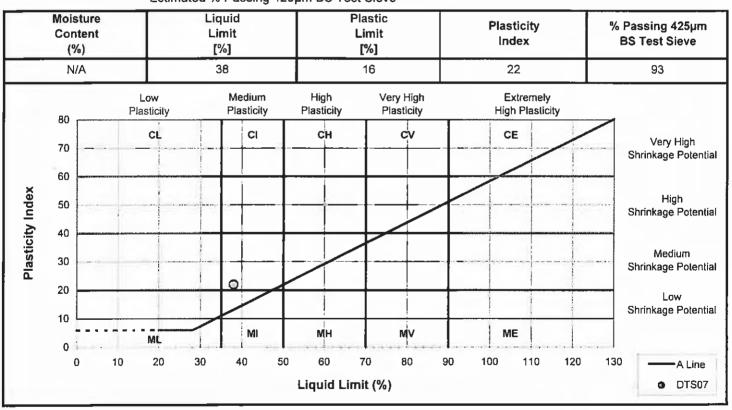
Depth Top: 0.50m

Sample Preparation:

As Received

Depth Base: 0.70m

Estimated % Passing 425µm BS Test Sieve



Comments:

Approved Signatory:

[] G. Meadows - Deputy Lab Manager

[] C. Reynolds - Deputy Lab Manager

Chapman - Team Leader

Date Reported:

20.06.2008

Page 1 of 1

Form Number:

EN/C/704 Version 1

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TEST CERTIFICATE

Newark Road

Peterborough I: 01733 555525 f: 01733 315280

e: admin @ enverity . co . uk

Determination of Liquid & Plastic Limits

Tested in accordance with BS 1377-2:1990; Method 4.4 & 5; One Point Method

Client:

Client Address:

Soiltechnics

Cedar Barn

White Lodge, Walgrave,

Northampton.

NN6 9PY

Client Reference: STE1297R

Job Number: PL1419-2

Certificate Number: PL1419-2/7/704

Date Sampled: Unknown

Date Received: 04.06.2008

Date Tested: 17.06.2008

Contact:

Site Name:

Site Address:

Lydia Drew

Richmond Upon Thames College

Sampling Certificate No.: N/A Certificate of Sampling: N/A

Sampled By: Client

Test Results:

Laboratory Reference:

Sample Reference:

PL1419-2/7 Not Given

Sample Description:

Firm brown grey slightly gravelly sandy CLAY

Location:

DTS11

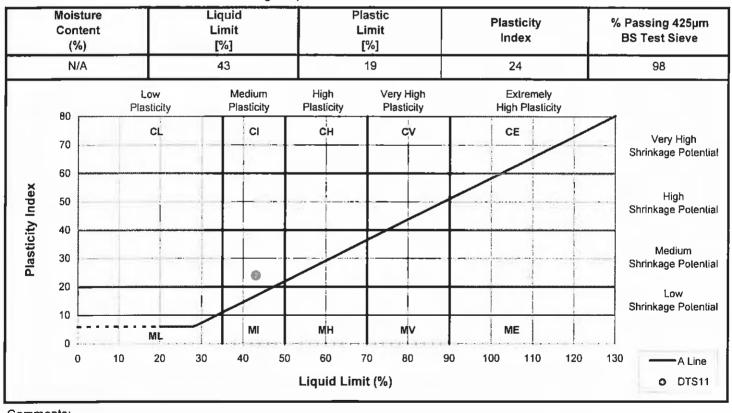
Sample Preparation:

As Received

Depth Top: 0.50m

Depth Base: 0.70m

Estimated % Passing 425µm BS Test Sieve



Comments:

Approved Signatory:

[] G. Meadows - Deputy Lab Manager

[] C. Reynolds - Deputy Lab Manager

[JJ. Chapman - Team Leader

Date Reported:

20.06.2008

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Form Number:

EN/C/704 Version 1

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the issuing laboratory



Signed:

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TEST CERTIFICATE

Road

t: 01733 555525 f: 01733 315280

e: admin @ enverity . co . uk

Determination of Liquid & Plastic Limits

Tested in accordance with BS 1377-2:1990; Method 4.4 & 5; One Point Method

Client:

Soiltechnics

Certificate Number: PL1419-2/8/704

Client Address:

Cedar Barn

Client Reference: STE1297R

White Lodge, Walgrave, Northampton.

Job Number: PL1419-2

NN6 9PY

Contact: Lydia Drew Date Sampled: Unknown Date Received: 04.06.2008

Date Tested: 16.06.2008

Site Name: Site Address: Richmond Upon Thames College

Sampling Certificate No.: N/A

Certificate of Sampling: N/A

Sampled By: Client

Test Results:

Laboratory Reference:

Sample Reference:

PL1419-2/8

Not Given

Sample Description:

Firm dark brown slightly sandy slightly gravelly slightly organic CLAY

Location:

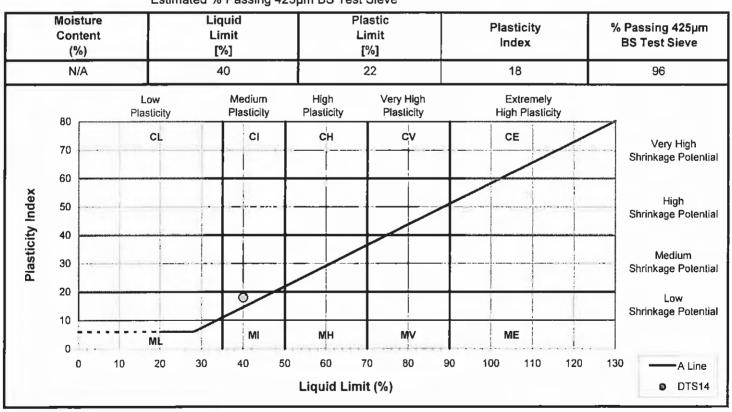
DTS14

Depth Top: 0.40m

As Received Sample Preparation:

Depth Base: 0.50m

Estimated % Passing 425µm BS Test Sieve



Comments:

Approved Signatory:

[] G. Meadows - Deputy Lab Manager

[] C. Reynolds - Deputy Lab Manager

Chapman - Team Leader

Date Reported:

20.06.2008

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Form Number:

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