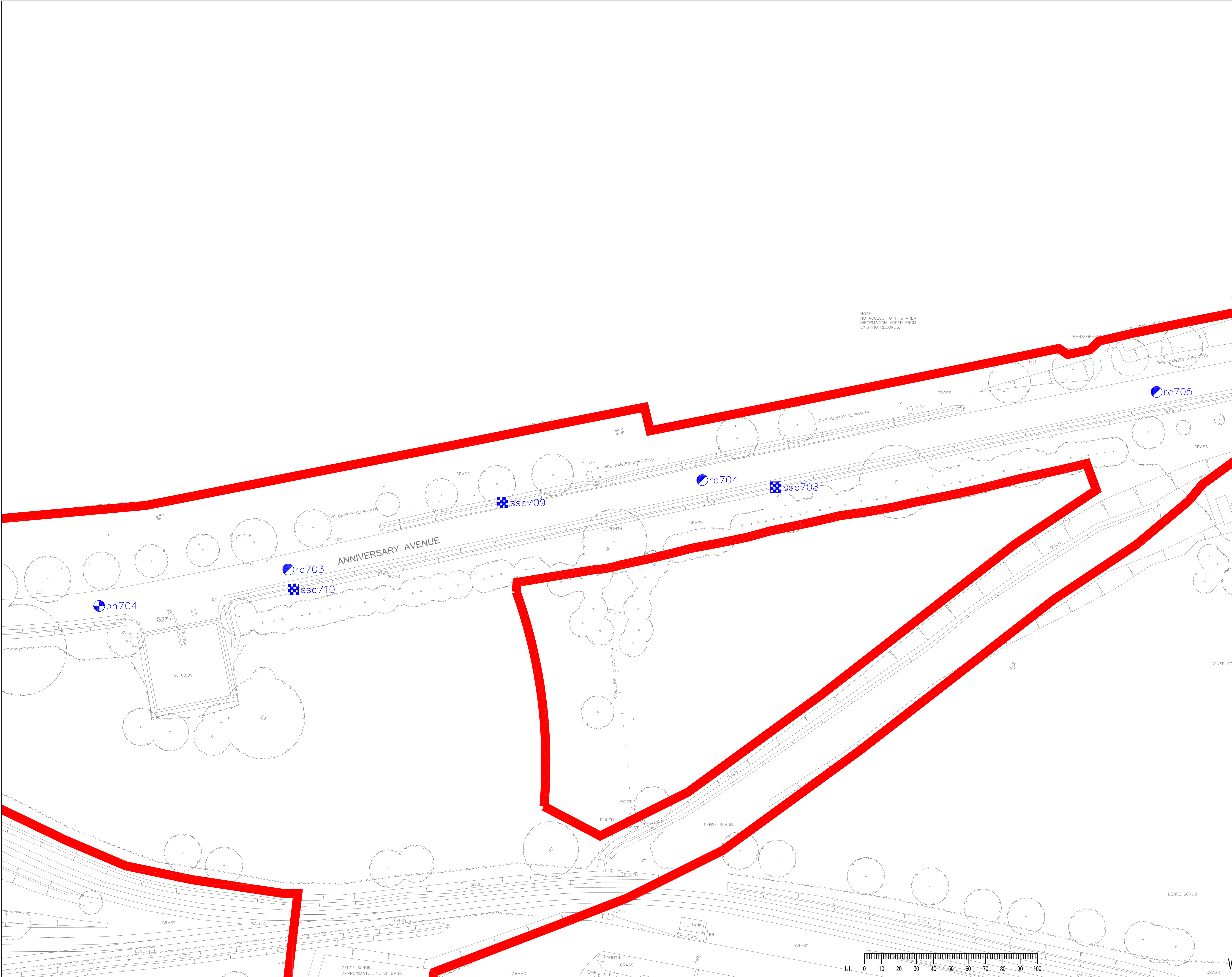




GENERAL NOTES

- 1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEER'S, ARCHITECT'S OR OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
- 2. ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO PREPARING ANY WORKING DRAWINGS OR COMMENCING ON SITE.
- 3. THE CONTRACTOR MUST ENSURE AND WILL BE HELD RESPONSIBLE FOR THE OVERALL STABILITY OF THE BUILDING/STRUCTURE/EXCAVATION AT ALL STAGES OF THE WORK.
- 4. ALL WORK BY THE CONTRACTOR MUST BE CARRIED OUT IN SUCH A WAY THAT ALL REQUIREMENTS UNDER THE HEALTH AND SAFETY AT WORK ACT ARE SATISFIED.
- 5. ALL WORK IS TO BE CARRIED OUT IN COMPLIANCE WITH THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES AND REGULATIONS.

- tp830 TRIAL PIT LOCATIONS
- rc701 ROAD CORE LOCATIONS
- bh705 CABLE PERCUSSIVE LOCATIONS
- ssc708 SWALE SEDIMENT CONTAMINATION TESTS
- cc501 CONCRETE CORE LOCATIONS

A01	07.07.21	GI LOCATIONS ADDED	TB
Rev	Date	Description	By

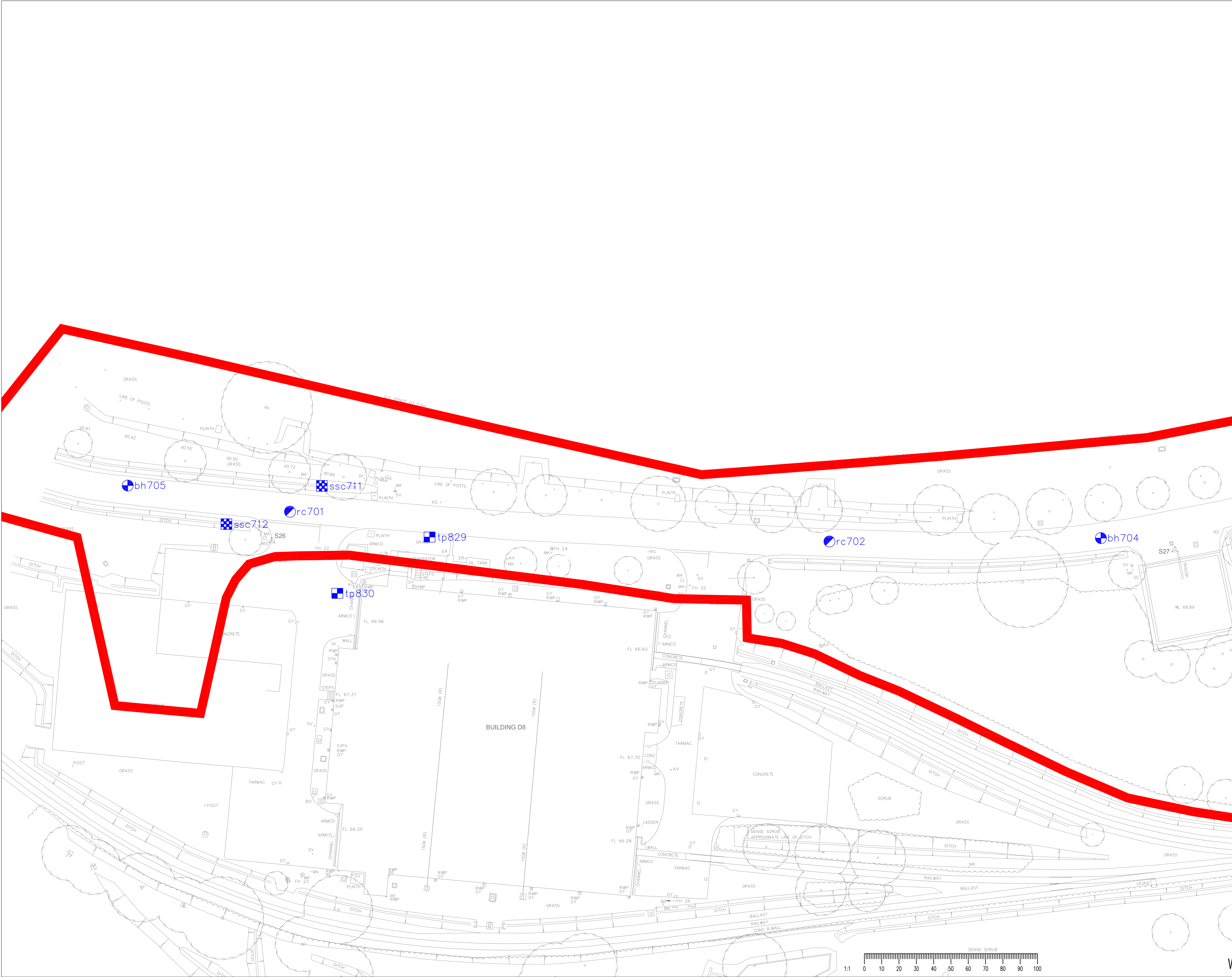
Project		GRAVEN HILL, BICESTER	
Title		LAND TRANSFER AREA 2 EMPLOYMENT ACCESS ROAD GI LOCATIONS (SHEET 7 OF 8)	
Client		Graven Hill Village Development Company Limited	



Graven Hill Village Development Company Limited



Office Address		Telephone & Fax numbers	
msh@watermangroup.com		www.watermangroup.com	
Drawing Status		PRELIMINARY	
Designed by	TB	Checked by	PE
Drawn by	TB	Date	07.07.21
Scales @ A1		Computer File No	
work to figured dimensions only		WIE1386-139-87-100-EAR GI Locations SAFE.dwg	
Publisher	Zone	Category	Number
WIE11386	139	87	106
			A01



GENERAL NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEER'S, ARCHITECT'S OR OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
2. ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO PREPARING ANY WORKING DRAWINGS OR COMMENCING ON SITE.
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- tp830 TRIAL PIT LOCATIONS
- rc701 ROAD CORE LOCATIONS
- bh705 CABLE PERCUSSIVE LOCATIONS
- ssc708 SWALE SEDIMENT CONTAMINATION TESTS
- cc501 CONCRETE CORE LOCATIONS

A01	07.07.21	GI LOCATIONS ADDED	TB
Rev	Date	Description	By

Amendments			
Project	GRAVEN HILL, BICESTER		
Title	LAND TRANSFER AREA 2 EMPLOYMENT ACCESS ROAD GI LOCATIONS (SHEET 8 OF 8)		
Client			

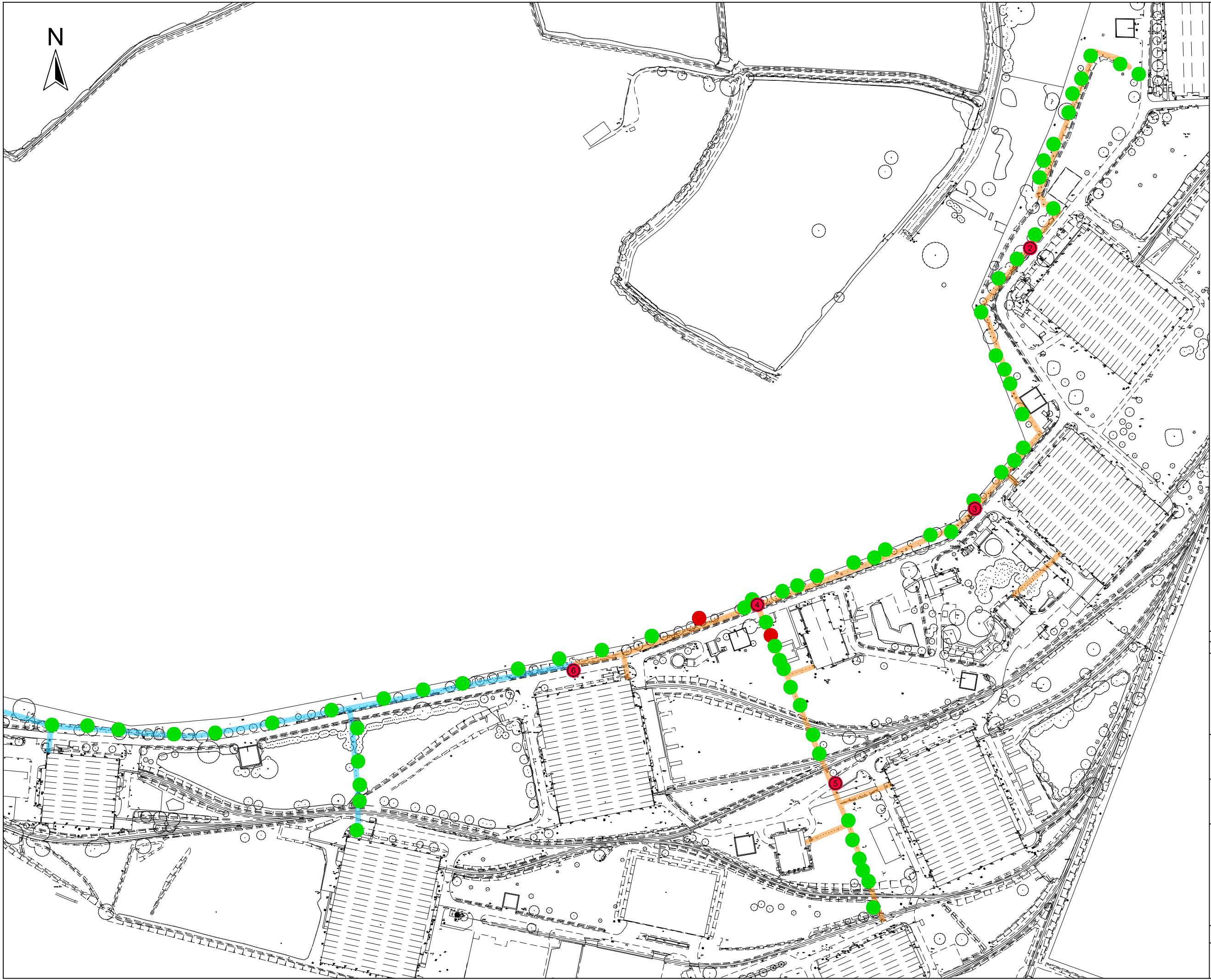


Graven Hill Village Development Company Limited



Office Address
Telephone & Fax numbers
mail@watermangroup.com www.watermangroup.com

Drawing Status				
PRELIMINARY				
Designed by	TB	Checked by	PE	Project No
Drawn by	TB	Date	07.07.21	WIE11386
Scales @ A1 work to figured dimensions only			Computer File No WIE1386-139-87-100-EAR GI Locations SAFE.dwg	
Publisher	Zone	Category	Number	Revision
WIE11386	139	87	107	A01



Key

- Oracle Contaminated Sample Location
- Armac Contaminated Sample Location
- Armac Contamination Free Sample Location
- Clean & Remove Concrete Posts
Remove & disposal of contaminated soil
- Clean & Remove Concrete Posts

Notes

- Do not scale from this drawing.
- All dimensions are in millimetres U.N.O.

Revision	Description	Intls.	Date
A	Additional pipeline highlighted	FDW	7.4.21

Client

Project

MoD Bicester

Title

District Heating Asbestos Soil Sample Locations

Scale	Date	Drawn by	Approved by
NTS	15.01.2021	FDW	MB

Contract No.	Drawing No.	Revision
6125	009	A

Appendix B

Exploratory Hole Records

- **Exploratory Hole Logs (EAR Borehole Records)**

BOREHOLE RECORD - Cable Percussion

Preliminary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2) Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED Borehole Project No BH319 PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend			
0.00- 0.10	B					MADE GROUND: Grass over firm dark brown slightly sandy slightly gravelly clay with many rootlets and rare roots (up to 4mm in size). Gravel is angular to subangular fine to coarse sandstone.	G.L.				
0.00- 0.10	D						0.10				
0.00- 0.10	ES		PID<0.1				0.30				
0.10- 0.30	B					MADE GROUND: Firm brownish grey slightly sandy gravelly clay with rare roots (up to 3mm in size). Gravel is angular to subangular fine to coarse brick.	0.80				
0.10- 0.20	D		PID<0.1								
0.10- 0.20	ES					Firm dark brown slightly sandy CLAY with rare roots (up to 3mm in size).					
0.30- 0.60	B		PID<0.1								
0.30- 0.40	D					Stiff light brown slightly sandy CLAY. Below 1.20m, roots absent.					
0.50- 0.60	D		PID<0.1								
0.50- 0.60	ES					Firm dark greyish brown slightly sandy CLAY.	2.60				
0.50- 0.60	D		PID<0.1								
0.80- 0.90	D					Stiff dark greyish green slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	3.30				
1.00- 1.10	D		PID<0.1								
1.00- 1.10	ES					End of Borehole	6.00				
1.20- 1.65	D	1.20 (DRY)	PID<0.1		S7						
1.70- 2.20	B										
2.00- 2.10	D		PID<0.1								
2.20- 2.65	UT25	1.50 (DRY)									
2.65- 2.70	D										
3.30- 3.40	D										
3.40- 3.85	D	1.50 (DRY)			S19						
3.90- 4.30	B										
4.30- 4.40	D										
4.40- 4.85	UT51	1.50 (DRY)									
4.85- 4.90	D										
5.30- 5.40	D										
5.50- 5.95	D	1.50 (DRY)			S26						
5.90- 6.00	D										

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.00	0.15	Inspection Pit Cable Percussion	DC/LC DC/LC	G.L. 6.00	1.50	DRY	15/07/20 15/07/20	08:00 18:00						None encountered during boring.

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.
 ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 Backfill details from base of hole: bentonite up to ground level.

Logged by SI

Figure 1 of 1
20/07/2020

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BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH701 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459479.8 E 220176.0 N	Ground Level	70.93 m OD

Sampling			Properties			Strata	Scale 1:50						
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD				
0.05 0.05 0.10- 0.40 0.30 0.30 0.50 0.70 0.70 1.20- 1.65 1.40- 2.20	ES B D ES B D ES D B	1.50 (DRY)	PID=<0.1	35	S6	MADE GROUND: Asphalt.	G.L. 0.11		70.93 70.82				
0.30 0.30 0.50 0.70 0.70 1.20- 1.65 1.40- 2.20	B D ES D B					MADE GROUND: Black sandy slightly clayey gravel with a medium cobble content of subangular brick and concrete and slight hydrocarbon odour. Gravel is angular to subangular fine to coarse brick, concrete and sandstone.	0.50		70.43				
1.70 1.70 1.70 2.20- 2.65	D ES UT13					Soft orangish brown mottled light grey slightly sandy CLAY with rare pockets (up to 20mm in size) of decomposed organic matter.	1.40		69.53				
2.65- 2.80 2.80- 3.40	D B					Firm dark brown and brown slightly sandy CLAY with occasional gypsum crystals (up to 2mm in size).							
3.20 3.40- 3.85 3.60- 4.50	D D B					Between 2.60-3.60m, with occasional gypsum crystals (up to 63mm in size).							
4.20 4.50- 4.95	D UT20					1.50 (DRY)	95		23	S13		3.60	67.33
4.95- 5.10	D										Stiff dark grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).		
5.50	D												
6.00- 6.45	D												
</													

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.			14/07/20	08:00						None encountered during boring.
6.00		Cable Percussion	MR/SS	1.20	NIL	DRY	14/07/20	18:00						
				1.20	1.20	DRY	15/07/20	08:00						
				6.00	1.20	DRY	15/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI
Figure 1 of 1
11/11/2020



BOREHOLE RECORD - Cable Percussion

Preliminary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2) Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED Borehole Project No BH702 PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend			
0.05	ES					MADE GROUND: Asphalt.	G.L.				
0.05			PID<0.1				0.10				
0.10- 0.30	B		PID<0.1			MADE GROUND: Light brown slightly sandy gravel. Gravel is angular to subangular fine to coarse limestone and sandstone.	0.30				
0.10							0.60				
0.20	D		PID<0.1			MADE GROUND: Light brown slightly sandy gravel with a high cobble content of angular to subangular sandstone. Gravel is angular to subangular coarse sandstone.	1.20				
0.20	ES										
0.60- 1.00	B		PID<0.1			MADE GROUND: Dark grey and black slightly clayey gravelly sand. Gravel is angular to subangular fine to coarse clinker, coal, concrete and sandstone.	2.30				
0.70	D										
0.70	ES		PID<0.1								
1.20- 2.30	B					Firm orangish brown mottled grey slightly sandy calcareous CLAY with rare shell fragments (up to 5mm in size).					
1.20	ES		PID<0.1								
1.20- 1.65	UT12	1.20 (DRY)									
1.50	D		PID<0.1								
1.65- 1.80	D					Firm to stiff dark brownish grey slightly sandy CLAY with occasional shell fragments (up to 10mm in size).	2.30				
2.00- 3.00	D										
2.20	ES		PID<0.1								
2.20											
2.30- 3.40	B				S9						
2.30- 2.75	D	1.20 (DRY)									
3.00	D										
3.40- 3.85	UT21	1.20 (DRY)									
3.85- 4.00	D										
4.30	D										
4.50- 4.95	D	1.20 (DRY)			S26	Stiff dark greyish green slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	4.50				
5.00- 6.00	B										
5.50	D										
6.00	UT29	1.20 (DRY)									
6.00- 6.45	UT										
6.45- 6.60	D										
						End of Borehole	6.60				

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.60	0.15	Inspection Pit Cable Percussion	MR/SS MR/SS	G.L. 6.60	1.20	DRY	16/07/20 16/07/20	08:00 18:00						None encountered during boring.

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.
 ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Water was added to assist boring between 1.20 and 6.00m.
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 Backfill details from base of hole: bentonite up to 0.20m, asphalt up to ground level.

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 Figure 1 of 1
 30/07/2020

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BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH704 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	458704.9 E 219889.7 N	Ground Level	69.48 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10	ES					MADE GROUND: Asphalt.	G.L.		69.48
0.10									
0.20- 0.30	B		PID<0.1			MADE GROUND: Light brown slightly sandy gravel. Gravel is angular to subangular fine to coarse limestone.	0.20		69.28
0.35- 0.80	B						0.35		69.13
0.50	D								
0.50	ES								
0.50			PID<0.1			MADE GROUND: Dark grey and black sandy clayey gravel with a low cobble content of subangular clinker. Gravel is angular to subangular fine to coarse ash, clinker and brick.			
1.00	ES		PID<0.1				1.10		68.38
1.20- 2.00	B								
1.20- 1.65	D	1.20 (DRY)			S9	Firm brownish grey slightly sandy CLAY.			
1.30	ES		PID<0.1						
1.30									
1.50	D								
2.20	ES								
2.20			PID<0.1		S12				
2.30- 2.75	D	1.20 (DRY)							
2.70- 3.50	B					Firm orangish brown mottled grey slightly sandy calcareous CLAY with occasional pockets (up to 1mm in size) of brown silt and occasional pockets (up to 25mm in size) of decomposed organic material.	2.70		66.78
3.00	D								
3.50- 3.95	UT19	1.20 (DRY)							
3.95- 4.10	D								
4.30	D								
4.50- 4.95	D	1.20 (DRY)			S24	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).	4.30		65.18
5.00- 6.00	B								
5.50	D								
6.00- 6.45	UT24	1.20 (DRY)							
6.45- 6.60	D								
						End of Borehole	6.60		62.88

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			20/07/20	08:00	6.00	1.20				Seepage
6.60	0.15	Cable Percussion	MR/SS MR/SS	6.60	1.20	DRY	20/07/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.

ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 6.00 m.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI

Figure 1 of 1
11/11/2020

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BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH705 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	458489.0 E 219901.3 N	Ground Level	67.58 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.05- 0.10	B					MADE GROUND: Asphalt.	G.L.		67.58
0.05- 0.10	D						0.20		67.38
0.05- 0.10	ES								
0.20- 0.50	B					MADE GROUND: Light brown sandy clayey gravel with a high cobble content of angular to subangular limestone and granite. Gravel is angular to subangular medium to coarse granite, limestone and sandstone.	0.65		66.93
0.20- 0.30	D								
0.20- 0.30	ES								
0.20- 0.30			PID<0.1						
0.50- 0.65	B								
0.50- 0.60	D					Firm light orangish brown mottled grey slightly sandy calcareous CLAY with occasional shell fragments (up to 20mm in size).			
0.50- 0.60	ES								
0.50- 0.60			PID<0.1						
0.65- 0.90	B								
0.65- 0.75	D					Firm dark brownish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size) and occasional pockets (up to 25mm in size) of decomposed organic material.	1.50		66.08
1.00- 1.10	D								
1.00- 1.10	ES								
1.00- 1.10			PID<0.1						
1.20- 1.65	UT40	1.20 (DRY)							
1.65- 1.70	D								
2.00- 2.10	D								
2.00- 2.10	ES								
2.00- 2.10			PID<0.1						
2.20- 3.00	B								
2.20- 2.65	D	1.50 (DRY)			S9				
3.00- 3.10	D								
3.30- 3.75	UT52	1.50 (DRY)				Stiff dark grey slightly sandy CLAY with occasional shell fragments (up to 50mm in size).	3.30		64.28
3.75- 3.80	D								
3.80- 4.30	B								
4.00- 4.10	D								
4.40- 4.85	D	1.50 (DRY)			S33				
5.00- 5.10	D								
5.60- 6.05	UT65	1.50 (DRY)							
6.05- 6.10	D					End of Borehole	6.10		61.48

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			20/07/20	08:00						None encountered during boring.
6.10	0.15	Cable Percussion	DC/LC DC/LC	1.20	NIL	DRY	20/07/20	18:00						
				1.20	NIL	DRY	21/07/20	08:00						
				6.10	1.50	DRY	21/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
 ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 Backfill details from base of hole: bentonite up to ground level.

Logged by SI
 Figure 1 of 1
 11/11/2020

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH801 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459585.2 E 220176.8 N	Ground Level	69.85 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10	ES					PROBABLE MADE GROUND: Firm dark brown slightly sandy clay with many rootlets and roots (up to 4mm in size).	G.L.		69.85
0.10							0.20		69.65
0.20- 0.60	B		PID=<0.1			PROBABLE MADE GROUND: Firm brownish grey slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subangular fine to coarse sandstone.			
0.30	ES		PID=<0.1				0.60		69.25
0.30						Firm orangish brown and grey slightly sandy CLAY			
0.40	D		PID=<0.1						
0.60- 1.20	B					Firm orangish brown mottled grey slightly sandy CLAY with occasional pockets (up to 2mm in size) of orangish brown sand.			
0.70	D								
0.70	ES		PID=<0.1						
0.70									
1.20- 1.65	D	1.20 (DRY)			S11		1.50		68.35
1.50- 2.30	B			27					
1.60	D		PID=<0.1						
1.60	ES								
2.30- 2.75	UT14	1.20 (DRY)	66	27					
2.75- 2.90	D								
3.20	D								
3.50- 3.95	D	1.20 (DRY)			S10				
4.10- 4.50	B								
4.30	D					Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 10mm in size) and a slight organic odour.	4.10		65.75
4.50- 4.95	UT21	1.20 (DRY)	112	24					
4.95- 5.10	D								
5.50	D								
6.00- 6.45	D	1.20 (DRY)			S31				
						End of Borehole	6.45		63.40

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			15/07/20	08:00						None encountered during boring.
6.45	0.15	Cable Percussion	MR/SS MR/SS	6.45	1.20	DRY	15/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Water was added to assist boring between 1.20 and 6.00m.
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI
Figure 1 of 1
11/11/2020



BOREHOLE RECORD - Cable Percussion

Preliminary

Project GRAVEN HILL, BICESTER, LAND TRANSFER
AREA 2 (LTA2)

Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED

Borehole
Project No

BH803
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend			
0.10 0.10 0.20- 1.00 0.50 0.50 0.50	ES B D ES		PID<0.1			TOPSOIL: Grass over firm dark brown slightly sandy slightly gravelly clay with many rootlets and rare roots (up to 4mm in size). Gravel is angular to subangular fine to coarse sandstone.	6.L. 0.20				
1.00 1.20 1.40- 2.20 1.50 1.50	D UT10 B D ES	1.20 (DRY)	PID<0.1			Firm brownish grey CLAY with rare roots (up to 3mm in size).	1.40				
2.20- 2.65 2.70- 3.40 3.20 3.40- 3.85 3.80- 4.50 3.85- 4.00 4.00	D B D UT21 B D D	1.20 (DRY)	PID<0.1	S9		Firm orangish brown mottled grey CLAY with rare pockets (up to 1mm in size) of grey silt.	2.70				
4.50- 4.95 5.20 6.00- 6.45 6.45- 6.60	D D UT31 D	1.20 (DRY)		S22		Stiff grey slightly sandy CLAY with occasional selenite crystals (up to 63mm in size) and occasional shell fragments (up to 20mm in size).	6.60				
						Between 3.85-4.00m, many selenite crystals.					
						Below 5.00m, selenite crystals absent.					
						End of Borehole					

Boring				Progress					Groundwater				
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed
1.20 6.60	0.15	Inspection Pit Cable Percussion	MR/SS MR/SS	6.L. 6.60	1.20	DRY	15/07/20 15/07/20	08:00 18:00					

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Water was added to assist boring between 1.20 and 6.00m. Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: bentonite up to ground level.										Logged by SI Figure 1 of 1 21/07/2020 			
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.										Logged in accordance with BS5930:2015			

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH807 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459433.9 E 220078.5 N	Ground Level	69.85 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10	ES					MADE GROUND: Asphalt.	G.L.		69.85
0.10			PID<0.1				0.15		69.70
0.20- 0.50	B					MADE GROUND: Light brown sandy slightly clayey gravel with a low cobble content of subangular limestone. Gravel is angular to subangular fine to coarse limestone.	0.50		69.35
0.30	D		PID<0.1				0.90		68.95
0.30	ES					MADE GROUND: Black slightly sandy slightly clayey gravel with a low cobble content of subangular clinker. Gravel is angular to subangular fine to coarse brick, ash and clinker.			
0.50- 0.90	B		PID<0.1						
0.60	D		PID<0.1						
0.60	ES		PID<0.1						
0.60			PID<0.1						
1.10	ES					Firm brown mottled grey slightly sandy CLAY with occasional gypsum crystals (up to 60mm in size).			
1.20- 2.30	B								
1.20	UT12	1.20 (DRY)	67	38					
1.50	D								
1.65- 1.80	D		PID<0.1						
2.10	ES								
2.10									
2.30- 2.75	D	1.20 (DRY)			S15				
						Stiff dark grey slightly sandy CLAY.	2.60		67.25
3.00	D			37					
3.50- 3.95	UT19	1.20 (DRY)	99	23					
3.95- 4.10	D					Stiff dark greenish grey slightly sandy CLAY with shell fragments (up to 20mm in size)	3.80		66.05
4.00- 4.50	B								
4.00	D								
4.50- 4.95	D	1.20 (DRY)			S24				
5.50	D								
6.00- 6.45	UT31	1.20 (DRY)							
6.45- 6.60	D								
						End of Borehole	6.60		63.25

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	MR/SS	G.L.			21/07/20	08:00						None encountered during boring.
6.60	0.15	Cable Percussion	MR/SS	6.60	1.20	DRY	21/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
 Water was added to assist boring between 1.20 and 6.00 m.
 ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 Backfill details from base of hole: bentonite up to ground level.

Logged by SI
 Figure 1 of 1
 11/11/2020

geotechnics

Draft

Project GRAVEN HILL, BICESTER, LAND TRANSFER
AREA 2 (LTA2)

Engineer **WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Borehole	CC501
Project No	PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT
COMPANY LIMITED**

National Grid	459617.9	E
Coordinates	220606.2	N

Ground Level 71.81 m OD

Sampling				Properties			Strata			Scale 1:50		
Depth		Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
							MADE GROUND: Concrete	G.L.		71.81		
0.14		D					MADE GROUND: Grey sandy clayey gravel. Gravel is angular to subangular fine to coarse concrete and granite.	0.19		71.62		
0.19		B				0.30			71.51			
0.19		D				0.45			71.36			
0.31		B										
0.31		D										
0.31		ES		PID=5.2								
0.31		B										
1.00		D										
1.00		ES		PID=<0.1	S3							
1.20- 1.65		D	NIL (DRY)				Very soft brown mottled grey sandy CLAY with many pockets (up to 40mm in size) of yellowish brown sand.	1.80		70.01		
1.20- 1.35		D										
1.40- 1.80		B										
1.80- 2.00		ES		PID=<0.1	S5							
1.80- 2.00		D	NIL (DRY)									
2.00- 2.20		D										
2.00- 2.45		D										
2.20- 3.00		B										
3.00- 3.20		D	NIL (DRY)			S8						
3.00- 3.45		D										
3.20- 4.00		B										
4.00- 4.20		D	NIL (DRY)			S12	Below 4.00m, becoming firm.					
4.00- 4.45		D					Stiff dark grey mottled brown CLAY with occasional shell fragments (up to 10mm in size).	4.40		67.41		
4.20- 5.00		B										
5.00- 5.45		D	NIL (DRY)			S20						
							End of Borehole	5.45		66.36		

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	SG	G.L.			13/07/20	08:00						None encountered during sampling.
2.00	0.09	Dynamic Sampler	SF/LC	1.20	NIL	DRY	13/07/20	18:00						
3.00	0.08	Dynamic Sampler	SF/LC	1.20	NIL	DRY	21/07/20	08:00						
4.00	0.07	Dynamic Sampler	SF/LC	5.45	NIL	DRY	21/07/20	18:00						
5.45	0.06	Dynamic Sampler	SF/LC											

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to 0.19m, asphalt up to ground level.

Logged by

EPS

Figure

1 of 1
11/11/2020

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED

Trial Pit Project No

RC701 PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.20	D			MADE GROUND: Asphalt.	G.L.	1	
0.20	ES			MADE GROUND: Black slightly sandy gravel with a slight sulfuric odour. Gravel is angular fine to coarse asphalt and granite.	0.13	2	
0.20			PID=<0.1		0.29	3	
0.40	B				0.58	4	
0.40	D				0.74	5	
0.60	B			MADE GROUND: Light brown sandy gravel with a high cobble content of subangular limestone and a slight sulfuric odour. Gravel is angular to subangular fine to coarse limestone.			
0.60	D				1.20		
0.60	ES		PID=<0.1				
0.75	HV		Av=62kPa				
0.90	B			MADE GROUND: Black mottled light brown gravelly clayey sand. Gravel angular to subangular fine to coarse limestone, brick and slag.			
0.90	D						
0.90	ES		PID=<0.1				
0.90				Firm brown mottled grey slightly sandy CLAY.			
1.20- 1.17	DCP			End of Excavation			

Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	16/07/2020	Length (C)	0.30			
Shoring	None.	Date Backfilled	16/07/2020			None encountered during excavations.
Stability	Stable during excavation.					

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to 0.80m, bentonite up to 0.13m, asphalt up to ground level.	Logged by EPS Figure 1 of 1 22/07/2020 geotechnics
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres. Logged in accordance with BS5930:2015		

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED

Trial Pit Project No

RC702 PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.20	ES		PID=<0.1	MADE GROUND: Asphalt.	G.L.		
0.25				MADE GROUND: Black mottled dark grey gravelly silty sand. Gravel is angular fine to coarse granite.	0.21		
0.40	B				0.30		
0.40	D				0.59		
0.60	B			MADE GROUND: Yellowish light brown sandy gravel with a high cobble content of subangular fine to coarse limestone. Gravel is subangular fine to coarse limestone.	0.70		
0.60	D						
0.60	ES		PID=<0.1				
1.00	B			MADE GROUND: Black mottled brown and grey gravelly slightly clayey sand with a slight sulfuric odour. Gravel is angular to subangular fine to coarse clinker, slag and limestone.	1.20		
1.00	D						
1.00	ES						
1.00	HV		Av=52kPa PID=<0.1				
1.00				Firm greenish grey mottled greenish brown slightly sandy CLAY.			
0.70- 2.07	DCP			End of Excavation			

Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	16/07/2020	Length (C)	0.30			
Shoring	None.	Date Backfilled	16/07/2020			None encountered during excavation.
Stability	Stable during excavation.					

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to 0.80m, bentonite up to 0.21m, asphalt up to ground level.	Logged by EPS Figure 1 of 1 21/07/2020 
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres. Logged in accordance with BS5930:2015		

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoRC703
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata	Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend
0.20	ES		PID=<0.1	MADE GROUND: Asphalt.	G.L.	1
0.20				MADE GROUND: Black sandy gravel with a low sulfuric odour. Gravel is angular to subangular fine to coarse granite and slag.	0.15	2
0.40	B				0.25	3
0.40	D				0.32	4
0.40	ES		PID=<0.1	MADE GROUND: Yellowish brown sandy slightly silty gravel. Gravel is subangular fine to coarse limestone.	0.60	5
1.00	B					
1.00	D					
1.00	ES		PID=<0.1	MADE GROUND: Dark grey slightly sandy gravel with a medium cobble and boulder content of subangular slag and a low hydrocarbon odour. Gravel is angular to subangular fine to coarse slag.	1.20	
0.60- 2.02	DCP			Firm dark greenish grey slightly sandy CLAY		
				End of Excavation		

Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	16/07/2020	Length (C)	0.30	0.40	0.45	Seepage
Shoring	None.	Date Backfilled	16/07/2020			
Stability	Stable during excavation.					

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to 0.80m, bentonite up to 0.15m, asphalt up to ground level.	Logged by EPS Figure 1 of 1 21/07/2020 geotechnics
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres. Logged in accordance with BS5930:2015		

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoRC704
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.20	B			MADE GROUND: Asphalt.	G.L.	1	
0.20	D				0.16	2	
0.20	ES		PID=<0.1	MADE GROUND: Dark grey mottled grey sandy gravel with a low hydrocarbon odour and a high cobble content of angular to subangular granite, slag and limestone. Gravel is angular to subangular fine to coarse granite, slag and limestone.	0.33	3	
0.50	B				0.68	4	
0.50	D						
0.50	ES		PID=<0.1 Av=63kPa	MADE GROUND: Black mottled dark grey gravelly slightly silty sand with a low hydrocarbon odour. Gravel is angular to subangular fine to coarse brick, slag, granite and limestone.	1.20		
0.75	HV						
1.00	B						
1.00	D						
1.00	ES		PID=<0.1	Firm dark greenish grey slightly sandy CLAY.			
0.68- 2.01	DCP			End of Excavation			

Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	17/07/2020	Length (C)	0.30			
Shoring	None.	Date Backfilled	17/07/2020			None encountered during excavation.
Stability	Stable during excavation.					

Remarks				Logged by	
Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to 0.80m, bentonite up to 0.16m, asphalt up to ground level.				EPS	
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.				Figure 1 of 1 21/07/2020 	

Logged in accordance with BS5930:2015

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2) Engineer

WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED

Trial Pit Project No

RC705 PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.20	ES		PID=<0.1	MADE GROUND: Asphalt.	G.L.		
0.20					0.14		
0.50	B			MADE GROUND: Grey sandy gravel with a low sulfuric odour. Gravel is angular fine to coarse granite, slag and limestone.	0.31		
0.50	D						
0.50	ES		PID=<0.1	MADE GROUND: Dark grey mottled black sandy gravel with low sulfuric odour and a medium cobble and boulder content of angular to subangular fine slag and limestone. Gravel is subangular fine to coarse slag and limestone.	0.70		
1.00	B						
1.00	D						
1.00	ES		Av=55kPa PID=<0.1		1.20		
1.00	HV			Firm brown mottled grey slightly sandy CLAY with occasional pockets (up to 50mm in size) of light brown fine to coarse sand.			
1.00							
0.70- 2.02	DCP			End of Excavation			

Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	17/07/2020	Length (C)	0.30			
Shoring	None.	Date Backfilled	17/07/2020			None encountered during excavation.
Stability	Stable during excavation.					

Remarks				Logged by	
Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to 0.80m, bentonite up to 0.14m, asphalt up to ground level.				EPS	
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.				Figure 1 of 1 21/07/2020 	

Logged in accordance with BS5930:2015

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoRC706
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.20	ES		PID=<0.1	MADE GROUND: Asphalt.	G.L.		
0.20				MADE GROUND: Yellowish brown gravelly sand with a low cobble content of limestone. Gravel is subangular fine to coarse limestone.	0.23		
0.30	D				0.34		
0.30	ES		PID=<0.1		0.65		
0.30				MADE GROUND: Grey mottled dark grey slightly sandy gravel with a slightly hydrocarbon odour and a medium cobble content of subangular granite and slag. Gravel is subangular fine to coarse granite, limestone and slag.			
0.50	B						
0.50	D						
0.50	ES		PID=<0.1		1.20		
0.50				Firm brown mottled grey slightly sandy CLAY with many pockets (up to 50mm in size) of light brown fine to medium sand.			
1.00	B						
1.00	D						
1.00	ES						
1.00	HV		Av=70kPa PID=<0.1				
1.00							
0.65- 2.04	DCP			End of Excavation			

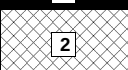
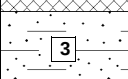
Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	17/07/2020	Length (C)	0.30			
Shoring	None.	Date Backfilled	17/07/2020			None encountered during excavations.
Stability	Stable during excavation.					

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to 0.80m, bentonite up to 0.23m, asphalt up to ground level.	Logged by EPS Figure 1 of 1 22/07/2020
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.	Logged in accordance with BS5930:2015	geotechnics

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoRC707
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.15	ES		PID=<0.1	MADE GROUND: Asphalt.	G.L.		
0.15					0.23		
0.50	B			MADE GROUND: Yellowish brown sandy gravel with a medium cobble content of subangular slag and limestone. Gravel is subangular fine to coarse slag and limestone.			
0.50	D				0.70		
0.50	ES		PID=<0.1				
0.50					1.20		
1.00	B			Firm grey mottled brown slightly sandy CLAY with pockets (up to 40mm in size) of light brown fine to coarse sand.			
1.00	D						
1.00	ES						
0.70 - 2.02	DCP		Av=54kPa				
1.00	HV		PID=<0.1	End of Excavation			
1.00							

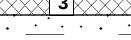
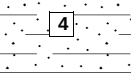
Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	17/07/2020	Length (C)	0.30			
Shoring	None.	Date Backfilled	17/07/2020			None encountered during excavation.
Stability	Stable during excavation.					

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to 0.80m, bentonite up to 0.23m, asphalt up to ground level.	Logged by EPS Figure 1 of 1 22/07/2020 
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres. Logged in accordance with BS5930:2015		

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoRC708
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.20	ES		PID=<0.1	MADE GROUND: Asphalt.	G.L.		
0.20	B			MADE GROUND: Yellowish brown sandy gravel. Gravel is subangular fine to coarse limestone.	0.24		
0.30	D				0.41		
0.50	B				0.57		
0.50	D			MADE GROUND: Black mottled dark grey gravelly sand with many cobbles of subangular limestone. Gravel is angular to subangular fine to coarse slag, brick, limestone and granite.			
0.50	ES		PID=<0.1 Av=76kPa				
0.65	HV				1.20		
1.00	B			Firm greenish brown mottled grey slightly sandy CLAY with occasional pockets (up to 30mm in size) of light brown fine to medium sand.			
1.00	D						
1.00	ES		PID=<0.1	End of Excavation			

Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	20/07/2020	Length (C)	0.30			
Shoring	None.	Date Backfilled	20/07/2020			None encountered during excavation.
Stability	Stable during excavation.					

Remarks				Logged by	
Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to 0.80m, bentonite up to 0.24m, asphalt up to ground level.				EPS	
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.				Figure 1 of 1 24/07/2020	

geotechnics

Logged in accordance with BS5930:2015

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoRC709
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.15	ES		PID=<0.1	MADE GROUND: Asphalt.	G.L.	1	
0.15					0.19	2	
0.30	B			MADE GROUND: Yellowish brown sandy slightly silty gravel with a low cobble content of subangular limestone. Gravel is subangular fine to coarse limestone.	0.33	3	
0.30	D				0.53		
0.50	B						
0.50	D						
0.50	ES		PID=<0.1	MADE GROUND: Light yellowish brown mottled light grey sandy gravel with a medium cobble and boulder content of subangular slag and limestone. Gravel is angular to subangular fine to coarse limestone and slag.			
0.50				End of Excavation			

Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	20/07/2020	Length (C)	0.30	0.28	0.30	Fast inflow.
Shoring	None.	Date Backfilled	20/07/2020			
Stability	Stable during excavation.					

Remarks		Logged by
Inspection pit hand excavated to 0.53m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. The Inspection Pit was terminated at a depth of 0.53m due to groundwater inflow. Backfill details from base of hole: bentonite up to 0.19m, asphalt up to ground level. All dimensions are in metres. Logged in accordance with BS5930:2015	EPS Figure 1 of 1 24/07/2020 geotechnics	

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoRC710
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.20	B D ES	PID=<0.1	PID=<0.1	MADE GROUND: Asphalt.	G.L.		
0.40				MADE GROUND: Light brown sandy gravel with a low cobble content subangular limestone. Gravel is subangular fine to coarse limestone.	0.25		
0.40					0.60		
0.65				MADE GROUND: Black mottled dark grey gravelly sand. Gravel is angular to subangular fine to coarse slag, brick, granite and limestone.	0.75		
0.65					1.20		
1.00	D ES	PID=<0.1	PID=<0.1	Firm greenish grey slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse limestone.			
1.00				End of Excavation			

Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	20/07/2020	Length (C)	0.30			
Shoring	None.	Date Backfilled	20/07/2020			None encountered during excavation.
Stability	Stable during excavation.					

Remarks	AGS Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.	Inspection pit hand excavated to 1.20m depth and no services were found.			Logged by	EPS
		ES sample = 2 x vial, 1 x plastic jar and 2 amber jar			Figure	1 of 1
		Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.			24/07/2020	
		Backfill details from base of hole: arisings up to 0.80m, bentonite up to 0.25m, asphalt up to ground level.			geotechnics	
		Logged in accordance with BS5930:2015				

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoRC801
PC207899

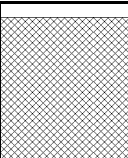
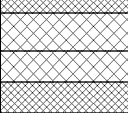
Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata	Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend
0.10	ES		PID=<0.1	MADE GROUND: Asphalt	G.L.	1
0.10					0.08	2
0.20	B			MADE GROUND: Brown and grey slightly sandy gravel. Gravel is angular to subangular fine to coarse granite and concrete.	0.16	3
0.20	D				0.25	4
0.30	B				0.39	5
0.30	D				0.59	6
0.60	B			MADE GROUND: Yellowish brown gravelly sand. Gravel is subangular fine to coarse sandstone.	0.88	7
0.60	D					
0.60	ES		PID=<0.1	MADE GROUND: Black mottled grey and brown very sandy gravel. Gravel is subangular to rounded fine to coarse quartzite, sandstone and concrete.	1.20	
0.90	B					
0.90	D					
0.90	ES		PID=<0.1	MADE GROUND: Light brown sandy gravel with a low cobble and boulder content of subangular limestone.		
				MADE GROUND: Black mottled dark grey gravelly sand. Gravel is subangular fine to coarse ash and limestone.		
				Firm greenish grey slightly sandy CLAY.		
				End of Excavation		

Excavation				Groundwater		
Plant	Hand Tools	Width (B)	0.30	Depth Observed	Depth of Pit	Details
Date	15/07/2020	Length (C)	0.30			
Shoring	None.	Date Backfilled	15/07/2020			None encountered during excavation.
Stability	Stable during excavation.					

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to 0.80m, bentonite up to 0.08m, asphalt up to ground level.	Logged by EPS Figure 1 of 1 17/07/2020
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.	Logged in accordance with BS5930:2015	geotechnics

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED Trial Pit TP329
 AREA 2 (LTA2) Project No PC207899
 Client GRAVEN HILL VILLAGE DEVELOPMENT National Grid 459638.3 E
 COMPANY LIMITED Coordinates 220694.0 N Ground Level 72.55 m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
0.10	B		mc=36%	MADE GROUND: Dark grey and black slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse brick, concrete, flint, glass, plastic, slag and clinker. [Stockpile]	G.L.		72.55
0.10	B						
0.10	D						
0.50	B						
0.50	B						
0.50	D						
0.50	ES		PID=<0.1				
0.50							
1.00	B			MADE GROUND: Asphalt.	1.00		71.55
1.00	B						
1.00	D				1.25		71.30
1.10	ES		PID=<0.1	MADE GROUND: Grey silty sand and gravel. Gravel is angular to subangular fine to coarse limestone, clinker and slag.	1.45		71.10
1.10					1.65		70.90
1.35	B						
1.35	D						
1.35	ES		PID=<0.1				
1.50							
1.65	HV		Av=65kPa				
1.65	B						
1.65	D						
1.65	ES		PID=<0.1				
1.65				End of Excavation			

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.50	Depth Observed	Depth of Pit	Details
Date	17/07/2020	Length (C)	0.50			
Shoring	None.	Date Backfilled	17/07/2020			None encountered during excavation.
Stability	Stable during excavation.					

Remarks: ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 Limited access to location, scheduled to sample stockpile and material immediately below.
 Backfill details from base of hole: arisings up to ground level.

Logged by MJ
 Figure 1 of 1
 11/11/2020

geotechnics

All dimensions are in metres. Logged in accordance with BS5930:2015

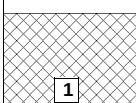
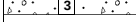
Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer
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**WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Trial Pit
Project No

TP425
PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED**

Samples and Tests				Strata			Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend		
0.10	B			MADE GROUND: Dark grey and black slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse brick, concrete, flint, glass, plastic, slag and clinker. [Stockpile]	G.L.			
0.10	B							
0.50	B							
0.50	B							
0.50	D							
0.50	ES		PID=<0.1					
0.50				MADE GROUND: Asphalt.	1.00			
1.00	B			MADE GROUND: Concrete.	1.10			
1.00	B				1.20			
1.10	ES		PID=<0.1					
1.10				End of Excavation				
1.10								
						</		

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED

Trial Pit Project No

TP430 PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.20	B			MADE GROUND: Dark brown slightly sandy slightly gravelly clay with many rootlets and roots (up to 6mm in size). Gravel is angular to subrounded fine to coarse limestone, slag and quartzite.	G.L.		
0.20	D				0.30		
0.20	ES		PID=<0.1	At 0.26m, a land drain (100mm in size).			
0.20							
0.50	B			Stiff light brown mottled light grey slightly sandy CLAY with occasional rootlets.			
0.50	D			Below 0.50m, rootlets absent.			
0.50	ES		Av=105kPa				
0.50	HV		PID=<0.1	Below 0.70m, with many calcite concretions (up to 15mm in size).	1.60		
1.00	D						
1.00	HV		Av=70kPa				
1.50	D			Between 0.70-0.90m, with rare pockets (up to 20mm in size) of orangish brown silty sand.			
1.50	ES						
1.50	HV		Av=72kPa				
1.50			PID=<0.1	Below 1.00m, becomes light grey mottled light brown.	2.50		
1.80	B						
1.80	D			Below 1.20m, becomes dark grey with occasional relict rootlets.			
2.00	HV		Av=79kPa				
2.30	D						
2.60	B						
2.60	D						
3.00	D			Stiff dark brownish grey occasionally mottled dark orangish brown slightly sandy CLAY with occasional pockets (up to 20mm in size) of decomposed organic material and many pockets (up to 6mm in size) of grey silt.			
3.50	D			Below 1.60m, with occasional shell fragments (up to 8mm in size).			
4.00	D			Stiff grey slightly sandy CLAY with many shell fragments (up to 50mm in size), many gypsum crystals (up to 5mm in size) and a slight organic odour.	4.50		
4.50	D			End of Excavation			

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	30/07/2020	Length (C)	3.50			
Shoring	None.	Orientation	302 deg			None encountered during excavation.
Stability	Stable during excavation.	Date Backfilled	30/07/2020			

Remarks		Logged by
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar		MJ
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.		
Backfill details from base of hole: arisings up to ground level.		

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Figure 1 of 1
12/08/2020

geotechnics

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer
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**WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Trial Pit
Project No

TP702
PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED**

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.15	B			MADE GROUND: Dark brown slightly sandy silt with many rootlets and roots (up to 6mm in size).	G.L.		
0.15	D				0.20		
0.15	ES						
0.15			PID=<0.1				
0.50	HV		Av=130kPa	MADE GROUND: Stiff light brown mottled grey slightly sandy slightly gravelly clay with occasional rootlets and occasional calcite concretions (up to 40mm in size). Gravel is angular to subangular fine to coarse limestone.			
0.60	B				1.10		
0.60	D				1.30		
0.60	ES						
0.60			PID=<0.1	POSSIBLE MADE GROUND: Dark brownish grey sandy CLAY with many rootlets.			
1.20	B						
1.20	D						
1.20	ES			Firm light grey and light brown slightly sandy CLAY.			
1.20			PID=<0.1				
1.50	B						
1.50	D						
1.50	ES			Below 1.90m, becomes dark greyish brown mottled orangish brown with occasional relict rootlets.			
1.50	HV		Av=50kPa		2.40		
1.50			PID=<0.1				
2.00	D			Soft to firm dark greyish brown mottled light brown sandy CLAY.			
2.00	HV		Av=57kPa				
2.60	B						
2.60	D			Below 2.70m, becomes firm.			
3.00	D						
3.00	HV		Av=59kPa				
3.50	D			Below 3.40m, becomes stiff with occasional gypsum crystals (up to 40mm in size).			
					4.00		
4.20	B			Stiff grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size) and rare pockets (up to 10mm in size) of decomposed organic material.			
4.20	D				4.50		
				End of Excavation			

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	06/08/2020	Length (C)	2.70			
Shoring	None.	Orientation	092 deg	2.50	2.50	Seepage.
Stability	Stable during excavation.	Date Backfilled	06/08/2020	4.10	4.10	Seepage.

Remarks	Logged by
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to ground level.	MJ

Figure 1 of 1
12/08/2020

geotechnics

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoTP703
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.10	ES		PID=<0.1	MADE GROUND: Dark brown slightly sandy silt with many rootlets and occasional roots (up to 6mm in size).	G.L.	1	
0.10	B				0.15	2	
0.20	D						
0.20	HV		Av=130kPa	MADE GROUND: Stiff grey and brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse quartzite and flint.			
0.50	B						
0.60	D				1.00	3	
0.60	ES		PID=<0.1	Below 0.70m, with many pockets (up to 5mm in size) of grey silt.	1.10		
0.60	HV		Av=130kPa				
1.00	B						
1.05	D						
1.05	HV		Av=69kPa	POSSIBLE MADE GROUND: Firm dark grey mottled orangish brown slightly sandy CLAY with many relict rootlets.			
1.20	B					4	
1.30	D			Firm light brown mottled light grey slightly sandy CLAY.			
1.30	ES		PID=<0.1				
1.30	D			Below 2.00m, becomes grey mottled brown.	2.40		
1.80	HV		Av=60kPa				
2.00	D			Firm dark greyish brown mottled dark orangish brown sandy CLAY with many relict rootlets.			
2.30	HV		Av=56kPa				
2.70	B						
2.70	D				4.20	5	
3.00	HV						
3.20	D			Below 3.20m, becomes stiff.			
3.70	B						
3.70	D						
4.40	B			Stiff grey sandy CLAY with rare pockets (up to 20mm in size) of decomposed organic material and occasional shell fragments (up to 50mm in size).	4.50	6	
4.40	D						
4.40	D			End of Excavation			

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	06/08/2020	Length (C)	3.00			
Shoring	None.	Orientation	078 deg			None encountered during excavation.
Stability	Stable during excavation.	Date Backfilled	06/08/2020			

Remarks	ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to ground level.	Logged by	MJ
Symbols and abbreviations are explained on the accompanying key sheet.		Figure	1 of 1 11/08/2020
All dimensions are in metres.	Logged in accordance with BS5930:2015		

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoTP704
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata	Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend
0.00- 0.15	B			TOPSOIL: Grass over firm dark brownish grey slightly sandy clay with many rootlets and roots (up to 15mm thick).	G.L.	1
0.10	D				0.15	
0.10	ES		PID=<0.1			
0.20						
0.30- 0.80	B			MADE GROUND: Stiff grey mottled brown and light orangish brown slightly sandy slightly gravelly clay with a low cobble content of subangular limestone and occasional roots (up to 15mm in thick). Gravel is subangular to subrounded fine to medium limestone.		2
0.30- 0.80	B					
0.50	D					
0.50	HV		Av=123kPa			
0.90	ES		PID=<0.1			
0.90			Av=70kPa			
1.00	HV			Below 0.40m, roots absent.	1.40	
1.40- 1.80	B					3
1.40- 1.80	B			At 0.50m, a rusty nail (40mm in length).		
1.50	D				1.80	
1.50	HV		Av=52kPa			
1.65	ES		PID=<0.1	PROBABLE MADE GROUND: Soft dark grey sandy clay with a moderate organic odour and pockets (up to 400mm in size) of firm brown slights sandy clay with many rootlets.	1.80	
1.65						4
2.00- 2.50	B					
2.00- 2.50	B					
2.00	D			POSSIBLE MADE GROUND: Firm greenish grey slightly sandy CLAY with occasional lenses (up to 30mm thick) of soft bluish grey organic clay with a strong organic odour.	2.60	
2.40	ES		PID=<0.1		2.90	
2.40			Av=62kPa			5
2.50	HV					
2.60- 2.90	B					6
2.60- 2.90	B			Soft to firm brown mottled grey slightly sandy gravelly CLAY with a medium cobble content of subangular limestone and many pockets (up to 0.50m in size) of soft bluish grey organic clay with a strong organic odour. Gravel is angular to subangular fine to coarse limestone.		
2.70	D				3.50	
2.70	ES		PID=<0.1			
2.70						
3.00- 3.50	B					7
3.20	ES		PID=<0.1			
3.20						
3.30	D			Stiff fissured brown slightly sandy CLAY. Fissures are very closely spaced, randomly orientated, locally infilled orangish brown sandy clay (up to 1mm thick).	4.20	
3.80- 4.20	B					
3.80	HV		Av=82kPa			
4.00	D			Stiff fissured grey slightly sandy CLAY. Fissures are very closely spaced, subhorizontal and subvertical, smooth and clean.		
				End of Excavation		

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	13/07/2020	Length (C)	3.30	2.70	2.75	Seepage
Shoring	None.	Date Backfilled	13/07/2020			
Stability	Stable during excavation.					

Remarks		Logged by
ES sample = 2 x vial, 1 x plastic jar and 2 x amber jar		MM
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.		
Backfill details from base of hole: arisings up to ground level.		

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Figure 1 of 1
15/07/2020

geotechnics

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoTP705
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.00- 0.15	B			MADE GROUND: Grey sandy silty gravel with occasional rootlets. Gravel is angular to subangular fine to coarse limestone and sandstone.	G.L.		
0.10	D				0.15		
0.10	ES		PID=<0.1		0.25		
0.10							
0.25- 0.35	B			MADE GROUND: Light grey and brown sandy slightly silty gravel with a medium cobble content of angular brick and concrete. Gravel is angular to subangular fine to coarse limestone and sandstone.	0.80		
0.30	ES		PID=<0.1				
0.30							
0.50	D			MADE GROUND: Dark grey gravelly silty sand. Gravel is angular to subangular fine to coarse clinker, brick and ash.	1.20		
0.80- 1.20	B						
1.00	ES		Av=72kPa PID=<0.1		1.80		
1.00	HV			Firm greenish grey thickly laminated slightly sandy slightly gravelly CLAY with a moderate organic odour and rare pockets (up to 2mm in size) of orangish brown sandy clay. Gravel is angular to subangular fine to coarse mudstone.			
1.00							
1.50	D						
1.80- 2.20	B			Firm greenish grey thickly laminated slightly sandy CLAY with a moderate organic odour and rare pockets (up to 2mm in size) of orangish brown sandy clay.	3.00		
1.80	ES		PID=<0.1 Av=63kPa				
1.80							
2.00	HV						
2.50	D			Firm greenish grey thickly laminated slightly sandy CLAY with a moderate organic odour and rare pockets (up to 2mm in size) of orangish brown sandy clay.			
2.90	D			Firm greenish grey thickly laminated slightly sandy slightly gravelly CLAY with occasional shell fragments (up to 15mm in size), occasional gypsum crystals (up to 2mm in size) and occasional pockets (up to 3mm in size) of orangish brown sandy clay. Gravel is angular to subangular fine to coarse mudstone.			
				End of Excavation			

Excavation				Groundwater		
Plant	JCB 3XC	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	12/08/2020	Length (C)	2.80			
Shoring	None.	Orientation	015 deg			None encountered during excavation.
Stability	Stable during excavation.	Date Backfilled	12/08/2020			

Remarks	ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to ground level.	Logged by	MM
Symbols and abbreviations are explained on the accompanying key sheet.		Figure	1 of 1 17/08/2020
All dimensions are in metres.	Logged in accordance with BS5930:2015		

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoTP706
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata	Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend
0.10	B			MADE GROUND: Brown slightly sandy slightly gravelly silt with many rootlets and roots (up to 3mm in size). Gravel is angular to subangular fine to coarse flint, limestone, quartzite and brick.	G.L.	1
0.10	D				0.15	2
0.10	ES		PID=<0.1		0.50	3
0.10					0.75	4
0.30	B			MADE GROUND: Stiff brown mottled grey slightly sandy slightly gravelly clay with occasional rootlets and roots (up to 3mm in size). Gravel is angular to subangular fine to coarse clinker, limestone, quartzite, slag and brick.		
0.30	D					
0.30	ES		Av=132kPa PID=<0.1 Av=100kPa			
0.30	HV					
0.50	HV					
0.60	B			MADE GROUND: Firm grey mottled brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subangular fine to medium limestone, brick and clinker.	1.30	5
0.60	D				1.50	
0.80	HV		Av=93kPa Av=69kPa			
0.90	HV					
1.00	B			Firm light grey slightly sandy CLAY with many pockets (up to 3mm in size) of grey silt and rare rootlets.		6
1.00	D					
1.00	ES		PID=<0.1			
1.00						
1.40	B			Orangish brown very clayey SAND.		
1.40	D					
1.70	B					
1.70	D					
1.70	ES		PID=<0.1	Firm brown mottled grey slightly sandy CLAY with many pockets (up to 40mm in size) of orangish brown silty sand.	3.00	
1.70						
2.20	D					
2.90	B			End of Excavation		
2.90	D					

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	10/08/2020	Length (C)	2.70			
Shoring	None.	Orientation	210 deg			None encountered during excavation.
Stability	Stable during excavation.	Date Backfilled	10/08/2020			

Remarks		Logged by
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar		EPS
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.		
Backfill details from base of hole: arisings up to ground level.		

Figure 1 of 1
15/08/2020

geotechnics

All dimensions are in metres. Logged in accordance with BS5930:2015

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoTP707
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
				MADE GROUND: Concrete.	G.L.		
0.30	B				0.30		
0.30	D				0.40		
0.30	ES		PID=<0.1	MADE GROUND: Light brown very sandy silty gravel. Gravel is angular to subrounded fine to coarse quartzite.	0.50		
0.30					0.80		
0.70	B			MADE GROUND: Concrete.			
0.70	D						
0.70	ES		PID=<0.1	MADE GROUND: Firm dark greenish grey mottled black slightly sandy slightly gravelly clay with a low cobble content of angular to subangular brick. Gravel is angular to subangular fine to coarse brick.			
0.70				End of Excavation			

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	03/08/2020	Length (C)	2.50	0.50	0.60	See page.
Shoring	None.	Orientation	008 deg			
		Date Backfilled	03/08/2020			
Stability	Stable during excavation.					

Remarks		Logged by
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar		MJ
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.		
The Trial Pit was terminated at a depth of 0.80 m on the instruction of the Engineer due to the close proximity to an service.		
Backfill details from base of hole: arisings up to ground level.		

Symbols and abbreviations are explained on the accompanying key sheet.
 All dimensions are in metres.

Logged in accordance with BS5930:2015

Figure 1 of 1
 10/08/2020

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoTP801
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.00- 0.30	B			MADE GROUND: Grass over firm dark brownish grey slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to subangular fine to coarse brick, concrete and limestone.	G.L.		
0.20	D				0.30		
0.20	ES		PID=<0.1				
0.30- 0.80	B			Firm orangish brown mottled grey slightly sandy CLAY with occasional pockets (up to 120mm in size) of firm brown pseudofibrous peat.	0.90		
0.30- 0.80	B						
0.55	ES		PID=<0.1				
0.55				Between 0.50-0.73m, with a 45 degree lense (1.00m in length by 100mm thick) of firm brown pseudofibrous peat.			
0.60	D		Av=62kPa				
0.60	HV						
1.00- 1.50	B			Firm grey mottled reddish brown slightly sandy CLAY with rare relic rootlets.	2.20		
1.00- 1.50	B						
1.30	ES		PID=<0.1				
1.30				Below 1.40m, becomes grey mottled orangish brown.			
1.50	D		Av=72kPa				
1.50	HV						
2.20- 2.70	B			Stiff fissured grey mottled brown slightly sandy CLAY. Fissures are very closely spaced, subhorizontal, undulating and smooth with occasional brown sandy clay infill (up to 1mm thick).	2.70		
2.50	D						
2.50	HV		Av=83kPa				
				End of Excavation			

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	13/07/2020	Length (C)	3.70	2.00		Seepage
Shoring	None.	Date Backfilled	13/07/2020			
Stability	Stable during excavation.					

Remarks		Logged by
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar		MM
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.		
Backfill details from base of hole: arisings up to ground level.		

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Figure 1 of 1
15/07/2020

geotechnics

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITEDTrial Pit
Project NoTP802
PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.10	B			MADE GROUND: Firm brown slightly sandy slightly gravelly silty with many rootlets and roots (up to 3mm in size). Gravel is angular to subangular fine to coarse limestone, brick and quartzite.	G.L.	1	
0.10	D				0.15	2	
0.10	ES		PID=<0.1 Av=97kPa				
0.20	HV						
0.30	B			MADE GROUND: Firm brown mottled orangish brown slightly sandy slightly gravelly clay with occasional rootlets and roots (up to 3mm in size). Gravel is angular to subangular fine to coarse clinker, limestone, quartzite and brick.			
0.30	D						
0.30	ES		PID=<0.1 Av=134kPa		1.30	3	
0.60	HV			Below 0.50m, with occasional pottery fragments (up to 100mm in size).			
0.80	B						
0.80	D						
0.80	ES		PID=<0.1 Av=103kPa	Firm orangish brown mottled grey slightly sandy CLAY with rare rootlets.			
1.00	HV				2.40	4	
1.50	B						
1.50	D						
1.50	ES		PID=<0.1 Av=74kPa	Firm brown mottled grey slightly sandy CLAY with many pockets (up to 40mm in size) of orangish brown slightly silty sand.			
1.60	HV				3.00		
2.00	D						
2.50	B						
2.50	D						
2.50	HV		Av=68kPa				
2.90	D			End of Excavation			

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	10/08/2020	Length (C)	2.70			
Shoring	None.	Orientation	240 deg			None encountered during excavation.
Stability	Stable during excavation.	Date Backfilled	10/08/2020			

Remarks		Logged by	
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar		EPS	
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.		Figure	1 of 1
Backfill details from base of hole: arisings up to ground level.			17/08/2020

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

geotechnics

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer
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**WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Trial Pit
Project No

TP803
PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED**

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.00- 0.30	B D		PID=<0.1	MADE GROUND: Firm greyish brown slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to subangular fine to coarse brick, limestone and plastic.	G. L.		
0.30- 0.80	B ES		PID=<0.1	MADE GROUND: Stiff brown slightly sandy slightly gravelly clay with rare rootlets and occasional metal fragments (200mm x 200mm x 15mm). Gravel is angular to subangular fine to coarse limestone and slag.	0.30		
0.80- 1.30	D HV B D ES		Av=123kPa PID=<0.1	Stiff orangish brown mottled grey sandy CLAY.	0.80		
1.30- 2.00	B D HV ES		Av=58kPa PID=<0.1	Firm grey mottled orangish brown slightly sandy CLAY with occasional gypsum crystals (up to 2mm in size) and rare pockets (up to 3mm in size) of decomposed organic material.	1.30		
2.00- 2.30	D ES		PID=<0.1	Firm to stiff thickly laminated bluish grey organic CLAY with occasional pockets (up to 80mm in size) of soft organic clay, occasional pockets (up to 50mm in size) of orangish brown sandy clay, occasional gypsum crystals (up to 2mm in size) and occasional shell fragments (up to 20mm in size).	2.40		
2.30- 2.40	B		Av=67kPa				
2.40- 2.50	D HV						
2.50- 3.00	D						
3.00- 3.50	B D HV		Av=78kPa	Stiff bluish grey CLAY with occasional shell fragments (up to 20mm in size) and a medium organic odour.	3.30		
3.50- 4.00	B D HV						
4.00- 4.40	D			End of Excavation	4.50		
Excavation				Groundwater			
Plant JCB 3CX		Width (B) 0.60		Depth Observed	Depth of Pit	Details	
Date 11/08/2020		Length (C) 3.00		3.00	3.00	Seepage.	
Shoring None.		Orientation 020 deg					
Stability Stable during excavation.		Date Backfilled 11/08/2020					
Remarks ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to ground level.				Logged by MM Figure 1 of 1 17/08/2020 			

Form INS009 Rev 7

Trial Pit	TP825
Test No	I
Project No	PC207899
Date	15/07/2020

The diagram illustrates a trial pit soakaway. It shows a rectangular pit with a water level (WL) indicated by a horizontal line with a small circle. The ground level (GL) is shown at the top of the pit walls. The total depth of the pit is labeled as 'Total depth' with a vertical double-headed arrow. The effective depth, which is the depth from the water level to the bottom of the pit, is labeled as 'Effective depth' with a vertical double-headed arrow.

Trial pit length	=	2.700 m
Trial pit width	=	0.600 m
Trial pit depth	=	2.500 m
Effective depth (Head of Water)	=	0.850 m

Initial depth from GL	=	1.650m	
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	0.638	1.863	0.00
25%	0.213	2.288	0.00
Vp75-25	=	0.689	m3
ap50	=	4.425	m2
tp75-25	=	0.000	min
Soil Infiltration, f	=	#DIV/0!	m/sec

Porosity of Gravel Fill if used (%) = x

Remarks

INSITU TESTING - Soakaway Test

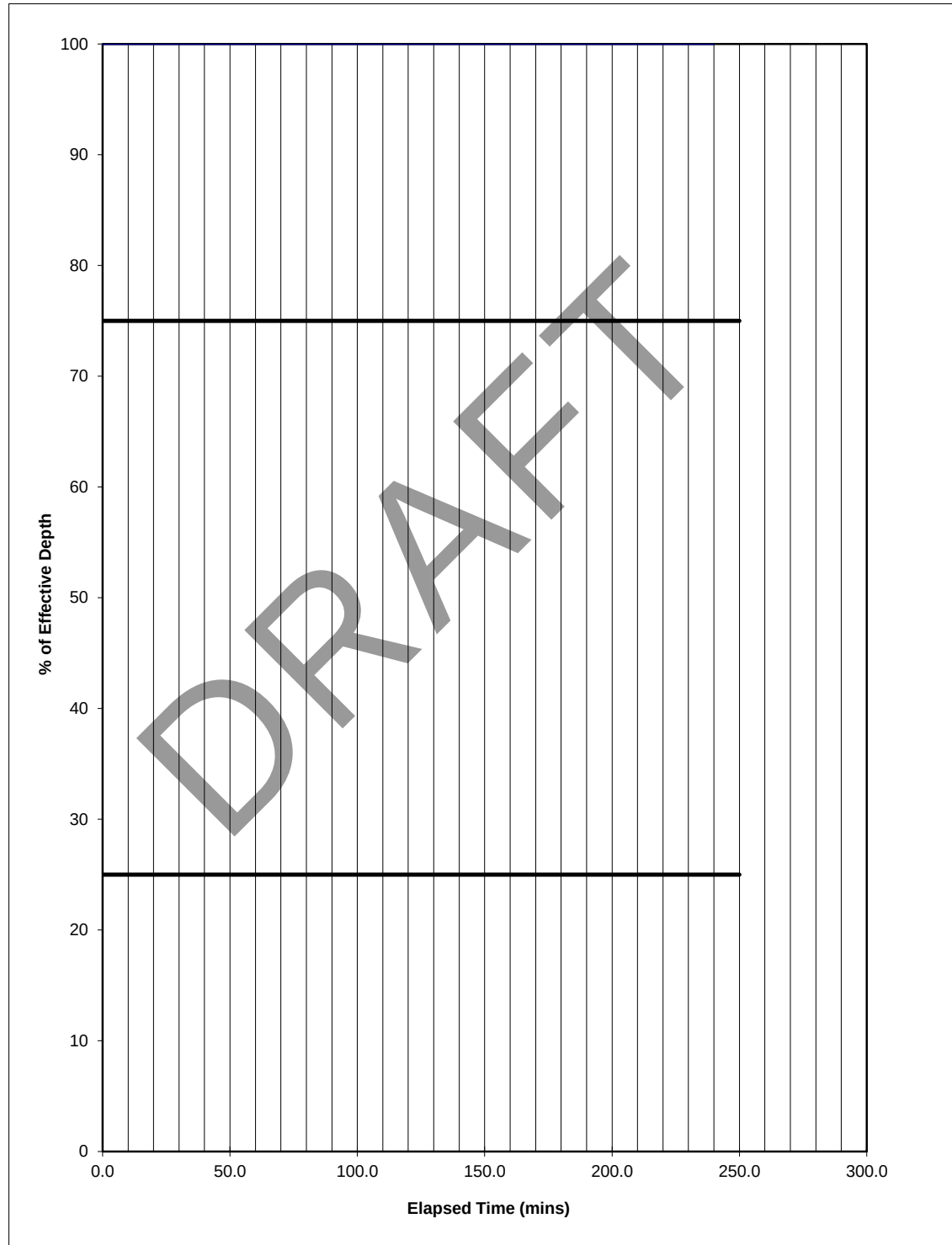
Form INS009 Rev 7

Project Ground Investigation for Graven Hill, Bicester, Land Transfer Area 2 (LTA2)

Trial Pit
Test No
Project No
Date

TP825
I
PC207899
15/07/2020

Client Graven Hill Village Development Company Limited



tp75	=
tp25	=

Sheet 2

Remarks

Project GRAVEN HILL, BICESTER, LAND TRANSFER Engineer

WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED

Trial Pit Project No

TP825 PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.00- 0.20	B			MADE GROUND: Firm dark grey slightly sandy slightly gravelly clay with many rootlets and occasional roots (up to 6mm in diameter). Gravel is angular to subrounded fine to coarse sandstone, limestone and brick fragments.	G.L.		
0.10	D				0.20		
0.10	ES		PID=<0.1		0.50		
0.20- 0.50	B			MADE GROUND: Firm brown mottled grey slightly sandy slightly gravelly clay with frequent lenses (up to 120mm thick) of black sandy ash, a low cobble content of limestone, and occasional rootlets and roots (up to 6mm in diameter). Gravel is angular to subangular fine to coarse limestone.	0.80		
0.20	D				1.10		
0.30	ES		PID=<0.1		2.00		
0.40	B			MADE GROUND: Stiff brown mottled grey slightly sandy slightly gravelly clay. Gravel is angular fine to medium brick fragments, limestone and occasional shell fragments.	2.50		
0.55- 0.80	HV		Av=120kPa				
0.70	D						
0.80- 1.10	B			Stiff locally fissured purplish grey mottled brown slightly sandy CLAY with occasional shells (up to 15mm in size). Fissures are very closely to closely spaced, randomly orientated, smooth and polished.			
1.00	HV		Av=103kPa				
1.10- 1.50	B						
1.20	ES			Firm to stiff brown mottled grey slightly sandy slightly gravelly calcareous CLAY with occasional shell fragments (up to 15mm in size). Gravel is angular to subangular fine to medium limestone.			
1.20	D		PID=<0.1				
1.30	HV		Av=85kPa				
1.50	ES			Firm to stiff grey mottled light grey and brown slightly sandy slightly gravelly calcareous CLAY with occasional shells (up to 20mm in size), occasional pockets (up to 200mm in size) of firm orangish brown sandy clay, and rare lenses (up to 20mm thick) of firm dark grey pseudofibrous peat.			
1.80	D		PID=<0.1				
1.90	B						
2.00- 2.50	HV		Av=87kPa	End of Excavation			
2.20	D						
2.40							

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	15/07/2020	Length (C)	2.70			
Shoring	None.	Orientation	090 deg			None encountered during excavation.
Stability	Stable during excavation.	Date Backfilled	15/07/2020			

Remarks	ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.	Logged by	MM
Symbols and abbreviations are explained on the accompanying key sheet.		Figure	1 of 1 17/07/2020
All dimensions are in metres.	Logged in accordance with BS5930:2015		

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer
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**WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Trial Pit
Project No

TP829
PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED**

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.20	B			MADE GROUND: Dark brown slightly sandy slightly gravelly silt with many rootlets and occasional roots (up to 6mm in size). Gravel is angular to subrounded fine to coarse quartzite and flint.	G.L.		
0.20	D				0.25		
0.20	ES		PID=<0.1		0.35		
0.20	B			PROBABLE MADE GROUND: Firm light grey light brown slightly sandy slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse quartzite.			
0.50	D						
0.50	ES		Av=61kPa PID=<0.1				
0.50	HV						
0.50	B			Firm light grey mottled light brown slightly sandy CLAY with many calcite concretions (up to 10mm in size).			
1.00	D						
1.00	ES		Av=72kPa PID=<0.1		1.90		
1.00	HV			Below 0.80m, becomes dark grey with occasional pockets (up to 4mm in size) of grey silt, occasional pockets (up to 20mm in size) decomposed organic material, occasional shell fragments (up to 25mm in size) and many relict rootlets			
1.00	B						
2.00	D						
2.00	HV		Av=84kPa				
2.00	B			Stiff dark grey mottled brown sandy CLAY with many shell fragments (up to 20mm in size) and occasional pockets (up to 20mm in size) of decomposed organic material.	2.80		
2.50	D				3.00		
3.00	B			Stiff grey slightly sandy CLAY with many shell fragments (up to 80mm in size).			
3.00	D						
				End of Excavation			

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	07/08/2020	Length (C)	3.00			
Shoring	None.	Orientation	086 deg			None encountered during excavation.
Stability	Stable during excavation.	Date Backfilled	07/08/2020			

Remarks		Logged by	
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar		MJ	
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.		Figure	1 of 1
Backfill details from base of hole: arisings up to ground level.			13/08/2020

13/08/2020

Project **GRAVEN HILL, BICESTER, LAND TRANSFER** Engineer
AREA 2 (LTA2)

**WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Trial Pit
Project No

TP830
PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED**

Samples and Tests				Strata		Scale 1:50	
Depth	Type	Stratum No	Results	Description	Depth	Legend	
0.05 0.05 0.46	ES EW		PID=<0.1	MADE GROUND: Asphalt. MADE GROUND: Concrete. MADE GROUND: Grey sandy silty gravel. Gravel is subangular to subrounded fine to coarse quartzite. End of Excavation	G.L. 0.10 0.30 0.50	1 2 3	

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	07/08/2020	Length (C)	2.10			
Shoring	None.	Orientation	184 deg	0.50	0.50	Fast inflow.
Stability	Stable during excavation.					
		Date Backfilled	07/08/2020			

Remarks	ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Symbols and abbreviations are	Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
	Backfill details from base of hole: arisings up to 0.10m, asphalt up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Logged by MJ

Figure 1 of 1
12/08/2020

geotechnics

Appendix C

Geotechnical Testing Results

- **EAR Geotech Results (In-Situ and Laboratory)**

In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC701

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 458525.0 E, 219895.5 N

Ground Level 67.62 m OD

Test No. 1

Test Date 16/07/2020

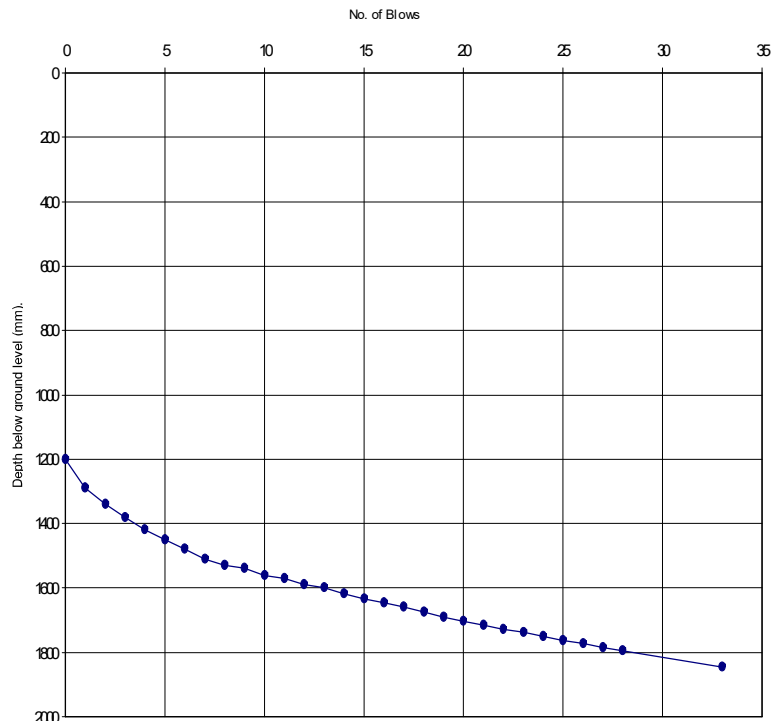
Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	280	1200
1	1	1	370	1290
1	2	1	420	1340
1	3	1	460	1380
1	4	1	500	1420
1	5	1	530	1450
1	6	1	560	1480
1	7	1	590	1510
1	8	1	610	1530
1	9	1	620	1540
1	10	1	640	1560
1	11	1	650	1570
1	12	1	670	1590
1	13	1	680	1600
1	14	1	698	1618
1	15	1	712	1632
1	16	1	726	1646
1	17	1	740	1660
1	18	1	755	1675
1	19	1	770	1690
1	20	1	784	1704

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
1	21	1	796	1716
1	22	1	808	1728
1	23	1	818	1738
1	24	1	831	1751
1	25	1	844	1764
1	26	1	854	1774
1	27	1	865	1785
1	28	1	874	1794
5	33	1	925	1845

Test Started at	1.20 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	280

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
1200	1290	0	1	90	2.6
1290	1380	1	3	45	5.4
1380	1480	3	6	33	7.4
1480	1530	6	8	25	10.1
1530	1600	8	13	35	7.0
1600	1704	13	20	15	17.4
1704	1845	20	33	11	24.3



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC702

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 458644.7 E, 219888.9 N

Ground Level 67.87 m OD

Test No. 1

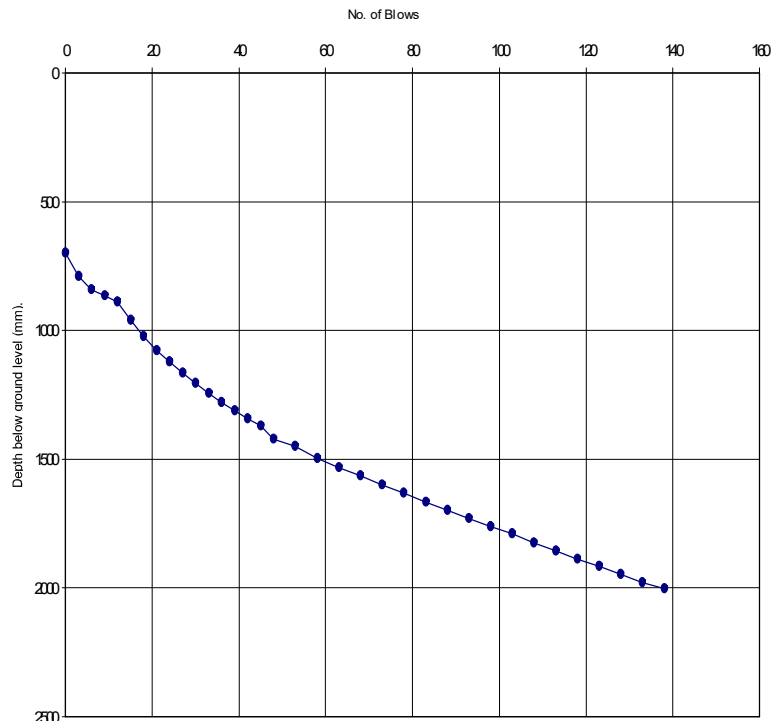
Test Date 16/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	150	700	5	73	2	250	1600
3	3	1	240	790	5	78	2	282	1632
3	6	1	290	840	5	83	2	316	1666
3	9	1	315	865	5	88	2	350	1700
3	12	1	340	890	5	93	2	380	1730
3	15	1	410	960	5	98	2	410	1760
3	18	1	473	1023	5	103	2	440	1790
3	21	1	528	1078	5	108	2	475	1825
3	24	1	571	1121	5	113	2	508	1858
3	27	1	614	1164	5	118	2	536	1886
3	30	1	655	1205	5	123	2	566	1916
3	33	1	694	1244	5	128	2	597	1947
3	36	1	729	1279	5	133	2	630	1980
3	39	1	762	1312	5	138	2	652	2002
3	42	1	794	1344					
3	45	1	821	1371					
3	48	1	870	1420					
5	53	2	100	1450					
5	58	2	145	1495					
5	63	2	182	1532					
5	68	2	214	1564					

Test Started at	0.70 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	150
2	70

Depth bgl (mm)		Blows No.		DCP mm/blow	CBR %
Top	Base	Top	Base		
700	790	0	3	30	8.3
790	840	3	6	17	15.4
840	890	6	12	8	32.1
890	1023	12	18	22	11.4
1023	1205	18	30	15	17.1
1205	1371	30	45	11	23.8
1371	1420	45	48	16	15.8
1420	1495	48	58	8	35.9
1495	1790	58	103	7	41.4
1790	2002	103	138	6	45.0



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC703

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 458746.9 E, 219897.8 N

Ground Level 69.96 m OD

Test No. 1

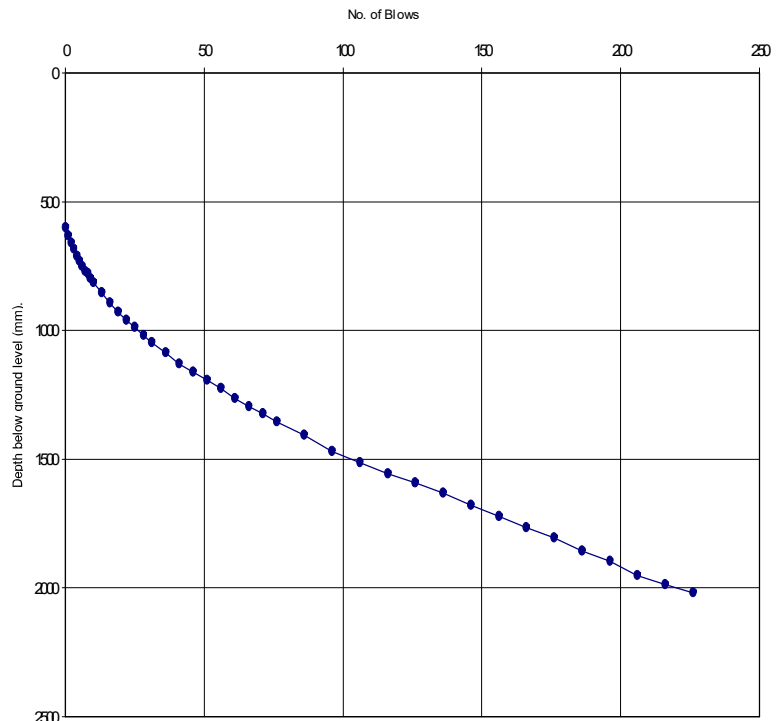
Test Date 16/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	25	600	5	51	1	618	1193
1	1	1	57	632	5	56	1	650	1225
1	2	1	84	659	5	61	1	690	1265
1	3	1	110	685	5	66	1	720	1295
1	4	1	136	711	5	71	1	750	1325
1	5	1	157	732	5	76	1	778	1353
1	6	1	174	749	10	86	1	830	1405
1	7	1	195	770	10	96	2	85	1470
1	8	1	205	780	10	106	2	128	1513
1	9	1	224	799	10	116	2	170	1555
1	10	1	238	813	10	126	2	205	1590
3	13	1	280	855	10	136	2	247	1632
3	16	1	318	893	10	146	2	294	1679
3	19	1	354	929	10	156	2	338	1723
3	22	1	384	959	10	166	2	379	1764
3	25	1	414	989	10	176	2	420	1805
3	28	1	445	1020	10	186	2	470	1855
3	31	1	472	1047	10	196	2	510	1895
5	36	1	512	1087	10	206	2	565	1950
5	41	1	555	1130	10	216	2	602	1987
5	46	1	588	1163	10	226	2	635	2020

Test Started at	0.60 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	25
2	20

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
600	732	0	5	26	9.5
732	929	5	19	14	18.5
929	1130	19	41	9	29.1
1130	1265	41	61	7	40.1
1265	1470	61	96	6	46.6
1470	1590	96	126	4	69.8
1590	1855	126	186	4	62.8
1855	2020	186	226	4	67.5



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC704

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 458838.7 E, 219917.6 N

Ground Level 70.67 m OD

Test No. 1

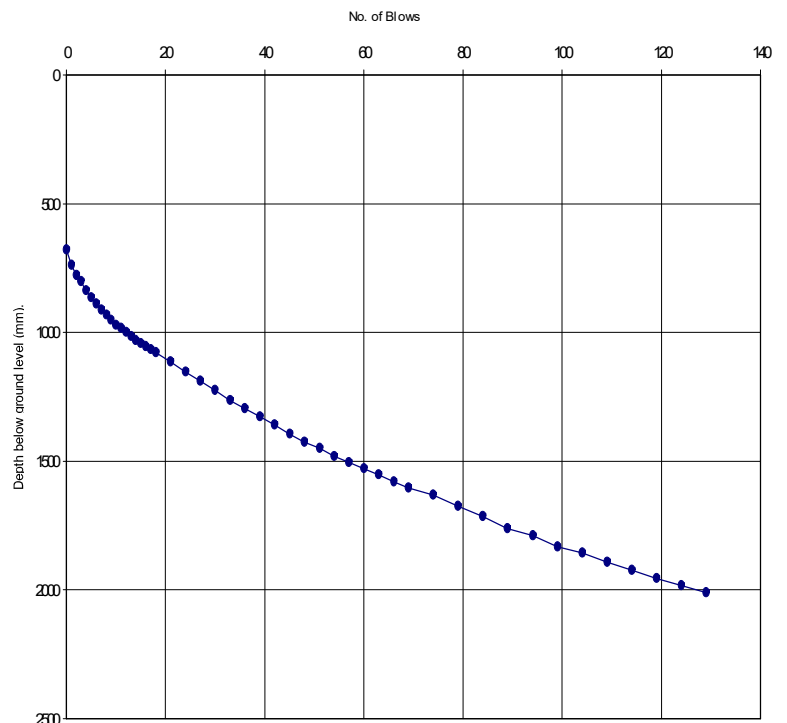
Test Date 17/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	10	680	3	27	1	519	1189	5	104	2	396	1856
1	1	1	68	738	3	30	1	554	1224	5	109	2	432	1892
1	2	1	108	778	3	33	1	592	1262	5	114	2	464	1924
1	3	1	132	802	3	36	1	627	1297	5	119	2	495	1955
1	4	1	169	839	3	39	1	657	1327	5	124	2	522	1982
1	5	1	193	863	3	42	1	690	1360	5	129	2	550	2010
1	6	1	219	889	3	45	1	723	1393					
1	7	1	243	913	3	48	1	754	1424					
1	8	1	261	931	3	51	1	781	1451					
1	9	1	280	950	3	54	1	810	1480					
1	10	1	300	970	3	57	2	46	1506					
1	11	1	314	984	3	60	2	70	1530					
1	12	1	331	1001	3	63	2	93	1553					
1	13	1	346	1016	3	66	2	118	1578					
1	14	1	360	1030	3	69	2	145	1605					
1	15	1	371	1041	5	74	2	170	1630					
1	16	1	384	1054	5	79	2	214	1674					
1	17	1	396	1066	5	84	2	253	1713					
1	18	1	409	1079	5	89	2	303	1763					
3	21	1	444	1114	5	94	2	330	1790					
3	24	1	482	1152	5	99	2	371	1831					

Test Started at	0.68 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	10
2	20

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
680	863	0	5	37	6.7
863	984	1	11	12	21.7
984	1224	11	30	13	20.7
1224	1506	30	57	10	25.3
1506	1630	57	74	7	37.0
1630	1831	74	99	13	19.4
1831	2010	99	129	6	45.7



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC705

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 458939.5 E, 219937.2 N

Ground Level 70.15 m OD

Test No. 1

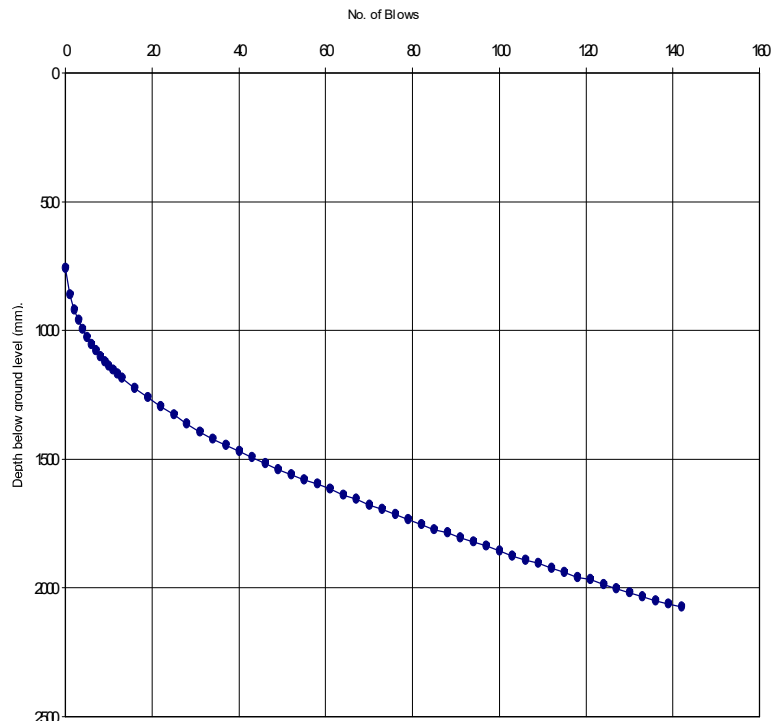
Test Date 17/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	100	760	3	37	1	786	1446	3	100	2	396	1856
1	1	1	202	862	3	40	1	808	1468	3	103	2	415	1875
1	2	1	260	920	3	43	1	832	1492	3	106	2	431	1891
1	3	1	301	961	3	46	1	855	1515	3	109	2	445	1905
1	4	1	335	995	3	49	2	79	1539	3	112	2	462	1922
1	5	1	365	1025	3	52	2	100	1560	3	115	2	480	1940
1	6	1	393	1053	3	55	2	118	1578	3	118	2	497	1957
1	7	1	418	1078	3	58	2	137	1597	3	121	2	508	1968
1	8	1	442	1102	3	61	2	157	1617	3	124	2	525	1985
1	9	1	462	1122	3	64	2	179	1639	3	127	2	542	2002
1	10	1	479	1139	3	67	2	194	1654	3	130	2	557	2017
1	11	1	495	1155	3	70	2	220	1680	3	133	2	574	2034
1	12	1	510	1170	3	73	2	235	1695	3	136	2	590	2050
1	13	1	525	1185	3	76	2	255	1715	3	139	2	603	2063
3	16	1	564	1224	3	79	2	274	1734	3	142	2	615	2075
3	19	1	601	1261	3	82	2	293	1753					
3	22	1	635	1295	3	85	2	313	1773					
3	25	1	667	1327	3	88	2	326	1786					
3	28	1	702	1362	3	91	2	344	1804					
3	31	1	733	1393	3	94	2	362	1822					
3	34	1	762	1422	3	97	2	378	1838					

Test Started at	0.76 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	100
2	55

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
760	920	0	2	80	2.9
920	1053	2	6	33	7.4
1053	1185	6	13	19	13.5
1185	1393	13	31	12	22.7
1393	1515	31	46	8	32.9
1515	1753	46	82	7	41.0
1753	1856	82	100	6	47.8
1856	2075	100	142	5	52.7



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC706

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 459032.2 E, 219956.2 N

Ground Level 69.94 m OD

Test No. 1

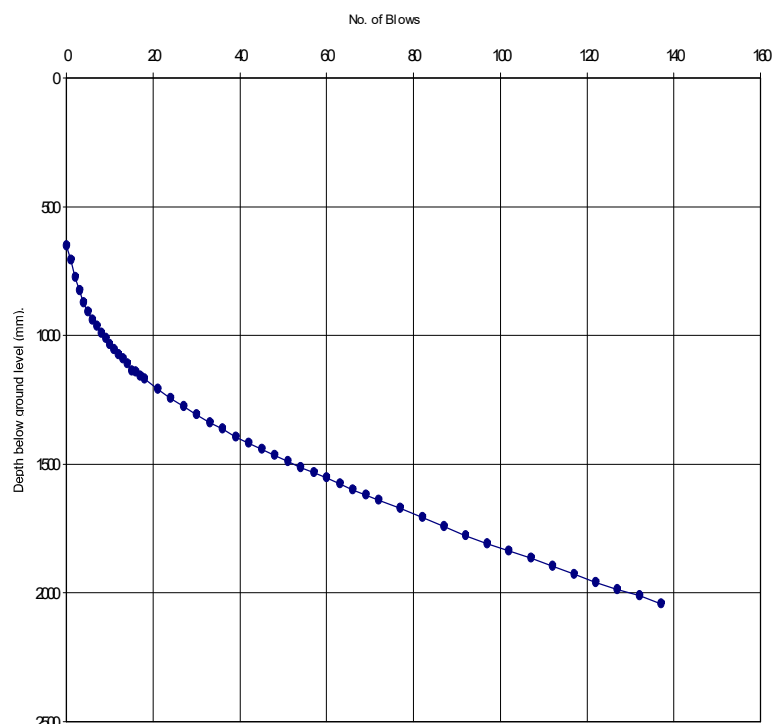
Test Date 17/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	32	650	3	27	1	657	1275	5	102	2	402	1835
1	1	1	87	705	3	30	1	689	1307	5	107	2	433	1866
1	2	1	156	774	3	33	1	719	1337	5	112	2	464	1897
1	3	1	208	826	3	36	1	745	1363	5	117	2	495	1928
1	4	1	254	872	3	39	1	775	1393	5	122	2	525	1958
1	5	1	290	908	3	42	1	800	1418	5	127	2	553	1986
1	6	1	320	938	3	45	1	823	1441	5	132	2	578	2011
1	7	1	347	965	3	48	1	846	1464	5	137	2	608	2041
1	8	1	374	992	3	51	1	871	1489					
1	9	1	395	1013	3	54	2	78	1511					
1	10	1	416	1034	3	57	2	100	1533					
1	11	1	437	1055	3	60	2	120	1553					
1	12	1	455	1073	3	63	2	144	1577					
1	13	1	474	1092	3	66	2	165	1598					
1	14	1	491	1109	3	69	2	185	1618					
1	15	1	518	1136	3	72	2	205	1638					
1	16	1	523	1141	5	77	2	239	1672					
1	17	1	538	1156	5	82	2	273	1706					
1	18	1	550	1168	5	87	2	308	1741					
3	21	1	591	1209	5	92	2	343	1776					
3	24	1	625	1243	5	97	2	374	1807					

Test Started at	0.65 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	32
2	56

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
650	908	0	5	52	4.7
908	992	5	8	28	8.9
992	1109	8	14	20	13.1
1109	1141	14	16	16	16.1
1141	1307	16	30	12	22.1
1307	1489	30	51	9	30.8
1489	1807	51	97	7	39.1
1807	2041	97	137	6	46.7



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC707

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 459124.0 E, 219983.1 N

Ground Level 70.37 m OD

Test No. 1

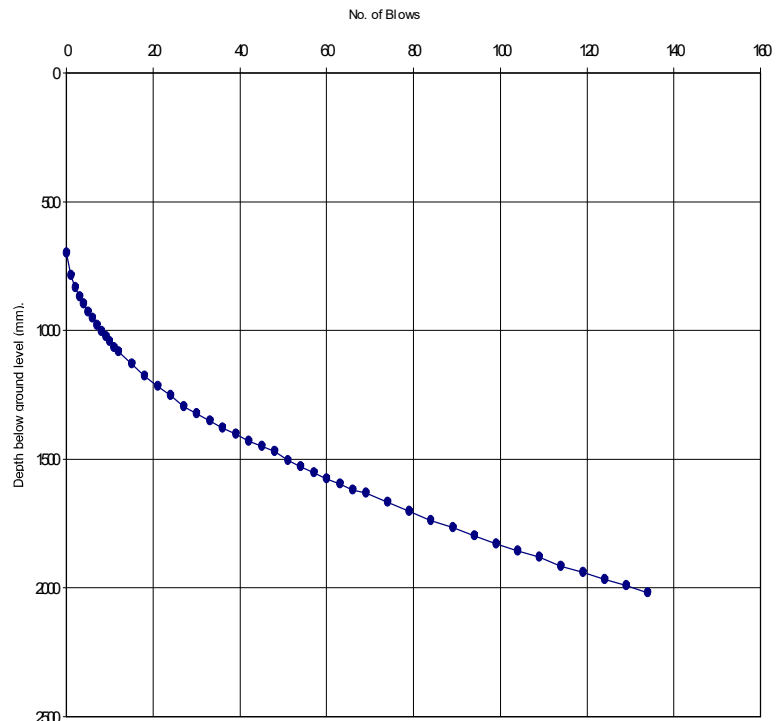
Test Date 17/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	100	700	3	39	1	802	1402	5	124	2	586	1965
1	1	1	184	784	3	42	1	828	1428	5	129	2	612	1991
1	2	1	233	833	3	45	1	849	1449	5	134	2	640	2019
1	3	1	270	870	3	48	2	90	1469					
1	4	1	297	897	3	51	2	127	1506					
1	5	1	328	928	3	54	2	151	1530					
1	6	1	353	953	3	57	2	173	1552					
1	7	1	379	979	3	60	2	196	1575					
1	8	1	402	1002	3	63	2	218	1597					
1	9	1	423	1023	3	66	2	239	1618					
1	10	1	443	1043	3	69	2	252	1631					
1	11	1	465	1065	5	74	2	289	1668					
1	12	1	482	1082	5	79	2	323	1702					
3	15	1	531	1131	5	84	2	357	1736					
3	18	1	577	1177	5	89	2	388	1767					
3	21	1	617	1217	5	94	2	417	1796					
3	24	1	651	1251	5	99	2	448	1827					
3	27	1	694	1294	5	104	2	478	1857					
3	30	1	723	1323	5	109	2	499	1878					
3	33	1	751	1351	5	114	2	536	1915					
3	36	1	777	1377	5	119	2	562	1941					

Test Started at	0.70 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	100
2	70

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
700	833	0	2	67	3.6
833	979	2	7	29	8.5
979	1131	7	15	19	13.4
1131	1294	15	27	14	19.2
1294	1428	27	42	9	29.8
1428	1618	42	66	8	33.9
1618	1702	66	79	6	42.0
1702	1857	79	104	6	43.9
1857	2019	104	134	5	50.8



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC708

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 459219.9 E, 220017.4 N

Ground Level 70.54 m OD

Test No. 1

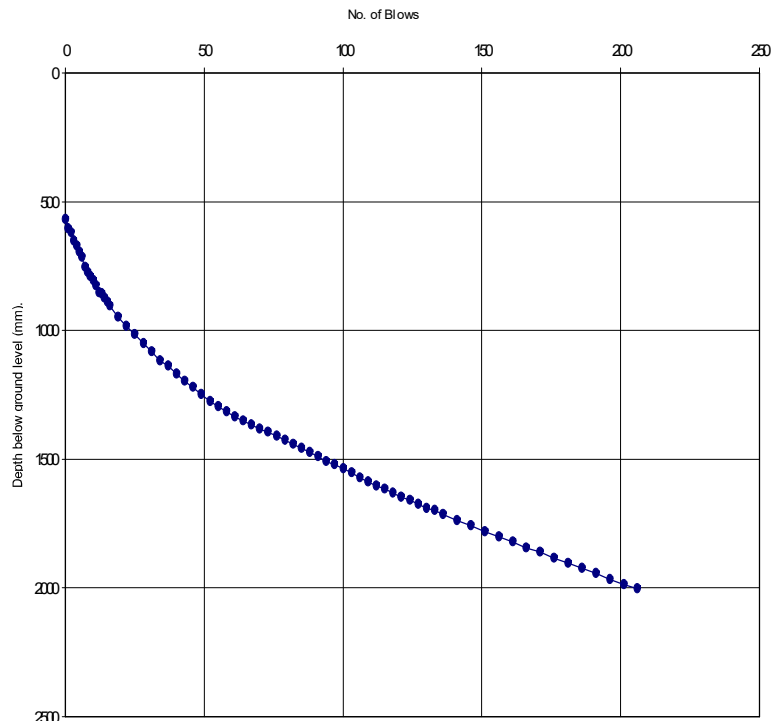
Test Date 20/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	0	570	3	31	1	512	1082	3	94	2	133	1507
1	1	1	33	603	3	34	1	548	1118	3	97	2	148	1522
1	2	1	52	622	3	37	1	568	1138	3	100	2	164	1538
1	3	1	82	652	3	40	1	600	1170	3	103	2	180	1554
1	4	1	103	673	3	43	1	626	1196	3	106	2	199	1573
1	5	1	124	694	3	46	1	651	1221	3	109	2	213	1587
1	6	1	146	716	3	49	1	678	1248	3	112	2	228	1602
1	7	1	185	755	3	52	1	704	1274	3	115	2	242	1616
1	8	1	205	775	3	55	1	724	1294	3	118	2	256	1630
1	9	1	220	790	3	58	1	744	1314	3	121	2	271	1645
1	10	1	237	807	3	61	1	765	1335	3	124	2	286	1660
1	11	1	256	826	3	64	1	781	1351	3	127	2	300	1674
1	12	1	283	853	3	67	1	797	1367	3	130	2	315	1689
1	13	1	287	857	3	70	1	813	1383	3	133	2	326	1700
1	14	1	304	874	3	73	1	823	1393	3	136	2	340	1714
1	15	1	320	890	3	76	1	838	1408	5	141	2	363	1737
1	16	1	336	906	3	79	1	854	1424	5	146	2	382	1756
3	19	1	376	946	3	82	2	69	1443	5	151	2	406	1780
3	22	1	413	983	3	85	2	85	1459	5	156	2	428	1802
3	25	1	446	1016	3	88	2	101	1475	5	161	2	448	1822
3	28	1	480	1050	3	91	2	116	1490	5	166	2	471	1845

Test Started at	0.57 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	0
2	50

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
570	755	0	7	26	9.5
755	983	7	22	15	17.0
983	1118	22	34	11	23.4
1118	1248	34	49	9	30.8
1248	1314	49	58	7	36.8
1314	1573	58	106	5	50.8
1573	1689	106	130	5	57.1
1689	2004	130	206	4	67.2



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC708

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 459219.9 E, 220017.4 N

Ground Level 70.54 m OD

Test No. 1

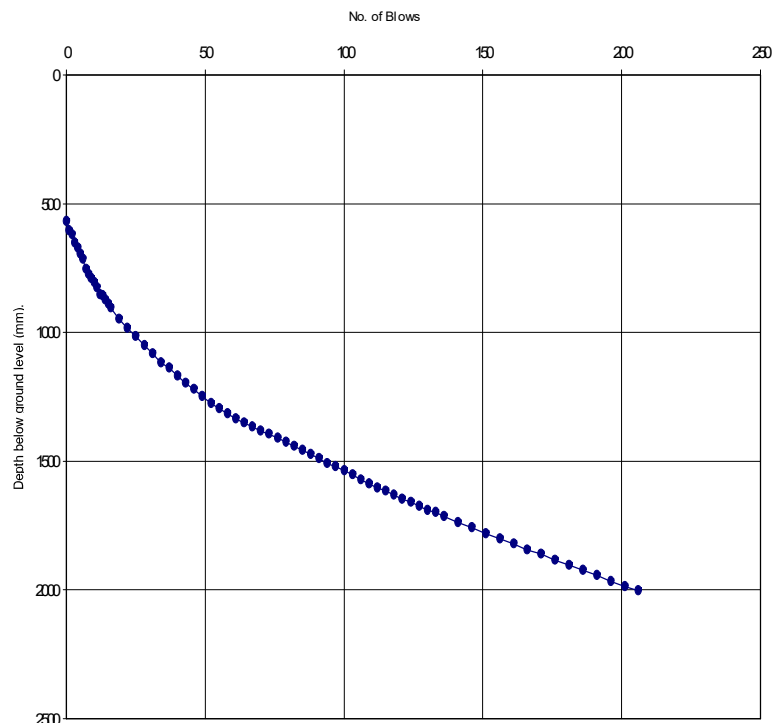
Test Date 20/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
5	171	2	487	1861
5	176	2	508	1882
5	181	2	529	1903
5	186	2	548	1922
5	191	2	570	1944
5	196	2	592	1966
5	201	2	611	1985
5	206	2	630	2004

Test Started at	0.57 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	0
2	50

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
570	755	0	7	26	9.5
755	983	7	22	15	17.0
983	1118	22	34	11	23.4
1118	1248	34	49	9	30.8
1248	1314	49	58	7	36.8
1314	1573	58	106	5	50.8
1573	1689	106	130	5	57.1
1689	2004	130	206	4	67.2



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC710

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 459398.4 E, 220105.3 N

Ground Level 71.04 m OD

Test No. 1

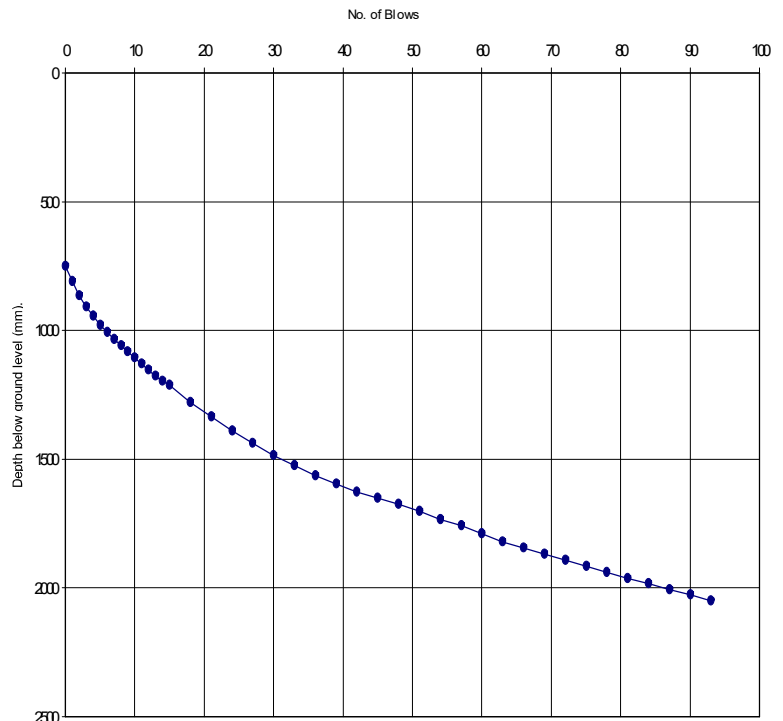
Test Date 20/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	50	750	3	33	1	826	1526
1	1	1	111	811	3	36	1	865	1565
1	2	1	163	863	3	39	2	92	1597
1	3	1	210	910	3	42	2	121	1626
1	4	1	244	944	3	45	2	146	1651
1	5	1	280	980	3	48	2	171	1676
1	6	1	308	1008	3	51	2	198	1703
1	7	1	334	1034	3	54	2	228	1733
1	8	1	358	1058	3	57	2	252	1757
1	9	1	382	1082	3	60	2	286	1791
1	10	1	405	1105	3	63	2	314	1819
1	11	1	430	1130	3	66	2	339	1844
1	12	1	452	1152	3	69	2	364	1869
1	13	1	476	1176	3	72	2	388	1893
1	14	1	497	1197	3	75	2	411	1916
1	15	1	514	1214	3	78	2	434	1939
3	18	1	581	1281	3	81	2	457	1962
3	21	1	634	1334	3	84	2	477	1982
3	24	1	690	1390	3	87	2	500	2005
3	27	1	738	1438	3	90	2	522	2027
3	30	1	786	1486	3	93	2	544	2049

Test Started at	0.75 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	50
2	60

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
750	910	0	3	53	4.5
910	1034	3	7	31	8.0
1034	1130	7	11	24	10.5
1130	1214	11	15	21	12.1
1214	1438	15	27	19	13.7
1438	1565	27	36	14	18.4
1565	1626	36	42	10	26.0
1626	1844	42	66	9	29.3
1844	2049	66	93	8	35.4



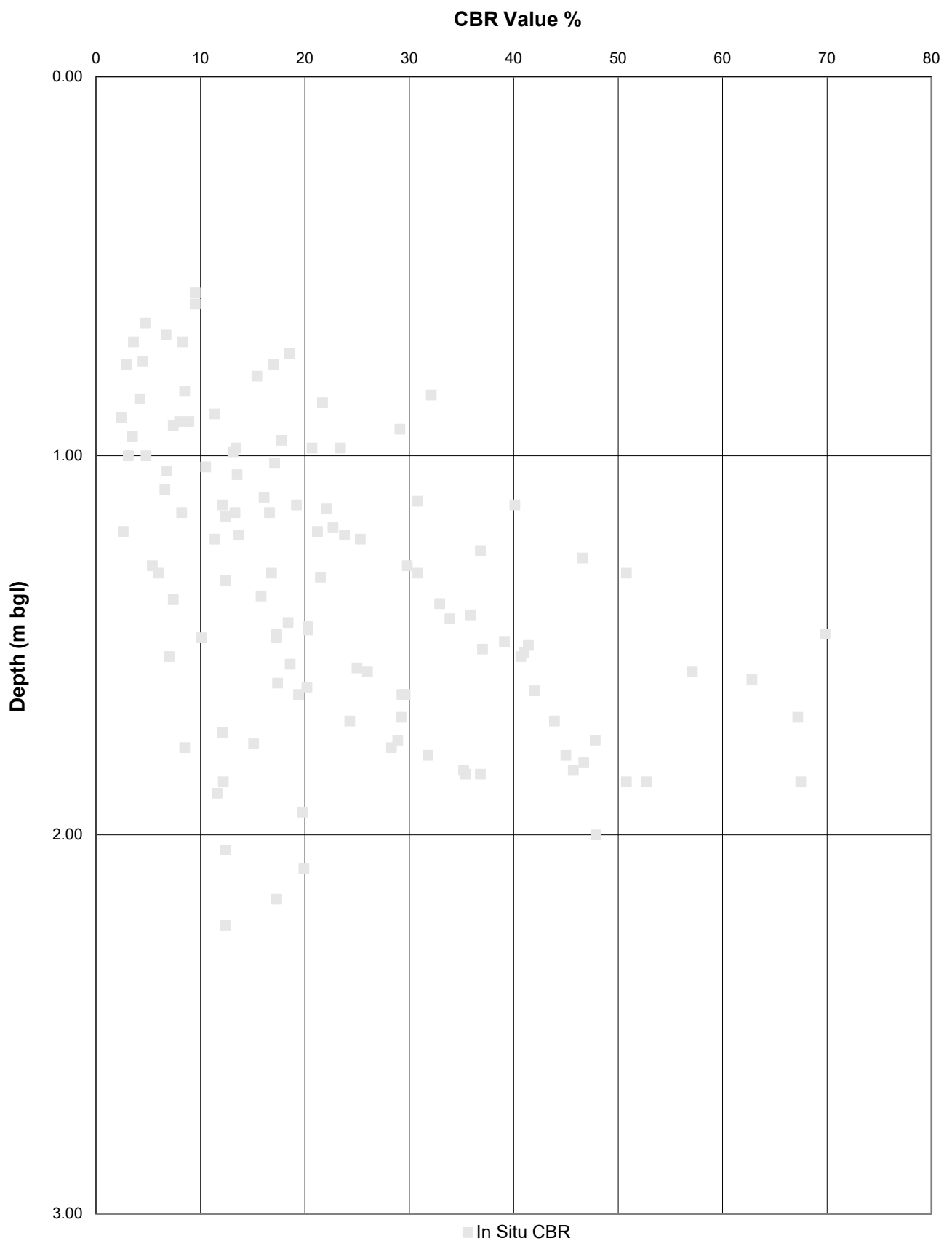
Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

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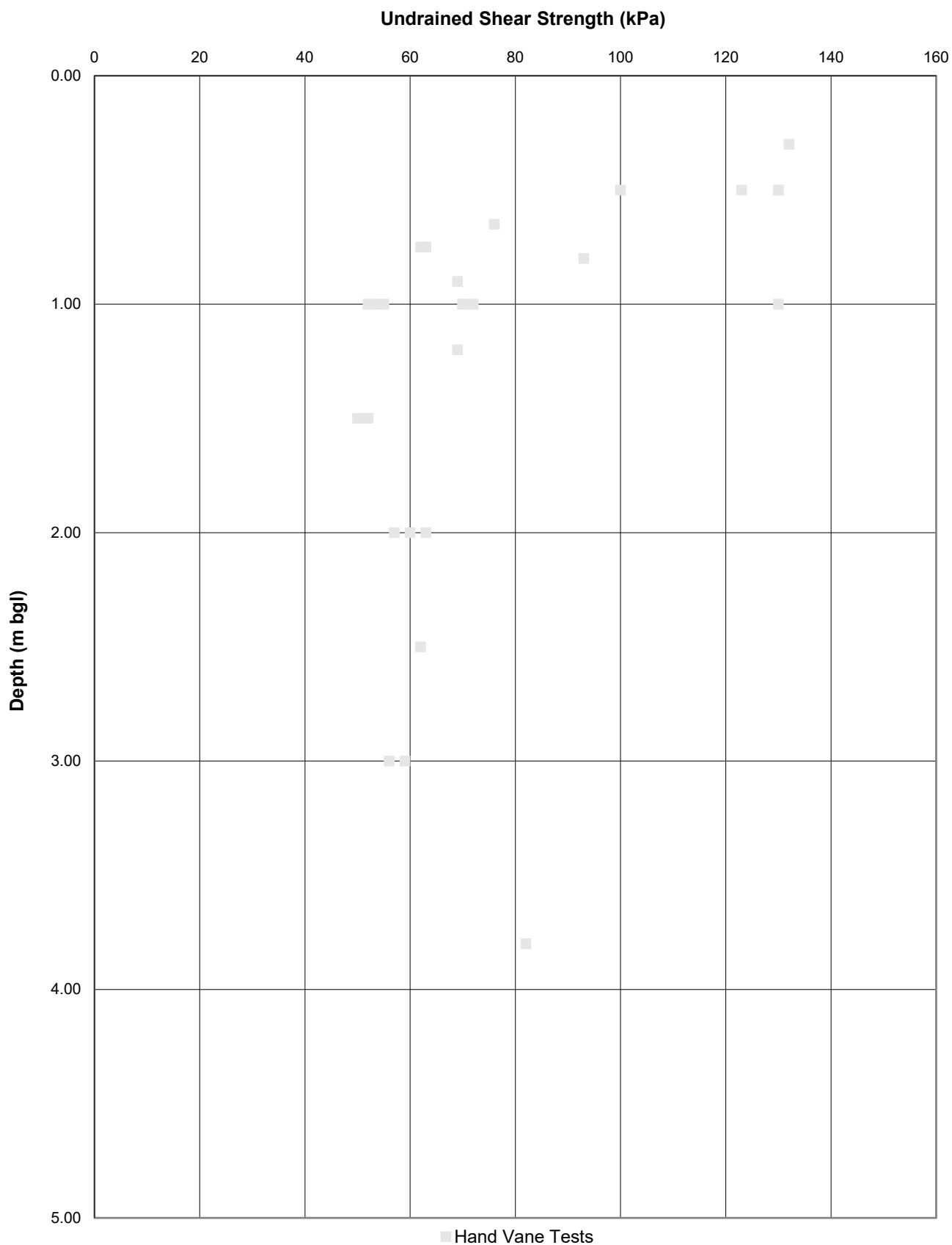


Phase 7

Job No PC207899
Date 01/07/2021
Figure 5.6

GRAVEN HILL, BICESTER, LAND
 TRANSFER AREA 2 (LTA2)
 Plot of In Situ CBR - Depth Profile

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Phase 7

Job No PC207899
Date 01/07/2021
Figure 11.6

GRAVEN HILL, BICESTER, LAND
 TRANSFER AREA 2 (LTA2)
 Plot of Undrained Shear Strength - Depth
 Profile

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LABORATORY RESULTS - Classification and Strength

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Classification					Strength					
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Symbol	I_p (>425) %	w_L %	w_p %	w (p_d) %	Test	γ_b (γ_d) Mg/m ³	σ_3 kN/m ²	$\sigma_1 - \sigma_3$ kN/m ²	C_u kN/m ²	C_{Avg} kN/m ²
BH317	2.00 (2.00)	D	C45876	Orangish brown mottled grey slightly sandy CLAY,	CI	29 (14%)	50	21	28.5						
BH318	2.40- 2.85 (2.40)	D	C42519	Dark greenish grey CLAY.	CH	42 (5%)	63	21	27.1						
BH318	3.40- 3.85 (3.60)	UT	C42344	Dark greenish grey CLAY.					37.5 <34.2>	SS	1.82	70	73	36	36
BH319	1.00- 1.10 (1.00)	D	C42534	Light brown slightly sandy CLAY.	CH	32 (3%)	54	22	23.1						
BH319	2.20- 2.65 (2.20)	UT	C42346	Light brown slightly sandy CLAY.					35.7 <33.3>	SS	1.80	50	54	27	27
BH401	1.00- 1.10 (1.00)	D	C45021	Orangish brown slightly sandy CLAY.	CH	45 (2%)	68	23	24.0						
BH401	1.20- 1.65 (1.20)	UT	C44742	Orangish brown slightly sandy CLAY.					24.2 <22.9>	SS	2.06	30	208	104	104
BH401	3.20- 3.65 (3.45)	UT	C44374	Light orangish brown slightly sandy slightly gravelly CLAY.					23.1 23.1 23.1	MS	1.96 1.96 1.96	50 100 150	263 263 257	131 131 128	130
BH401	5.30- 5.75 (5.55)	UT	C44373	Light orangish brown slightly sandy slightly gravelly CLAY.					26.6 <23.2>	SS	1.95	110	241	120	120
BH402	0.50- 0.60 (0.50)	D	C45465	Light brownish slightly sandy CLAY.	CH	44 (2%)	69	25	25.5						
BH402	1.70- 2.15 (1.95)	UT	C44745	Orangish brown slightly sandy CLAY.					32.7 <40.1>	SS	1.85	30	79	39	39
BH402	3.70- 4.15 (3.95)	UT	C44743	Dark greyish brown slightly sandy CLAY.					28.6 <24.5>	SS	1.92	80	232	116	116
BH403	3.00- 3.45 (3.00)	UT	C45363	Orangish brown slightly sandy CLAY. (See Test Remarks Sheet for further information)					36.2	SS	1.80		NST		
BH404	1.50 (1.50)	D	C47774	Greyish brown slightly sandy CLAY.	CH	38 (17%)	62	24	29.6						
BH404	2.00- 2.45 (2.00)	UT	C45364	Greyish brown slightly sandy CLAY. (See Test Remarks Sheet for further information)					23.4	SS	1.89		NST		

Remarks  NST - Not suitable for Test
 For Standards followed see Laboratory Test Certificate
 $w\%$ - $\wedge$ = Rock water content test; x = Aggregate moisture content test
 QUT Water Contents: <Failure Zone>, [After test]

GEOTECHNICS
 geotechnical and geoenvironmental specialists

LABORATORY RESULTS - Classification and Strength

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Classification					Strength					
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Symbol	I_p (>425) %	w_L %	w_p %	w (p_d) %	Test	γ_b (γ_d) ³ Mg/m ³	σ_3 kN/m ²	$\sigma_1 - \sigma_3$ kN/m ²	C_u kN/m ²	C_{Avg} kN/m ²
BH608	4.00- 4.45 (4.19)	UT	C45868	Greg slightly sandy CLAY.					23.8 <27.9>	SS	1.95	80	122	61	61
BH609	2.50- 2.95 (2.64)	UT	C46238	Greyish brown slightly sandy slightly gravelly CLAY.					20.8 <30.0>	SS	1.93	50	129	64	64
BH609	4.50- 4.95 (4.70)	UT	C46240	Grey slightly sandy CLAY.					27.9 <26.4>	SS	2.00	90	178	89	89
BH610	2.00- 2.45 (2.09)	UT	C46243	Brown mottled light brown and grey slightly sandy CLAY.					30.0 <28.8>	SS	1.90	40	95	47	47
BH610	4.00- 4.45 (4.15)	UT	C46241	Grey slightly sandy CLAY.					28.4 <26.0>	SS	1.96	80	170	85	85
BH611	3.50 (3.50)	UT	C46244	Grey slightly sandy CLAY. (See Test Remarks Sheet for further information)					15.1	SS	1.99		NST		
BH701	1.70 (1.70)	D	C42613	Dark brown and brown slightly sandy CLAY.	CH	36 (2%)	64	28	35.4						
BH701	2.20- 2.65 (2.25)	UT	C42478	Dark brown and brown slightly sandy CLAY.					29.8 <30.3>	SS	1.88	50	139	69	69
BH701	4.50- 4.95 (4.70)	UT	C42479	Dark grey slightly sandy CLAY.					23.1 <21.6>	SS	2.06	90	191	95	95
BH702	1.20- 1.65 (1.20)	UT	C42471	Orangish brown mottled grey slightly sandy CLAY. (See Test Remarks Sheet for further information)					22.8	SS	2.06	30	NST		
BH702	3.40- 3.85 (3.40)	UT	C42472	Dark brownish grey slightly sandy CLAY.					36.3 <35.3>	SS	1.75	70	158	79	79
BH703	0.50 (0.50)	D	C43342	Orangish brown and grey CLAY.	CV	46 (1%)	72	26	33.2						
BH703	1.20- 1.65 (1.20)	UT	C42474	Orangish brown and grey CLAY. (See Test Remarks Sheet for further information)					32.5	SS	1.89		NST		
BH705	0.65- 0.75 (0.65)	D	C43613	Light orangish brown mottled grey slightly sandy CLAY.	CI	27 (15%)	46	19	30.4						
BH801	1.60 (1.60)	D	C42732	Orangish brown mottled grey slightly sandy CLAY.	CI	23 (3%)	41	18	27.2						

Remarks  NST - Not suitable for Test
For Standards followed see Laboratory Test Certificate
w% - ^ = Rock water content test; x = Aggregate moisture content test
QUT Water Contents: <Failure Zone>, [After test]

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LABORATORY RESULTS - Classification and Strength

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Classification					Strength					
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Symbol	I_p (>425) %	w_L %	w_p %	w (p_d) %	Test	γ_b (γ_d) Mg/m ³	σ_3 kN/m ²	$\sigma_1 - \sigma_3$ kN/m ²	C_u kN/m ²	C_{Avg} kN/m ²
BH801	2.30- 2.75 (2.48)	UT	C42359	Orangish brown slightly sandy CLAY.					26.9 <27.1>	SS	1.93	50	133	66	66
BH801	4.50- 4.95 (4.76)	UT	C42358	Dark greenish grey slightly sandy CLAY.					24.5 <24.3>	SS	1.85	90	224	112	112
BH802	1.00 (1.00)	D	C42741	Orangish brown mottled grey slightly sandy CLAY.	CI	27 (93%)	46	19	20.7						
BH802	2.30- 2.75 (2.30)	UT	C42476	Greyish brown slightly sandy CLAY.					33.9 <34.3>	SS	1.85	50	118	59	59
BH803	1.00 (1.00)	D	C42764	Brownish grey CLAY.	CV	47 (7%)	71	24	26.3						
BH803	1.20- 1.65 (1.20)	UT	C42362	Brownish grey CLAY.					28.2 <26.1>	SS	1.97	30	145	72	72
BH803	1.50 (1.50)	D	C42765	Orangish brown mottled grey slightly sandy CLAY.	CH	33 (13%)	57	24	30.3						
BH803	3.40- 3.85 (3.55)	UT	C42361	Grey slightly sandy CLAY.					31.4 <30.4>	SS	1.93	70	177	88	88
BH803	6.00- 6.45 (6.00)	UT	C42360	Grey slightly sandy CLAY.					22.8 <24.0>	SS	1.98	120	274	137	137
BH804	1.50 (1.50)	D	C42753	Orangish brown and grey slightly sandy CLAY.	CH	35 (15%)	60	25	37.2						
BH804	3.50- 3.95 (3.73)	UT	C43515	Dark greenish grey slightly sandy CLAY.					29.9 <29.1>	SS	1.95	70	156	78	78
BH807	1.20 (1.44)	UT	C43518	Brown mottled grey slightly sandy CLAY.					37.9 <34.7>	SS	1.84	30	134	67	67
BH807	3.00 (3.00)	D	C44551	Dark grey slightly sandy CLAY.	CH	39 (7%)	64	25	36.9						
BH807	3.50- 3.95 (3.59)	UT	C43519	Dark grey slightly sandy CLAY.					22.8 <22.2>	SS	2.02	70	198	99	99
BH808	1.80 (1.80)	D	C43358	Dark grey slightly sandy CLAY.	CH	39 (14%)	65	26	35.0						
BH808	4.50- 4.95 (4.50)	UT	C43520	Dark greenish grey slightly sandy CLAY.					23.6 <23.6>	SS	2.00	90	239	120	120

Remarks  NST - Not suitable for Test
 For Standards followed see Laboratory Test Certificate
 $w\%$ - $\wedge$ = Rock water content test; x = Aggregate moisture content test
 QUT Water Contents: <Failure Zone>, [After test]

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LABORATORY RESULTS - Classification and Strength

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Classification					Strength					
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Symbol	I _p (>425) %	w _L %	w _p %	w (p _d) %	Test	γ _b (γ _d) Mg/m ³	σ ₃ kN/m ²	σ ₁ -σ ₃ kN/m ²	c _u kN/m ²	c _{Avg} kN/m ²
RC304	0.60 (0.60)	B	C44364	Brown mottled grey slightly sandy slightly gravelly CLAY.					14.2						
RC304	0.60 (0.60)	D	C45631	Brown mottled grey slightly sandy slightly gravelly CLAY.	CI	25 (6%)	45	20	15.4						
RC407	1.10 (1.10)	ES	C46458	Dark greenish grey slightly sandy CLAY.					56.4						
RC504	1.00 (1.00)	B	C42053	PROBABLE MADE GROUND: Brown mottled grey slightly sandy slightly gravelly clay.	CH	39 (5%)	63	24	28.7						
RC504	1.00 (1.00)	D	C42137	PROBABLE MADE GROUND: Brown mottled grey slightly sandy slightly gravelly clay.	CH	37 (4%)	65	28	28.5						
RC506	0.60 (0.60)	D	C42142	PROBABLE MADE GROUND: Greenish grey slightly sandy slightly gravelly clay.	CH	37 (2%)	59	22	28.0						
RC506	1.00 (1.00)	D	C42143	PROBABLE MADE GROUND: Brown mottled grey slightly sandy slightly gravelly clay.	CH	41 (2%)	66	25	29.3						
RC507	0.70 (0.70)	D	C42489	PROBABLE MADE GROUND: Greenish grey slightly sandy slightly gravelly clay.	CH	46 (1%)	70	24	29.2						
RC702	1.00 (1.00)	D	C42496	Greenish grey slightly sandy CLAY.	CH	34 (13%)	61	27	40.9						
RC705	1.00 (1.00)	D	C42503	Brown mottled grey slightly sandy CLAY.	CH	41 (9%)	62	21	29.6						
RC708	1.00 (1.00)	D	C42724	Greenish brown slightly sandy CLAY.	CH	33 (4%)	60	27	23.8						
RC710	1.00 (1.00)	D	C42728	Greenish grey slightly sandy slightly gravelly CLAY.	CH	37 (31%)	62	25	26.4						
RC805	0.90 (0.90)	D	C42150	Greenish grey slightly sandy CLAY.	CH	35 (4%)	61	26	31.0						
RC807	1.00 (1.00)	D	C45243	Grey and brown slightly sandy CLAY.	CV	44 (2%)	73	29	30.0						
RC809	0.50 (0.50)	D	C45248	Brown mottled grey slightly sandy CLAY.	CV	50 (NAT)	74	24	25.3						
TP301	1.00 (1.00)	D	C43051	Brown mottled grey sandy SILT.		(7%)	25	NP	15.9						
TP303	1.00 (1.00)	D	C43859	Light grey slightly sandy CLAY.	CI	27 (12%)	45	18	34.2						
TP305	1.00 (1.00)	D	C43876	Orangish brown mottled grey slightly sandy CLAY.	CH	38 (NAT)	66	28	45.0						
TP307	0.20- 0.80 (0.20)	B	C43644	MADE GROUND: Brown slightly sandy clay.					27.5						
Remarks  NST - Not suitable for Test For Standards followed see Laboratory Test Certificate w% - ^ = Rock water content test; x = Aggregate moisture content test QUT Water Contents: <Failure Zone>, [After test]  geotechnical and geoenvironmental specialists															

LABORATORY RESULTS - Classification and Strength

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Classification					Strength					
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Symbol	I_p (>425) %	w_L %	w_p %	w (p_d) %	Test	γ_b (γ_d) Mg/m ³	σ_3 kN/m ²	$\sigma_1 - \sigma_3$ kN/m ²	C_u kN/m ²	C_{Avg} kN/m ²
TP824	0.40 (0.40)	B	C42088	PROBABLE MADE GROUND: Orangish brown slightly sandy clay.					25.2						
TP824	0.40 (0.40)	D	C42243	POSSIBLE MADE GROUND: Light grey and light brown slightly sandy CLAY.	CH	30 (3%)	58	28	24.2						
TP824	1.30 (1.30)	D	C42246	Light grey mottled light brown slightly sandy CLAY.	CH	43 (8%)	64	21	26.2						
TP825	0.80- 1.10 (0.80)	B	C42096	Grey mottled brown slightly sandy CLAY.	CH	34 (1%)	62	28	29.8						
TP826	0.70 (0.70)	D	C42882	Light grey slightly sandy CLAY.	CH	35 (2%)	61	26	30.3						
TP826	2.00 (2.00)	D	C42884	Dark grey mottled light brown slightly sandy CLAY.	CH	33 (2%)	57	24	35.8						
TP828	0.80 (0.80)	D	C42895	Light grey mottled light grey slightly sandy CLAY.	CH	40 (3%)	61	21	25.8						
TP828	2.70 (2.70)	D	C42898	Dark grey slightly sandy CLAY.	CV	40 (6%)	72	32	42.9						
TP829	0.50 (0.50)	D	C45695	Light grey mottled light brown slightly sandy CLAY.	CI	28 (5%)	49	21	21.6						
TP832A	1.00 (1.00)	B	C44272	MADE GROUND: Orangish brown very sandy very silty gravel with a low cobble content.					27.1						
TP833	1.40 (1.40)	D	C44494	Grey mottled orangish brown slightly sandy CLAY.	CL	20 (7%)	33	13	22.2						
TP833A	1.00 (1.00)	B	C44280	MADE GROUND: Brownish grey slightly sandy gravelly clay with a low cobble content.					27.8						
TP834A	1.00 (1.00)	D	C44507	MADE GROUND: Dark brown slightly sandy slightly gravelly silty clay.	CH	40 (16%)	68	28	34.6						
TP835	0.70 (0.70)	D	C42907	Orangish brown mottled grey slightly sandy CLAY.	CH	40 (8%)	67	27	27.7						
TP835	1.20 (1.20)	D	C42910	Grey mottled orangish brown slightly sandy CLAY.	CH	34 (17%)	60	26	27.8						
TP838	0.60 (0.60)	D	C42264	Brown mottled light grey slightly sandy CLAY.	CV	45 (0%)	75	30	32.9						
TP839	1.00 (1.00)	D	C42269	Light grey mottle brown slightly sandy CLAY.	CH	44 (17%)	67	23	42.4						
TP839	2.10 (2.10)	D	C42272	Dark brown slightly sandy CLAY.	CH	32 (5%)	62	30	33.7						
Remarks  NST - Not suitable for Test For Standards followed see Laboratory Test Certificate w% - ^ = Rock water content test; x = Aggregate moisture content test QUT Water Contents: <Failure Zone>, [After test]															

LABORATORY RESULTS - Classification and Strength

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Classification					Strength					
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Symbol	I _p (^{>425}) %	w _L %	w _p %	w (p _d) %	Test	γ _b (γ _d) Mg/m ³	σ ₃ kN/m ²	σ ₁ -σ ₃ kN/m ²	c _u kN/m ²	c _{Avg} kN/m ²
TP413	1.30 (1.30)	B	C45425	MADE GROUND: Grey slightly sandy clayey gravel.					16.6						
TP420	1.00 (1.00)	B	C45432	Greenish grey mottled light brown slightly sandy CLAY.	CI	24 (1%)	46	22	32.0						
TP421	1.80 (1.80)	D	C42804	Brownish grey slightly sandy CLAY.	CV	42 (NAT)	75	33	39.8						
TP422	1.00- 1.30 (1.00)	B	C42652	Grey mottled orangish brown slightly sandy CLAY.	CV	50 (NAT)	75	25	35.6						
TP424	1.60 (1.60)	D	C42823	Firm light grey and orangish brown slightly sandy CLAY.	CH	48 (NAT)	68	20	31.0						
TP425	0.50 (0.50)	B	C42382	MADE GROUND: Dark grey slightly sandy slightly gravelly clay.					35.9						
TP428	1.50 (1.50)	D	C42640	Grey mottled orangish brown slightly sandy CLAY.	CH	45 (NAT)	66	21	26.5						
TP429	1.00 (1.00)	D	C45125	Light orangish brown slightly sandy CLAY.	CV	56 (NAT)	86	30	29.9						
TP431	1.50 (1.50)	D	C44433	Grey mottled brown slightly sandy CLAY.	CH	42 (7%)	62	20	23.9						
TP432	1.60 (1.60)	D	C44443	Grey mottled brown slightly sandy CLAY.	CH	38 (4%)	58	20	24.0						
TP436	0.50- 0.80 (0.50)	B	C43710	Greenish grey mottled brown sandy CLAY.	CL	17 (1%)	33	16	20.7						
TP502	4.00 (4.00)	D	C42839	Light orangish brown mottled grey slightly sandy CLAY.	CH	43 (NAT)	68	25	33.7						
TP503	0.30 (0.30)	B	C42670	MADE GROUND: Brown slightly sandy slightly gravelly silty clay.					24.2						
TP503	3.00 (3.00)	D	C42835	Light grey mottled orangish brown slightly sandy CLAY.	CH	39 (11%)	63	24	25.1						
TP504	0.70 (0.70)	B	C42675	POSSIBLE MADE GROUND: Dark grey mottled orangish brown slightly sandy CLAY.					27.5						
TP504	0.70 (0.70)	D	C42847	POSSIBLE MADE GROUND: Dark grey mottled orangish brown slightly sandy CLAY.	CV	45 (1%)	77	32	36.4						
TP504	1.20 (1.20)	D	C42848	POSSIBLE MADE GROUND: Dark grey mottled orangish brown slightly sandy CLAY.	CV	45 (2%)	73	28	37.3						
TP504	3.70 (3.70)	D	C42853	Light grey mottled orangish brown slightly sandy CLAY.	CV	49 (1%)	74	25	33.4						
Remarks  NST - Not suitable for Test For Standards followed see Laboratory Test Certificate w% - ^ = Rock water content test; x = Aggregate moisture content test QUT Water Contents: <Failure Zone>, [After test]  geotechnical and geoenvironmental specialists															

LABORATORY RESULTS - Classification and Strength

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Classification					Strength					
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Symbol	I_p (>425) %	w_L %	w_p %	w (p_d) %	Test	γ_b (γ_d) Mg/m ³	σ_3 kN/m ²	$\sigma_1 - \sigma_3$ kN/m ²	C_u kN/m ²	C_{Avg} kN/m ²
TP602	1.30 (1.30)	D	C43062	POSSIBLE MADE GROUND: Orangish brown mottled light grey slightly sandy CLAY.	CH	36 (NAT)	57	21	26.8						
TP602	2.00 (2.00)	D	C43063	Dark bluish grey slightly sandy CLAY.	CH	34 (NAT)	55	21	23.2						
TP603	0.40 (0.40)	D	C43069	Orangish brown mottled grey slightly sandy CLAY.	CH	34 (NAT)	57	23	16.1						
TP603	3.00 (3.00)	D	C43074	Dark grey slightly sandy CLAY.	CI	32 (NAT)	50	18	20.4						
TP605	0.50 (0.50)	D	C43079	Orangish brown mottled grey slightly sandy CLAY.	CI	30 (NAT)	49	19	16.7						
TP605	2.10 (2.10)	D	C43081	Dark grey slightly sandy CLAY.	CH	36 (2%)	64	28	34.4						
TP606	1.50 (1.50)	D	C43957	Grey mottled orangish brown slightly sandy CLAY.	CH	39 (9%)	58	19	28.3						
TP608	0.50- 1.00 (0.50)	B	C42967	Orangish brown mottled grey slightly sandy CLAY.	CI	25 (6%)	37	12	16.4						
TP609	1.50 (1.50)	D	C43096	Brown mottled grey slightly sandy CLAY	CL	20 (29%)	32	12	20.9						
TP609	2.70 (2.70)	D	C43099	Dark grey slightly sandy CLAY.	CH	35 (33%)	61	26	33.4						
TP610	1.60- 2.00 (1.60)	B	C42975	Grey mottled orangish brown slightly sandy CLAY.	CH	31 (5%)	55	24	23.4						
TP613	0.50 (0.50)	D	C45999	Grey mottled orangish brown slightly sandy CLAY.	CH	31 (NAT)	54	23	30.9						
TP615	1.50 (1.50)	D	C44042	POSSIBLE MADE GROUND: Greenish grey mottled brown sandy CLAY.	CL	18 (9%)	34	16	22.7						
TP702	0.60 (0.60)	B	C45453	MADE GROUND: Light brown mottled grey slightly sandy slightly gravelly clay.					27.1						
TP703	0.60 (0.60)	B	C45458	MADE GROUND: Grey and brown slightly sandy slightly gravelly clay.	CH	38 (2%)	70	32	30.5						
TP703	1.30 (1.30)	D	C45620	Light brown mottled light grey slightly sandy CLAY.	CH	45 (NAT)	70	25	31.4						
TP704	0.30- 0.80 (0.30)	B	C41970	MADE GROUND: Grey slightly sandy silty clay.	CH	39 (3%)	66	27	28.1						
TP704	1.40- 1.80 (1.40)	B	C41964	PROBABLE MADE GROUND: Dark grey sandy clay.					35.4 35.4 35.4	MS- Rem	1.78 1.78 1.78	100 200 300	117 121	59 60	60

Remarks  NST - Not suitable for Test
 For Standards followed see Laboratory Test Certificate
 $w\%$ - $\wedge$ = Rock water content test; x = Aggregate moisture content test
 QUT Water Contents: <Failure Zone>, [After test]

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LABORATORY RESULTS - Classification and Strength

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Classification					Strength					
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Symbol	I_p (>425) %	w_L %	w_p %	w (p_d) %	Test	γ_b (γ_d) Mg/m ³	σ_3 kN/m ²	$\sigma_1 - \sigma_3$ kN/m ²	C_u kN/m ²	C_{Avg} kN/m ²
TP704	2.60- 2.90 (2.60)	B	C41965	Brown mottled grey slightly sandy slightly gravelly CLAY.					24.2						
TP706	0.30 (0.30)	D	C46010	MADE GROUND: Brown mottled grey slightly sandy slightly gravelly clay.	CI	28 (5%)	45	17	16.0						
TP706	1.00 (1.00)	D	C46012	Light grey slightly sandy CLAY.	CV	49 (0%)	71	22	39.4						
TP801	1.00- 1.50 (1.00)	B	C41955	Grey slightly sandy CLAY.					32.4						
TP802	0.30 (0.30)	B	C45821	MADE GROUND: Brown mottled orangish brown slightly sandy slightly gravelly clay.					24.4						
TP802	0.30 (0.30)	D	C46018	MADE GROUND: Brown mottled orangish brown slightly sandy slightly gravelly clay.	CH	33 (2%)	56	23	27.5						
TP803	1.50 (1.50)	D	C46027	Grey mottled orangish brown slightly sandy CLAY.	CH	36 (4%)	57	21	29.7						
TP811	1.60 (1.60)	D	C42208	Dark grey mottled light orangish brown slightly sandy CLAY.	CH	40 (1%)	64	24	27.4						
TP812	1.00 (1.00)	D	C42214	Light orangish brown mottled light grey slightly sandy CLAY.	CV	53 (5%)	76	23	29.3						
TP813	0.30- 0.70 (0.30)	B	C42039	MADE GROUND: Brown slightly sandy clay.					16.7						
TP813	1.00 (1.00)	D	C42221	Grey mottled brown slightly sandy CLAY.	CH	37 (NAT)	63	26	28.3						
TP814	1.10 (1.10)	D	C42226	Orangish brown mottled slightly sandy CLAY.	CH	31 (8%)	51	20	20.7						
TP815	0.90 (0.90)	D	C42232	Bluish grey mottled brown slightly sandy CLAY.	CV	40 (0%)	72	32	28.8						
TP817	0.90 (0.90)	D	C42866	Orangish brown mottled grey slightly sandy CLAY.	CH	38 (1%)	62	24	25.3						
TP818	0.90 (0.90)	D	C42871	Brown mottled grey slightly sandy CLAY.	CH	33 (3%)	63	30	24.8						
TP818	1.10- 1.60 (1.10)	B	C42308	Light grey slightly sandy CLAY.					28.7						
TP819	1.20 (1.20)	D	C42238	Light grey mottled brown slightly sandy CLAY.	CH	45 (3%)	65	20	27.1						
TP820	0.85 (0.85)	D	C45223	Dark greenish grey slightly sandy CLAY.	CH	30 (3%)	54	24	35.4						
Remarks  NST - Not suitable for Test For Standards followed see Laboratory Test Certificate w% - ^ = Rock water content test; x = Aggregate moisture content test QUT Water Contents: <Failure Zone>, [After test]															

LABORATORY RESULTS - Classification and Strength

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Classification					Strength					
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Symbol	I _p (>425) %	w _L %	w _p %	w (p _d) %	Test	γ _b (γ _d) Mg/m ³	σ ₃ kN/m ²	σ ₁ -σ ₃ kN/m ²	c _u kN/m ²	c _{Avg} kN/m ²
BH818	1.20-1.65 (1.24)	UT	C42703	Light orangish brown slightly sandy CLAY.					26.5 <26.7>	SS	2.02	30	110	55	55
BH818	3.20-3.65 (3.41)	UT	C42701	Dark brown slightly sandy CLAY.					30.3 <32.9>	SS	1.79	70	54	27	27
BH819	2.30-2.75 (2.46)	UT	C42705	Dark brown slightly sandy CLAY.					43.0 <30.7>	SS	1.77	50	111	55	55
BH819	4.30-4.75 (4.40)	UT	C42704	Dark greenish grey slightly sandy CLAY.					27.4 <26.3>	SS	1.92	90	180	90	90
BHTP414	2.30-2.75 (2.44)	UT	C46247	Orangish brown mottled grey slightly sandy CLAY.					45.0 <43.5>	SS	1.80	50	49	25	25
BHTP415	2.50-2.95 (2.74)	UT	C46615	Grey mottled brown slightly sandy CLAY.					35.6 <36.3>	SS	1.83	50	91	46	46
BHTP417	1.20-1.65 (1.20)	D	C46279	Grey mottled brown slightly sandy CLAY.	CH	37 (1%)	57	20	31.2						
BHTP417	2.50-2.95 (2.74)	UT	C46620	Grey mottled brown slightly sandy slightly gravelly CLAY.					29.1 <33.9>	SS	1.93	50	81	41	41
BHTP417	4.50-4.95 (4.75)	UT	C46619	Dark grey slightly sandy CLAY.					26.8 <26.5>	SS	1.94	90	206	103	103
CC301	2.00-2.20 (2.00)	D	C43020	Brown mottled grey slightly sandy CLAY.	CH	40 (1%)	64	24	26.8						
CC501	2.00-2.20 (2.00)	D	C43027	Dark grey slightly sandy CLAY.	CH	43 (1%)	68	25	39.5						
CC504	1.10-1.20 (1.10)	D	C43036	MADE GROUND: Grey and brown slightly sandy clay.	CV	48 (0%)	73	25	30.4						
CC504	2.00-2.20 (2.00)	D	C43038	Grey mottled orangish brown slightly sandy slightly gravelly CLAY.	CH	34 (1%)	63	29	31.0						
CC504	3.00-3.20 (3.00)	D	C43040	Grey mottled brown slightly sandy CLAY.	CH	33 (5%)	65	32	28.5						

Remarks NST - Not suitable for Test
 For Standards followed see Laboratory Test Certificate
 w% - ^ = Rock water content test; x = Aggregate moisture content test
 QUT Water Contents: <Failure Zone>, [After test]

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LABORATORY RESULTS - Atterberg Limit

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Results							
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Test Type	Point Data		Sym- bol	p %	>425 sieve µm	w _L %	w _p %
						Cone Pene.	Water % (Factor)					
BH301	2.00 (2.00)	D	C46301	Brown mottled grey CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, natural			CH	34	0%	58	24
BH302	0.50 (0.50)	D	C46314	Brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			MV	37	6%	71	34
BH303	3.30 (3.30)	D	C46334	Dark brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	38	69%	68	30
BH309	1.00- 1.10 (1.00)	D	C44559	Light brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	42	3%	67	25
BH312	1.50 (1.50)	D	C44574	Light orangish brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	33	8%	59	26
BH314	1.20- 1.65 (1.20)	D	C44984	Light orangish brown and grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, natural			CH	33	0%	55	22
BH315	1.80 (1.80)	D	C44998	Dark brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, natural			CV	44	0%	76	32
BH316	0.90- 1.00 (0.90)	D	C44580	Light orangish brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	42	1%	66	24
BH317	2.00 (2.00)	D	C45876	Orangish brown mottled grey slightly sandy CLAY,	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CI	29	14%	50	21
BH318	2.40- 2.85 (2.40)	D	C42519	Dark greenish grey CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	42	5%	63	21
BH319	1.00- 1.10 (1.00)	D	C42534	Light brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	32	3%	54	22
BH401	1.00- 1.10 (1.00)	D	C45021	Orangish brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	45	2%	68	23

Remarks





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LABORATORY RESULTS - Test Remarks

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample				Laboratory Remark
Hole	Depth (Specimen Depth) m	Type	Sample Ref	
BH301	4.50 (4.50)	UT	C46220	Quick Undrained Triaxial Test - NST= Due to insufficient sample in tube for test.
BH403	3.00- 3.45 (3.00- 3.45)	UT	C45363	Quick Undrained Triaxial Test - NST= Insufficient sampe in tube for test.
BH404	2.00- 2.45 (2.00- 2.45)	UT	C45364	Quick Undrained Triaxial Test - NST= Due to fracture throuh the centre of specimen.
BH404	4.00- 4.45 (4.00- 4.45)	UT	C45365	Quick Undrained Triaxial Test - NST= Due to fractures and voids throughout sample.
BH509	5.40- 5.65 (5.40- 5.65)	UT	C43503	Quick Undrained Triaxial Test - NST= Insufficient sample in tube for test.
BH511	4.00- 4.45 (4.00- 4.45)	UT	C45676	Quick Undrained Triaxial Test - NST= Due to insufficient sample in tube for test.
BH611	3.50 (3.50)	UT	C46244	Quick Undrained Triaxial Test - NST= Insufficient sample in tube for test.
BH702	1.20- 1.65 (1.20- 1.65)	UT	C42471	Quick Undrained Triaxial Test - NST= Fractures and voids present throughout sample.
BH703	1.20- 1.65 (1.20- 1.65)	UT	C42474	Quick Undrained Triaxial Test - NST= Large cobble present, sample unsuitable for testing, cobble left out of water content.
TP507	1.80 (1.80)	D	C45987	Atterberg Limit Test - 1-point cone
Remarks 				
				

LABORATORY RESULTS - Atterberg Limit

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Results							
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Test Type	Point Data		Sym bol	p %	>425 sieve µm	w _L %	w _p %
						Cone Pene.	Water % (Factor)					
BH701	1.70 (1.70)	D	C42613	Dark brown and brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	36	2%	64	28
BH703	0.50 (0.50)	D	C43342	Orangish brown and grey CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CV	46	1%	72	26
BH705	0.65- 0.75 (0.65)	D	C43613	Light orangish brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CI	27	15%	46	19
BH801	1.60 (1.60)	D	C42732	Orangish brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CI	23	3%	41	18
BH802	1.00 (1.00)	D	C42741	Orangish brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CI	27	93%	46	19
BH803	1.00 (1.00)	D	C42764	Brownish grey CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CV	47	7%	71	24
BH803	1.50 (1.50)	D	C42765	Orangish brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	33	13%	57	24
BH804	1.50 (1.50)	D	C42753	Orangish brown and grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	35	15%	60	25
BH807	3.00 (3.00)	D	C44551	Dark grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	39	7%	64	25
BH808	1.80 (1.80)	D	C43358	Dark grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	39	14%	65	26
BH809	1.20- 1.65 (1.20)	D	C44548	Orangish brown and grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CI	31	5%	50	19

Remarks





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LABORATORY RESULTS - Atterberg Limit

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Results							
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Test Type	Point Data		Sym bol	p %	>425 sieve µm	w _L %	w _p %
						Cone Pene.	Water % (Factor)					
RC504	1.00 (1.00)	B	C42053	PROBABLE MADE GROUND: Brown mottled grey slightly sandy slightly gravelly clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	39	5%	63	24
RC504	1.00 (1.00)	D	C42137	PROBABLE MADE GROUND: Brown mottled grey slightly sandy slightly gravelly clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	37	4%	65	28
RC506	0.60 (0.60)	D	C42142	PROBABLE MADE GROUND: Greenish grey slightly sandy slightly gravelly clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	37	2%	59	22
RC506	1.00 (1.00)	D	C42143	PROBABLE MADE GROUND: Brown mottled grey slightly sandy slightly gravelly clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	41	2%	66	25
RC507	0.70 (0.70)	D	C42489	PROBABLE MADE GROUND: Greenish grey slightly sandy slightly gravelly clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	46	1%	70	24
RC702	1.00 (1.00)	D	C42496	Greenish grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	34	13%	61	27
RC705	1.00 (1.00)	D	C42503	Brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	41	9%	62	21
RC708	1.00 (1.00)	D	C42724	Greenish brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	33	4%	60	27
RC710	1.00 (1.00)	D	C42728	Greenish grey slightly sandy slightly gravelly CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	37	31%	62	25
RC805	0.90 (0.90)	D	C42150	Greenish grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	35	4%	61	26
RC807	1.00 (1.00)	D	C45243	Grey and brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CV	44	2%	73	29

Remarks





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LABORATORY RESULTS - Atterberg Limit

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Results							
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Test Type	Point Data		Sym- bol	p %	>425 sieve µm	w _L %	w _p %
						Cone Pene.	Water % (Factor)					
TP828	0.80 (0.80)	D	C42895	Light grey mottled light grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	40	3%	61	21
TP828	2.70 (2.70)	D	C42898	Dark grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CV	40	6%	72	32
TP829	0.50 (0.50)	D	C45695	Light grey mottled light brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CI	28	5%	49	21
TP833	1.40 (1.40)	D	C44494	Grey mottled orangish brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CL	20	7%	33	13
TP834A	1.00 (1.00)	D	C44507	MADE GROUND: Dark brown slightly sandy slightly gravelly silty clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	40	16%	68	28
TP835	0.70 (0.70)	D	C42907	Orangish brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	40	8%	67	27
TP835	1.20 (1.20)	D	C42910	Grey mottled orangish brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	34	17%	60	26
TP838	0.60 (0.60)	D	C42264	Brown mottled light grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CV	45	0%	75	30
TP839	1.00 (1.00)	D	C42269	Light grey mottle brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	44	17%	67	23
TP839	2.10 (2.10)	D	C42272	Dark brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	32	5%	62	30

Remarks




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LABORATORY RESULTS - Atterberg Limit

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Results							
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Test Type	Point Data		Sym- bol	p %	>425 sieve µm	w _L %	w _p %
						Cone Pene.	Water % (Factor)					
TP613	0.50 (0.50)	D	C45999	Grey mottled orangish brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, natural			CH	31	0%	54	23
TP615	1.50 (1.50)	D	C44042	POSSIBLE MADE GROUND: Greenish grey mottled brown sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CL	18	9%	34	16
TP703	0.60 (0.60)	B	C45458	MADE GROUND: Grey and brown slightly sandy slightly gravelly clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	38	2%	70	32
TP703	1.30 (1.30)	D	C45620	Light brown mottled light grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, natural			CH	45	0%	70	25
TP704	0.30- 0.80 (0.30)	B	C41970	MADE GROUND: Grey slightly sandy silty clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	39	3%	66	27
TP706	0.30 (0.30)	D	C46010	MADE GROUND: Brown mottled grey slightly sandy slightly gravelly clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			Cl	28	5%	45	17
TP706	1.00 (1.00)	D	C46012	Light grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CV	49	0%	71	22
TP802	0.30 (0.30)	D	C46018	MADE GROUND: Brown mottled orangish brown slightly sandy slightly gravelly clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	33	2%	56	23
TP803	1.50 (1.50)	D	C46027	Grey mottled orangish brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	36	4%	57	21
TP811	1.60 (1.60)	D	C42208	Dark grey mottled light orangish brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	40	1%	64	24
TP812	1.00 (1.00)	D	C42214	Light orangish brown mottled light grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CV	53	5%	76	23
TP813	1.00 (1.00)	D	C42221	Grey mottled brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, natural			CH	37	0%	63	26

Remarks





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LABORATORY RESULTS - Atterberg Limit

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Results							
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Test Type	Point Data		Sym- bol	p %	>425 sieve µm	w _L %	w _p %
						Cone Pene.	Water % (Factor)					
TP814	1.10 (1.10)	D	C42226	Orangish brown mottled slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	31	8%	51	20
TP815	0.90 (0.90)	D	C42232	Bluish grey mottled brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CV	40	0%	72	32
TP817	0.90 (0.90)	D	C42866	Orangish brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	38	1%	62	24
TP818	0.90 (0.90)	D	C42871	Brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	33	3%	63	30
TP819	1.20 (1.20)	D	C42238	Light grey mottled brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	45	3%	65	20
TP820	0.85 (0.85)	D	C45223	Dark greenish grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	30	3%	54	24
TP824	0.40 (0.40)	D	C42243	POSSIBLE MADE GROUND: Light grey and light brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	30	3%	58	28
TP824	1.30 (1.30)	D	C42246	Light grey mottled light brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	43	8%	64	21
TP825	0.80- 1.10 (0.80)	B	C42096	Grey mottled brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	34	1%	62	28
TP826	0.70 (0.70)	D	C42882	Light grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	35	2%	61	26
TP826	2.00 (2.00)	D	C42884	Dark grey mottled light brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	33	2%	57	24

Remarks





geotechnical and geoenvironmental specialists

LABORATORY RESULTS - Atterberg Limit

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					Results							
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	Test Type	Point Data		Sym- bol	p %	>425 sieve µm	w _L %	w _p %
						Cone Pene.	Water % (Factor)					
BH809	3.50- 3.95 (3.50)	D	C44553	Dark greenish grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	31	3%	60	29
BH813	0.70- 0.80 (0.70)	D	C42790	Orangish brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	37	5%	59	22
BH815	3.90 (3.90)	D	C46453	Dark greyish brown CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	35	12%	62	27
BH818	1.00- 1.10 (1.00)	D	C43621	Dark brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	33	3%	53	20
BHTP417	1.20- 1.65 (1.20)	D	C46279	Grey mottled brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	37	1%	57	20
CC301	2.00- 2.20 (2.00)	D	C43020	Brown mottled grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	40	1%	64	24
CC501	2.00- 2.20 (2.00)	D	C43027	Dark grey slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	43	1%	68	25
CC504	1.10- 1.20 (1.10)	D	C43036	MADE GROUND: Grey and brown slightly sandy clay.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CV	48	0%	73	25
CC504	2.00- 2.20 (2.00)	D	C43038	Grey mottled orangish brown slightly sandy slightly gravelly CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	34	1%	63	29
CC504	3.00- 3.20 (3.00)	D	C43040	Grey mottled brown slightly sandy CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CH	33	5%	65	32
RC304	0.60 (0.60)	D	C45631	Brown mottled grey slightly sandy slightly gravelly CLAY.	Fall Cone 4pt with increasing water content, cone type: 80g/30, washed over 425um sieve			CI	25	6%	45	20

Remarks





geotechnical and geoenvironmental specialists

Summary of Chemical Analysis Soil Samples

Our Ref 20-14479

Client Ref PC207899

Contract Title Graven Hill, Bicester, Land

Lab No	1708511	1708512	1708513	1708514	1708515	1708516	1708517	1708518	1708519	1708520	1708521	1708525
Sample ID	BH318	BH318	TP520	BH319	TP327	TP327	TP428	TP428	TP520	TP828	TP828	TP826
Depth	1.00-1.10	2.90-3.00	1.50	0.30-0.40	1.50	2.50	0.65-0.90	1.50	2.00	0.80	2.70	0.70
Other ID												
Sample Type	D	D	D	D	D	D	B	D	D	D	D	D
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units												
Inorganics															
pH	DETSC 2008#		pH	7.4	7.7	7.6	6.9	8.0	6.3	7.0	6.7	7.2	7.5	6.5	7.6
Organic matter	DETSC 2002#	0.1	%												2.0
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	1600	220	640	55	380	2100	1800	1500	960	2200	2100	2100
Sulphur as S, Total	DETSC 2320	0.01	%	1.3	0.06	0.08									
Sulphate as SO4, Total	DETSC 2321#	0.01	%	3.7	0.12	0.15									

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16363

Client Ref PC207899

Contract Title Graven Hill, Bicester, Land

Lab No	1718521	1718522	1718523	1718524	1718525	1718526	1718527	1718528	1718529	1718530	1718531	1718532
Sample ID	TP317	TP334	BH808	BH808	BH818	BH818	BH819	TP304	TP310	TP319	TP322	TP324
Depth	1.00	0.60	0.50	3.30	2.70-2.80	3.65-3.70	1.20-1.30	2.00	1.00	0.60	0.70	1.00
Other ID												
Sample Type	B	D	D	D	D	D	D	D	D	D	D	D
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units												
Inorganics															
pH	DETSC 2008#		pH	6.9	7.1	7.1	6.4	6.8	6.7	7.6	4.2	6.8	6.8	6.9	7.3
Organic matter	DETSC 2002#	0.1	%												
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	790	100	92	2000	1700	2100	820	1800	420	720	55	82
Sulphur as S, Total	DETSC 2320	0.01	%			0.03	1.6	1.7	1.1	0.09	5.5	0.08	0.12	0.05	0.03
Sulphate as SO4, Total	DETSC 2321#	0.01	%			0.08	3.6	3.9	2.5	0.28	21	0.18	0.32	0.11	0.06

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16363

Client Ref PC207899

Contract Title Graven Hill, Bicester, Land

Lab No	1718508	1718509	1718510	1718511	1718512	1718513	1718514	1718515	1718516	1718517	1718518	1718519	1718520
Sample ID	TP334	TP307	TP307	BH702	BH705	BH814	BH818	BH819	RC711	RC714	TP305	TP305	TP307
Depth	1.60	3.00	4.00	0.70	0.20-0.30	0.20-0.30	0.25-0.40	0.40-0.50	0.50-0.90	0.65-0.85	0.40	0.70	0.50
Other ID													
Sample Type	D	D	D	D	D	D	D	D	D	D	D	D	D
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units													
Inorganics																
pH	DETSC 2008#		pH	6.0			10.3	10.3	7.7	8.0	7.3	8.1	8.1	11.5	7.2	7.6
Organic matter	DETSC 2002#	0.1	%	5.3	4.9	5.7										
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	390			2200	2200	150	170	670	1300	270	240	250	74
Sulphur as S, Total	DETSC 2320	0.01	%													
Sulphate as SO4, Total	DETSC 2321#	0.01	%													

Summary of Chemical Analysis Soil Samples

Our Ref 20-14617

Client Ref PC207899

Contract Title Graven Hill, Bicester

Lab No	1709349	1709350	1709351	1709352	1709353	1709354	1709355	1709356	1709357	1709364
Sample ID	BH801	BH802	BH803	BH801	BH802	BH803	BH804	BH812	BH813	BH812
Depth	2.75-2.90	1.50	3.20	0.70	2.75-2.90	1.00	2.40	0.10-0.20	1.00-1.10	1.70-1.80
Other ID										
Sample Type	D	D	D	D	D	D	D	D	D	D
Sampling Date	n/s	16/07/2020	15/07/2020	n/s	n/s	n/s	n/s	n/s	n/s	16/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units										
Inorganics													
pH	DETSC 2008#		pH	6.2	7.6	4.6	7.0	6.6	7.5	7.1	7.7	7.7	
Organic matter	DETSC 2002#	0.1	%										6.3
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	1800	1700	1700	200	2200	480	2000	180	1200	
Sulphur as S, Total	DETSC 2320	0.01	%	1.7	0.23	2.2							
Sulphate as SO4, Total	DETSC 2321#	0.01	%	3.5	0.66	5.3							

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16823

Client Ref PC207899

Contract Title Graven Hill, Bicester

Lab No	1721172	1721173	1721174	1721175	1721176	1721177	1721178	1721179
Sample ID	BH603	BH603	BH607	BH609	BH807	BHTP416	TP410	TP410
Depth	1.00	2.00	1.20-1.65	1.00	1.65-1.80	1.50	3.00	1.00
Other ID								
Sample Type	D	D	D	D	D	D	D	D
Sampling Date	02/09/2020	02/09/2020	02/09/2020	02/09/2020	02/09/2020	02/09/2020	02/09/2020	02/09/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units								
Inorganics											
pH	DETSC 2008#		pH	7.3	6.4	7.1	6.4	4.2	6.6	7.0	6.5
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	36	1800	330	500	1700	1700	1400	830
Sulphur as S, Total	DETSC 2320	0.01	%	0.01	1.7	0.06	0.07	3.4	1.8	0.19	
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.04	5.4	0.15	0.18	11	4.9	0.49	

Summary of Chemical Analysis Soil Samples

Our Ref 20-14481

Client Ref PC207899

Contract Title Graven Hill, Bicester, Land

Lab No	1708540	1708541	1708542	1708543	1708544	1708545	1708546	1708547	1708548	1708549	1708550	1708551
Sample ID	TP512	TP512	TP512	TP512	TP513	TP513	TP514	TP514	TP514	TP704	BH503	BH503
Depth	1.10	1.60	2.20	3.20	1.50	2.70	1.50	2.20	3.80	1.40-1.80	1.00-1.10	2.00-2.10
Other ID												
Sample Type	B	D	B	B	B	B	B	B	B	B	D	D
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units												
Inorganics															
pH	DETSC 2008#		pH	8.0	7.6	6.8	6.6	7.5	7.5	7.8	7.4	6.6	6.4	7.5	7.6
Organic matter	DETSC 2002#	0.1	%	2.0					4.7						
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	31	440	1500	1500	1200	1600	230	1500	1500	1300	460	150
Sulphur as S, Total	DETSC 2320	0.01	%	0.05	0.07	1.7	1.2	0.13	3.9	0.04	0.95	1.4	0.17		
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.04	0.15	4.2	2.7	0.30	9.9	0.10	3.0	3.6	0.41		

Summary of Chemical Analysis Soil Samples

Our Ref 20-16819

Client Ref PC207899

Contract Title Graven Hill, Bicester

Lab No	1721135	1721136	1721137	1721138	1721139	1721140	1721141	1721142	1723931
Sample ID	TP507	TP613	TP705	TP510	TP604	TP613	TP803	TP803	TP507
Depth	1.80	3.50	1.50	0.50	0.50	1.30	1.00	2.30	1.00
Other ID									
Sample Type	D	D	D	D	D	D	D	D	D
Sampling Date	02/09/2020	02/09/2020	02/09/2020	02/09/2020	02/09/2020	02/09/2020	02/09/2020	02/09/2020	07/09/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units									
Inorganics												
pH	DETSC 2008#		pH				7.6	6.7	7.1	7.8	7.2	6.0
Organic matter	DETSC 2002#	0.1	%	5.5	9.2	4.0						
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l				310	510	42	310	1800	1500
Sulphur as S, Total	DETSC 2320	0.01	%				0.16	0.07	0.02	0.04	3.4	0.39
Sulphate as SO4, Total	DETSC 2321#	0.01	%				0.16	0.19	0.05	0.12	9.0	0.44

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14585-1
 Client Ref PC207899
 Contract Title Graven Hill, Bicester

Lab No	1709215	1709216	1709217	1709218	1709219	1709220	1709221	1709222	1709223	1709224	1709225
Sample ID	BH405	CC302	TP603	CC302	CC501	CC504	TP301	TP308	TP409	TP409	TP602
Depth	1.20-1.65	1.20-1.30	2.00	0.40-0.90	2.00-2.20	2.00-2.20	1.60	0.80	0.90-1.10	2.00-2.20	0.60
Other ID											
Sample Type	D	D	B	D	D	D	D	D	D	D	D
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	21/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units											
Inorganics														
pH	DETSC 2008#		pH	7.6	7.0	7.2	6.7	7.0	5.2	7.4	7.4	7.9	7.1	7.3
Organic matter	DETSC 2002#	0.1	%											
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	190	140	1400	170	1900	1800	1100	260	200	1600	54
Sulphur as S, Total	DETSC 2320	0.01	%	0.06	0.07	1.2								
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.11	0.14	2.6								

LABORATORY RESULTS - Particle Size Distribution

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole RC702

Sample Depth 0.40m

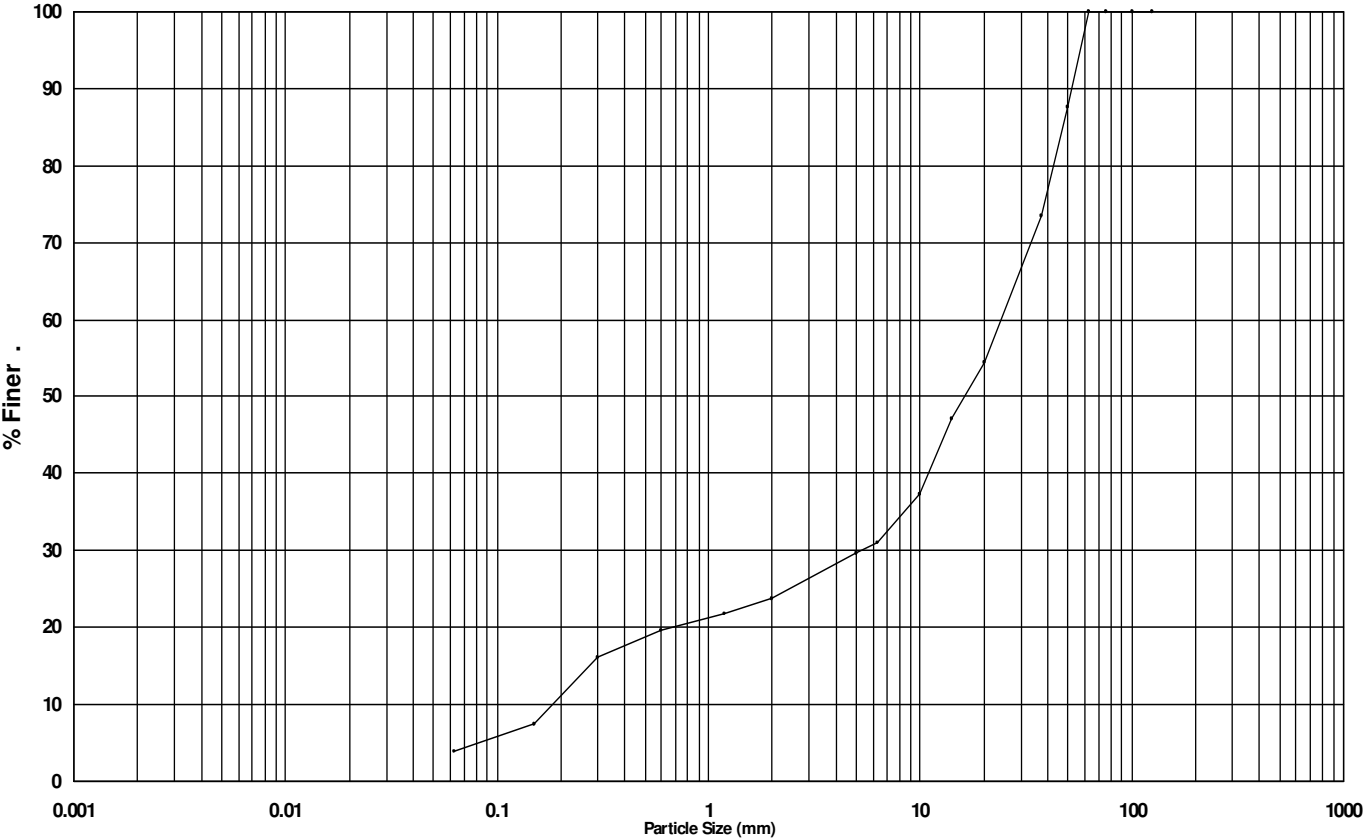
Sample Type B

Sample Ref C42283

Project No: PC207899

Sample Description

MADE GROUND: Yellowish brown very sandy slightly clayey gravel.



Classification	CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulders
		SILT			SAND			Gravel				

Classification	% of each
SILT (including CLAY)	4
SAND	20
GRAVEL	76
COBBLES	0
BOULDERS	0

Size	% Finer
125 mm	100
100 mm	100
75 mm	100
63 mm	100
50 mm	88
37.5 mm	73
20 mm	55
14 mm	47
10 mm	37
6.3 mm	31
5 mm	30
2 mm	24
1.18 mm	22
600 µ m	20
300 µ m	16
150 µ m	7

Size	% Finer
63 µ m	4

Uniformity Coefficient	
130.24	
Sieving Method	
Wet sieve	
Fine Particle Analysis	
Method	
Pre-treated with	
% loss on Pre-treatment	
Particle Density	

Remarks Sieve:-Test performed in accordance with BS EN ISO 17892-4:2016

06/11/2020

LABORATORY RESULTS - Particle Size Distribution

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole RC705

Sample Depth 0.50m

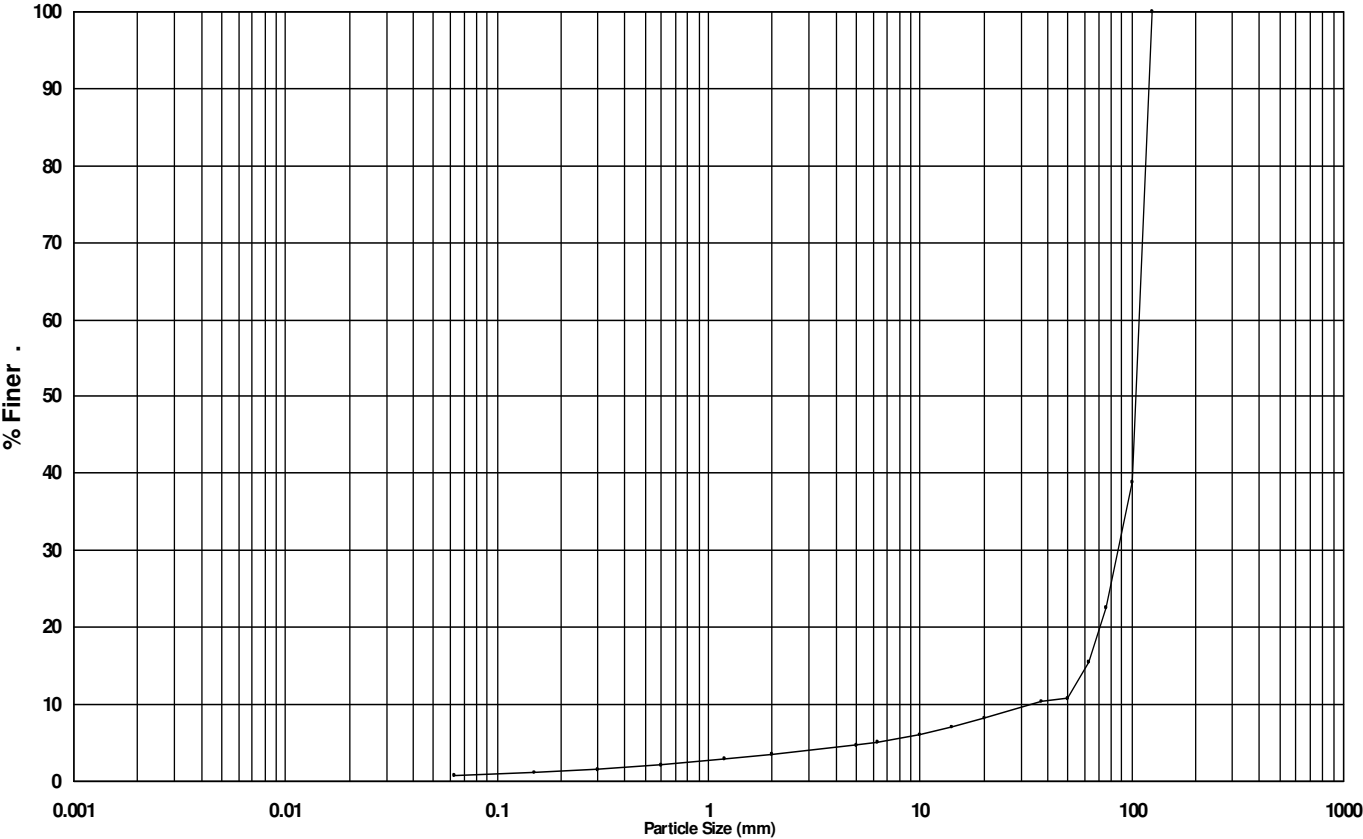
Sample Type B

Sample Ref C42407

Project No: PC207899

Sample Description

MADE GROUND: Dark grey cobbles with some sandy slightly clayey gravel.



Classification	CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulders
		SILT			SAND			Gravel				

Classification	% of each
SILT (including CLAY)	1
SAND	2
GRAVEL	13
COBBLES	84
BOULDERS	0

Size	% Finer
125 mm	100
100 mm	39
75 mm	23
63 mm	16
50 mm	11
37.5 mm	10
20 mm	8
14 mm	7
10 mm	6
6.3 mm	5
5 mm	5
2 mm	3
1.18 mm	3
600 µ m	2
300 µ m	2
150 µ m	1

Size	% Finer
63 µ m	1

Uniformity Coefficient	
3.28	
Sieving Method	
Wet sieve	
Fine Particle Analysis	
Method	
Pre-treated with	
% loss on Pre-treatment	
Particle Density	

Remarks Sieve:-Test performed as "Non Standard" due to sample mass not being in accordance with BS EN ISO 17892-4:2016

06/11/2020

LABORATORY RESULTS - Particle Size Distribution

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole RC706

Sample Depth 0.50m

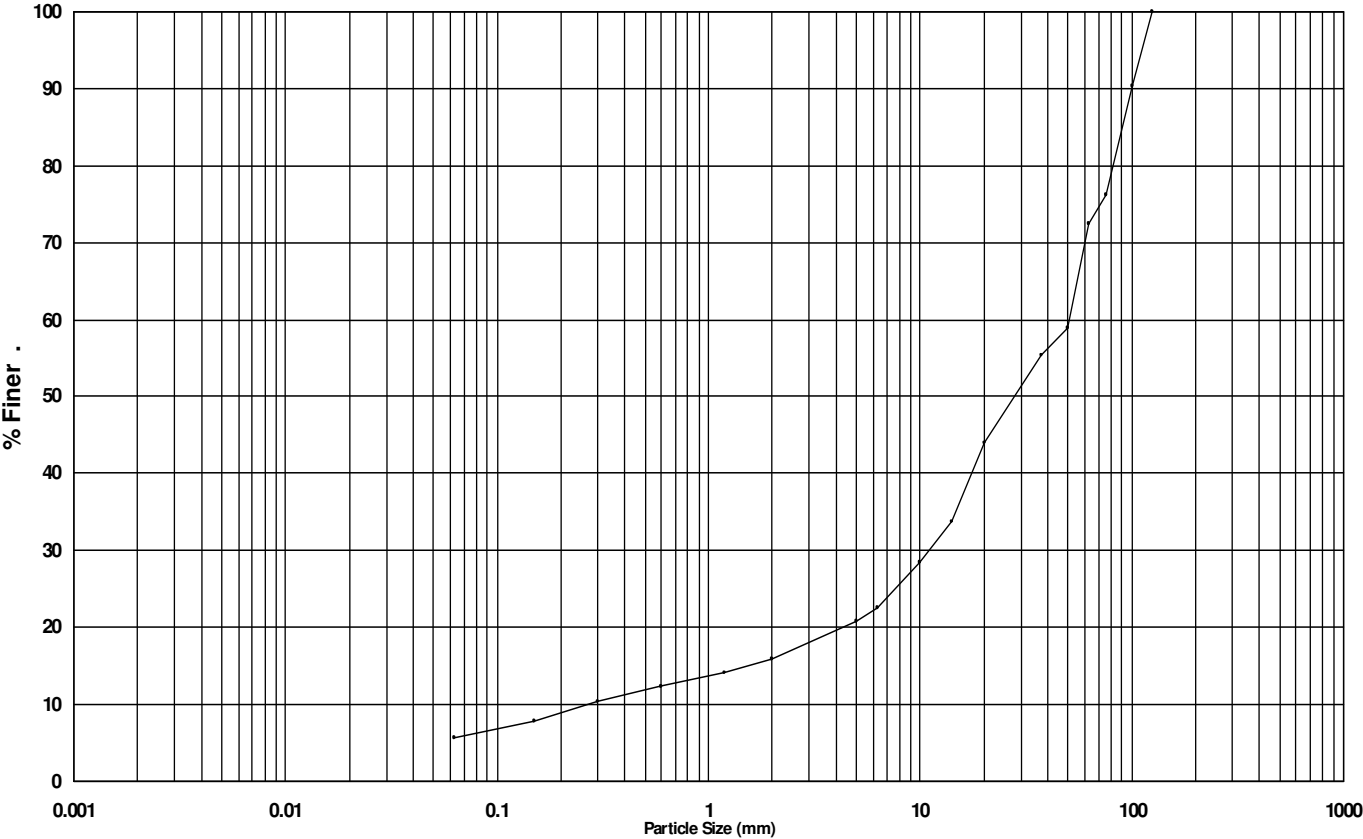
Sample Type B

Sample Ref C42410

Project No: PC207899

Sample Description

MADE GROUND: Grey sandy slightly clayey gravel with a high cobble content.



Classification	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulders
CLAY	SILT			SAND			Gravel				

Classification	% of each
SILT (including CLAY)	6
SAND	10
GRAVEL	57
COBBLES	27
BOULDERS	0

Size	% Finer
125 mm	100
100 mm	90
75 mm	76
63 mm	73
50 mm	59
37.5 mm	55
20 mm	44
14 mm	34
10 mm	28
6.3 mm	23
5 mm	21
2 mm	16
1.18 mm	14
600 μ m	12
300 μ m	11
150 μ m	8

Size	% Finer
63 μ m	6

Uniformity Coefficient	
193.82	
Sieving Method	
Wet sieve	
Fine Particle Analysis	
Method	
Pre-treated with	
% loss on Pre-treatment	
Particle Density	

Remarks Sieve:-Test performed as "Non Standard" due to sample mass not being in accordance with BS EN ISO 17892-4:2016

06/11/2020

LABORATORY RESULTS - Particle Size Distribution

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole RC707

Sample Depth 0.50m

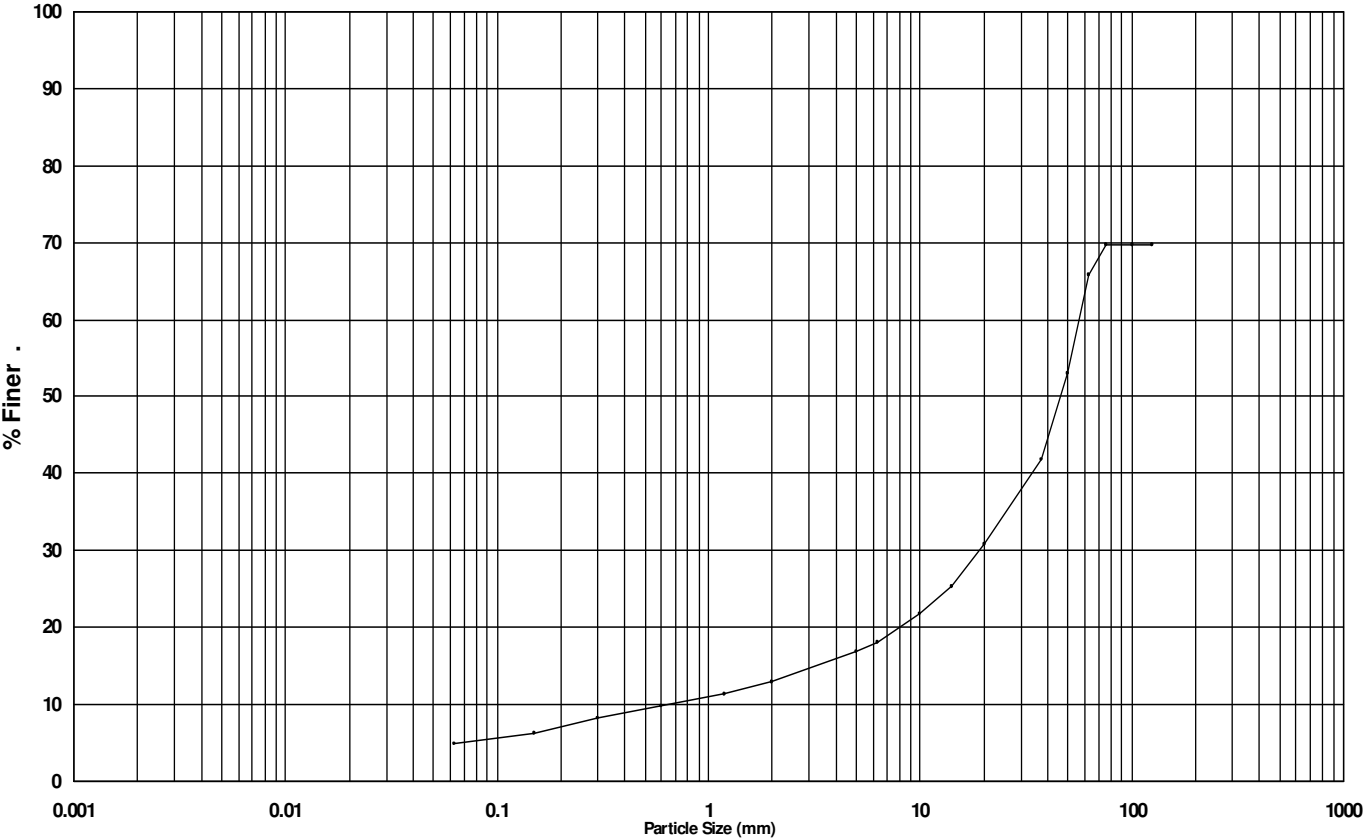
Sample Type B

Sample Ref C42411

Project No: PC207899

Sample Description

MADE GROUND: Light brown sandy clayey gravel with a high cobble content.



Classification	CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulders
		SILT			SAND			Gravel				

Classification	% of each
SILT (including CLAY)	5
SAND	8
GRAVEL	53
COBBLES	34
BOULDERS	0

Size	% Finer
125 mm	70
100 mm	70
75 mm	70
63 mm	66
50 mm	53
37.5 mm	42
20 mm	31
14 mm	25
10 mm	22
6.3 mm	18
5 mm	17
2 mm	13
1.18 mm	11
600 μ m	10
300 μ m	8
150 μ m	6

Size	% Finer
63 μ m	5

Uniformity Coefficient	
87.12	
Sieving Method	
Wet sieve	
Fine Particle Analysis	
Method	
Pre-treated with	
% loss on Pre-treatment	
Particle Density	

Remarks Sieve:-Test performed as "Non Standard" due to sample mass not being in accordance with BS EN ISO 17892-4:2016

06/11/2020

LABORATORY RESULTS - Particle Size Distribution

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole RC710

Sample Depth 0.40m

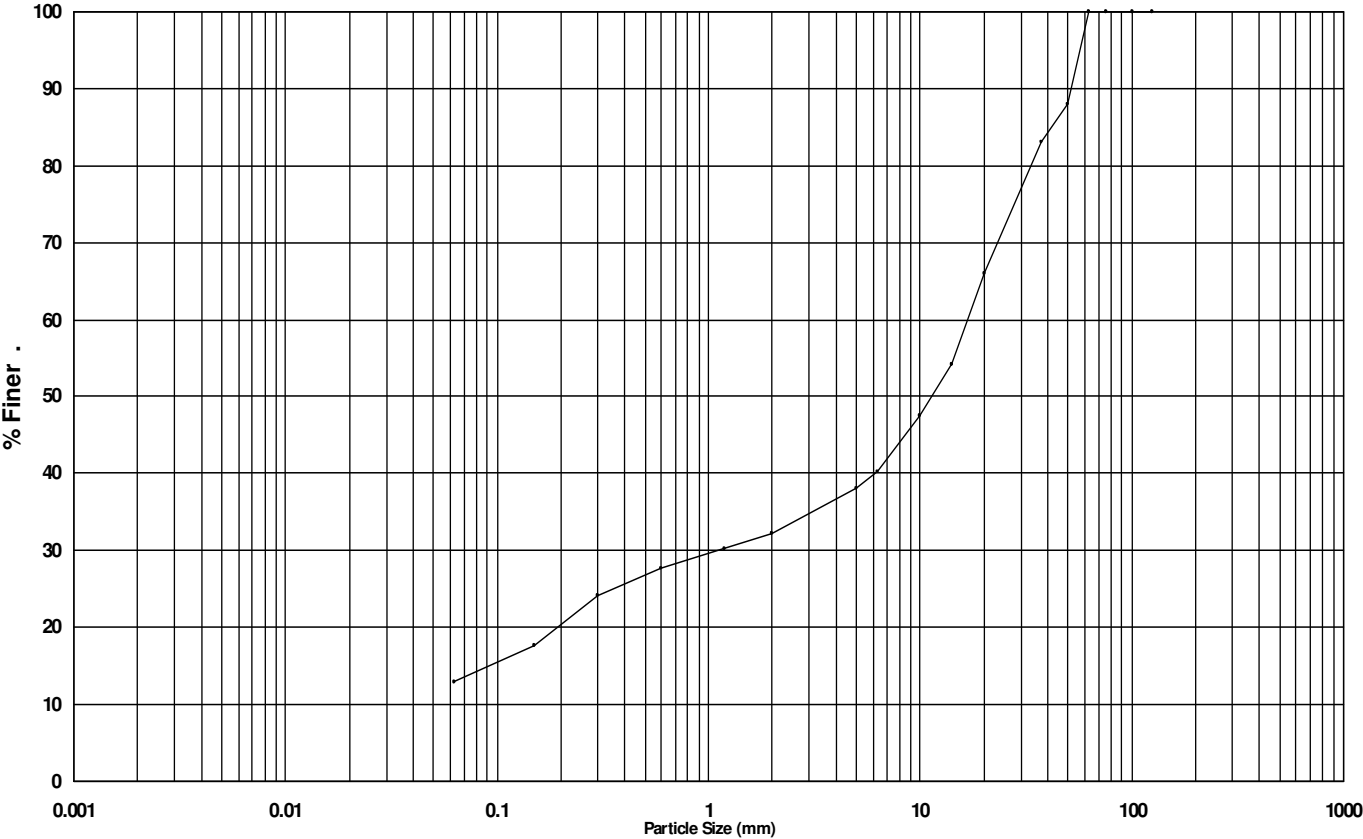
Sample Type B

Sample Ref C42683

Project No: PC207899

Sample Description

MADE GROUND: Light brown sandy clayey gravel.



Classification	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulders
CLAY	SILT			SAND			Gravel				

Classification	% of each
SILT (including CLAY)	13
SAND	19
GRAVEL	68
COBBLES	0
BOULDERS	0

Size	% Finer
125 mm	100
100 mm	100
75 mm	100
63 mm	100
50 mm	88
37.5 mm	83
20 mm	66
14 mm	54
10 mm	47
6.3 mm	40
5 mm	38
2 mm	32
1.18 mm	30
600 µ m	28
300 µ m	24
150 µ m	18

Size	% Finer
63 µ m	13

Uniformity Coefficient	
Not Available	
Sieving Method	
Wet sieve	
Fine Particle Analysis	
Method	
Pre-treated with	
% loss on Pre-treatment	
Particle Density	

Remarks Sieve:-Test performed in accordance with BS EN ISO 17892-4:2016

06/11/2020

LABORATORY RESULTS - Particle Size Distribution

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole RC801

Sample Depth 0.60m

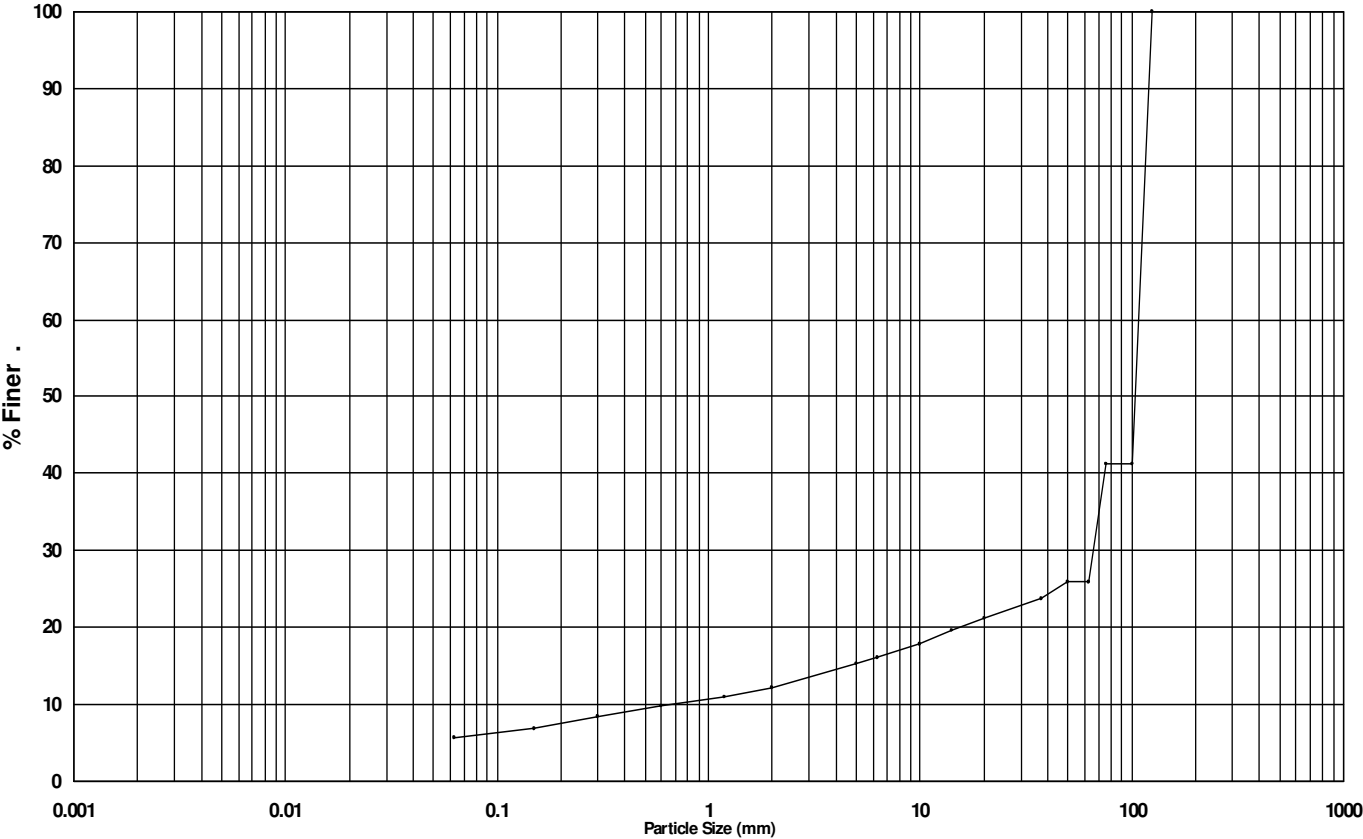
Sample Type B

Sample Ref C42108

Project No: PC207899

Sample Description

MADE GROUND: Black mottled dark grey cobbles with much sandy clayey gravel.



Classification	CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulders
		SILT			SAND			Gravel				

Classification	% of each
SILT (including CLAY)	6
SAND	6
GRAVEL	14
COBBLES	74
BOULDERS	0

Size	% Finer
125 mm	100
100 mm	41
75 mm	41
63 mm	26
50 mm	26
37.5 mm	24
20 mm	21
14 mm	20
10 mm	18
6.3 mm	16
5 mm	15
2 mm	12
1.18 mm	11
600 µ m	10
300 µ m	8
150 µ m	7

Size	% Finer
63 µ m	6

Uniformity Coefficient	
163.54	
Sieving Method	
Wet sieve	
Fine Particle Analysis	
Method	
Pre-treated with	
% loss on Pre-treatment	
Particle Density	

Remarks Sieve:-Test performed as "Non Standard" due to sample mass not being in accordance with BS EN ISO 17892-4:2016

06/11/2020

LABORATORY RESULTS - Particle Size Distribution

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole TP425

Sample Depth 0.50m

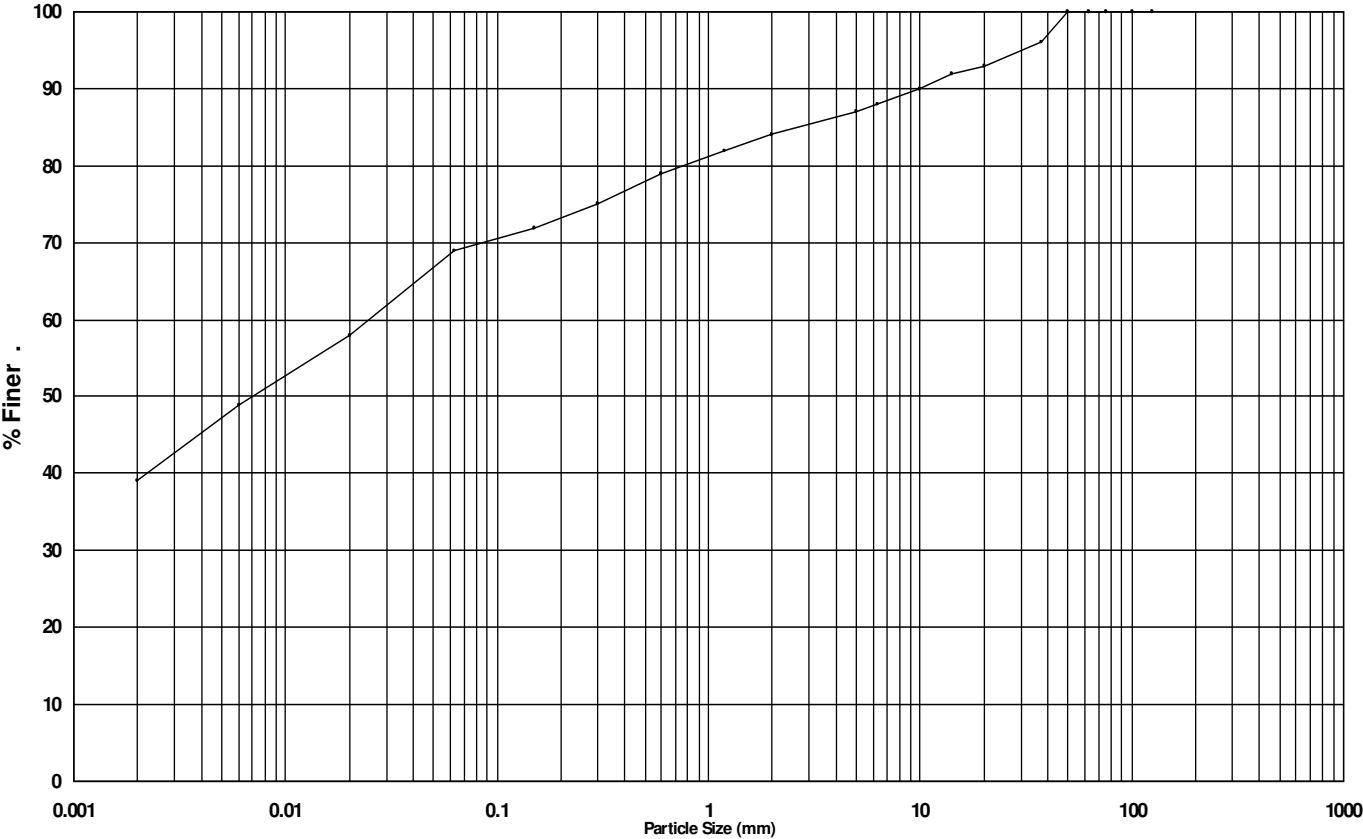
Sample Type B

Sample Ref C42382

Project No: PC207899

Sample Description

MADE GROUND: Dark grey slightly sandy slightly gravelly clay.



Classification	CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulders
		SILT			SAND			Gravel				

Classification	% of each
CLAY	39
SILT	30
SAND	15
GRAVEL	16
COBBLES	0
BOULDERS	0

Size	% Finer
125 mm	100
100 mm	100
75 mm	100
63 mm	100
50 mm	100
37.5 mm	96
20 mm	93
14 mm	92
10 mm	90
6.3 mm	88
5 mm	87
2 mm	84
1.18 mm	82
600 µ m	79
300 µ m	75
150 µ m	72

Size	% Finer
63 µ m	69
20 µ m	58
6 µ m	49
2 µ m	39

Uniformity Coefficient	
Not Available	
Sieving Method	
Wet sieve	
Fine Particle Analysis	
Method	Pipette
Pre-treated with	Hydrogen Peroxide
% loss on Pre-treatment	0.52
Particle Density	2.65 (Assumed)

Remarks Sieve:-Test performed in accordance with BS EN ISO 17892-4:2016
Pipette:-Test performed in accordance with BS EN ISO 17892-4:2016

06/11/2020

LABORATORY RESULTS - Particle Size Distribution

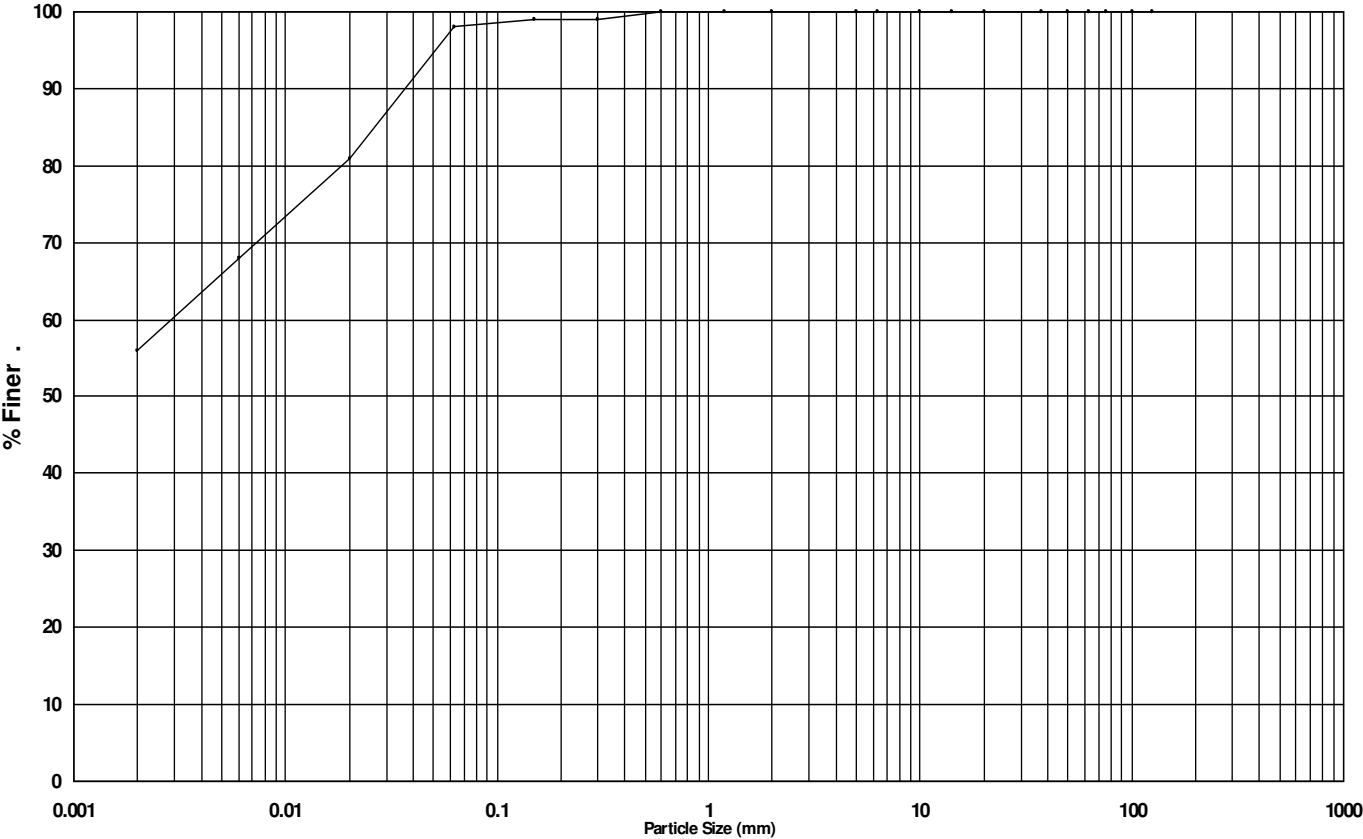
Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole TP704
Sample Depth 0.30-0.80m
Sample Type B
Sample Ref C41970

Project No: PC207899

Sample Description

MADE GROUND: Grey slightly sandy silty clay.



Classification	CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulders
		SILT			SAND			Gravel				

Classification	% of each
CLAY	56
SILT	42
SAND	2
GRAVEL	0
COBBLES	0
BOULDERS	0

Size	% Finer
125 mm	100
100 mm	100
75 mm	100
63 mm	100
50 mm	100
37.5 mm	100
20 mm	100
14 mm	100
10 mm	100
6.3 mm	100
5 mm	100
2 mm	100
1.18 mm	100
600 μ m	100
300 μ m	99
150 μ m	99

Size	% Finer
63 μ m	98
20 μ m	81
6 μ m	68
2 μ m	56

Uniformity Coefficient	
Not Available	
Sieving Method	
Wet sieve	
Fine Particle Analysis	
Method	Pipette
Pre-treated with	Hydrogen Peroxide
% loss on Pre-treatment	2.26
Particle Density	2.65 (Assumed)

Remarks Sieve:-Test performed in accordance with BS EN ISO 17892-4:2016
Pipette:-Test performed in accordance with BS EN ISO 17892-4:2016

06/11/2020

LABORATORY RESULTS - Particle Size Distribution

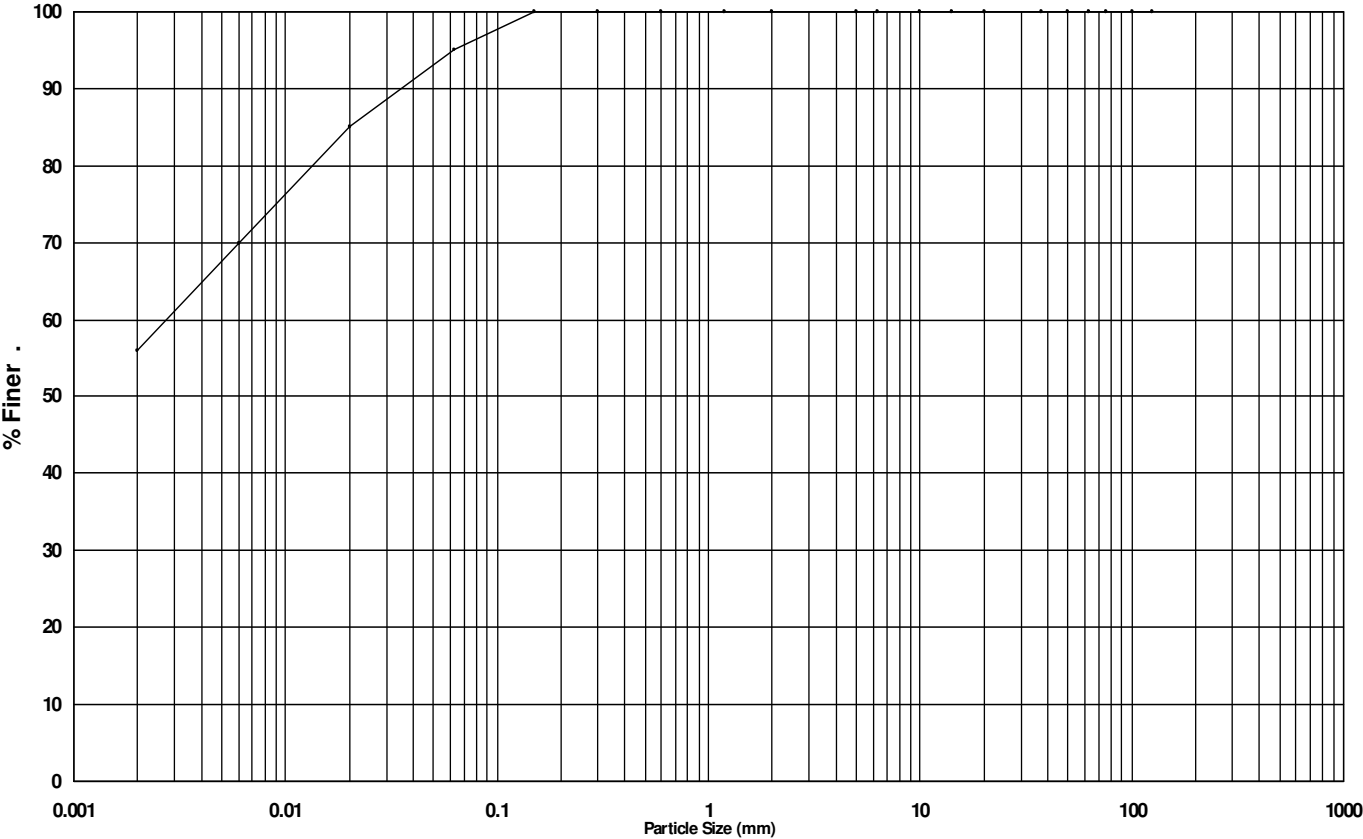
Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole TP801
Sample Depth 1.00-1.50m
Sample Type B
Sample Ref C41955

Project No: PC207899

Sample Description

Grey slightly sandy CLAY.



Classification	CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulders
		SILT			SAND			Gravel				

Classification	% of each
CLAY	56
SILT	39
SAND	5
GRAVEL	0
COBBLES	0
BOULDERS	0

Size	% Finer
125 mm	100
100 mm	100
75 mm	100
63 mm	100
50 mm	100
37.5 mm	100
20 mm	100
14 mm	100
10 mm	100
6.3 mm	100
5 mm	100
2 mm	100
1.18 mm	100
600 µ m	100
300 µ m	100
150 µ m	100

Size	% Finer
63 µ m	95
20 µ m	85
6 µ m	70
2 µ m	56

Uniformity Coefficient	
Not Available	
Sieving Method	
Wet sieve	
Fine Particle Analysis	
Method	Pipette
Pre-treated with	Hydrogen Peroxide
% loss on Pre-treatment	1.05
Particle Density	2.65 (Assumed)

Remarks Sieve:-Test performed in accordance with BS EN ISO 17892-4:2016
Pipette:-Test performed in accordance with BS EN ISO 17892-4:2016

06/11/2020

LABORATORY RESULTS - Particle Size Distribution

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole CC501

Sample Depth 0.19m

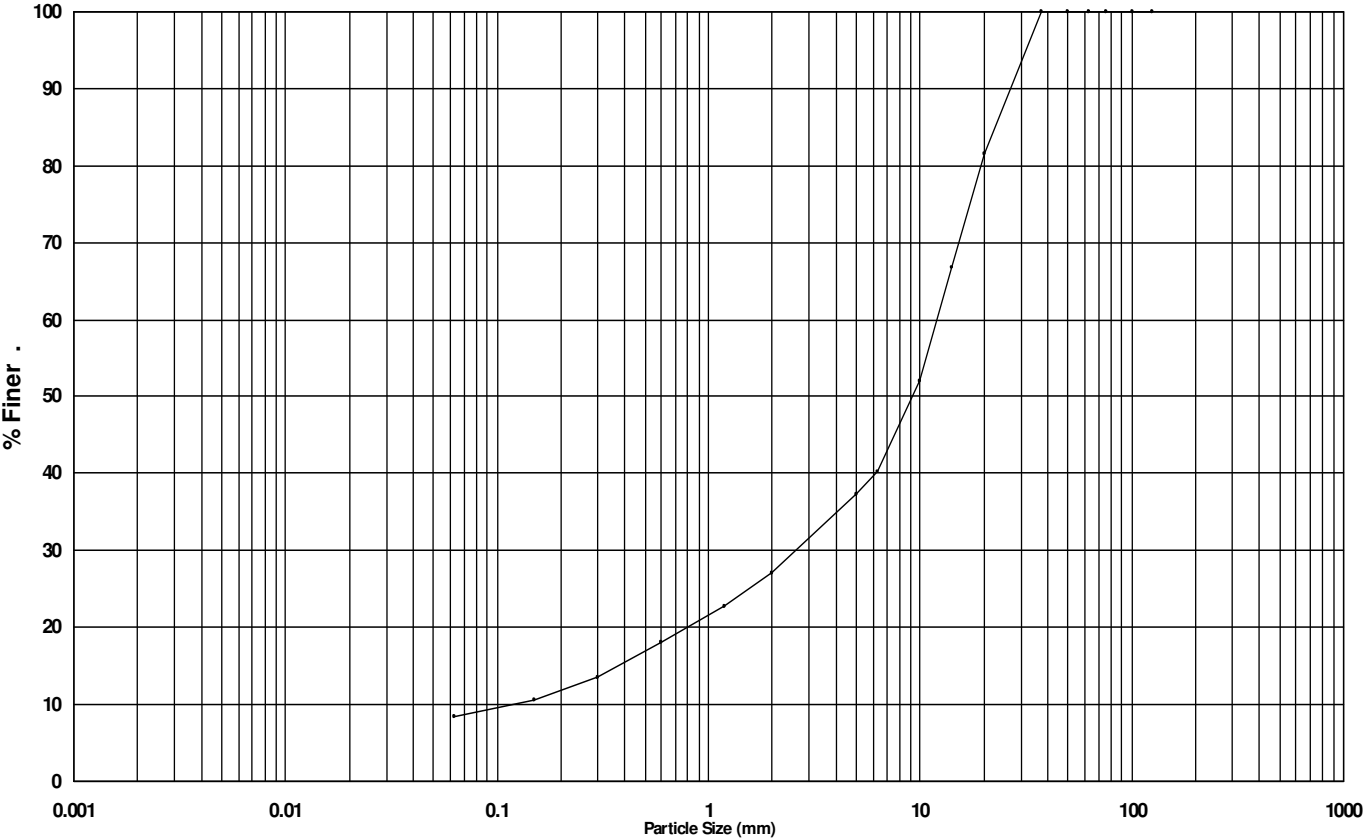
Project No: PC207899

Sample Type B

Sample Ref C41985

Sample Description

MADE GROUND: Grey sandy clayey gravel.



Classification	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulders
CLAY	SILT			SAND			Gravel				

Classification	% of each
SILT (including CLAY)	8
SAND	19
GRAVEL	73
COBBLES	0
BOULDERS	0

Size	% Finer
125 mm	100
100 mm	100
75 mm	100
63 mm	100
50 mm	100
37.5 mm	100
20 mm	82
14 mm	67
10 mm	52
6.3 mm	40
5 mm	37
2 mm	27
1.18 mm	23
600 µ m	18
300 µ m	14
150 µ m	11

Size	% Finer
63 µ m	8

Uniformity Coefficient	
102.34	
Sieving Method	
Wet sieve	
Fine Particle Analysis	
Method	
Pre-treated with	
% loss on Pre-treatment	
Particle Density	

Remarks Sieve:-Test performed in accordance with BS EN ISO 17892-4:2016

06/11/2020

LABORATORY RESULTS - Compaction

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

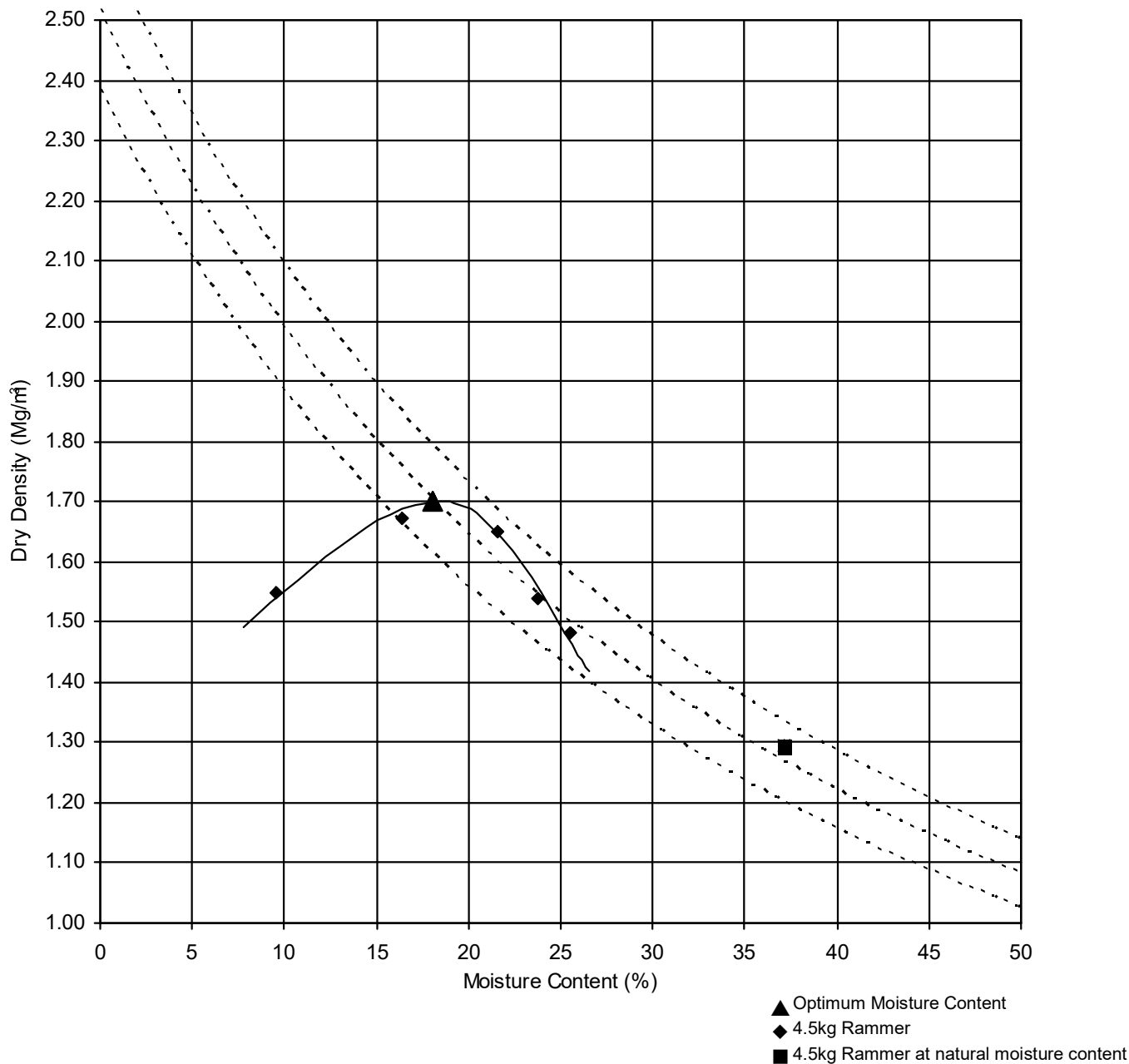
Hole TP425

Sample Depth 0.50m

Project No: PC207899

Sample Type B

Sample Ref C42382



Optimum Moisture Content 18.0
Maximum Dry Density 1.70 Mg/m³

Particles retained on 37.5mm 0 %
 20mm sieve 2 %

Particle Density 2.65 (Assumed) Mg/m³
 Preparation Single Sample
 4.5kg Rammer

Description MADE GROUND: Dark grey slightly sandy slightly gravelly clay.

Remarks  BS1377 Part 4 1990 : Clause 3.5 and 3.6

GEOTECHNICS
 geotechnical and geoenvironmental specialists

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LABORATORY RESULTS - Compaction

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

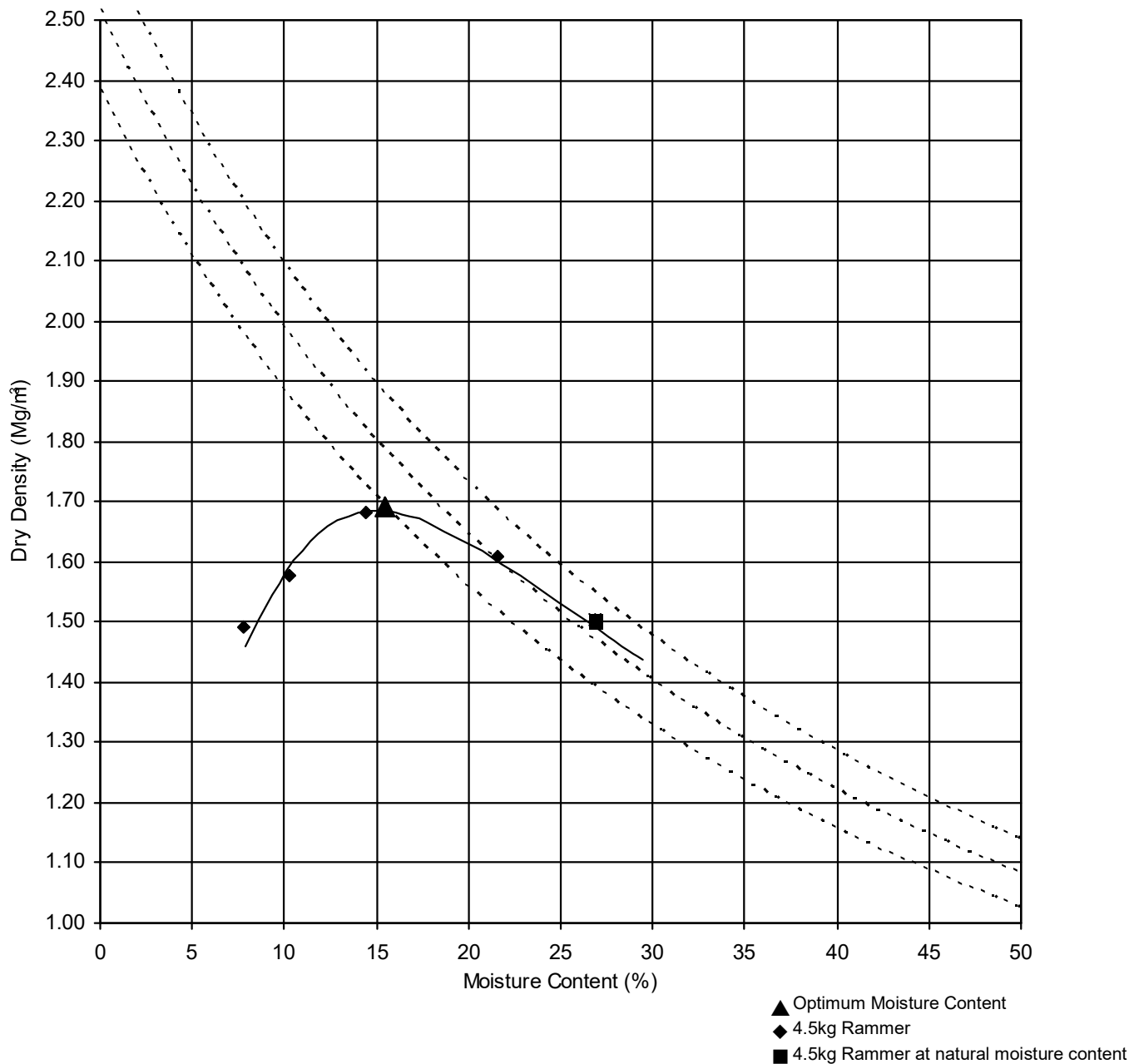
Hole TP702

Sample Depth 0.60m

Project No: PC207899

Sample Type B

Sample Ref C45453



Optimum Moisture Content 15.5
Maximum Dry Density 1.69 Mg/m³

Particles retained on 37.5mm 0 %
 20mm sieve 0 %

Particle Density 2.65 (Assumed) Mg/m³
 Preparation Single Sample
 4.5kg Rammer

Description MADE GROUND: Light brown mottled grey
 slightly sandy slightly gravelly clay.

Remarks  BS1377 Part 4 1990 : Clause 3.5 and 3.6

GEOTECHNICS
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LABORATORY RESULTS - Compaction

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

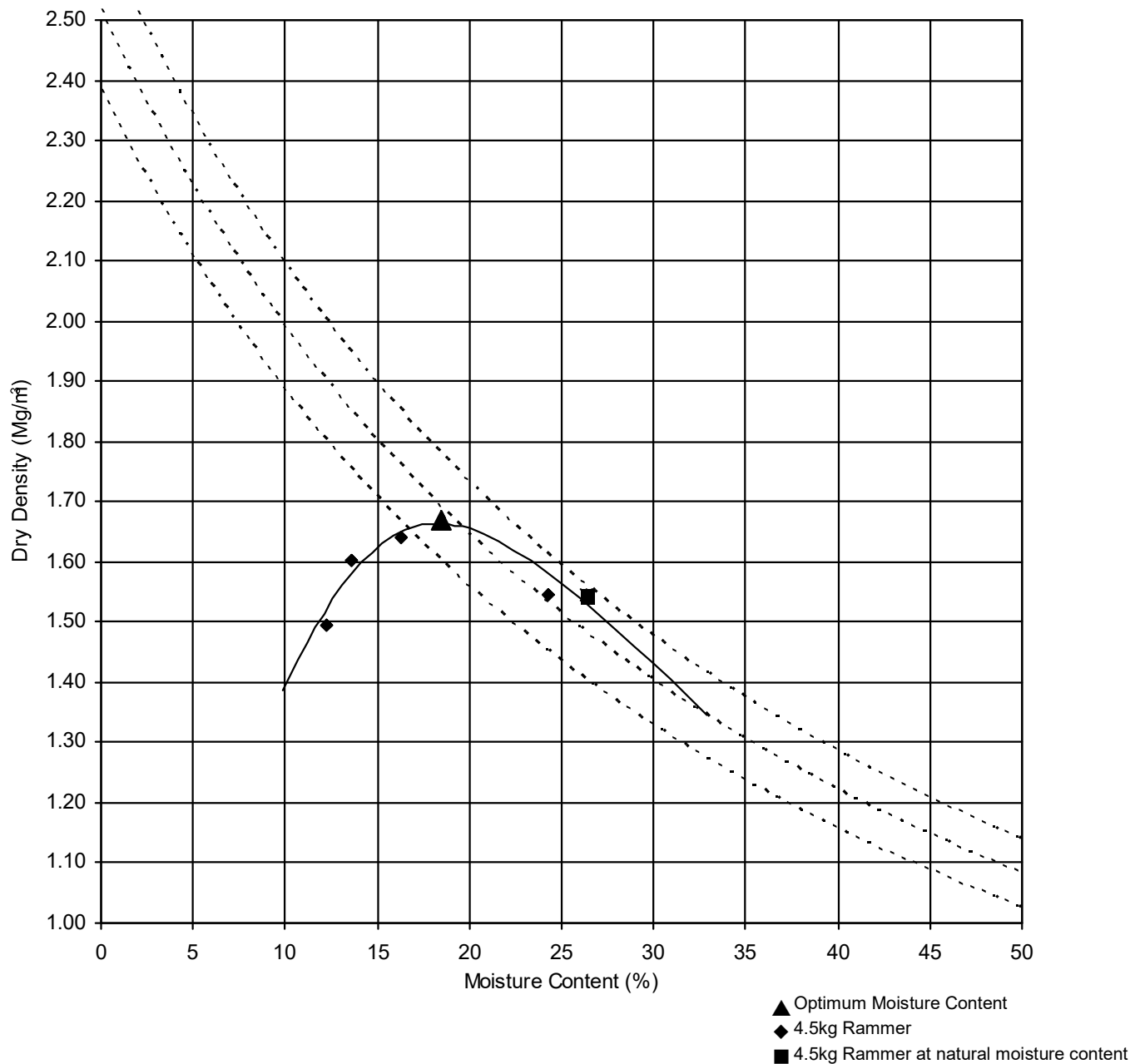
Hole TP703

Sample Depth 0.60m

Project No: PC207899

Sample Type B

Sample Ref C45458



Optimum Moisture Content 18.5
Maximum Dry Density 1.67 Mg/m³

Particles retained on 37.5mm 0 %
 20mm sieve 0 %

Particle Density 2.65 (Assumed) Mg/m³
 Preparation Single Sample
 4.5kg Rammer

Description MADE GROUND: Grey and brown slightly sandy slightly gravelly clay.

Remarks  BS1377 Part 4 1990 : Clause 3.5 and 3.6

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LABORATORY RESULTS - Compaction

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

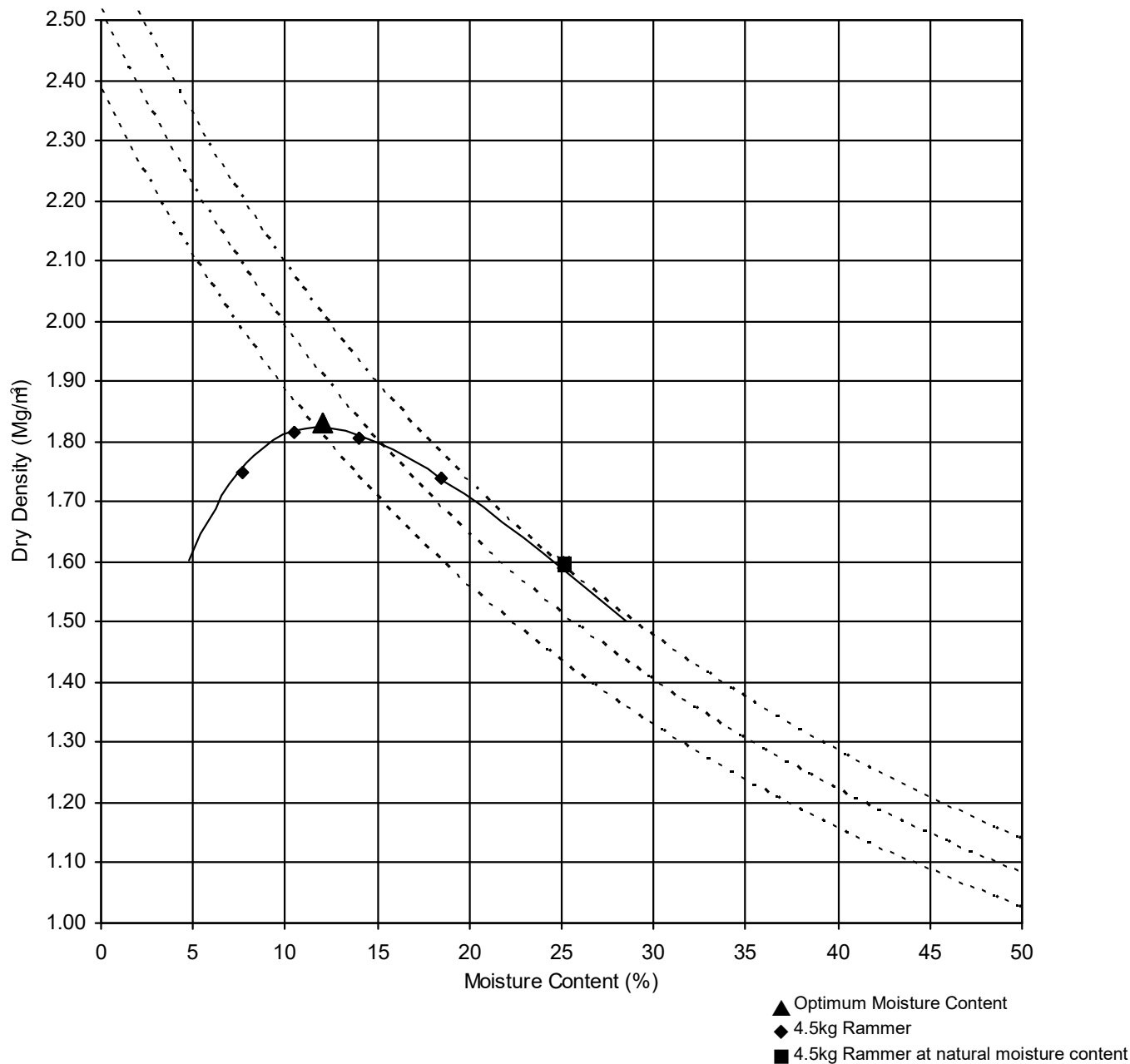
Hole TP704

Sample Depth 0.30-0.80m

Project No: PC207899

Sample Type B

Sample Ref C41970



Optimum Moisture Content 12.0
Maximum Dry Density 1.83 Mg/m³

Particles retained on 37.5mm 0 %
20mm sieve 0 %

Particle Density 2.65 (Assumed) Mg/m³
Preparation Single Sample
4.5kg Rammer

Description MADE GROUND: Grey slightly sandy silty clay.

Remarks  BS1377 Part 4 1990 : Clause 3.5 and 3.6

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LABORATORY RESULTS - Compaction

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

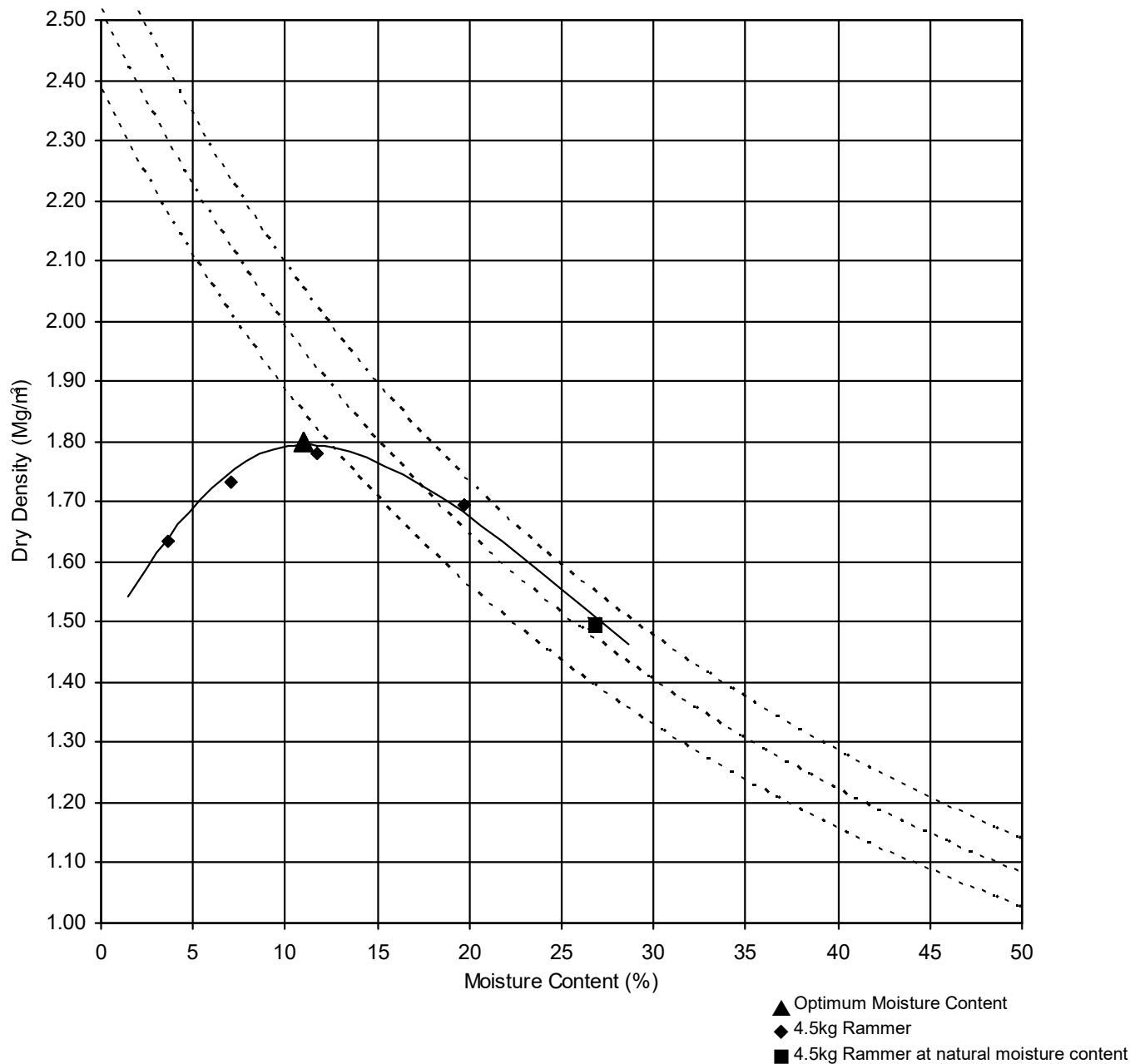
Hole TP704

Sample Depth 2.60-2.90m

Project No: PC207899

Sample Type B

Sample Ref C41965



Optimum Moisture Content 11.0
Maximum Dry Density 1.80 Mg/m³

Particles retained on 37.5mm 18 %
 20mm sieve 13 %

Particle Density 2.65 (Assumed) Mg/m³
 Preparation Single Sample
 4.5kg Rammer

Description Brown mottled grey slightly sandy slightly gravelly CLAY.

Remarks  BS1377 Part 4 1990 : Clause 3.5 and 3.6

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LABORATORY RESULTS - Compaction

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

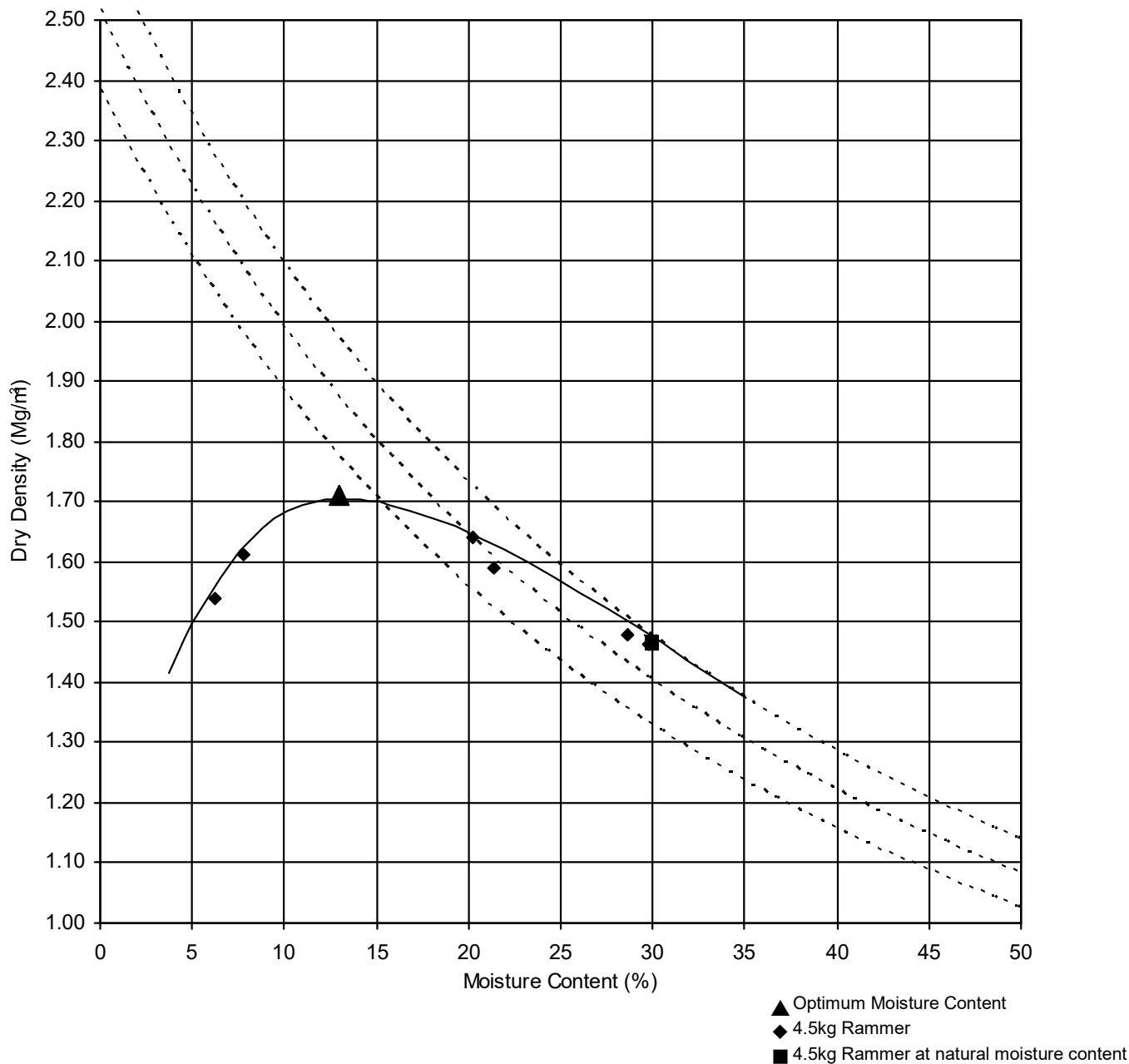
Hole TP801

Sample Depth 1.00-1.50m

Project No: PC207899

Sample Type B

Sample Ref C41955



Optimum Moisture Content 13.0
Maximum Dry Density 1.71 Mg/m³

Particles retained on 37.5mm 0 %
 20mm sieve 0 %

Particle Density 2.65 (Assumed) Mg/m³
 Preparation Single Sample
 4.5kg Rammer

Description Grey slightly sandy CLAY.

Remarks  BS1377 Part 4 1990 : Clause 3.5 and 3.6

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LABORATORY RESULTS - Compaction

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

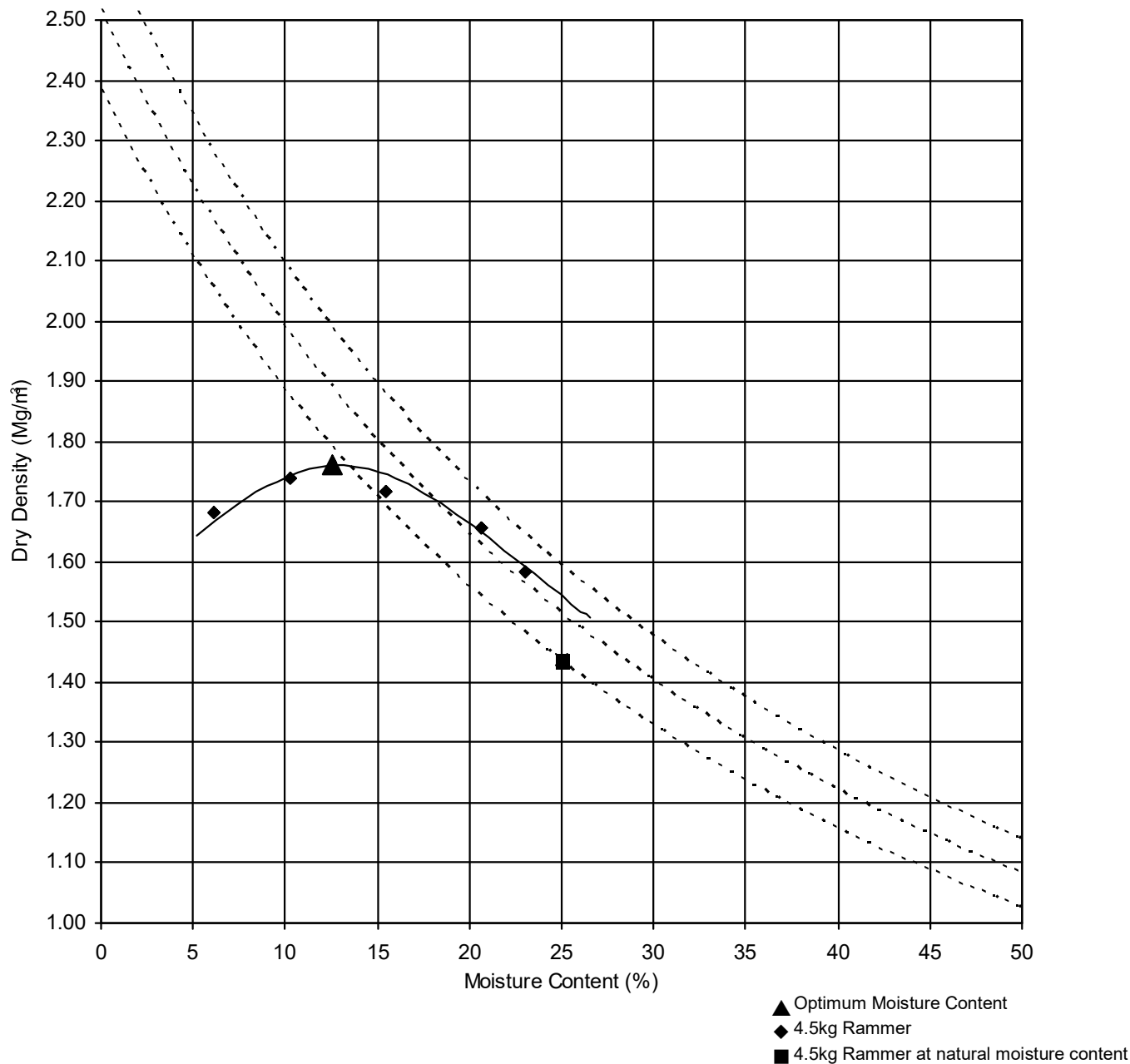
Hole TP802

Sample Depth 0.30m

Project No: PC207899

Sample Type B

Sample Ref C45821



Optimum Moisture Content 12.5
Maximum Dry Density 1.76 Mg/m³

Particles retained on 37.5mm 0 %
20mm sieve 0 %

Particle Density 2.65 (Assumed) Mg/m³
Preparation Single Sample
4.5kg Rammer

Description MADE GROUND: Brown mottled orangish brown slightly sandy slightly gravelly clay.

Remarks  BS1377 Part 4 1990 : Clause 3.5 and 3.6

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LABORATORY RESULTS - Compaction

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

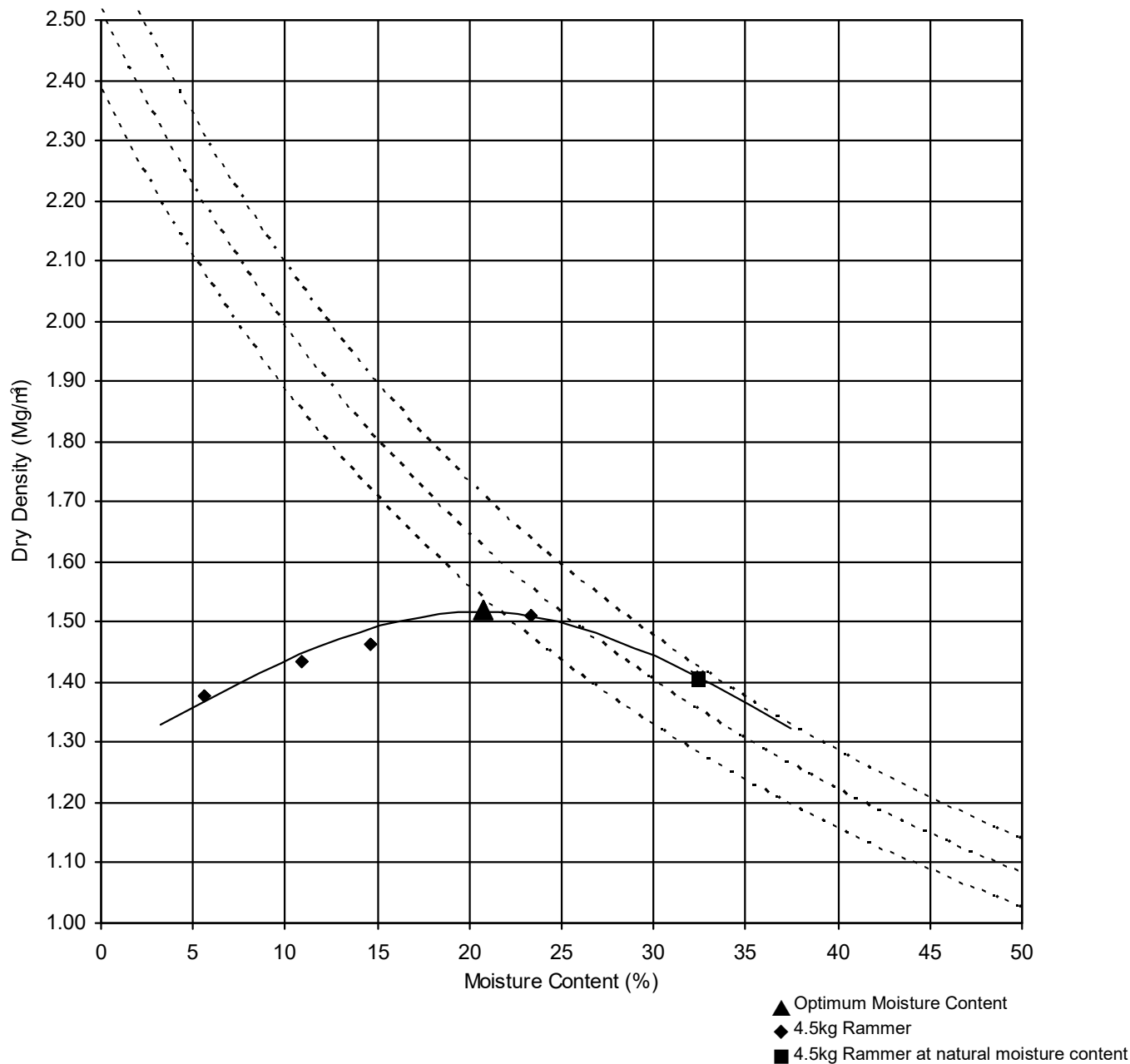
Hole TP825

Sample Depth 0.80-1.10m

Project No: PC207899

Sample Type B

Sample Ref C42096



Optimum Moisture Content 20.8
Maximum Dry Density 1.52 Mg/m³

Particles retained on 37.5mm 0 %
20mm sieve 0 %

Particle Density 2.65 (Assumed) Mg/m³
Preparation Single Sample
4.5kg Rammer

Description Grey mottled brown slightly sandy CLAY.

Remarks  BS1377 Part 4 1990 : Clause 3.5 and 3.6

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LABORATORY RESULTS - CBR Force Penetration

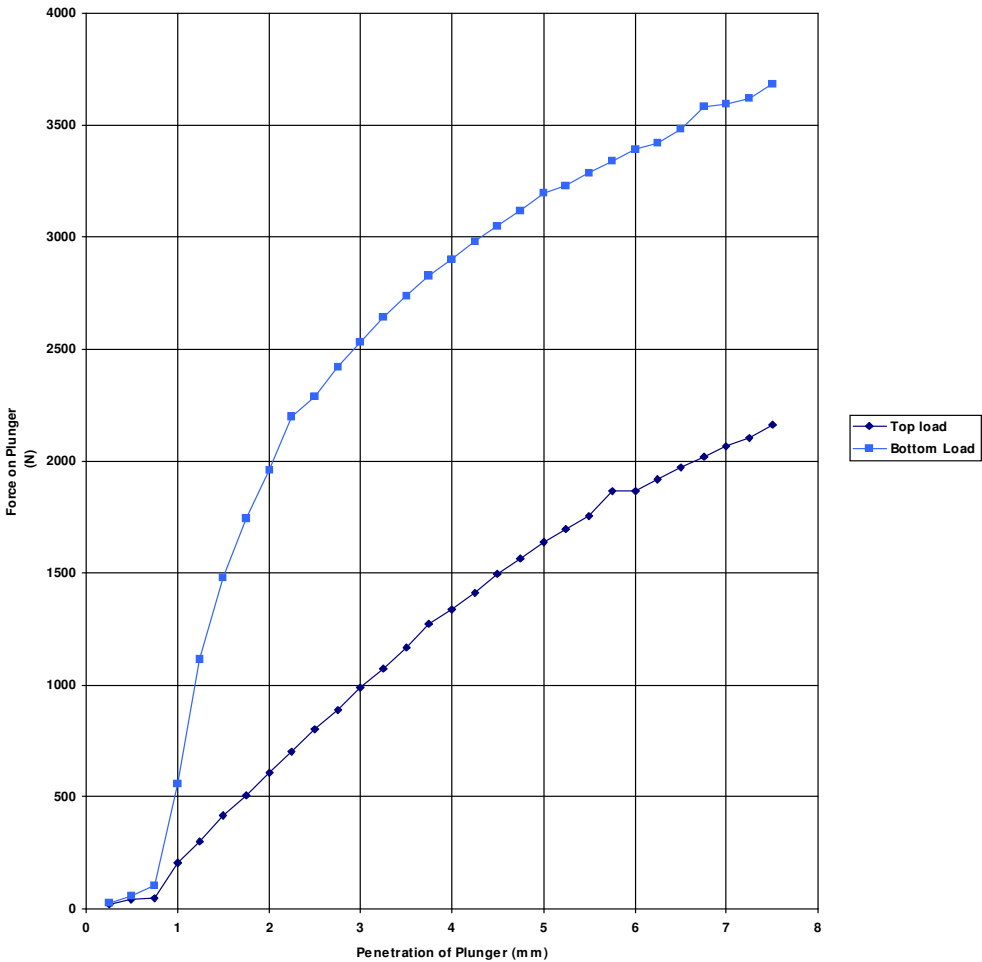
Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Hole TP410
Sample Depth 0.50m
Sample Type B
Sample Ref C44902

Sample Description

MADE GROUND: Dark grey and brown slightly sandy slightly gravelly clay.



Penetration	Top (N)	Bottom (N)
0.25mm	23	29
0.50mm	43	57
0.75mm	50	104
1.00mm	208	559
1.25mm	303	1117
1.50mm	415	1480
1.75mm	508	1743
2.00mm	610	1958
2.25mm	703	2198
2.50mm	801	2289
2.75mm	887	2419
3.00mm	987	2533
3.25mm	1075	2643
3.50mm	1168	2737
3.75mm	1271	2827

Penetration	Top (N)	Bottom (N)
4.00mm	1336	2902
4.25mm	1413	2981
4.50mm	1493	3050
4.75mm	1563	3115
5.00mm	1637	3197
5.25mm	1696	3229
5.50mm	1753	3289
5.75mm	1863	3337
6.00mm	1867	3391
6.25mm	1920	3421
6.50mm	1972	3481
6.75mm	2016	3581
7.00mm	2065	3591
7.25mm	2103	3618
7.50mm	2163	3681

Test Type	4.5kg	
Surcharge	13.60	kg
	22.0	%
Bulk Density (Mg/m³)	1.99	
Dry Density (Mg/m³)	1.68	
Hand Calculation	No	

CBR	Top	Bottom
Value	8.2	17
w%	19.2	17.6

Remarks AGS

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LABORATORY RESULTS - CBR Force Penetration

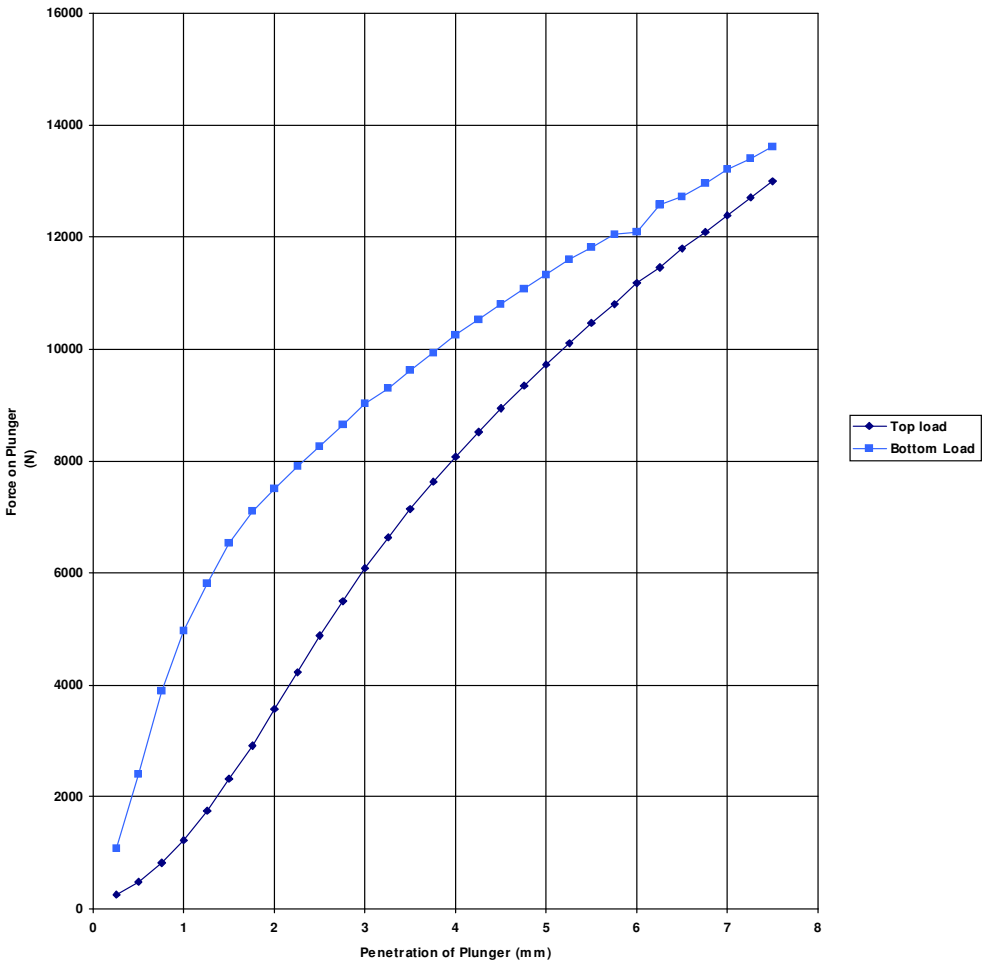
Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Hole TP410
Sample Depth 2.00m
Sample Type B
Sample Ref C44901

Sample Description

MADE GROUND: Dark grey and brown slightly sandy slightly gravelly clay.



Penetration	Top (N)	Bottom (N)
0.25mm	259	1073
0.50mm	490	2418
0.75mm	833	3897
1.00mm	1236	4962
1.25mm	1744	5817
1.50mm	2319	6535
1.75mm	2920	7104
2.00mm	3577	7511
2.25mm	4225	7901
2.50mm	4876	8273
2.75mm	5499	8636
3.00mm	6088	9021
3.25mm	6629	9300
3.50mm	7138	9625
3.75mm	7630	9930

Penetration	Top (N)	Bottom (N)
4.00mm	8080	10245
4.25mm	8527	10529
4.50mm	8950	10797
4.75mm	9347	11070
5.00mm	9722	11326
5.25mm	10104	11596
5.50mm	10454	11811
5.75mm	10794	12041
6.00mm	11188	12090
6.25mm	11461	12574
6.50mm	11785	12732
6.75mm	12084	12962
7.00mm	12386	13205
7.25mm	12694	13410
7.50mm	12998	13617

Test Type	4.5kg	
Surcharge	13.60	kg
	9.7	%
Bulk Density (Mg/m³)	1.75	
Dry Density (Mg/m³)	1.61	
Hand Calculation	No	

CBR	Top	Bottom
Value	49	63
w%	9.4	9.1

Remarks AGS

06/11/2020

LABORATORY RESULTS - MCV, Compaction, CBR

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					MCV		Compaction					CBR				
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	MCV	w	Type	w (Opt) %	ρ_d Mg/m ³	γ_b Mg/m ³	γ_d (Max) Mg/m ³	Type	Top		Bottom	
						%							CBR %	w %	CBR %	w %
								23.5		1.95	1.58					
TP401	0.70- 1.20 (0.70- 1.20)	B	C43757	Grey mottled brown slightly sandy CLAY.			4.5kg	(15.0) 7.6 12.2 15.7 24.2 21.5 25.9	2.65 m	1.83 1.93 2.04 1.95 1.98 1.93	(1.77) 1.70 1.72 1.76 1.57 1.63 1.54					
TP405	0.40- 0.80 (0.40- 0.80)	B	C45782	Brown slightly sandy CLAY.			4.5kg	(14.0) 5.4 10.2 12.6 19.6 25.2*	2.65a	1.73 1.87 1.94 2.01 *1.98	(1.75) 1.64 1.70 1.72 1.68 *1.58					
TP410	0.50 (0.50)	B	C44902	MADE GROUND: Dark grey and brown slightly sandy slightly gravelly clay.			4.5kg	(13.0)	2.65a	*1.96 2.00 1.99 1.93 1.82 1.92	(1.79) 1.73 1.68 1.58 1.68 1.74	4.5kg 4.5kg 4.5kg 4.5kg 4.5kg 4.5kg	12 30 8.2 3.5 69 66	23.2 15.3 19.2 22.3 8.5 10.7	12 59 17 4.4 71 68	24.9 15.6 17.6 22.4 8.4 10.4
TP410	2.00 (2.00)	B	C44901	MADE GROUND: Dark grey and brown slightly sandy slightly gravelly clay.			4.5kg	(14.0)	2.65a	1.64 1.75 1.89 *1.92 1.93	(1.69) 1.53 1.61 1.51 *1.68 1.61	4.5kg 4.5kg 4.5kg 4.5kg 4.5kg	40 49 4.5 10.0 6.1	6.9 9.4 26.4 13.6 19.1	36 63 9.5 37 16	7.0 9.1 23.6 15.4 20.3
TP413	1.30 (1.30)	B	C45425	MADE GROUND: Grey slightly sandy clayey gravel.			4.5kg	(9.0) 13.3* 3.5 6.8 12.7 17.5	2.65a	*2.04 1.91 2.02 2.09 2.01	(1.92) *1.80 1.84 1.90 1.85 1.71					
TP422	1.00- 1.30 (1.00- 1.30)	B	C42652	Grey mottled orangish brown slightly sandy CLAY.			4.5kg	(18.0) 29.3* 11.4 17.4 23.3 29.0 4.9	2.65a	*1.94 1.77 1.92 1.95 1.94 1.59	(1.64) *1.50 1.59 1.64 1.58 1.50 1.51					
TP425	0.50 (0.50)	B	C42382	MADE GROUND: Dark grey slightly sandy slightly gravelly clay.			4.5kg	(18.0) 37.1* 9.6 16.4 21.6 25.6 23.8	2.65a	*1.78 1.70 1.95 2.01 1.86 1.91	(1.70) *1.30 1.55 1.67 1.65 1.48 1.54					

Remarks

Particle Density - a=assumed, m=measured
w% - * = at natural moisture content; x = aggregate moisture content
= stabilised, see relevant test plot for details
NST = Not suitable for Test
For Standards followed see Laboratory Test Certificate

LABORATORY RESULTS - MCV, Compaction, CBR

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					MCV		Compaction					CBR				
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	MCV	w	Type	w (Opt) %	ρ_d Mg/m ³	γ_b Mg/m ³	γ_d (Max) Mg/m ³	Type	Top		Bottom	
						%							CBR %	w %	CBR %	w %
TP610	1.60- 2.00 (1.60- 2.00)	B	C42975	Grey mottled orangish brown slightly sandy CLAY.			4.5kg	(13.0) 28.1* 7.1 17.6 22.5 10.1	2.65a	*1.94 1.73 2.04 2.01 1.90	(1.77) *1.52 1.61 1.73					
TP702	0.60 (0.60)	B	C45453	MADE GROUND: Light brown mottled grey slightly sandy slightly gravelly clay.			4.5kg	(15.5) 26.9* 7.8 10.3 21.6 14.4	2.65a	*1.91 1.61 1.74 1.96 1.92	(1.69) *1.51 1.49 1.58 1.61 1.68					
TP703	0.60 (0.60)	B	C45458	MADE GROUND: Grey and brown slightly sandy slightly gravelly clay.			4.5kg	(18.5) 26.3* 12.3 13.6 24.3 16.3	2.65a	*1.95 1.68 1.82 1.92 1.91	(1.67) *1.55 1.50 1.60 1.55 1.64					
TP704	0.30- 0.80 (0.30- 0.80)	B	C41970	MADE GROUND: Grey slightly sandy silty clay.			4.5kg	(12.0) 25.2* 7.7 10.5 14.0 18.5	2.65a	*2.00 1.88 2.00 2.06 2.06	(1.83) *1.60 1.75 1.81 1.81 1.74					
TP704	2.60- 2.90 (2.60- 2.90)	B	C41965	Brown mottled grey slightly sandy slightly gravelly CLAY.			4.5kg	(11.0) 26.8* 3.7 7.0 11.7 19.7	2.65a	*1.90 1.70 1.86 1.99 2.03	(1.80) *1.50 1.64 1.73 1.78 1.70					
TP801	1.00- 1.50 (1.00- 1.50)	B	C41955	Grey slightly sandy CLAY.			4.5kg	(13.0) 29.9* 6.2 20.2 28.7 7.8 21.4 29.8	2.65a	*1.91 1.63 1.97 1.90 1.74 1.93 1.90	(1.71) *1.47 1.54 1.64 1.48 1.61 1.59 1.46					
TP802	0.30 (0.30)	B	C45821	MADE GROUND: Brown mottled orangish brown slightly sandy slightly gravelly clay.			4.5kg	(12.5) 25.0* 6.1 10.3 15.5 20.7 23.1	2.65a	*1.80 1.79 1.92 1.98 2.00 1.95	(1.76) *1.44 1.68 1.74 1.72 1.66 1.59					

Remarks

Particle Density - a=assumed, m=measured
w% - * = at natural moisture content; x = aggregate moisture content
= stabilised, see relevant test plot for details
NST = Not suitable for Test
For Standards followed see Laboratory Test Certificate

LABORATORY RESULTS - MCV, Compaction, CBR

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No: PC207899

Sample					MCV		Compaction					CBR				
Hole	Depth (Specimen Depth) m	Type	Sample Ref	Description	MCV	w %	Type	w (Opt) %	ρ _d Mg/m³	γ _b Mg/m³	γ _d (Max) Mg/m³	Type	Top		Bottom	
													CBR %	w %	CBR %	w %
TP813	0.30- 0.70 (0.30- 0.70)	B	C42039	MADE GROUND: Brown slightly sandy clay.			4.5kg	(10.0) 18.9* 13.4 2.1 6.0 10.5	2.65a	*2.07 2.04 1.75 1.91 2.02	(1.84) *1.74 1.80 1.72 1.80 1.83					
TP818	1.10- 1.60 (1.10- 1.60)	B	C42308	Light grey slightly sandy CLAY.			4.5kg	(14.0) 27.0* 5.5 9.3 13.2 16.6 23.4	2.65a	*1.92 1.69 1.86 2.04 2.07 2.01	(1.81) *1.51 1.60 1.70 1.80 1.78 1.63					
TP824	0.40 (0.40)	B	C42088	PROBABLE MADE GROUND: Orangish brown slightly sandy clay.			4.5kg	(16.0) 24.9* 5.9 12.3 18.2 23.0	2.65a	*1.98 1.68 1.93 2.05 2.03	(1.77) *1.59 1.58 1.72 1.74 1.65					
TP825	0.80- 1.10 (0.80- 1.10)	B	C42096	Grey mottled brown slightly sandy CLAY.			4.5kg	(20.8) 32.3* 5.6 10.9 14.6 23.4	2.65a	*1.86 1.45 1.59 1.68 1.87	(1.52) *1.41 1.38 1.44 1.46 1.51					
TP832A	1.00 (1.00)	B	C44272	MADE GROUND: Orangish brown very sandy very silty gravel with a low cobble content.			4.5kg	(8.5) 23.2* 5.4 7.3 12.2 16.1 16.8	2.65a	*1.98 1.90 2.05 2.11 2.07 2.05	(1.95) *1.61 1.81 1.91 1.88 1.79 1.76					
TP833A	1.00 (1.00)	B	C44280	MADE GROUND: Brownish grey slightly sandy gravelly clay with a low cobble content.			4.5kg	(12.0) 23.4* 4.1 9.1 13.0 20.1 18.9	2.65a	*1.97 1.80 1.97 2.07 2.06 2.09	(1.85) *1.59 1.73 1.81 1.83 1.72 1.76					

Remarks

Particle Density - a=assumed, m=measured
w% - * = at natural moisture content; x = aggregate moisture content
= stabilised, see relevant test plot for details
NST = Not suitable for Test
For Standards followed see Laboratory Test Certificate

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH319

Sample Depth 2.20-2.65m

Project No: PC207899

Sample Type UT

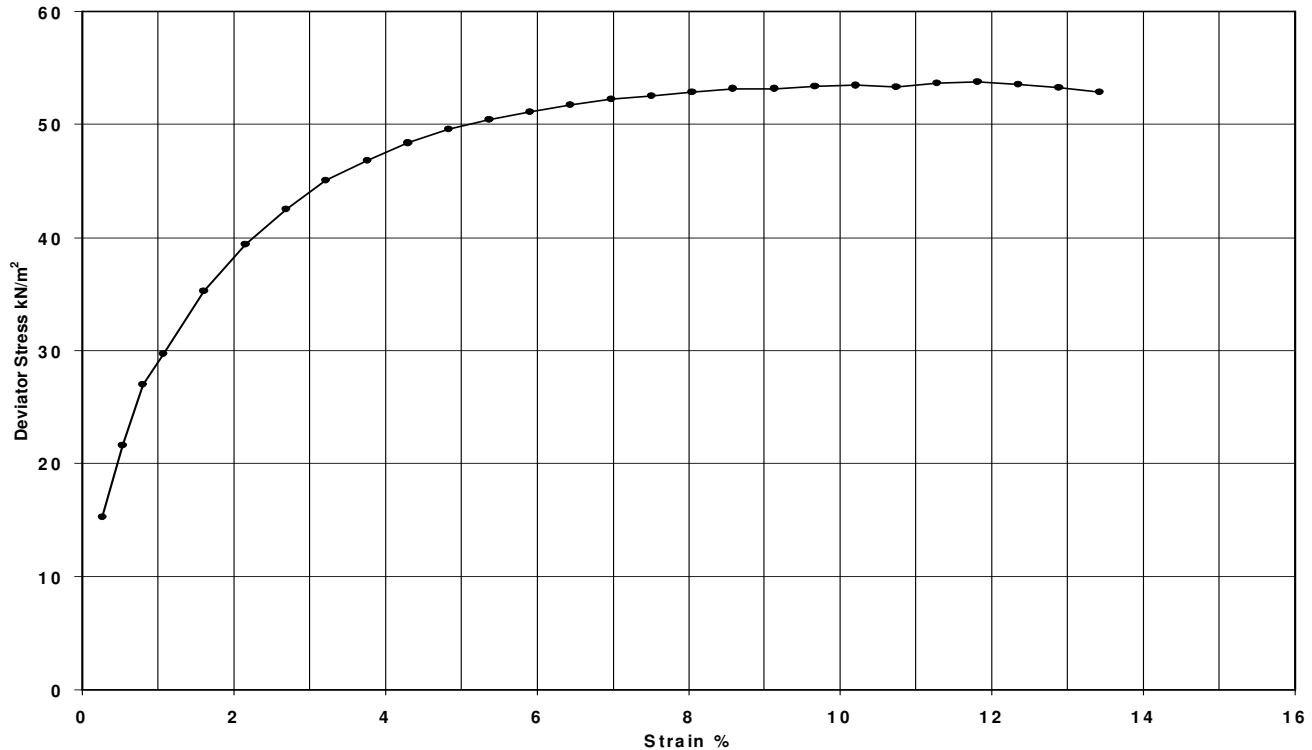
Sample Ref C42346

Sample Description

The following samples were combined to perform this test:

Light brown slightly sandy CLAY.

BS EN ISO 17892-8:2018



	Stage 1	Stage 2	Stage 3	Strain %	Corrected Deviator Stress kN/m ²	Strain %	Corrected Deviator Stress kN/m ²
Test Type	Single Stage			0.3	15.3	11.3	53.7
Sample Condition	Undisturbed			0.5	21.6	11.8	53.8
Orientation of sample	Vertical			0.8	27.0	12.4	53.6
Initial Diameter (mm)	103.24			1.1	29.7	12.9	53.2
Initial Length (mm)	186.22			1.6	35.2	13.4	52.9
Initial Water Content (%)	35.7			2.1	39.4		
Initial Bulk Density (Mg/m ³)	1.80			2.7	42.5		
Initial Dry Density (Mg/m ³)	1.33			3.2	45.0		
Particle Density (Mg/m ³)	2.65 Assumed			3.8	46.8		
Cell Pressure (kPa)	50			4.3	48.4		
'Specimen Height' at start of Shearing Stage (mm)	186.07			4.8	49.6		
Membrane Thickness/Correction (mm/kPa)	100 / 0.0000			5.4	50.5		
Rate of Strain (%/min)	1.4			5.9	51.1		
Corrected Deviator Stress (kPa)	54			6.4	51.7		
Undrained Shear Strength (kPa)	27			7.0	52.3		
Strain at Failure (%)	11.8			7.5	52.5		
Failure Zone Water Content (%)	33.3			8.1	52.9		
Water Content (after test) (%)				8.6	53.2		
Mode of Failure	Plastic			9.1	53.2		
				9.7	53.4		
				10.2	53.4		
				10.7	53.3		

Remarks

06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH702

Sample Depth 3.40-3.85m

Project No: PC207899

Sample Type UT

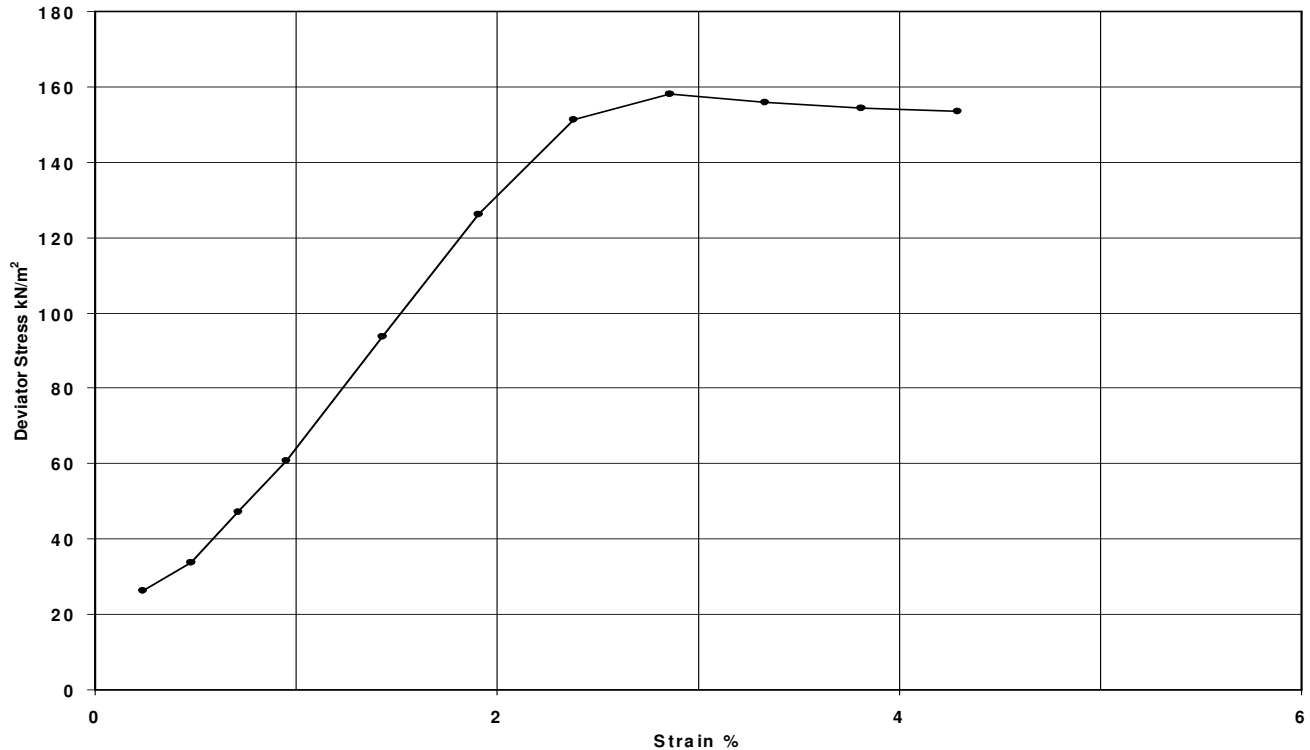
Sample Ref C42472

Sample Description

The following samples were combined to perform this test:

Dark brownish grey slightly sandy CLAY.

BS EN ISO 17892-8:2018



	Stage 1	Stage 2	Stage 3	Strain %	Corrected Deviator Stress kN/m ²	Strain %	Corrected Deviator Stress kN/m ²
Test Type	Single Stage			0.2	26.2		
Sample Condition	Undisturbed			0.5	33.7		
Orientation of sample	Vertical			0.7	47.1		
Initial Diameter (mm)	103.44			1.0	60.7		
Initial Length (mm)	209.95			1.4	93.6		
Initial Water Content (%)	36.3			1.9	126.1		
Initial Bulk Density (Mg/m ³)	1.75			2.4	151.4		
Initial Dry Density (Mg/m ³)	1.28			2.9	158.1		
Particle Density (Mg/m ³)	2.65 Assumed			3.3	155.8		
Cell Pressure (kPa)	70			3.8	154.4		
'Specimen Height' at start of Shearing Stage (mm)	211.03			4.3	153.5		
Membrane Thickness/Correction (mm/kPa)	100 / 0.0000						
Rate of Strain (%/min)	1.9						
Corrected Deviator Stress (kPa)	158						
Undrained Shear Strength (kPa)	79						
Strain at Failure (%)	2.8						
Failure Zone Water Content (%)	35.3						
Water Content (after test) (%)							
Mode of Failure	Brittle						

Remarks

06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH803

Sample Depth 1.20-1.65m

Project No: PC207899

Sample Type UT

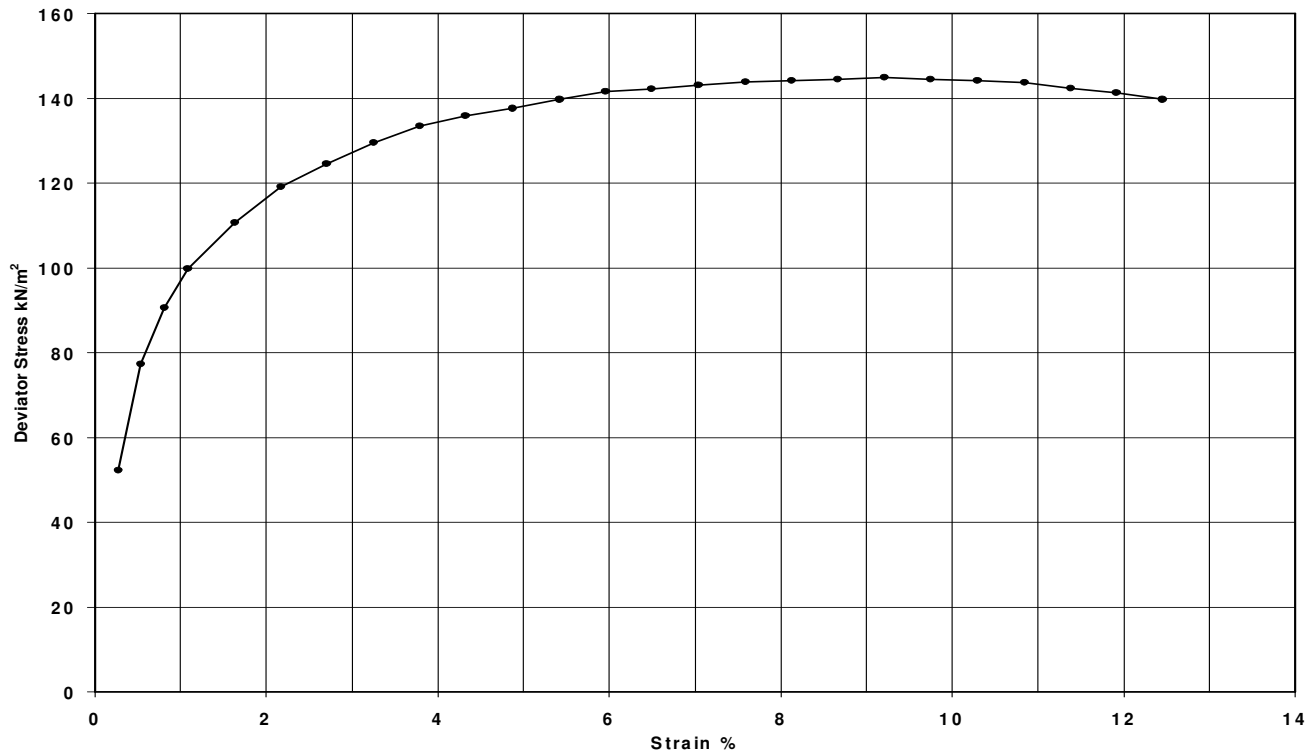
Sample Ref C42362

Sample Description

Brownish grey CLAY.

The following samples were combined to perform this test:

BS EN ISO 17892-8:2018



	Stage 1	Stage 2	Stage 3	Strain %	Corrected Deviator Stress kN/m ²	Strain %	Corrected Deviator Stress kN/m ²
Test Type	Single Stage			0.3	52.3	11.4	142.4
Sample Condition	Undisturbed			0.5	77.4	11.9	141.2
Orientation of sample	Vertical			0.8	90.5	12.5	139.8
Initial Diameter (mm)	100.95			1.1	99.8		
Initial Length (mm)	184.55			1.6	110.6		
Initial Water Content (%)	28.2			2.2	119.1		
Initial Bulk Density (Mg/m ³)	1.97			2.7	124.6		
Initial Dry Density (Mg/m ³)	1.54			3.3	129.6		
Particle Density (Mg/m ³)	2.65 Assumed			3.8	133.4		
Cell Pressure (kPa)	30			4.3	136.0		
'Specimen Height' at start of Shearing Stage (mm)	184.44			4.9	137.6		
Membrane Thickness/Correction (mm/kPa)	102 / 0.0000			5.4	139.8		
Rate of Strain (%/min)	1.4			6.0	141.6		
Corrected Deviator Stress (kPa)	145			6.5	142.2		
Undrained Shear Strength (kPa)	72			7.0	143.1		
Strain at Failure (%)	9.2			7.6	143.9		
Failure Zone Water Content (%)	26.1			8.1	144.1		
Water Content (after test) (%)				8.7	144.5		
Mode of Failure	Intermediate			9.2	145.0		
				9.8	144.6		
				10.3	144.2		
				10.8	143.7		

Remarks



06/11/2020

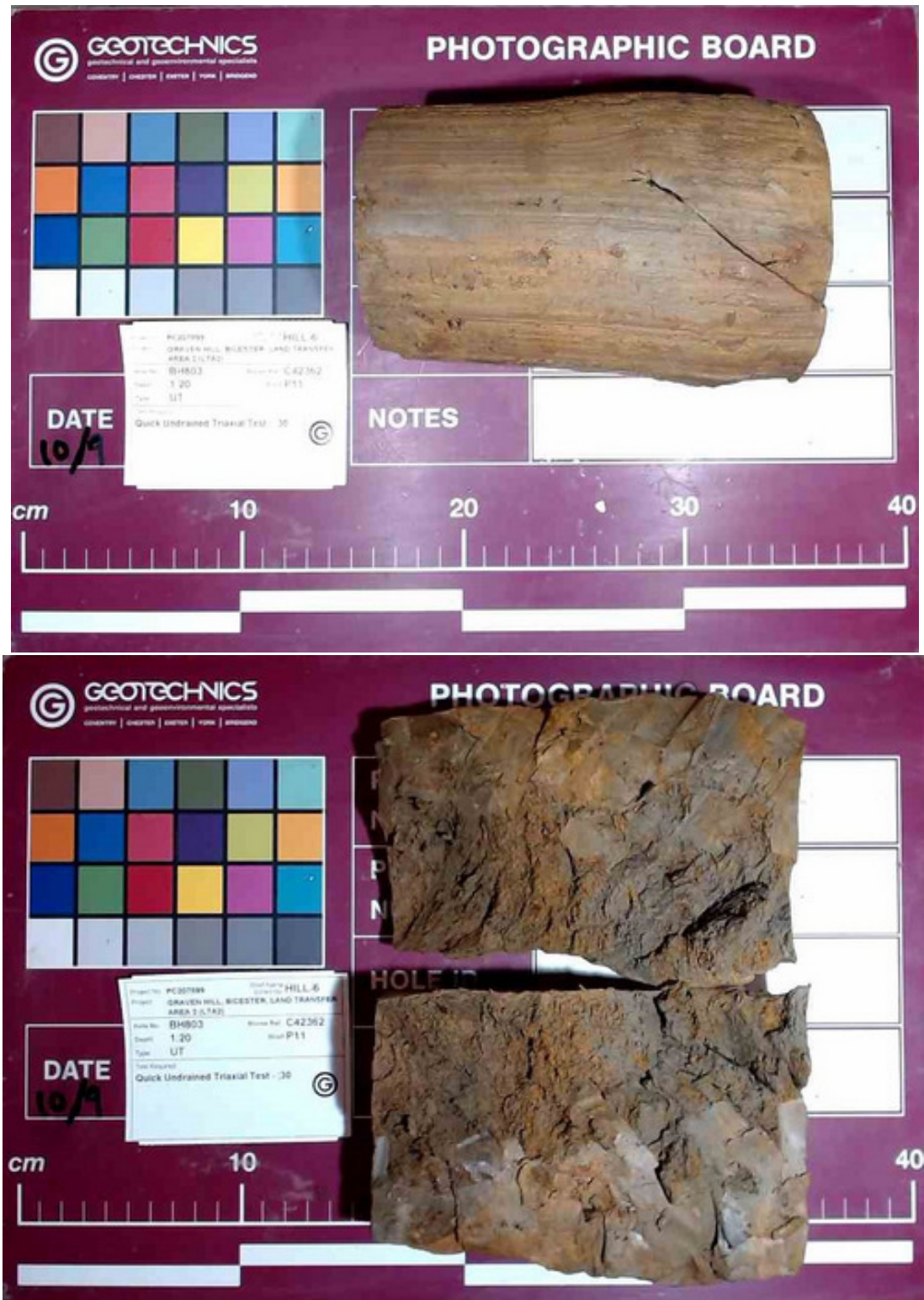
GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH803
Sample Depth 1.20-1.65m
Sample Type UT
Sample Ref C42362

Project No: PC207899



Remarks



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GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH803

Sample Depth 3.40-3.85m

Project No: PC207899

Sample Type UT

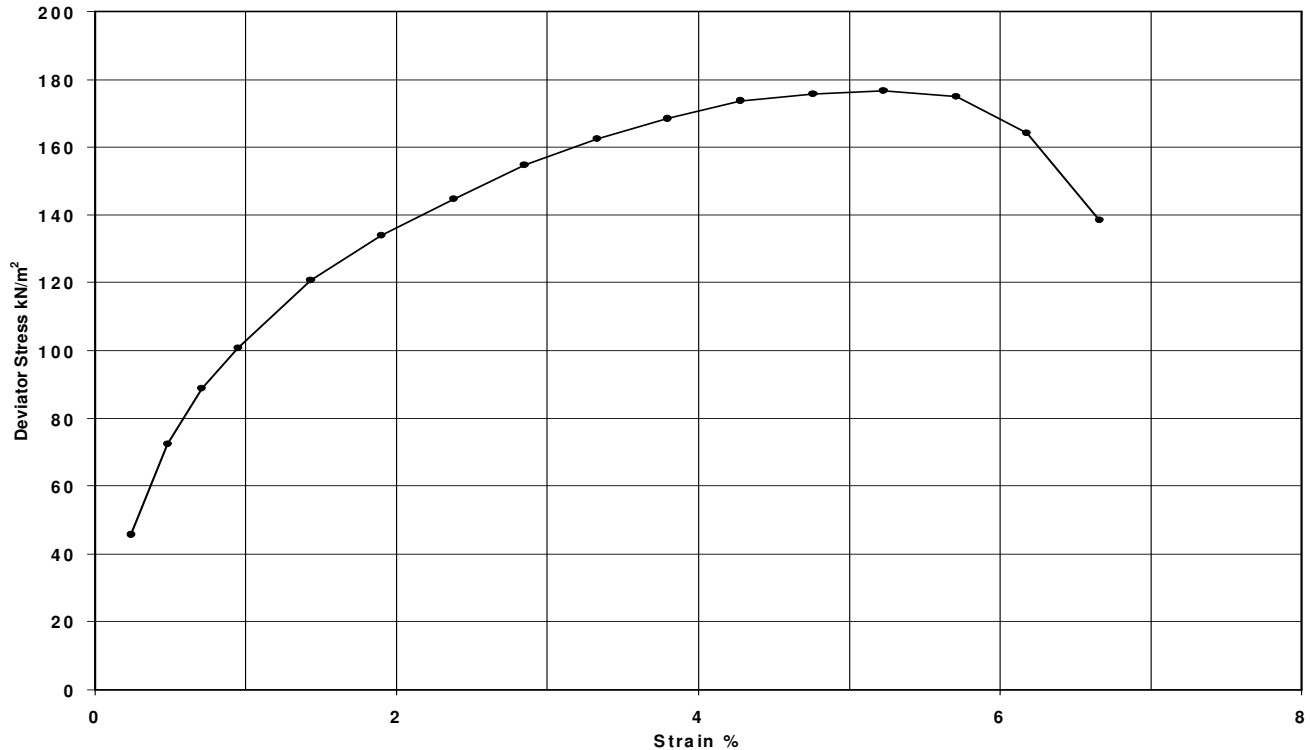
Sample Ref C42361

Sample Description

Grey slightly sandy CLAY.

The following samples were combined to perform this test:

BS EN ISO 17892-8:2018



	Stage 1	Stage 2	Stage 3	Strain %	Corrected Deviator Stress kN/m ²	Strain %	Corrected Deviator Stress kN/m ²
Test Type	Single Stage			0.2	45.7		
Sample Condition	Undisturbed			0.5	72.4		
Orientation of sample	Vertical			0.7	88.9		
Initial Diameter (mm)	100.46			1.0	100.7		
Initial Length (mm)	210.25			1.4	120.8		
Initial Water Content (%)	31.4			1.9	133.9		
Initial Bulk Density (Mg/m ³)	1.93			2.4	144.8		
Initial Dry Density (Mg/m ³)	1.47			2.9	154.7		
Particle Density (Mg/m ³)	2.65 Assumed			3.3	162.5		
Cell Pressure (kPa)	70			3.8	168.4		
'Specimen Height' at start of Shearing Stage (mm)	210.16			4.3	173.8		
Membrane Thickness/Correction (mm/kPa)	100 / 0.0000			4.8	175.6		
Rate of Strain (%/min)	1.9			5.2	176.6		
Corrected Deviator Stress (kPa)	177			5.7	174.8		
Undrained Shear Strength (kPa)	88			6.2	164.1		
Strain at Failure (%)	5.2			6.7	138.5		
Failure Zone Water Content (%)	30.4						
Water Content (after test) (%)							
Mode of Failure	Brittle						

Remarks

06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH803
Sample Depth 3.40-3.85m
Sample Type UT
Sample Ref C42361

Project No: PC207899



Remarks 

06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH803

Sample Depth 6.00-6.45m

Project No: PC207899

Sample Type UT

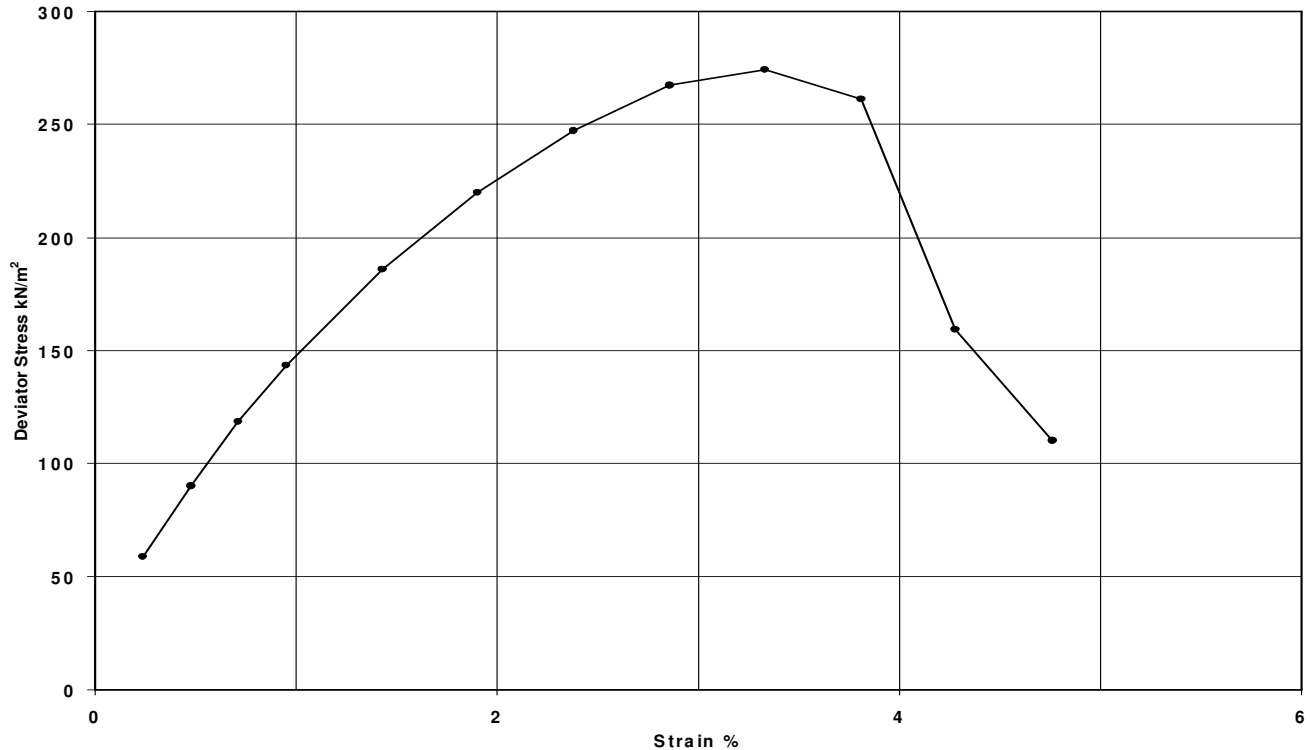
Sample Ref C42360

Sample Description

The following samples were combined to perform this test:

Grey slightly sandy CLAY.

BS EN ISO 17892-8:2018



	Stage 1	Stage 2	Stage 3	Strain %	Corrected Deviator Stress kN/m ²	Strain %	Corrected Deviator Stress kN/m ²
Test Type	Single Stage						
Sample Condition	Undisturbed						
Orientation of sample	Vertical						
Initial Diameter (mm)	102.95			0.2	58.8		
Initial Length (mm)	210.08			0.5	89.9		
Initial Water Content (%)	22.8			0.7	118.4		
Initial Bulk Density (Mg/m ³)	1.98			1.0	143.7		
Initial Dry Density (Mg/m ³)	1.61			1.4	186.0		
Particle Density (Mg/m ³)	2.65 Assumed			1.9	220.0		
Cell Pressure (kPa)	120			2.4	247.3		
'Specimen Height' at start of Shearing Stage (mm)	209.84			2.9	267.4		
Membrane Thickness/Correction (mm/kPa)	100 / 0.0000			3.3	274.1		
Rate of Strain (%/min)	1.4			3.8	261.2		
Corrected Deviator Stress (kPa)	274			4.3	159.5		
Undrained Shear Strength (kPa)	137			4.8	110.2		
Strain at Failure (%)	3.3						
Failure Zone Water Content (%)	24.0						
Water Content (after test) (%)							
Mode of Failure	Brittle						

Remarks

06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH803
Sample Depth 6.00-6.45m
Sample Type UT
Sample Ref C42360

Project No: PC207899



Remarks



06/11/2020

GEO TECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH802

Sample Depth 2.30-2.75m

Project No: PC207899

Sample Type UT

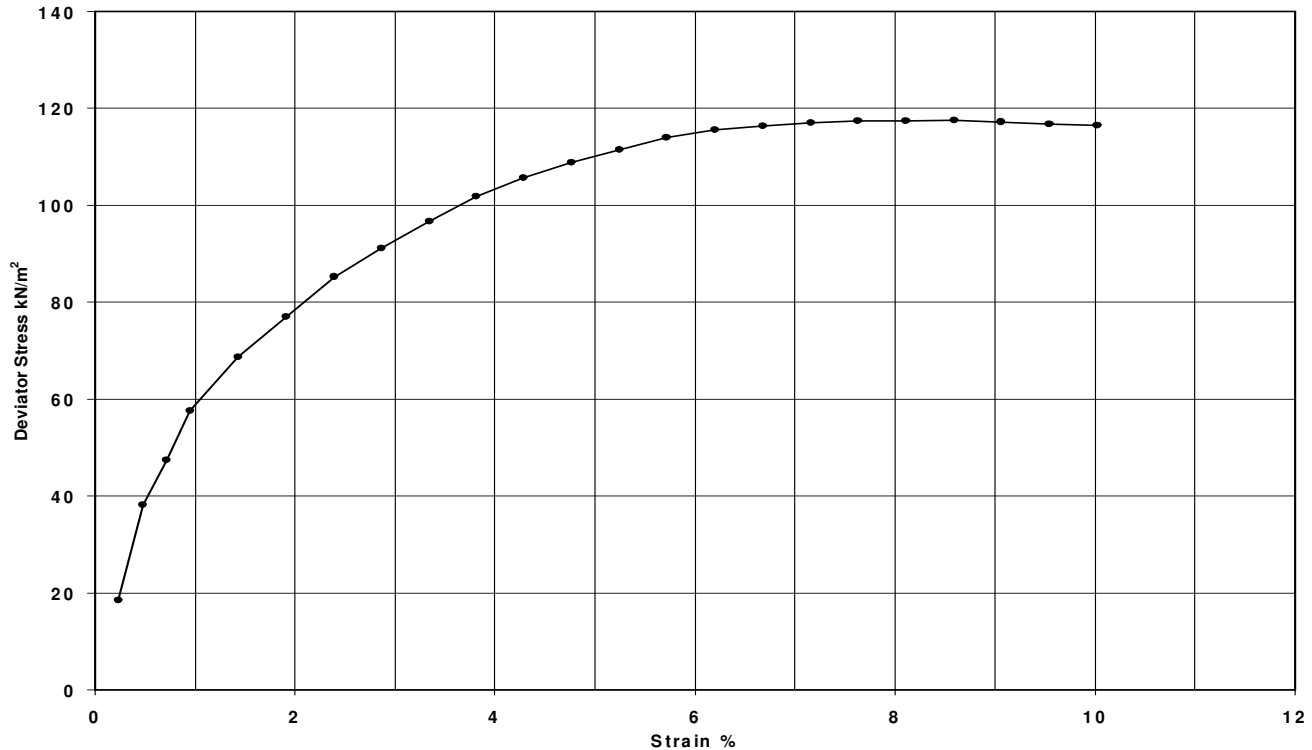
Sample Ref C42476

Sample Description

The following samples were combined to perform this test:

Greyish brown slightly sandy CLAY.

BS EN ISO 17892-8:2018



	Stage 1	Stage 2	Stage 3	Strain %	Corrected Deviator Stress kN/m ²	Strain %	Corrected Deviator Stress kN/m ²
Test Type	Single Stage			0.2	18.5	10.0	116.5
Sample Condition	Undisturbed			0.5	38.2		
Orientation of sample	Vertical			0.7	47.5		
Initial Diameter (mm)	102.31			1.0	57.6		
Initial Length (mm)	209.63			1.4	68.6		
Initial Water Content (%)	33.9			1.9	77.0		
Initial Bulk Density (Mg/m ³)	1.85			2.4	85.2		
Initial Dry Density (Mg/m ³)	1.38			2.9	91.1		
Particle Density (Mg/m ³)	2.65 Assumed			3.3	96.7		
Cell Pressure (kPa)	50			3.8	101.8		
'Specimen Height' at start of Shearing Stage (mm)	209.34			4.3	105.6		
Membrane Thickness/Correction (mm/kPa)	100 / 0.0000			4.8	108.8		
Rate of Strain (%/min)	1.9			5.2	111.6		
Corrected Deviator Stress (kPa)	118			5.7	114.0		
Undrained Shear Strength (kPa)	59			6.2	115.5		
Strain at Failure (%)	8.6			6.7	116.3		
Failure Zone Water Content (%)	34.3			7.2	117.0		
Water Content (after test) (%)				7.6	117.5		
Mode of Failure	Intermediate			8.1	117.4		
				8.6	117.5		
				9.1	117.1		
				9.5	116.8		

Remarks 

06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH807

Sample Depth 1.20m

Project No: PC207899

Sample Type UT

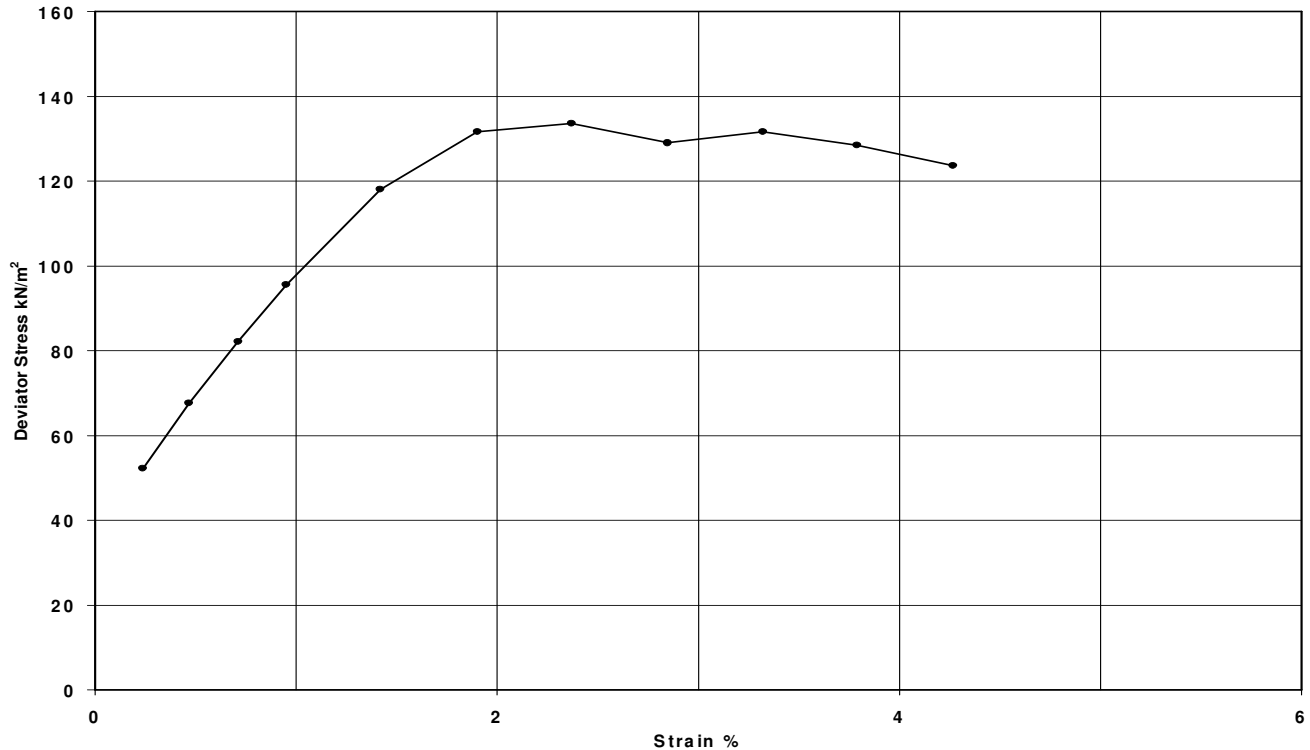
Sample Ref C43518

Sample Description

The following samples were combined to perform this test:

Brown mottled grey slightly sandy CLAY.

BS EN ISO 17892-8:2018



	Stage 1	Stage 2	Stage 3	Strain %	Corrected Deviator Stress kN/m ²	Strain %	Corrected Deviator Stress kN/m ²
Test Type	Single Stage			0.2	52.2		
Sample Condition	Undisturbed			0.5	67.6		
Orientation of sample	Vertical			0.7	82.1		
Initial Diameter (mm)	103.17			0.9	95.5		
Initial Length (mm)	210.83			1.4	118.1		
Initial Water Content (%)	37.9			1.9	131.6		
Initial Bulk Density (Mg/m ³)	1.84			2.4	133.5		
Initial Dry Density (Mg/m ³)	1.33			2.8	129.0		
Particle Density (Mg/m ³)	2.65 Assumed			3.3	131.6		
Cell Pressure (kPa)	30			3.8	128.5		
'Specimen Height' at start of Shearing Stage (mm)	210.71			4.3	123.6		
Membrane Thickness/Correction (mm/kPa)	100 / 0.0000						
Rate of Strain (%/min)	1.4						
Corrected Deviator Stress (kPa)	134						
Undrained Shear Strength (kPa)	67						
Strain at Failure (%)	2.4						
Failure Zone Water Content (%)	34.7						
Water Content (after test) (%)							
Mode of Failure	Brittle						

Remarks

06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH807

Sample Depth 1.20m

Sample Type UT

Sample Ref C43518

Project No: PC207899



Remarks



06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH807

Sample Depth 3.50-3.95m

Project No: PC207899

Sample Type UT

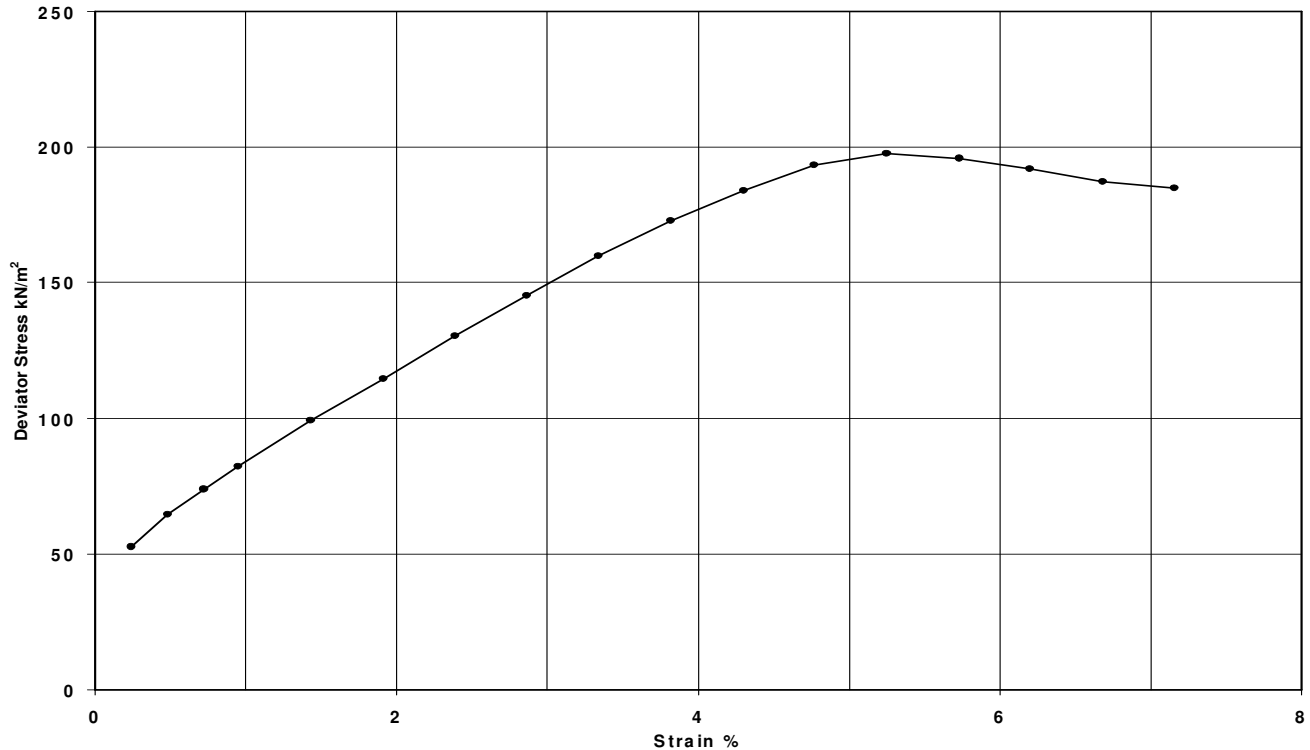
Sample Ref C43519

Sample Description

The following samples were combined to perform this test:

Dark grey slightly sandy CLAY.

BS EN ISO 17892-8:2018



	Stage 1	Stage 2	Stage 3	Strain %	Corrected Deviator Stress kN/m ²	Strain %	Corrected Deviator Stress kN/m ²
Test Type	Single Stage			0.2	52.8		
Sample Condition	Undisturbed			0.5	64.5		
Orientation of sample	Vertical			0.7	74.0		
Initial Diameter (mm)	101.72			1.0	82.4		
Initial Length (mm)	209.53			1.4	99.2		
Initial Water Content (%)	22.8			1.9	114.6		
Initial Bulk Density (Mg/m ³)	2.02			2.4	130.4		
Initial Dry Density (Mg/m ³)	1.65			2.9	145.4		
Particle Density (Mg/m ³)	2.65 Assumed			3.3	159.8		
Cell Pressure (kPa)	70			3.8	173.0		
'Specimen Height' at start of Shearing Stage (mm)	209.14			4.3	184.0		
Membrane Thickness/Correction (mm/kPa)	100 / 0.0000			4.8	193.4		
Rate of Strain (%/min)	1.4			5.2	197.8		
Corrected Deviator Stress (kPa)	198			5.7	195.8		
Undrained Shear Strength (kPa)	99			6.2	192.0		
Strain at Failure (%)	5.3			6.7	187.3		
Failure Zone Water Content (%)	22.2			7.2	184.7		
Water Content (after test) (%)							
Mode of Failure	Intermediate						

Remarks

06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project:	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Hole	BH807
		Sample Depth	3.50-3.95m
		Sample Type	UT
Project No:	PC207899	Sample Ref	C43519



Remarks



06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole BH802
Sample Depth 2.30-2.75m
Sample Type UT
Sample Ref C42476

Project No: PC207899



Remarks 

06/11/2020

GEOTECHNICS

LABORATORY RESULTS - Unconsolidated Undrained Triaxial Test

Project: GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Hole TP704

Sample Depth 1.40-1.80m

Project No: PC207899

Sample Type B

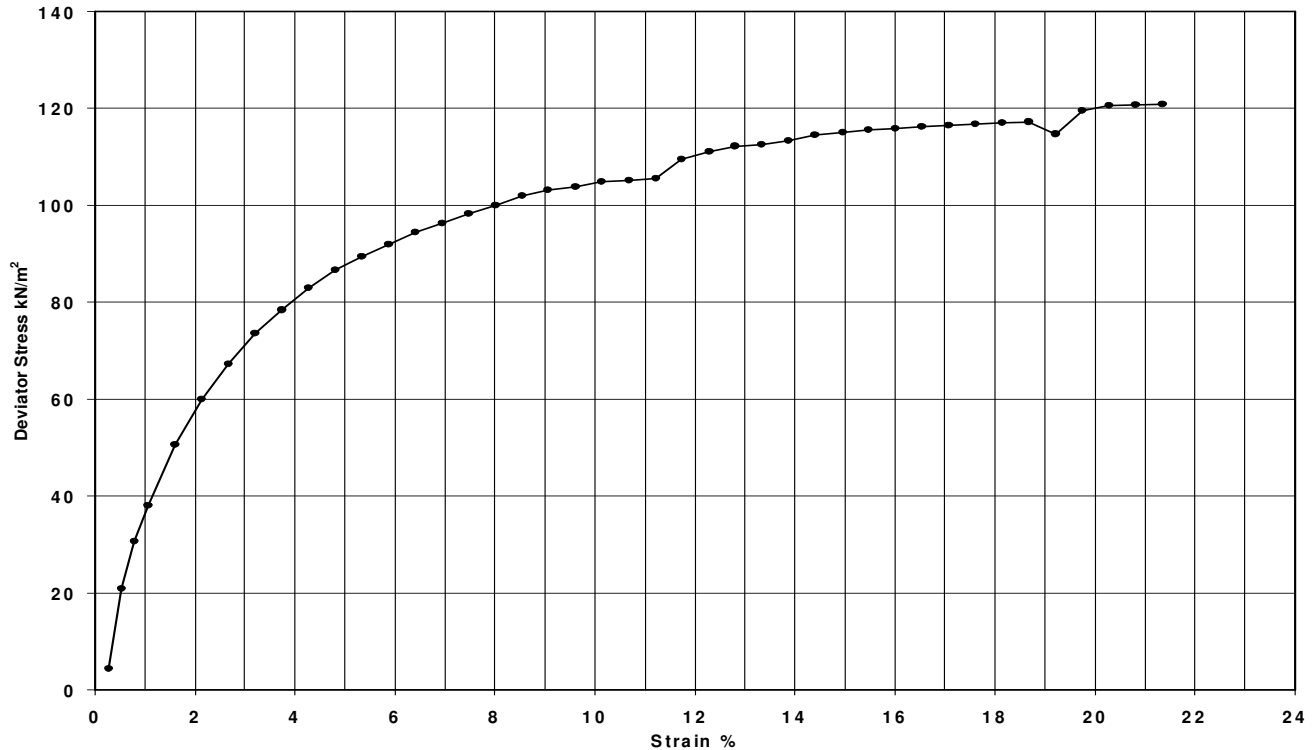
Sample Ref C41964

Sample Description

The following samples were combined to perform this test:

PROBABLE MADE GROUND: Dark grey sandy clay.

BS1377 Part 8 1990 : Clause 9.0



	Stage 1	Stage 2	Stage 3	Strain %	Corrected Deviator Stress kN/m ²	Strain %	Corrected Deviator Stress kN/m ²
Test Type	Multi-stage			0.3	4.3	11.2	105.5
Sample Condition	Remoulded			0.5	20.7	11.7	109.5
Orientation of sample	Vertical			0.8	30.6	12.3	111.0
Initial Diameter (mm)	99.74	99.74	99.74	1.1	38.0	12.8	112.1
Initial Length (mm)	187.35	187.35	187.35	1.6	50.5	13.3	112.5
Initial Water Content (%)	35.4	35.4	35.4	2.1	60.0	13.8	113.4
Initial Bulk Density (Mg/m ³)	1.78	1.78	1.78	2.7	67.2	14.4	114.5
Initial Dry Density (Mg/m ³)	1.31	1.31	1.31	3.2	73.5	14.9	115.0
Particle Density (Mg/m ³)	2.65 Assumed			3.7	78.4	15.5	115.5
Cell Pressure (kPa)	100	200	300	4.3	83.0	16.0	115.9
'Specimen Height' at start of Shearing Stage (mm)				4.8	86.7	16.5	116.2
Membrane Thickness/Correction (mm/kPa)	0.30 / 0.69	0.30 / 1.03	0.30 / 1.20	5.3	89.5	17.1	116.5
Rate of Strain (%/min)	1.39	1.39	1.39	5.9	91.9	17.6	116.6
Corrected Deviator Stress (kPa)		117	121	6.4	94.4	18.1	117.1
Undrained Shear Strength (kPa)		59	60	6.9	96.3	18.7	117.2
Strain at Failure (%)		18.7	21.4	7.5	98.4	19.2	117.5
Failure Zone Water Content (%)				8.0	100.0	19.7	117.8
Water Content (after test) (%)				8.5	101.9	20.3	118.1
Mode of Failure	Intermediate			9.1	103.2	20.8	118.4
				9.6	103.9	21.4	118.7
				10.1	104.8		
				10.7	105.2		

Remarks 

06/11/2020

GEOTECHNICS

In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC701

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 458525.0 E, 219895.5 N

Ground Level 67.62 m OD

Test No. 1

Test Date 16/07/2020

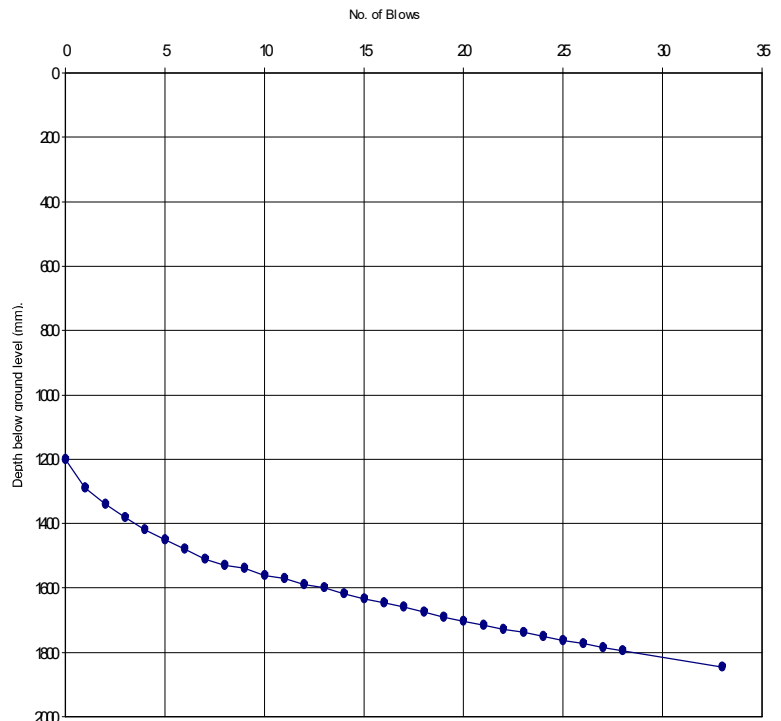
Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	280	1200
1	1	1	370	1290
1	2	1	420	1340
1	3	1	460	1380
1	4	1	500	1420
1	5	1	530	1450
1	6	1	560	1480
1	7	1	590	1510
1	8	1	610	1530
1	9	1	620	1540
1	10	1	640	1560
1	11	1	650	1570
1	12	1	670	1590
1	13	1	680	1600
1	14	1	698	1618
1	15	1	712	1632
1	16	1	726	1646
1	17	1	740	1660
1	18	1	755	1675
1	19	1	770	1690
1	20	1	784	1704

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
1	21	1	796	1716
1	22	1	808	1728
1	23	1	818	1738
1	24	1	831	1751
1	25	1	844	1764
1	26	1	854	1774
1	27	1	865	1785
1	28	1	874	1794
5	33	1	925	1845

Test Started at	1.20 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	280

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
1200	1290	0	1	90	2.6
1290	1380	1	3	45	5.4
1380	1480	3	6	33	7.4
1480	1530	6	8	25	10.1
1530	1600	8	13	35	7.0
1600	1704	13	20	15	17.4
1704	1845	20	33	11	24.3



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC702

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 458644.7 E, 219888.9 N

Ground Level 67.87 m OD

Test No. 1

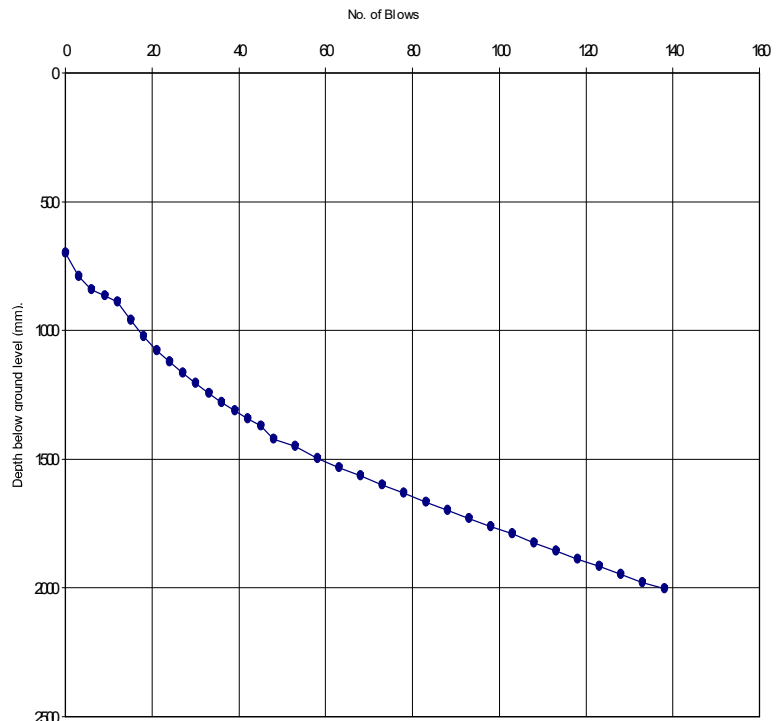
Test Date 16/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	150	700	5	73	2	250	1600
3	3	1	240	790	5	78	2	282	1632
3	6	1	290	840	5	83	2	316	1666
3	9	1	315	865	5	88	2	350	1700
3	12	1	340	890	5	93	2	380	1730
3	15	1	410	960	5	98	2	410	1760
3	18	1	473	1023	5	103	2	440	1790
3	21	1	528	1078	5	108	2	475	1825
3	24	1	571	1121	5	113	2	508	1858
3	27	1	614	1164	5	118	2	536	1886
3	30	1	655	1205	5	123	2	566	1916
3	33	1	694	1244	5	128	2	597	1947
3	36	1	729	1279	5	133	2	630	1980
3	39	1	762	1312	5	138	2	652	2002
3	42	1	794	1344					
3	45	1	821	1371					
3	48	1	870	1420					
5	53	2	100	1450					
5	58	2	145	1495					
5	63	2	182	1532					
5	68	2	214	1564					

Test Started at	0.70 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	150
2	70

Depth bgl (mm)		Blows No.		DCP mm/blow	CBR %
Top	Base	Top	Base		
700	790	0	3	30	8.3
790	840	3	6	17	15.4
840	890	6	12	8	32.1
890	1023	12	18	22	11.4
1023	1205	18	30	15	17.1
1205	1371	30	45	11	23.8
1371	1420	45	48	16	15.8
1420	1495	48	58	8	35.9
1495	1790	58	103	7	41.4
1790	2002	103	138	6	45.0



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC703

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 458746.9 E, 219897.8 N

Ground Level 69.96 m OD

Test No. 1

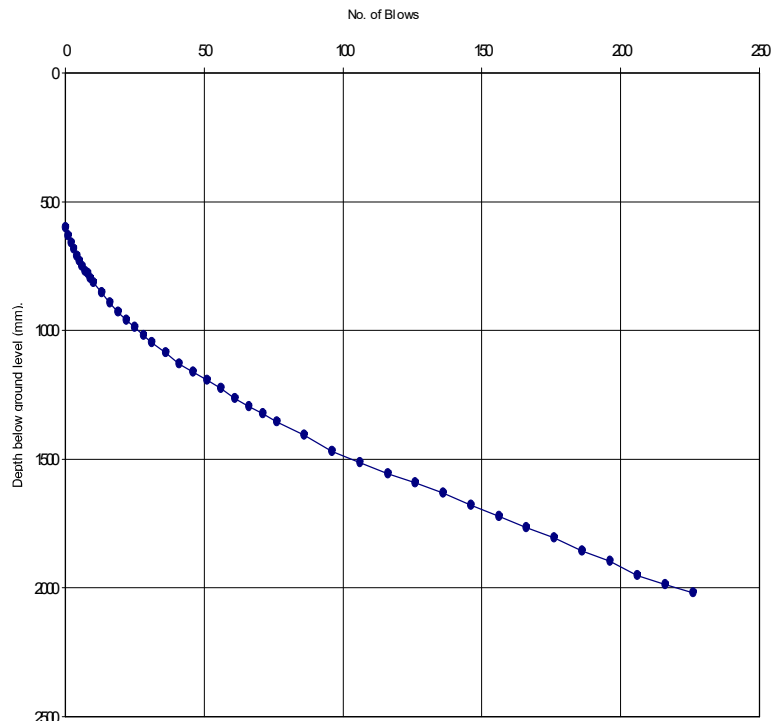
Test Date 16/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	25	600	5	51	1	618	1193
1	1	1	57	632	5	56	1	650	1225
1	2	1	84	659	5	61	1	690	1265
1	3	1	110	685	5	66	1	720	1295
1	4	1	136	711	5	71	1	750	1325
1	5	1	157	732	5	76	1	778	1353
1	6	1	174	749	10	86	1	830	1405
1	7	1	195	770	10	96	2	85	1470
1	8	1	205	780	10	106	2	128	1513
1	9	1	224	799	10	116	2	170	1555
1	10	1	238	813	10	126	2	205	1590
3	13	1	280	855	10	136	2	247	1632
3	16	1	318	893	10	146	2	294	1679
3	19	1	354	929	10	156	2	338	1723
3	22	1	384	959	10	166	2	379	1764
3	25	1	414	989	10	176	2	420	1805
3	28	1	445	1020	10	186	2	470	1855
3	31	1	472	1047	10	196	2	510	1895
5	36	1	512	1087	10	206	2	565	1950
5	41	1	555	1130	10	216	2	602	1987
5	46	1	588	1163	10	226	2	635	2020

Test Started at	0.60 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	25
2	20

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
600	732	0	5	26	9.5
732	929	5	19	14	18.5
929	1130	19	41	9	29.1
1130	1265	41	61	7	40.1
1265	1470	61	96	6	46.6
1470	1590	96	126	4	69.8
1590	1855	126	186	4	62.8
1855	2020	186	226	4	67.5



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC704

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 458838.7 E, 219917.6 N

Ground Level 70.67 m OD

Test No. 1

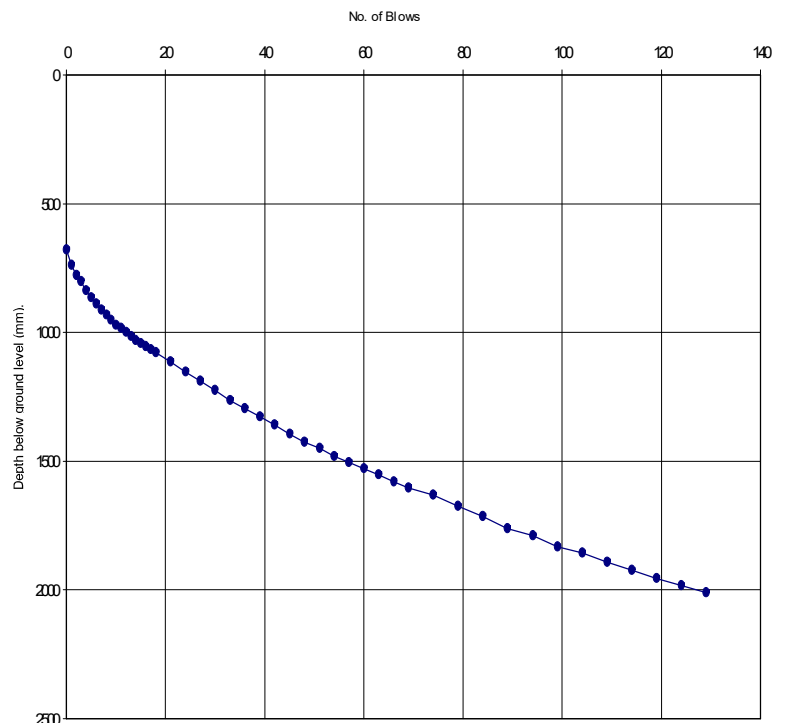
Test Date 17/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	10	680	3	27	1	519	1189	5	104	2	396	1856
1	1	1	68	738	3	30	1	554	1224	5	109	2	432	1892
1	2	1	108	778	3	33	1	592	1262	5	114	2	464	1924
1	3	1	132	802	3	36	1	627	1297	5	119	2	495	1955
1	4	1	169	839	3	39	1	657	1327	5	124	2	522	1982
1	5	1	193	863	3	42	1	690	1360	5	129	2	550	2010
1	6	1	219	889	3	45	1	723	1393					
1	7	1	243	913	3	48	1	754	1424					
1	8	1	261	931	3	51	1	781	1451					
1	9	1	280	950	3	54	1	810	1480					
1	10	1	300	970	3	57	2	46	1506					
1	11	1	314	984	3	60	2	70	1530					
1	12	1	331	1001	3	63	2	93	1553					
1	13	1	346	1016	3	66	2	118	1578					
1	14	1	360	1030	3	69	2	145	1605					
1	15	1	371	1041	5	74	2	170	1630					
1	16	1	384	1054	5	79	2	214	1674					
1	17	1	396	1066	5	84	2	253	1713					
1	18	1	409	1079	5	89	2	303	1763					
3	21	1	444	1114	5	94	2	330	1790					
3	24	1	482	1152	5	99	2	371	1831					

Test Started at	0.68 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	10
2	20

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
680	863	0	5	37	6.7
863	984	1	11	12	21.7
984	1224	11	30	13	20.7
1224	1506	30	57	10	25.3
1506	1630	57	74	7	37.0
1630	1831	74	99	13	19.4
1831	2010	99	129	6	45.7



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC705

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 458939.5 E, 219937.2 N

Ground Level 70.15 m OD

Test No. 1

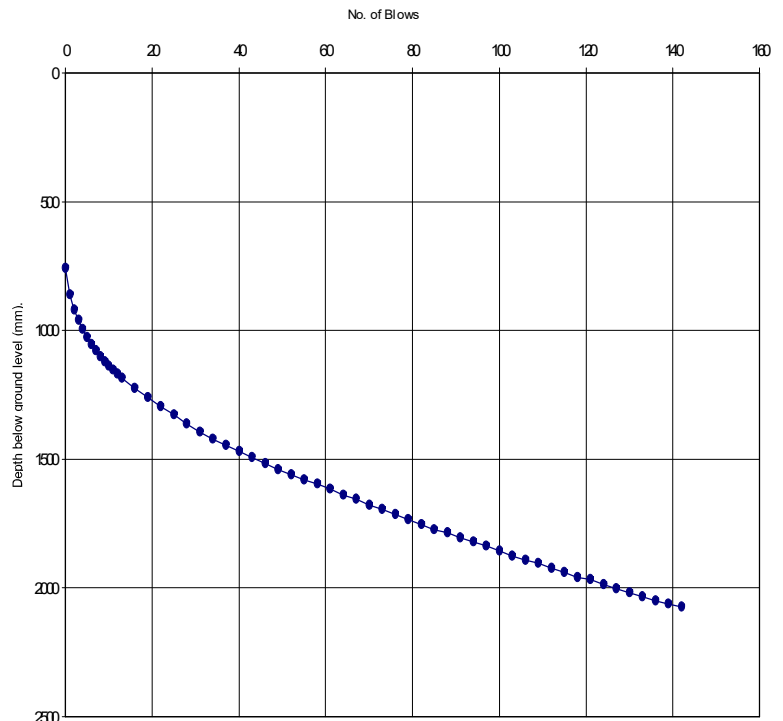
Test Date 17/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	100	760	3	37	1	786	1446	3	100	2	396	1856
1	1	1	202	862	3	40	1	808	1468	3	103	2	415	1875
1	2	1	260	920	3	43	1	832	1492	3	106	2	431	1891
1	3	1	301	961	3	46	1	855	1515	3	109	2	445	1905
1	4	1	335	995	3	49	2	79	1539	3	112	2	462	1922
1	5	1	365	1025	3	52	2	100	1560	3	115	2	480	1940
1	6	1	393	1053	3	55	2	118	1578	3	118	2	497	1957
1	7	1	418	1078	3	58	2	137	1597	3	121	2	508	1968
1	8	1	442	1102	3	61	2	157	1617	3	124	2	525	1985
1	9	1	462	1122	3	64	2	179	1639	3	127	2	542	2002
1	10	1	479	1139	3	67	2	194	1654	3	130	2	557	2017
1	11	1	495	1155	3	70	2	220	1680	3	133	2	574	2034
1	12	1	510	1170	3	73	2	235	1695	3	136	2	590	2050
1	13	1	525	1185	3	76	2	255	1715	3	139	2	603	2063
3	16	1	564	1224	3	79	2	274	1734	3	142	2	615	2075
3	19	1	601	1261	3	82	2	293	1753					
3	22	1	635	1295	3	85	2	313	1773					
3	25	1	667	1327	3	88	2	326	1786					
3	28	1	702	1362	3	91	2	344	1804					
3	31	1	733	1393	3	94	2	362	1822					
3	34	1	762	1422	3	97	2	378	1838					

Test Started at	0.76 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	100
2	55

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
760	920	0	2	80	2.9
920	1053	2	6	33	7.4
1053	1185	6	13	19	13.5
1185	1393	13	31	12	22.7
1393	1515	31	46	8	32.9
1515	1753	46	82	7	41.0
1753	1856	82	100	6	47.8
1856	2075	100	142	5	52.7



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC706

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 459032.2 E, 219956.2 N

Ground Level 69.94 m OD

Test No. 1

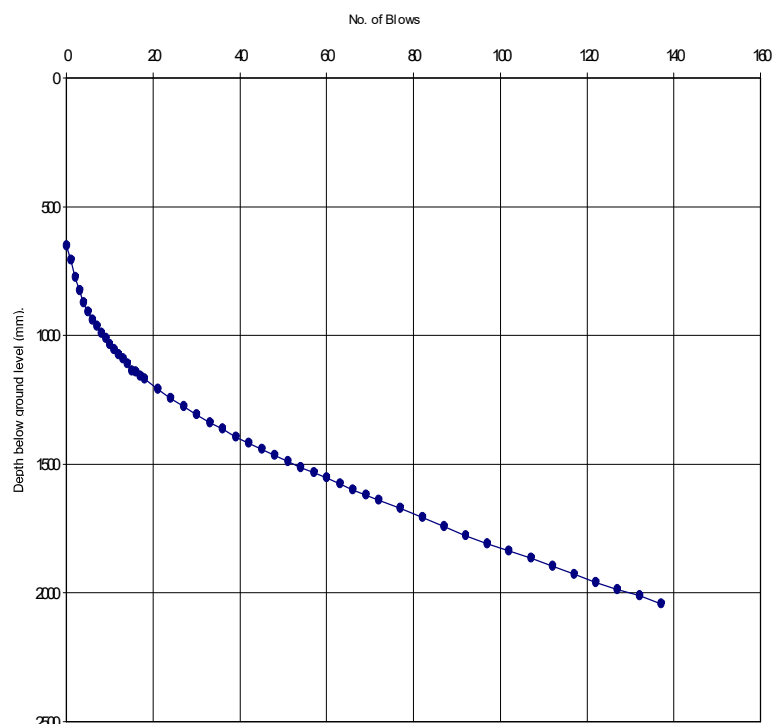
Test Date 17/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	32	650	3	27	1	657	1275	5	102	2	402	1835
1	1	1	87	705	3	30	1	689	1307	5	107	2	433	1866
1	2	1	156	774	3	33	1	719	1337	5	112	2	464	1897
1	3	1	208	826	3	36	1	745	1363	5	117	2	495	1928
1	4	1	254	872	3	39	1	775	1393	5	122	2	525	1958
1	5	1	290	908	3	42	1	800	1418	5	127	2	553	1986
1	6	1	320	938	3	45	1	823	1441	5	132	2	578	2011
1	7	1	347	965	3	48	1	846	1464	5	137	2	608	2041
1	8	1	374	992	3	51	1	871	1489					
1	9	1	395	1013	3	54	2	78	1511					
1	10	1	416	1034	3	57	2	100	1533					
1	11	1	437	1055	3	60	2	120	1553					
1	12	1	455	1073	3	63	2	144	1577					
1	13	1	474	1092	3	66	2	165	1598					
1	14	1	491	1109	3	69	2	185	1618					
1	15	1	518	1136	3	72	2	205	1638					
1	16	1	523	1141	5	77	2	239	1672					
1	17	1	538	1156	5	82	2	273	1706					
1	18	1	550	1168	5	87	2	308	1741					
3	21	1	591	1209	5	92	2	343	1776					
3	24	1	625	1243	5	97	2	374	1807					

Test Started at	0.65 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	32
2	56

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
650	908	0	5	52	4.7
908	992	5	8	28	8.9
992	1109	8	14	20	13.1
1109	1141	14	16	16	16.1
1141	1307	16	30	12	22.1
1307	1489	30	51	9	30.8
1489	1807	51	97	7	39.1
1807	2041	97	137	6	46.7



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC707

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 459124.0 E, 219983.1 N

Ground Level 70.37 m OD

Test No. 1

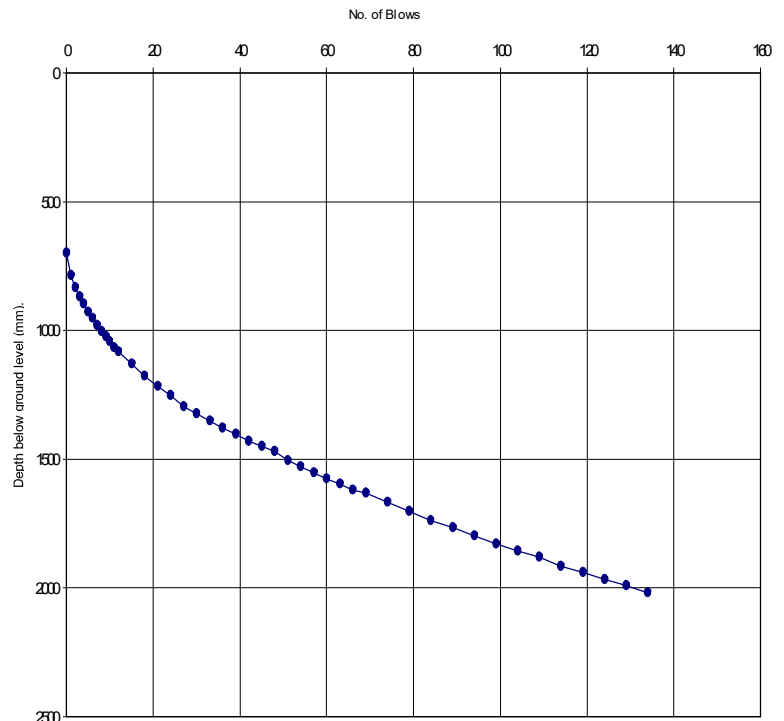
Test Date 17/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	100	700	3	39	1	802	1402	5	124	2	586	1965
1	1	1	184	784	3	42	1	828	1428	5	129	2	612	1991
1	2	1	233	833	3	45	1	849	1449	5	134	2	640	2019
1	3	1	270	870	3	48	2	90	1469					
1	4	1	297	897	3	51	2	127	1506					
1	5	1	328	928	3	54	2	151	1530					
1	6	1	353	953	3	57	2	173	1552					
1	7	1	379	979	3	60	2	196	1575					
1	8	1	402	1002	3	63	2	218	1597					
1	9	1	423	1023	3	66	2	239	1618					
1	10	1	443	1043	3	69	2	252	1631					
1	11	1	465	1065	5	74	2	289	1668					
1	12	1	482	1082	5	79	2	323	1702					
3	15	1	531	1131	5	84	2	357	1736					
3	18	1	577	1177	5	89	2	388	1767					
3	21	1	617	1217	5	94	2	417	1796					
3	24	1	651	1251	5	99	2	448	1827					
3	27	1	694	1294	5	104	2	478	1857					
3	30	1	723	1323	5	109	2	499	1878					
3	33	1	751	1351	5	114	2	536	1915					
3	36	1	777	1377	5	119	2	562	1941					

Test Started at	0.70 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	100
2	70

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
700	833	0	2	67	3.6
833	979	2	7	29	8.5
979	1131	7	15	19	13.4
1131	1294	15	27	14	19.2
1294	1428	27	42	9	29.8
1428	1618	42	66	8	33.9
1618	1702	66	79	6	42.0
1702	1857	79	104	6	43.9
1857	2019	104	134	5	50.8



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC708

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 459219.9 E, 220017.4 N

Ground Level 70.54 m OD

Test No. 1

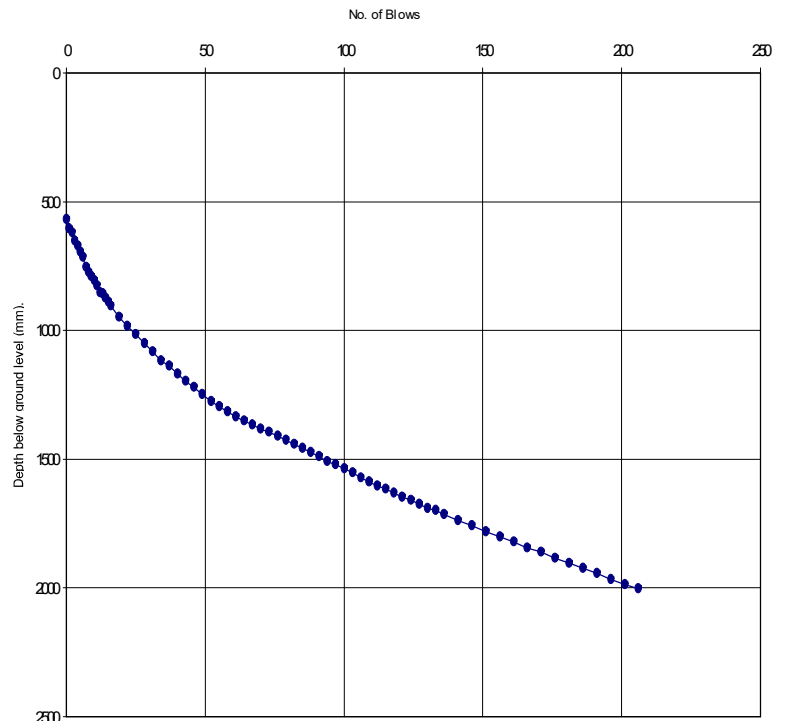
Test Date 20/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	0	570	3	31	1	512	1082	3	94	2	133	1507
1	1	1	33	603	3	34	1	548	1118	3	97	2	148	1522
1	2	1	52	622	3	37	1	568	1138	3	100	2	164	1538
1	3	1	82	652	3	40	1	600	1170	3	103	2	180	1554
1	4	1	103	673	3	43	1	626	1196	3	106	2	199	1573
1	5	1	124	694	3	46	1	651	1221	3	109	2	213	1587
1	6	1	146	716	3	49	1	678	1248	3	112	2	228	1602
1	7	1	185	755	3	52	1	704	1274	3	115	2	242	1616
1	8	1	205	775	3	55	1	724	1294	3	118	2	256	1630
1	9	1	220	790	3	58	1	744	1314	3	121	2	271	1645
1	10	1	237	807	3	61	1	765	1335	3	124	2	286	1660
1	11	1	256	826	3	64	1	781	1351	3	127	2	300	1674
1	12	1	283	853	3	67	1	797	1367	3	130	2	315	1689
1	13	1	287	857	3	70	1	813	1383	3	133	2	326	1700
1	14	1	304	874	3	73	1	823	1393	3	136	2	340	1714
1	15	1	320	890	3	76	1	838	1408	5	141	2	363	1737
1	16	1	336	906	3	79	1	854	1424	5	146	2	382	1756
3	19	1	376	946	3	82	2	69	1443	5	151	2	406	1780
3	22	1	413	983	3	85	2	85	1459	5	156	2	428	1802
3	25	1	446	1016	3	88	2	101	1475	5	161	2	448	1822
3	28	1	480	1050	3	91	2	116	1490	5	166	2	471	1845

Test Started at	0.57 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	0
2	50

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
570	755	0	7	26	9.5
755	983	7	22	15	17.0
983	1118	22	34	11	23.4
1118	1248	34	49	9	30.8
1248	1314	49	58	7	36.8
1314	1573	58	106	5	50.8
1573	1689	106	130	5	57.1
1689	2004	130	206	4	67.2



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

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In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC708

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 459219.9 E, 220017.4 N

Ground Level 70.54 m OD

Test No. 1

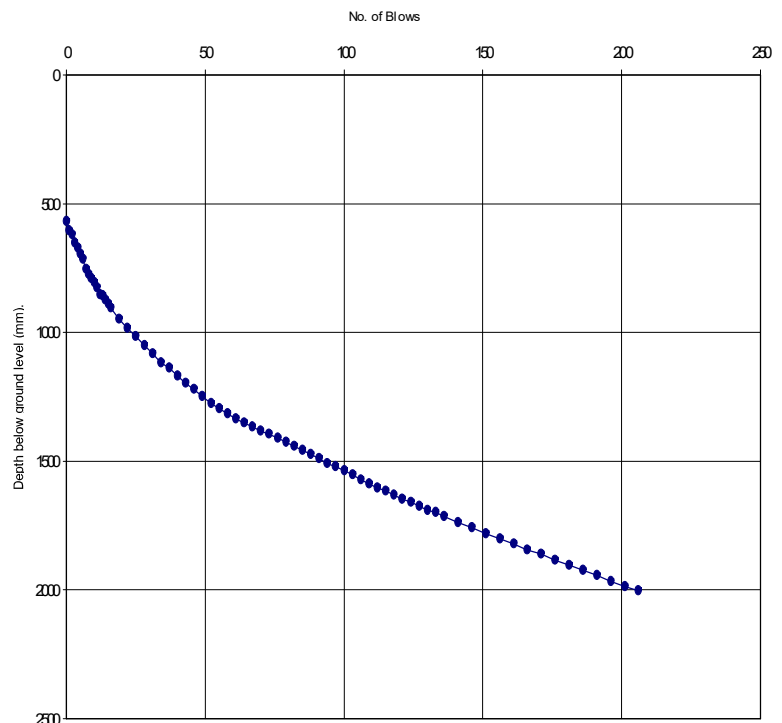
Test Date 20/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
5	171	2	487	1861
5	176	2	508	1882
5	181	2	529	1903
5	186	2	548	1922
5	191	2	570	1944
5	196	2	592	1966
5	201	2	611	1985
5	206	2	630	2004

Test Started at	0.57 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	0
2	50

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
570	755	0	7	26	9.5
755	983	7	22	15	17.0
983	1118	22	34	11	23.4
1118	1248	34	49	9	30.8
1248	1314	49	58	7	36.8
1314	1573	58	106	5	50.8
1573	1689	106	130	5	57.1
1689	2004	130	206	4	67.2



Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



In Situ Testing - Dynamic Cone Penetration Test

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Location No. RC710

Client Graven Hill Village Development Company Limited

Project No. PC207899

Coordinates 459398.4 E, 220105.3 N

Ground Level 71.04 m OD

Test No. 1

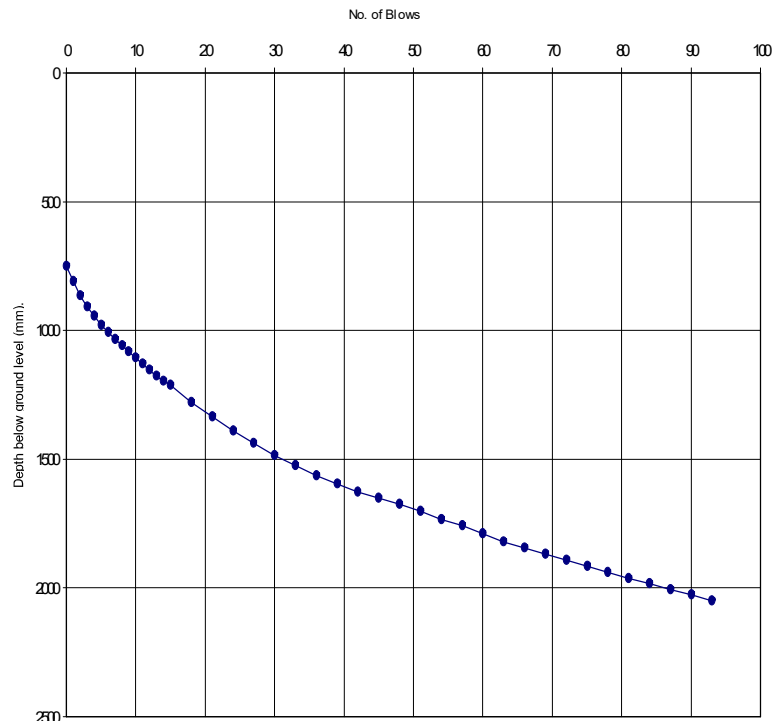
Test Date 20/07/2020

Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Rod No.	Reading (mm)	Corrected Depth (mm)
0	0	1	50	750	3	33	1	826	1526
1	1	1	111	811	3	36	1	865	1565
1	2	1	163	863	3	39	2	92	1597
1	3	1	210	910	3	42	2	121	1626
1	4	1	244	944	3	45	2	146	1651
1	5	1	280	980	3	48	2	171	1676
1	6	1	308	1008	3	51	2	198	1703
1	7	1	334	1034	3	54	2	228	1733
1	8	1	358	1058	3	57	2	252	1757
1	9	1	382	1082	3	60	2	286	1791
1	10	1	405	1105	3	63	2	314	1819
1	11	1	430	1130	3	66	2	339	1844
1	12	1	452	1152	3	69	2	364	1869
1	13	1	476	1176	3	72	2	388	1893
1	14	1	497	1197	3	75	2	411	1916
1	15	1	514	1214	3	78	2	434	1939
3	18	1	581	1281	3	81	2	457	1962
3	21	1	634	1334	3	84	2	477	1982
3	24	1	690	1390	3	87	2	500	2005
3	27	1	738	1438	3	90	2	522	2027
3	30	1	786	1486	3	93	2	544	2049

Test Started at	0.75 m
Operator	EPS
Checked by	TNH

Rod No.	Zero Reading (mm)
1	50
2	60

Depth bgl (mm) Top	Base	Blows No. Top	Base	DCP mm/blow	CBR %
750	910	0	3	53	4.5
910	1034	3	7	31	8.0
1034	1130	7	11	24	10.5
1130	1214	11	15	21	12.1
1214	1438	15	27	19	13.7
1438	1565	27	36	14	18.4
1565	1626	36	42	10	26.0
1626	1844	42	66	9	29.3
1844	2049	66	93	8	35.4



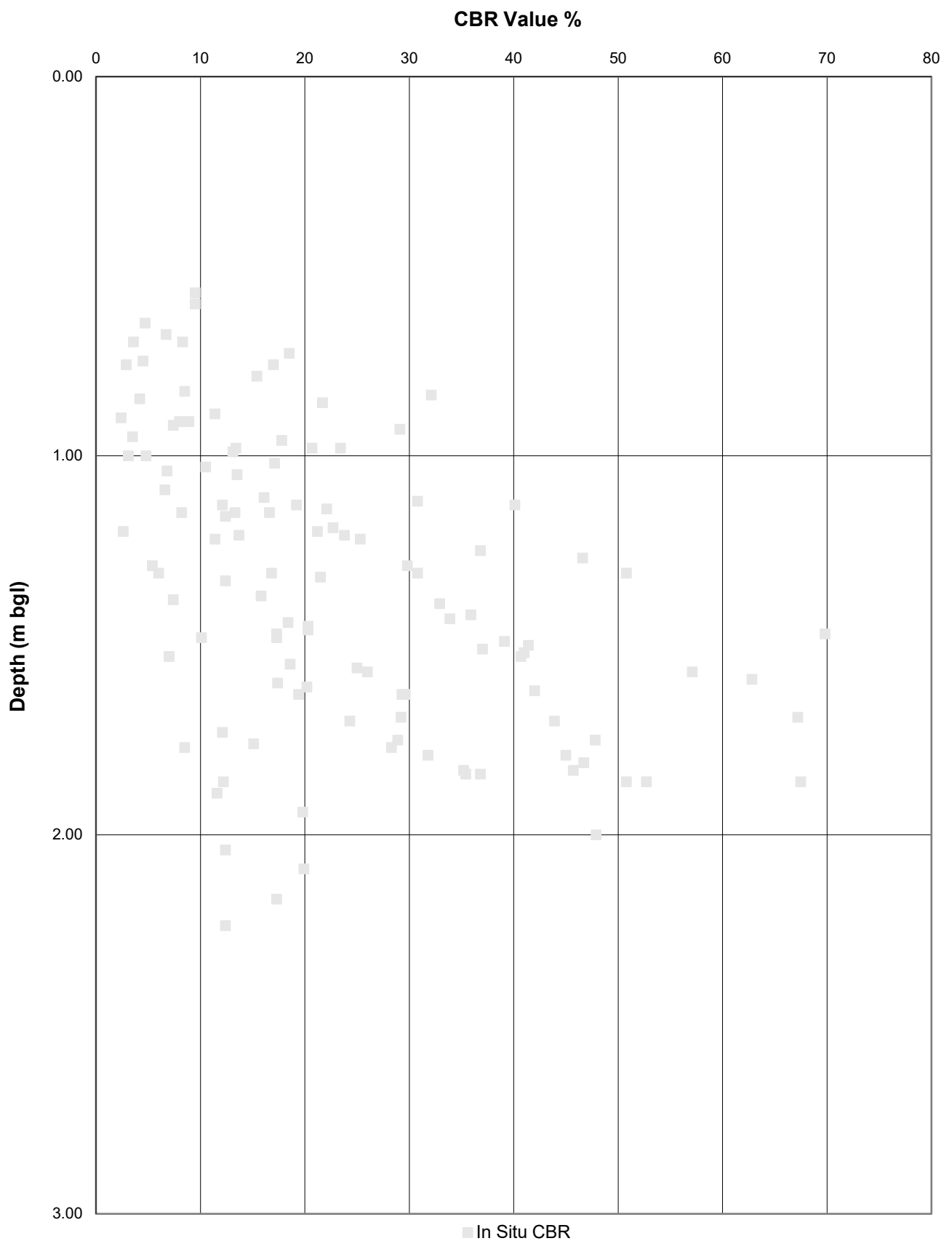
Remarks

CBR estimated using correlation in Highways Agency Interim Advice Note 73/06 Rev 1 (2009).

Printed: 28/09/2020

GEOTECHNICS



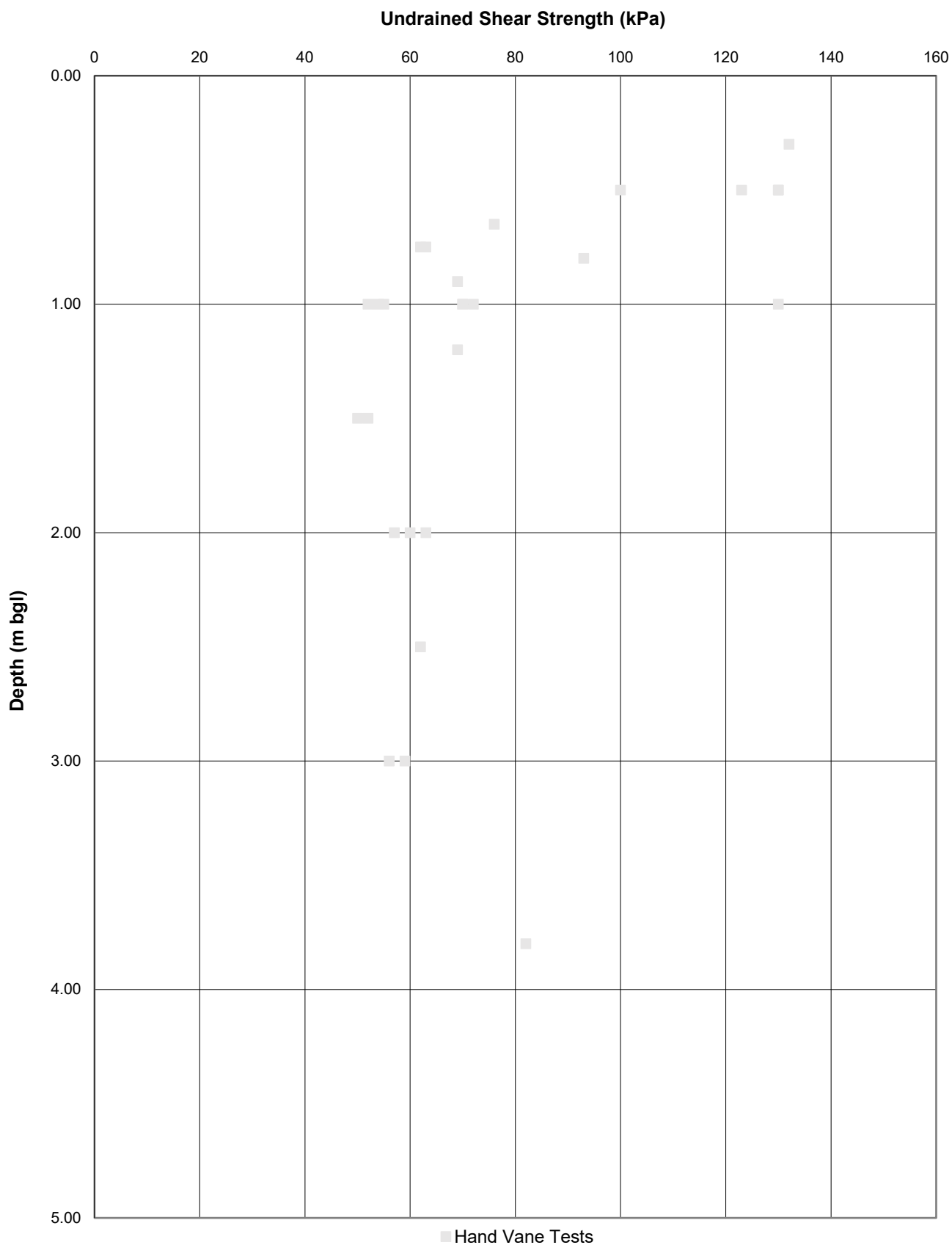


Phase 7

Job No	PC207899
Date	01/07/2021
Figure	5.6

GRAVEN HILL, BICESTER, LAND
TRANSFER AREA 2 (LTA2)
Plot of In Situ CBR - Depth Profile

GEOTECHNICS



Phase 7

Job No PC207899
Date 01/07/2021
Figure 11.6

GRAVEN HILL, BICESTER, LAND
 TRANSFER AREA 2 (LTA2)
 Plot of Undrained Shear Strength - Depth
 Profile

GEOTECHNICS



Appendix D

Geoenvironmental Testing Results

- **EAR Geoenvironmental Testing Results**

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708167	1708168	1708169	1708170	1708171	1708172
Sample ID	TP327	TP327	TP329	TP329	TP423	TP818
Depth	0.10	0.60	0.50	1.35	0.10	0.35
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	17/07/2020	17/07/2020	17/07/2020	17/07/2020	20/07/2020	16/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	11	28		4.2	13	9.0
Barium	DETSC 2301#	1.5	mg/kg	150	340		42	180	56
Beryllium	DETSC 2301#	0.2	mg/kg	1.5	2.9		0.2	2.3	1.0
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.0	0.8		0.8	1.5	1.2
Cadmium	DETSC 2301#	0.1	mg/kg	1.9	0.2		0.3	0.6	0.2
Chromium	DETSC 2301#	0.15	mg/kg	18	35		9.0	21	36
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	9.1	19		3.7	12	9.1
Copper	DETSC 2301#	0.2	mg/kg	42	90		17	55	28
Iron	DETSC 2301	25	mg/kg	17000	44000		12000	22000	30000
Lead	DETSC 2301#	0.3	mg/kg	39	27		15	44	21
Mercury	DETSC 2325#	0.05	mg/kg	0.06	< 0.05		< 0.05	< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	2.0	5.0		1.0	2.4	2.8
Nickel	DETSC 2301#	1	mg/kg	25	74		6.9	32	29
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	35	110		27	66	35
Zinc	DETSC 2301#	1	mg/kg	550	230		47	140	140
Inorganics									
Organic matter	DETSC 2002#	0.1	%					6.2	
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01				
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		< 0.01				
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01				
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5				
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2				
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5				
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4				
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg		< 3.4				
Aliphatic C5-C35	DETSC 3072*	10	mg/kg		< 10				
Aliphatic C5-C40	DETSC 3072*	10	mg/kg		< 10				
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01				
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01				
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01				
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9				
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		0.8				
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		16				
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		57				
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg		< 1.4				
Aromatic C5-C35	DETSC 3072*	10	mg/kg		74				
Aromatic C5-C40	DETSC 3072*	10	mg/kg		74				
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg		74				

Summary of Chemical Analysis Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708167	1708168	1708169	1708170	1708171	1708172
Sample ID	TP327	TP327	TP329	TP329	TP423	TP818
Depth	0.10	0.60	0.50	1.35	0.10	0.35
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	17/07/2020	17/07/2020	17/07/2020	17/07/2020	20/07/2020	16/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETSC 3321#	0.01	mg/kg		< 0.01				
Ethylbenzene	DETSC 3321#	0.01	mg/kg		< 0.01				
Toluene	DETSC 3321#	0.01	mg/kg		< 0.01				
Xylene	DETSC 3321#	0.01	mg/kg		< 0.01				
MTBE	DETSC 3321	0.01	mg/kg		< 0.01				
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	0.51	0.05	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.30	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	0.78	0.15	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	0.44	0.09	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	8.0	1.5	< 0.03	0.03	0.07	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	2.1	0.41	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	18	3.5	< 0.03	0.18	0.29	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	17	3.2	< 0.03	0.19	0.27	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	12	1.7	< 0.03	0.11	0.16	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	8.2	1.6	< 0.03	0.11	0.16	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	10	2.4	< 0.03	0.21	0.24	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	4.4	0.80	< 0.03	0.06	0.08	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	9.3	2.0	< 0.03	0.20	0.19	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	3.6	0.78	< 0.03	0.11	0.08	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.87	0.24	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	3.7	0.89	< 0.03	0.14	0.09	< 0.03
Coronene	DETSC 3301*	0.1	mg/kg	0.5	0.2	< 0.1	0.6	< 0.1	< 0.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	99	19	< 0.10	1.3	1.6	< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg						
Phenol	DETSC 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
p-cresol	DETSC 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg						

Information in Support of the Analytical Results

Our Ref 20-14433
 Client Ref PC207899
 Contract Ground Investigation for Graven Hill, Bicester

Lab No	Sample ID	Date	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
		Sampled			
1708169	TP329 0.50 SOIL	17/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708170	TP329 1.35 SOIL	17/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708171	TP423 0.10 SOIL	20/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708172	TP818 0.35 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708173	TP835 0.10 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708174	TP823 0.10 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708175	TP823 0.50 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708176	TP826 0.06 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708177	TP826 0.40 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708178	TP828 0.30 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708179	TP831 0.30 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708180	TP831 0.60 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708181	SSC 818 0.10 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708182	SSC 819 0.10 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708183	SSC 820 0.10 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708184	SSC 821 0.10 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708185	TP827 0.08 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708186	TP827 0.30 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708187	TP827 0.80 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708188	TP839 0.10 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708189	TP838 0.10 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708190	TP837 0.15 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708191	TP813 0.10 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708192	TP814 0.20 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708193	SSC812 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708194	SSC811 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708195	RC507 0.05 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708196	RC507 0.30 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land Transfer Area 2 (LTA2)

Lab No	1719065	1719066	1719067	1719068	1719069	1719070
Sample ID	BH418	TP820	TP820	TP430	BH425	BH514
Depth	0.50	0.10	0.25	0.20	0.20	0.50
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	31/07/2020	31/07/2020	31/07/2020	30/07/2020	03/08/2020	05/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg			7.2	18	11	
Barium	DETSC 2301#	1.5	mg/kg			290	74	49	
Beryllium	DETSC 2301#	0.2	mg/kg			1.5	0.9	0.7	
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg			0.6	1.8	1.2	
Cadmium	DETSC 2301#	0.1	mg/kg			0.2	0.6	0.2	
Chromium	DETSC 2301#	0.15	mg/kg			11	32	20	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg			< 1.0	< 1.0	< 1.0	
Cobalt	DETSC 2301#	0.7	mg/kg			10	9.1	5.4	
Copper	DETSC 2301#	0.2	mg/kg			39	27	17	
Iron	DETSC 2301	25	mg/kg			16000	35000	19000	
Lead	DETSC 2301#	0.3	mg/kg			21	33	26	
Mercury	DETSC 2325#	0.05	mg/kg			0.06	0.07	< 0.05	
Molybdenum	DETSC 2301#	0.4	mg/kg			1.9	2.1	1.2	
Nickel	DETSC 2301#	1	mg/kg			30	26	16	
Selenium	DETSC 2301#	0.5	mg/kg			< 0.5	< 0.5	< 0.5	
Vanadium	DETSC 2301#	0.8	mg/kg			54	51	33	
Zinc	DETSC 2301#	1	mg/kg			55	130	53	
Inorganics									
Organic matter	DETSC 2002#	0.1	%					3.6	
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01				< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01				< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01				< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5				< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2				< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5				< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4				< 3.4	< 3.4
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	< 3.4				< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10				< 10	< 10
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	< 10				< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01				< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01				< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01				< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9				< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5				< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6				< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4				< 1.4	< 1.4
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	< 1.4				< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10				< 10	< 10
Aromatic C5-C40	DETSC 3072*	10	mg/kg	< 10				< 10	< 10

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land Transfer Area 2 (LTA2)

Lab No	1719065	1719066	1719067	1719068	1719069	1719070
Sample ID	BH418	TP820	TP820	TP430	BH425	BH514
Depth	0.50	0.10	0.25	0.20	0.20	0.50
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	31/07/2020	31/07/2020	31/07/2020	30/07/2020	03/08/2020	05/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	< 10				< 10	< 10
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01				< 0.01	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01				< 0.01	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01				< 0.01	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01				< 0.01	< 0.01
MTBE	DETSC 3321	0.01	mg/kg	< 0.01				< 0.01	< 0.01
PAHs									
Naphthalene	DETSC 3301	0.1	mg/kg		< 1.0	< 0.1	< 0.1	< 0.1	
Acenaphthylene	DETSC 3301	0.1	mg/kg		< 1.0	0.2	< 0.1	< 0.1	
Acenaphthene	DETSC 3301	0.1	mg/kg		< 1.0	0.5	< 0.1	< 0.1	
Fluorene	DETSC 3301	0.1	mg/kg		< 1.0	< 0.1	< 0.1	< 0.1	
Phenanthrene	DETSC 3301	0.1	mg/kg		3.4	2.2	< 0.1	< 0.1	
Anthracene	DETSC 3301	0.1	mg/kg		2.0	1.1	< 0.1	< 0.1	
Fluoranthene	DETSC 3301	0.1	mg/kg		27	9.4	0.6	< 0.1	
Pyrene	DETSC 3301	0.1	mg/kg		20	6.7	0.6	< 0.1	
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg		8.6	2.8	0.5	< 0.1	
Chrysene	DETSC 3301	0.1	mg/kg		10	3.3	0.6	< 0.1	
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg		10	3.1	0.6	< 0.1	
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg		4.6	1.3	0.3	< 0.1	
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg		10	3.2	0.9	< 0.1	
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg		10	3.4	0.6	< 0.1	
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg		1.0	< 0.1	0.1	< 0.1	
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg		5.9	2.9	0.8	< 0.1	
Coronene	DETSC 3301*	0.1	mg/kg			< 0.1	< 0.1	< 0.1	
PAH Total	DETSC 3301	1.6	mg/kg		110	40	5.7	< 1.6	
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg		0.3				
Phenol	DETSC 3451*	0.01	mg/kg		< 0.10				
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg		< 0.10				
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.10				
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.10				
p-cresol	DETSC 3451*	0.01	mg/kg		< 0.10				
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.10				
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.10				
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.10				

Summary of Asbestos Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land Transfer Area 2 (LTA2)

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1719065	BH418 0.50	SOIL	NAD	none	Steven Lambert
1719067	TP820 0.25	SOIL	NAD	none	Steven Lambert
1719068	TP430 0.20	SOIL	NAD	none	Steven Lambert
1719069	BH425 0.20	SOIL	NAD	none	Steven Lambert
1719071	BH305 0.10	SOIL	NAD	none	Steven Lambert
1719076	BH303 0.30	SOIL	NAD	none	Steven Lambert
1719077	BH303 0.50	SOIL	NAD	none	Steven Lambert
1719079	TP816 0.40	SOIL	NAD	none	Steven Lambert
1719088	BH611 0.30	SOIL	NAD	none	Steven Lambert
1719089	BH611 0.80	SOIL	NAD	none	Steven Lambert
1719090	BH301 0.30	SOIL	NAD	none	Steven Lambert
1719091	TP522A 0.10	SOIL	NAD	none	Steven Lambert
1719093	TP507 0.40	SOIL	NAD	none	Steven Lambert
1719096	TP412 1.00	SOIL	NAD	none	Steven Lambert
1719097	TP412 2.00	SOIL	NAD	none	Steven Lambert
1719102	TP411A 0.40	SOIL	NAD	none	Steven Lambert
1719107	BH508 0.30	SOIL	NAD	none	Steven Lambert
1719111	BH610 0.20	SOIL	NAD	none	Steven Lambert
1719112	BH608 0.20	SOIL	NAD	none	Steven Lambert
1719115	BH601 0.20	SOIL	NAD	none	Steven Lambert
1719120	TP803 0.10	SOIL	NAD	none	Steven Lambert
1719121	TP803 0.40	SOIL	NAD	none	Steven Lambert
1719122	TP705 0.30	SOIL	NAD	none	Steven Lambert
1719125	BH403 0.50	SOIL	NAD	none	Steven Lambert
1719126	RC807 0.10	SOIL	NAD	none	Steven Lambert
1719127	RC807 0.50	SOIL	NAD	none	Steven Lambert
1719128	RC808 0.10	SOIL	NAD	none	Steven Lambert
1719131	BH404 0.30	SOIL	NAD	none	Steven Lambert
1719132	BH512 0.10	SOIL	Chrysotile	bundles of Chrysotile	Steven Lambert
1719134	BH313 0.30	SOIL	NAD	none	Steven Lambert
1719135	BH409 0.50	SOIL	NAD	none	Steven Lambert
1719136	BH414 0.50	SOIL	NAD	none	Steven Lambert
1719137	BHTP415 0.40	SOIL	NAD	none	Steven Lambert
1719138	BHTP417 0.40	SOIL	Chrysotile	Small bundle of Chrysotile	Steven Lambert
1719141	BHTP416 0.50	SOIL	NAD	none	Steven Lambert
1719142	BH415 0.40	SOIL	NAD	none	Steven Lambert
1719143	BH415 0.90	SOIL	NAD	none	Steven Lambert
1719145	BH406A 0.45	SOIL	NAD	none	Steven Lambert
1719149	TP408X 0.70	SOIL	NAD	none	Steven Lambert
1721342	BH815 0.20	SOIL	NAD	none	Steven Lambert

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 20-16427

Client Ref PC207899

Contract Ground Investigation for Graven Hill, Bicester, Land Transfer Area 2 (LTA2)

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1719065	BH418 0.50 SOIL	31/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719066	TP820 0.10 SOIL	31/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1719067	TP820 0.25 SOIL	31/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719068	TP430 0.20 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Mercury (28 days), Naphthalene (14 days), PAH FID (14 days)	
1719069	BH425 0.20 SOIL	03/08/20	PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	Aliphatics/Aromatics, BTEX, Naphthalene, PAH FID
1719070	BH514 0.50 SOIL	05/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719071	BH305 0.10 SOIL	06/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719072	BH305 1.00 SOIL	06/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2	Naphthalene (14 days), PAH FID (14 days)	
1719073	BH311 0.10 SOIL	06/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2	Naphthalene (14 days), PAH FID (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1719074	BH311 0.30 SOIL	06/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719075	BH311 1.00 SOIL	06/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2	Naphthalene (14 days), PAH FID (14 days)	
1719076	BH303 0.30 SOIL	06/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2	Naphthalene (14 days), PAH FID (14 days)	
1719077	BH303 0.50 SOIL	06/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1719078	BH302 0.20 SOIL	07/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719079	TP816 0.40 SOIL	07/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719080	TP830 0.05 SOIL	07/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719081	TP830 0.46 WATER	07/08/20	PB 1L x2	Aliphatics/Aromatics (4 days), BTEX/PRO (14 days)	Aliphatics/Aromatics, BTEX/PRO
1719082	TP829 0.20 SOIL	07/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719083	TP829 0.50 SOIL	07/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719084	BH511 0.10 SOIL	07/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1719085	BH511 1.00 SOIL	07/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719086	BH408 1.00 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719087	BH408 2.40 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719088	BH611 0.30 SOIL	10/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719089	BH611 0.80 SOIL	10/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1719090	BH301 0.30 SOIL	10/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719091	TP522A 0.10 SOIL	10/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1717006	1717008	1717009	1717010	1717011	1717012
Sample ID	TP702	TP427	SSC805	TP810	TP810	TP810
Depth	0.15	0.20	0.10	0.40	0.60	1.30
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	06/08/2020	06/08/2020	05/08/2020	03/08/2020	03/08/2020	03/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	6.8	12	5.4	7.9		
Barium	DETSC 2301#	1.5	mg/kg	44	71	24	42		
Beryllium	DETSC 2301#	0.2	mg/kg	0.8	1.1	0.3	0.5		
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.3	1.9	0.9	1.2		
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	0.8	0.8	0.6		
Chromium	DETSC 2301#	0.15	mg/kg	43	37	14	12		
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0		
Cobalt	DETSC 2301#	0.7	mg/kg	5.5	10	3.2	5.8		
Copper	DETSC 2301#	0.2	mg/kg	33	40	20	17		
Iron	DETSC 2301	25	mg/kg	30000	34000	9100	15000		
Lead	DETSC 2301#	0.3	mg/kg	20	36	10	16		
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.06	< 0.05	< 0.05		
Molybdenum	DETSC 2301#	0.4	mg/kg	3.8	3.6	1.4	0.9		
Nickel	DETSC 2301#	1	mg/kg	16	39	11	13		
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5		
Vanadium	DETSC 2301#	0.8	mg/kg	36	44	18	32		
Zinc	DETSC 2301#	1	mg/kg	85	140	140	100		
Inorganics									
Organic matter	DETSC 2002#	0.1	%						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5	1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4	58	< 3.4	< 3.4
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg			< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg			< 10	60	< 10	< 10
Aliphatic C5-C40	DETSC 3072*	10	mg/kg			< 10	60	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4	59	< 1.4	< 1.4
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg			< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg			< 10	59	< 10	< 10
Aromatic C5-C40	DETSC 3072*	10	mg/kg			< 10	59	< 10	< 10

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1717006	1717008	1717009	1717010	1717011	1717012
Sample ID	TP702	TP427	SSC805	TP810	TP810	TP810
Depth	0.15	0.20	0.10	0.40	0.60	1.30
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	06/08/2020	06/08/2020	05/08/2020	03/08/2020	03/08/2020	03/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg			< 10	120	< 10	< 10
Benzene	DETSC 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3321	0.01	mg/kg			< 0.01	< 0.01	< 0.01	< 0.01
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg						
Acenaphthylene	DETSC 3303#	0.03	mg/kg						
Acenaphthene	DETSC 3303#	0.03	mg/kg						
Fluorene	DETSC 3303	0.03	mg/kg						
Phenanthrene	DETSC 3303#	0.03	mg/kg						
Anthracene	DETSC 3303	0.03	mg/kg						
Fluoranthene	DETSC 3303#	0.03	mg/kg						
Pyrene	DETSC 3303#	0.03	mg/kg						
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg						
Chrysene	DETSC 3303	0.03	mg/kg						
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg						
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg						
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg						
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg						
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1		< 0.1		
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1		< 0.1		
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1		< 0.1		
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1		< 0.1		
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1		< 0.1		
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	0.3		< 0.1		
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	2.0		< 0.1		
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1	2.0		< 0.1		
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	0.8		< 0.1		
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1	1.0		< 0.1		
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	0.8		< 0.1		
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	0.4		< 0.1		
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	1.2		< 0.1		
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	0.9		< 0.1		
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1		< 0.1		
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	0.6		< 0.1		
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	0.3		< 0.1		
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg						

Summary of Asbestos Analysis Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1716972	TP809 0.50	SOIL	NAD	none	Steven Lambert
1716973	TP804 0.50	SOIL	Amosite	bundles of Amosite	Steven Lambert
1716974	TP515 0.05	SOIL	NAD	none	Steven Lambert
1716975	TP407 0.20	SOIL	NAD	none	Steven Lambert
1716976	BH602 0.00-0.10	SOIL	NAD	none	Steven Lambert
1716977	BH602 0.50-0.60	SOIL	Chrysotile	bundle of Chrysotile	Steven Lambert
1716978	BH413 1.00	SOIL	NAD	none	Steven Lambert
1716980	BH424 1.00	SOIL	NAD	none	Steven Lambert
1716981	BH410 0.50	SOIL	NAD	none	Steven Lambert
1716982	BH412 0.30	SOIL	NAD	none	Steven Lambert
1716989	TP607 0.10	SOIL	NAD	none	Steven Lambert
1716995	TP821 0.40	SOIL	NAD	none	Steven Lambert
1716996	BH312 0.50	SOIL	NAD	none	Steven Lambert
1716998	TP325 0.60-0.70	SOIL	NAD	none	Steven Lambert
1716999	BH420 0.50	SOIL	NAD	none	Steven Lambert
1717000	TP413 1.30	SOIL	NAD	none	Steven Lambert
1717001	TP413 2.30	SOIL	NAD	none	Steven Lambert
1717002	TP419 0.50	SOIL	NAD	none	Steven Lambert
1717004	TP420 0.30	SOIL	NAD	none	Steven Lambert
1717005	TP703 0.60	SOIL	NAD	none	Steven Lambert
1717006	TP702 0.15	SOIL	NAD	none	Steven Lambert
1717007	TP702 0.60	SOIL	NAD	none	Steven Lambert
1717008	TP427 0.20	SOIL	NAD	none	Steven Lambert
1717010	TP810 0.40	SOIL	NAD	none	Steven Lambert
1717013	TP521 0.05	SOIL	NAD	none	Steven Lambert
1719945	TP523A 0.20	SOIL	NAD	none	Steven Lambert

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 20-16110
 Client Ref PC207899
 Contract Ground Investigation for Graven Hill, Bicester

Lab No	Sample ID	Date		Containers Received	Holding time exceeded for tests	Inappropriate container for tests
		Sampled				
1716990	RC401 0.40 SOIL	24/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days). PAH FID (14 days)	
1716991	RC403 0.40 SOIL	24/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days). PAH FID (14 days)	
1716992	BH417 0.50 SOIL	30/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days). PAH FID (14 days)	
1716993	TP822 0.15 SOIL	31/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days). PAH FID (14 days)	
1716994	TP822 1.00 SOIL	31/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days). PAH FID (14 days)	
1716995	TP821 0.40 SOIL	31/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days)	
1716996	BH312 0.50 SOIL	24/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Mercury (28 days), Kone Cr6 (30 days), Naphthalene (14 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PAH MS (14 days)	
1716997	TP325 0.10-0.20 SOIL	24/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), Phenols MS (14 days), Cyanide/Mono pHoh (14 days)	
1716998	TP325 0.60-0.70 SOIL	24/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Mercury (28 days), Kone Cr6 (30 days), Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days)	
1716999	BH420 0.50 SOIL	03/08/20		GJ 250ml x2, GJ 60ml x2	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days)	
1717000	TP413 1.30 SOIL	06/08/20		GJ 250ml x2, GJ 60ml x2	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days)	
1717001	TP413 2.30 SOIL	06/08/20		GJ 250ml x2, GJ 60ml x2	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days)	
1717002	TP419 0.50 SOIL	06/08/20		GJ 250ml x2, GJ 60ml x2, PT 1L x2	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days)	
1717003	TP419 1.20 WATER	06/08/20		GB 1L, PB 1L	Aliphatics/Aromatics (4 days), BTEX/PRO (14 days), Chromium, Hexavalent (4 days), Kone (4 days), Naphthalene (14 days). PAH MS (14 days)	
1717004	TP420 0.30 SOIL	06/08/20		GJ 250ml x2, GJ 60ml x2	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days). PAH FID (14 days)	
1717005	TP703 0.60 SOIL	06/08/20		GJ 250ml x2, GJ 60ml x2, PT 1L x2	Naphthalene (14 days), PAH FID (14 days)	
1717006	TP702 0.15 SOIL	06/08/20		GJ 250ml x2, GJ 60ml x2, PT 1L x2	Naphthalene (14 days), PAH FID (14 days)	
1717007	TP702 0.60 SOIL	06/08/20		GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1717008	TP427 0.20 SOIL	06/08/20		GJ 250ml x2, GJ 60ml x2, PT 1L x2	Naphthalene (14 days), PAH FID (14 days)	
1717009	SSC805 0.10 SOIL	05/08/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1717010	TP810 0.40 SOIL	03/08/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days). PAH FID (14 days)	
1717011	TP810 0.60 SOIL	03/08/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1717012	TP810 1.30 SOIL	03/08/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1717013	TP521 0.05 SOIL	03/08/20		GJ 250ml x2, GJ 60ml x2	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1717014	TP524 0.20 SOIL	03/08/20		GJ 250ml x2, GJ 60ml x2	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1717015	TP524 0.50 SOIL	03/08/20		GJ 250ml x2, GJ 60ml x2	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719945	TP523A 0.20 SOIL	26/08/20		GJ 250ml x2, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub B-Bottle

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716999	1717000	1717001	1717002	1717004	1717005
Sample ID	BH420	TP413	TP413	TP419	TP420	TP703
Depth	0.50	1.30	2.30	0.50	0.30	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	03/08/2020	06/08/2020	06/08/2020	06/08/2020	06/08/2020	06/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	6.3	4.2	9.2	42	6.1	8.1
Barium	DETSC 2301#	1.5	mg/kg	40	370	59	1000	150	44
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	2.3	1.0	4.2	0.8	0.9
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.6	1.2	0.9	4.1	0.5	1.6
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	0.1	0.2	0.8	< 0.1	0.5
Chromium	DETSC 2301#	0.15	mg/kg	38	18	41	31	11	41
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	5.4	2.5	10	28	15	8.4
Copper	DETSC 2301#	0.2	mg/kg	30	13	24	240	39	44
Iron	DETSC 2301	25	mg/kg	25000	7600	43000	69000	11000	30000
Lead	DETSC 2301#	0.3	mg/kg	12	6.3	15	520	16	19
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	2.2	< 0.4	2.6	13	1.7	5.2
Nickel	DETSC 2301#	1	mg/kg	15	5.5	19	83	32	48
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	1.0	< 0.5	1.0	< 0.5	0.5
Vanadium	DETSC 2301#	0.8	mg/kg	31	54	41	79	28	30
Zinc	DETSC 2301#	1	mg/kg	84	40	85	400	240	97
Inorganics									
Organic matter	DETSC 2002#	0.1	%						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg					< 0.01	
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg					< 0.01	
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg					< 0.01	
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg					< 1.5	
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg					< 1.2	
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg					< 1.5	
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg					< 3.4	
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg					< 3.4	
Aliphatic C5-C35	DETSC 3072*	10	mg/kg					< 10	
Aliphatic C5-C40	DETSC 3072*	10	mg/kg					< 10	
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg					< 0.01	
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg					< 0.01	
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg					< 0.01	
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg					< 0.9	
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg					< 0.5	
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg					< 0.6	
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg					< 1.4	
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg					< 1.4	
Aromatic C5-C35	DETSC 3072*	10	mg/kg					< 10	
Aromatic C5-C40	DETSC 3072*	10	mg/kg					< 10	

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708240	1708241	1713232
Sample ID	TP704	TP704	RC503
Depth	0.10	0.90	0.50
Other ID			
Sample Type	ES	ES	SOIL
Sampling Date	13/07/2020	13/07/2020	13/07/2020
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Asbestos Quantification	DETSC 1102	0.001	%			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	7.6	6.8	
Barium	DETSC 2301#	1.5	mg/kg	40	27	
Beryllium	DETSC 2301#	0.2	mg/kg	0.9	0.7	
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.6	1.1	
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2	
Chromium	DETSC 2301#	0.15	mg/kg	38	37	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	
Cobalt	DETSC 2301#	0.7	mg/kg	7.8	6.0	
Copper	DETSC 2301#	0.2	mg/kg	34	30	
Iron	DETSC 2301	25	mg/kg	33000	27000	
Lead	DETSC 2301#	0.3	mg/kg	13	12	
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	
Molybdenum	DETSC 2301#	0.4	mg/kg	4.7	3.9	
Nickel	DETSC 2301#	1	mg/kg	40	26	
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	
Vanadium	DETSC 2301#	0.8	mg/kg	29	27	
Zinc	DETSC 2301#	1	mg/kg	94	79	
Inorganics						
Organic matter	DETSC 2002#	0.1	%	3.7	2.2	
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg			< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg			< 10
Aliphatic C5-C40	DETSC 3072*	10	mg/kg			< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			5.8
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			26
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			63
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg			< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg			95
Aromatic C5-C40	DETSC 3072*	10	mg/kg			95
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg			95

Summary of Chemical Analysis Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708240	1708241	1713232
Sample ID	TP704	TP704	RC503
Depth	0.10	0.90	0.50
Other ID			
Sample Type	ES	ES	SOIL
Sampling Date	13/07/2020	13/07/2020	13/07/2020
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Benzene	DETSC 3321#	0.01	mg/kg			< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg			< 0.01
Toluene	DETSC 3321#	0.01	mg/kg			< 0.01
Xylene	DETSC 3321#	0.01	mg/kg			< 0.01
MTBE	DETSC 3321	0.01	mg/kg			< 0.01
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.03	< 0.03	
Pyrene	DETSC 3303#	0.03	mg/kg	0.03	< 0.03	
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.03	< 0.03	
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.03	< 0.03	
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1	
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg			
Phenol	DETSC 3451*	0.01	mg/kg			
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg			
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg			
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg			
p-cresol	DETSC 3451*	0.01	mg/kg			
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg			
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg			
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg			

Information in Support of the Analytical Results

Our Ref 20-14433
 Client Ref PC207899
 Contract Ground Investigation for Graven Hill, Bicester

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1708223	SSC810 0.10 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708224	SSC705 0.10 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708225	SSC706 0.10 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708226	SSC707 0.10 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708227	BH506 0.10 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708228	TP512 0.10 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708229	BH507 0.05 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708230	BH507 0.20 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708231	BH503 0.00-0.20 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708232	BH503 0.50-0.60 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708233	TP514 0.10 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708234	RC503 0.20 SOIL	13/07/20	GJ 250ml, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708235	RC503 1.00 SOIL	13/07/20	GJ 250ml, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708236	RC502 0.30 SOIL	13/07/20	GJ 250ml, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708237	CC501 0.31 SOIL	13/07/20	GJ 250ml, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708238	RC408 0.10 SOIL	13/07/20	GJ 250ml, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708239	TP801 0.20 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708240	TP704 0.10 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708241	TP704 0.90 SOIL	13/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1713232	RC503 0.50 SOIL	13/07/20	GJ 250ml x2	Aliphatics/Aromatics (14 days), BTEX (14 days)	

Key: G-Glass P-Plastic J-Jar T-Tub

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Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719122	1719123	1719124	1719125	1719126	1719127
Sample ID	TP705	BH421	BH403	BH403	RC807	RC807
Depth	0.30	0.60	0.10	0.50	0.10	0.50
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	13/08/2020	13/08/2020	04/08/2020	04/08/2020	31/07/2020	31/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	22	32		9.5		11
Barium	DETSC 2301#	1.5	mg/kg	640	310		100		63
Beryllium	DETSC 2301#	0.2	mg/kg	3.1	2.7		1.3		1.0
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.0	4.0		1.3		1.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.3		0.2		0.5
Chromium	DETSC 2301#	0.15	mg/kg	13	28		24		35
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0		< 1.0		< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	22	16		12		10
Copper	DETSC 2301#	0.2	mg/kg	100	56		37		30
Iron	DETSC 2301	25	mg/kg	22000	38000		21000		27000
Lead	DETSC 2301#	0.3	mg/kg	27	58		17		17
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.05		< 0.05		< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	4.5	5.1		2.1		3.2
Nickel	DETSC 2301#	1	mg/kg	49	47		30		37
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	0.8		< 0.5		< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	46	62		63		39
Zinc	DETSC 2301#	1	mg/kg	65	150		71		89
Inorganics									
Organic matter	DETSC 2002#	0.1	%						3.1
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5			< 1.5		
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2			< 1.2		
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5			< 1.5		
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4			< 3.4		
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	< 3.4			< 3.4		
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10			< 10		
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	< 10			< 10		
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9			< 0.9		
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5			< 0.5		
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6			< 0.6		
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4			< 1.4		
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	< 1.4			< 1.4		
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10			< 10		
Aromatic C5-C40	DETSC 3072*	10	mg/kg	< 10			< 10		

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719122	1719123	1719124	1719125	1719126	1719127
Sample ID	TP705	BH421	BH403	BH403	RC807	RC807
Depth	0.30	0.60	0.10	0.50	0.10	0.50
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	13/08/2020	13/08/2020	04/08/2020	04/08/2020	31/07/2020	31/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	< 10				< 10	
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01				< 0.01	
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01				< 0.01	
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01				< 0.01	
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01				< 0.01	
MTBE	DETSC 3321	0.01	mg/kg	< 0.01				< 0.01	
PAHs									
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1		< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	0.1		< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	0.1		< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1		< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1		< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	0.2		< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	0.6	< 1.0	0.3		< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1	0.5	< 1.0	0.4		< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	0.2		< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	0.2		< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	0.7		< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	0.2		< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	1.0		< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	1.4		< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	0.1		< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	1.0		< 0.1
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1		< 0.1		< 0.1
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6	< 1.6	< 16.0	5.9		< 1.6
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg			< 0.3			
Phenol	DETSC 3451*	0.01	mg/kg			< 0.10			
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg			< 0.10			
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.10			
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.10			
p-cresol	DETSC 3451*	0.01	mg/kg			< 0.10			
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.10			
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.10			
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.10			

Information in Support of the Analytical Results

Our Ref 20-16427
 Client Ref PC207899
 Contract Ground Investigation for Graven Hill, Bicester, Land Transfer Area 2 (LTA2)

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1719119	BH603 0.30 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719120	TP803 0.10 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719121	TP803 0.40 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719122	TP705 0.30 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	
1719123	BH421 0.60 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719124	BH403 0.10 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), Phenols MS (14 days), Cyanide/Mononitrobenzene (14 days)	
1719125	BH403 0.50 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719126	RC807 0.10 SOIL	31/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719127	RC807 0.50 SOIL	31/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719128	RC808 0.10 SOIL	31/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719129	RC808 0.50 SOIL	31/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719130	BH317 0.10 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719131	BH404 0.30 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	
1719132	BH512 0.10 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719133	BH313 0.10 SOIL	17/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1719134	BH313 0.30 SOIL	17/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1719135	BH409 0.50 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	
1719136	BH414 0.50 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	
1719137	BHTP415 0.40 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	
1719138	BHTP417 0.40 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719139	BHTP417 1.20 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719140	BHTP418 0.50 SOIL	17/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1719141	BHTP416 0.50 SOIL	17/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1719142	BH415 0.40 SOIL	18/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1719143	BH415 0.90 SOIL	18/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1719144	BH406 0.30 SOIL	18/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1719145	BH406A 0.45 SOIL	18/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1719146	BHTP434 1.10 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719147	BHTP434 2.30 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719148	BH416 1.00 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719149	TP408X 0.70 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2		

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708234	1708235	1708236	1708237	1708238	1708239
Sample ID	RC503	RC503	RC502	CC501	RC408	TP801
Depth	0.20	1.00	0.30	0.31	0.10	0.20
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg			130	13		12
Barium	DETSC 2301#	1.5	mg/kg			17	60		71
Beryllium	DETSC 2301#	0.2	mg/kg			3.6	0.8		1.0
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg			0.9	1.0		1.4
Cadmium	DETSC 2301#	0.1	mg/kg			< 0.1	0.2		0.4
Chromium	DETSC 2301#	0.15	mg/kg			210	25		31
Chromium, Hexavalent	DETSC 2204*	1	mg/kg			< 1.0	< 1.0		< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg			22	10		11
Copper	DETSC 2301#	0.2	mg/kg			14	31		29
Iron	DETSC 2301	25	mg/kg			190000	35000		25000
Lead	DETSC 2301#	0.3	mg/kg			19	12		42
Mercury	DETSC 2325#	0.05	mg/kg			< 0.05	< 0.05		< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg			0.7	2.1		2.3
Nickel	DETSC 2301#	1	mg/kg			78	25		27
Selenium	DETSC 2301#	0.5	mg/kg			< 0.5	< 0.5		< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg			410	60		39
Zinc	DETSC 2301#	1	mg/kg			190	98		170
Inorganics									
Organic matter	DETSC 2002#	0.1	%						5.2
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	
Aromatic C5-C40	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708234	1708235	1708236	1708237	1708238	1708239
Sample ID	RC503	RC503	RC502	CC501	RC408	TP801
Depth	0.20	1.00	0.30	0.31	0.10	0.20
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
MTBE	DETSC 3321	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg			< 0.03	< 0.03	< 0.30	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg			< 0.03	< 0.03	< 0.30	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg			< 0.03	< 0.03	< 0.30	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg			< 0.03	< 0.03	< 0.30	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg			0.09	< 0.03	0.45	0.05
Anthracene	DETSC 3303	0.03	mg/kg			< 0.03	< 0.03	< 0.30	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg			0.30	< 0.03	4.3	0.11
Pyrene	DETSC 3303#	0.03	mg/kg			0.28	< 0.03	4.6	0.11
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg			0.10	< 0.03	4.0	0.06
Chrysene	DETSC 3303	0.03	mg/kg			0.13	< 0.03	2.5	0.07
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg			0.10	< 0.03	4.5	0.05
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg			0.06	< 0.03	1.9	0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg			0.11	< 0.03	4.6	0.07
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg			0.07	< 0.03	1.7	0.04
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg			< 0.03	< 0.03	0.38	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg			0.08	< 0.03	1.9	0.04
Coronene	DETSC 3301*	0.1	mg/kg			< 0.1	< 0.1	6.0	< 0.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg			1.3	< 0.10	< 30.55	0.56
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg					< 0.3	
Phenol	DETSC 3451*	0.01	mg/kg					< 0.01	
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg					< 0.01	
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg					< 0.01	
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg					< 0.01	
p-cresol	DETSC 3451*	0.01	mg/kg					< 0.01	
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg					< 0.01	
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg					< 0.01	
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg					< 0.01	

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719092	1719093	1719094	1719095	1719096	1719097
Sample ID	TP522A	TP507	TP802	TP802	TP412	TP412
Depth	0.50	0.40	0.10	0.30	1.00	2.00
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/08/2020	10/08/2020	10/08/2020	10/08/2020	04/08/2020	04/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	6.4	6.0	9.2	8.9	7.1	
Barium	DETSC 2301#	1.5	mg/kg	59	38	64	57	90	
Beryllium	DETSC 2301#	0.2	mg/kg	0.9	0.7	1.0	1.0	0.9	
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	2.0	0.7	2.0	1.3	0.6	
Cadmium	DETSC 2301#	0.1	mg/kg	0.9	< 0.1	0.4	0.3	0.2	
Chromium	DETSC 2301#	0.15	mg/kg	51	37	41	38	8.9	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Cobalt	DETSC 2301#	0.7	mg/kg	8.3	4.5	10	9.2	5.8	
Copper	DETSC 2301#	0.2	mg/kg	44	27	31	24	32	
Iron	DETSC 2301	25	mg/kg	22000	21000	28000	26000	15000	
Lead	DETSC 2301#	0.3	mg/kg	12	15	28	22	11	
Mercury	DETSC 2325#	0.05	mg/kg	0.06	< 0.05	< 0.05	< 0.05	< 0.05	
Molybdenum	DETSC 2301#	0.4	mg/kg	5.9	2.9	3.5	2.3	1.1	
Nickel	DETSC 2301#	1	mg/kg	56	14	35	25	12	
Selenium	DETSC 2301#	0.5	mg/kg	1.6	< 0.5	< 0.5	0.8	< 0.5	
Vanadium	DETSC 2301#	0.8	mg/kg	27	29	38	38	33	
Zinc	DETSC 2301#	1	mg/kg	160	58	110	85	55	
Inorganics									
Organic matter	DETSC 2002#	0.1	%	6.6		4.6			
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5				< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2				< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5				< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4				< 3.4
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4				< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10				< 10
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	< 10	< 10				< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9				< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5				5.7
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6				71
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4				220
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4				< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10				300
Aromatic C5-C40	DETSC 3072*	10	mg/kg	< 10	< 10				300

Summary of Chemical Analysis Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719092	1719093	1719094	1719095	1719096	1719097
Sample ID	TP522A	TP507	TP802	TP802	TP412	TP412
Depth	0.50	0.40	0.10	0.30	1.00	2.00
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/08/2020	10/08/2020	10/08/2020	10/08/2020	04/08/2020	04/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETS 3072*	10	mg/kg	< 10	< 10				300
Benzene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01				< 0.01
Ethylbenzene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01				< 0.01
Toluene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01				< 0.01
Xylene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01				< 0.01
MTBE	DETS 3321	0.01	mg/kg	< 0.01	< 0.01				< 0.01
PAHs									
Naphthalene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthylene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.2	
Acenaphthene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.6	
Fluorene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Phenanthrene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.7	
Anthracene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.9	
Fluoranthene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	5.8	
Pyrene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	5.8	
Benzo(a)anthracene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	3.1	
Chrysene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	3.6	
Benzo(b)fluoranthene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	4.2	
Benzo(k)fluoranthene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	2.5	
Benzo(a)pyrene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	5.1	
Indeno(1,2,3-c,d)pyrene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	4.4	
Dibenzo(a,h)anthracene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.6	
Benzo(g,h,i)perylene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	3.5	
Coronene	DETS 3301*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
PAH Total	DETS 3301	1.6	mg/kg	< 1.6	< 1.6	< 1.6	< 1.6	41	
Phenols									
Phenol - Monohydric	DETS 2130#	0.3	mg/kg						
Phenol	DETS 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETS 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETS 3451*	0.01	mg/kg						
p-cresol	DETS 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETS 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETS 3451*	0.01	mg/kg						

Information in Support of the Analytical Results

Our Ref 20-16427
 Client Ref PC207899
 Contract Ground Investigation for Graven Hill, Bicester, Land Transfer Area 2 (LTA2)

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1719092	TP522A 0.50 SOIL	10/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	
1719093	TP507 0.40 SOIL	10/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	
1719094	TP802 0.10 SOIL	10/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719095	TP802 0.30 SOIL	10/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719096	TP412 1.00 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2	Naphthalene (14 days), PAH FID (14 days)	
1719097	TP412 2.00 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719098	TP412 2.25 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719099	TP433 0.70 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719100	TP433 1.70 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719101	TP433 2.70 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719102	TP411A 0.40 SOIL	04/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719103	BH510 0.10 SOIL	05/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), Phenols MS (14 days), Cyanide/Mono nHoh (14 days)	
1719104	BH510 0.50 SOIL	05/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719105	BH510 0.80 SOIL	05/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719106	BH508 0.10 SOIL	05/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), Phenols MS (14 days), Cyanide/Mono nHoh (14 days)	
1719107	BH508 0.30 SOIL	05/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719108	BH429 0.10 SOIL	05/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), Phenols MS (14 days), Cyanide/Mono nHoh (14 days)	
1719109	BH429 0.30 SOIL	05/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719110	BH429 0.50 SOIL	05/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719111	BH610 0.20 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719112	BH608 0.20 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719113	BH606 0.30 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719114	BH606 0.80 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719115	BH601 0.20 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1719116	BH601 1.50 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719117	BH605 0.20 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1719118	BH605 1.00 SOIL	13/08/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	

Summary of Chemical Analysis Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719116	1719117	1719118	1719119	1719120	1719121
Sample ID	BH601	BH605	BH605	BH603	TP803	TP803
Depth	1.50	0.20	1.00	0.30	0.10	0.40
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg					13	
Barium	DETSC 2301#	1.5	mg/kg					88	
Beryllium	DETSC 2301#	0.2	mg/kg					1.0	
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg					2.6	
Cadmium	DETSC 2301#	0.1	mg/kg					0.5	
Chromium	DETSC 2301#	0.15	mg/kg					29	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg					< 1.0	
Cobalt	DETSC 2301#	0.7	mg/kg					11	
Copper	DETSC 2301#	0.2	mg/kg					32	
Iron	DETSC 2301	25	mg/kg					27000	
Lead	DETSC 2301#	0.3	mg/kg					31	
Mercury	DETSC 2325#	0.05	mg/kg					< 0.05	
Molybdenum	DETSC 2301#	0.4	mg/kg					2.4	
Nickel	DETSC 2301#	1	mg/kg					31	
Selenium	DETSC 2301#	0.5	mg/kg					0.8	
Vanadium	DETSC 2301#	0.8	mg/kg					44	
Zinc	DETSC 2301#	1	mg/kg					150	
Inorganics									
Organic matter	DETSC 2002#	0.1	%					7.4	
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4		< 3.4
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10		< 10
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	4.0	< 0.5	< 0.5	< 0.5		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	26	< 0.6	< 0.6	< 0.6		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	75	< 1.4	< 1.4	< 1.4		< 1.4
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	110	< 10	< 10	< 10		< 10
Aromatic C5-C40	DETSC 3072*	10	mg/kg	110	< 10	< 10	< 10		< 10

Summary of Chemical Analysis Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719116	1719117	1719118	1719119	1719120	1719121
Sample ID	BH601	BH605	BH605	BH603	TP803	TP803
Depth	1.50	0.20	1.00	0.30	0.10	0.40
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETS 3072*	10	mg/kg	110	< 10	< 10	< 10		< 10
Benzene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Ethylbenzene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Toluene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Xylene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
MTBE	DETS 3321	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
PAHs									
Naphthalene	DETS 3301	0.1	mg/kg					< 0.1	
Acenaphthylene	DETS 3301	0.1	mg/kg					< 0.1	
Acenaphthene	DETS 3301	0.1	mg/kg					< 0.1	
Fluorene	DETS 3301	0.1	mg/kg					< 0.1	
Phenanthrene	DETS 3301	0.1	mg/kg					< 0.1	
Anthracene	DETS 3301	0.1	mg/kg					< 0.1	
Fluoranthene	DETS 3301	0.1	mg/kg					0.3	
Pyrene	DETS 3301	0.1	mg/kg					0.3	
Benzo(a)anthracene	DETS 3301	0.1	mg/kg					< 0.1	
Chrysene	DETS 3301	0.1	mg/kg					< 0.1	
Benzo(b)fluoranthene	DETS 3301	0.1	mg/kg					< 0.1	
Benzo(k)fluoranthene	DETS 3301	0.1	mg/kg					< 0.1	
Benzo(a)pyrene	DETS 3301	0.1	mg/kg					< 0.1	
Indeno(1,2,3-c,d)pyrene	DETS 3301	0.1	mg/kg					< 0.1	
Dibenzo(a,h)anthracene	DETS 3301	0.1	mg/kg					< 0.1	
Benzo(g,h,i)perylene	DETS 3301	0.1	mg/kg					< 0.1	
Coronene	DETS 3301*	0.1	mg/kg					< 0.1	
PAH Total	DETS 3301	1.6	mg/kg					< 1.6	
Phenols									
Phenol - Monohydric	DETS 2130#	0.3	mg/kg						
Phenol	DETS 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETS 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETS 3451*	0.01	mg/kg						
p-cresol	DETS 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETS 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETS 3451*	0.01	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708221	1708222	1708223	1708224	1708225	1708226
Sample ID	TP825	TP825	SSC810	SSC705	SSC706	SSC707
Depth	0.10	0.40	0.10	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	15/07/2020	15/07/2020	15/07/2020	15/07/2020	15/07/2020	15/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	12	13	10	6.5	12	4.5
Barium	DETSC 2301#	1.5	mg/kg	81	57	60	38	39	60
Beryllium	DETSC 2301#	0.2	mg/kg	1.4	1.2	0.8	0.5	0.8	0.2
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.3	1.0	2.7	2.4	1.1	2.8
Cadmium	DETSC 2301#	0.1	mg/kg	0.4	0.3	1.2	0.4	0.3	0.6
Chromium	DETSC 2301#	0.15	mg/kg	33	39	26	20	31	17
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	10	13	7.1	4.7	8.8	3.1
Copper	DETSC 2301#	0.2	mg/kg	29	27	27	26	32	29
Iron	DETSC 2301	25	mg/kg	31000	34000	21000	14000	27000	8000
Lead	DETSC 2301#	0.3	mg/kg	22	20	24	14	17	21
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	2.1	1.7	0.8	1.2	2.4	5.8
Nickel	DETSC 2301#	1	mg/kg	35	38	22	22	35	18
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	44	57	43	32	35	19
Zinc	DETSC 2301#	1	mg/kg	100	110	110	160	840	150
Inorganics									
Organic matter	DETSC 2002#	0.1	%	5.4					
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg				< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg				< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg				< 1.5		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg				< 3.4		< 3.4
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg				< 3.4		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg				< 10		< 10
Aliphatic C5-C40	DETSC 3072*	10	mg/kg				< 10		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg				< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg				< 0.5		6.6
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg				< 0.6		28
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg				< 1.4		29
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg				< 1.4		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg				< 10		64
Aromatic C5-C40	DETSC 3072*	10	mg/kg				< 10		64
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg				< 10		64

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708221	1708222	1708223	1708224	1708225	1708226
Sample ID	TP825	TP825	SSC810	SSC705	SSC706	SSC707
Depth	0.10	0.40	0.10	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	15/07/2020	15/07/2020	15/07/2020	15/07/2020	15/07/2020	15/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETSC 3321#	0.01	mg/kg				< 0.01		< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg				< 0.01		< 0.01
Toluene	DETSC 3321#	0.01	mg/kg				< 0.01		< 0.01
Xylene	DETSC 3321#	0.01	mg/kg				< 0.01		< 0.01
MTBE	DETSC 3321	0.01	mg/kg				< 0.01		< 0.01
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.04	0.04	0.20	0.04	< 0.03	0.16
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.12	0.12	0.64	0.13	0.06	0.83
Pyrene	DETSC 3303#	0.03	mg/kg	0.11	0.11	0.58	0.12	0.05	0.78
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.04	0.04	0.17	0.04	0.03	0.27
Chrysene	DETSC 3303	0.03	mg/kg	0.07	0.07	0.28	0.07	< 0.03	0.46
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.04	0.04	0.18	0.04	0.04	0.32
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.10	< 0.03	< 0.03	0.21
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.04	0.04	0.23	0.04	< 0.03	0.42
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.03	0.03	0.11	0.04	< 0.03	0.18
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.05
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.12	0.03	< 0.03	0.21
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.3
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	0.46	0.48	2.6	0.31	0.16	3.8
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg						
Phenol	DETSC 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
p-cresol	DETSC 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg						

Summary of Asbestos Analysis Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1708106	CC504 0.20-0.50	SOIL	NAD	none	Steven Lambert
1708137	BH813 0.10-0.20	SOIL	NAD	none	Steven Lambert
1708138	BH804 0.80	SOIL	NAD	none	Steven Lambert
1708139	BH802 0.70	SOIL	NAD	none	Steven Lambert
1708140	TP428 0.10	SOIL	Chrysotile	Chrysotile present in visible cement fragments	Steven Lambert
1708141	TP428 0.40	SOIL	Chrysotile	Chrysotile present in visble cement fragment	Steven Lambert
1708144	RC701 0.20	SOIL	NAD	none	Steven Lambert
1708153	TP503 0.10	SOIL	NAD	none	Steven Lambert
1708154	TP502 0.10	SOIL	NAD	none	Steven Lambert
1708155	TP502 0.40	SOIL	NAD	none	Steven Lambert
1708156	TP421 0.20	SOIL	Chrysotile	bundle of Chrysotile	Steven Lambert
1708157	TP421 0.60	SOIL	NAD	none	Steven Lambert
1708158	TP424 0.10	SOIL	NAD	none	Steven Lambert
1708159	TP424 0.60	SOIL	NAD	none	Steven Lambert
1708166	TP520 0.20	SOIL	NAD	none	Steven Lambert
1708167	TP327 0.10	SOIL	NAD	none	Steven Lambert
1708168	TP327 0.60	SOIL	NAD	none	Steven Lambert
1708171	TP423 0.10	SOIL	NAD	none	Steven Lambert
1708175	TP823 0.50	SOIL	NAD	none	Steven Lambert
1708178	TP828 0.30	SOIL	NAD	none	Steven Lambert
1708190	TP837 0.15	SOIL	NAD	none	Steven Lambert
1708191	TP813 0.10	SOIL	NAD	none	Steven Lambert
1708192	TP814 0.20	SOIL	NAD	none	Steven Lambert
1708196	RC507 0.30	SOIL	NAD	none	Steven Lambert
1708203	TP824 0.20	SOIL	NAD	none	Steven Lambert
1708204	TP812 0.20	SOIL	NAD	none	Steven Lambert
1708205	BH516 0.10-0.20	SOIL	NAD	none	Steven Lambert
1708207	BH502 0.10-0.20	SOIL	NAD	none	Steven Lambert
1708208	BH318 0.10-0.20	SOIL	NAD	none	Steven Lambert
1708220	TP815 0.15	SOIL	NAD	none	Steven Lambert
1708221	TP825 0.10	SOIL	NAD	none	Steven Lambert
1708222	TP825 0.40	SOIL	NAD	none	Steven Lambert
1708227	BH506 0.10	SOIL	NAD	none	Steven Lambert
1708228	TP512 0.10	SOIL	NAD	none	Keith Wilson
1708229	BH507 0.05	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 20-14433
 Client Ref PC207899
 Contract Ground Investigation for Graven Hill, Bicester

Lab No	Sample ID	Date	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
		Sampled			
1708197	RC504 0.05 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708198	RC504 1.00 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708199	RC505 0.05 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708200	RC505 0.30 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days), VOC (7 days)	
1708201	RC505 0.60 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708202	RC506 0.05 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708203	TP824 0.20 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708204	TP812 0.20 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708205	BH516 0.10-0.20 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708206	BH516 0.50-0.60 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708207	BH502 0.10-0.20 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708208	BH318 0.10-0.20 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708209	BH803 0.10 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708210	BH701 0.05 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708211	BH701 0.30 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708212	BH701 0.70 SOIL	14/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708213	RC801 0.60 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708214	RC805 0.15 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708215	RC805 0.60 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708216	RC806 0.50 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708217	RC501 0.15 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708218	RC501 0.40 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708219	RC408C 0.40 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708220	TP815 0.15 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708221	TP825 0.10 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708222	TP825 0.40 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719078	1719079	1719080	1719082	1719083	1719084
Sample ID	BH302	TP816	TP830	TP829	TP829	BH511
Depth	0.20	0.40	0.05	0.20	0.50	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	07/08/2020	07/08/2020	07/08/2020	07/08/2020	07/08/2020	07/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETS 3072*	10	mg/kg			2600	180	< 10	
Benzene	DETS 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Ethylbenzene	DETS 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Toluene	DETS 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Xylene	DETS 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
MTBE	DETS 3321	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
PAHs									
Naphthalene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Acenaphthylene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Acenaphthene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Fluorene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Phenanthrene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Anthracene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Fluoranthene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Pyrene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Benzo(a)anthracene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Chrysene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Benzo(b)fluoranthene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Benzo(k)fluoranthene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Benzo(a)pyrene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Indeno(1,2,3-c,d)pyrene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Dibenzo(a,h)anthracene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Benzo(g,h,i)perylene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1				< 1.0
Coronene	DETS 3301*	0.1	mg/kg	< 0.1	< 0.1				
PAH Total	DETS 3301	1.6	mg/kg	< 1.6	< 1.6				< 16.0
Phenols									
Phenol - Monohydric	DETS 2130#	0.3	mg/kg						0.4
Phenol	DETS 3451*	0.01	mg/kg						< 0.10
4-Chloro-3-methylphenol	DETS 3451*	0.01	mg/kg						< 0.10
2,4-Dichlorophenol	DETS 3451*	0.01	mg/kg						< 0.10
2,4-Dimethylphenol	DETS 3451*	0.01	mg/kg						< 0.10
p-cresol	DETS 3451*	0.01	mg/kg						< 0.10
2,6-Dimethylphenol	DETS 3451*	0.01	mg/kg						< 0.10
2,6-Dichlorophenol	DETS 3451*	0.01	mg/kg						< 0.10
2,4,6-Trichlorophenol	DETS 3451*	0.01	mg/kg						< 0.10

Summary of Chemical Analysis

Water Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land Transfer Area 2 (LTA2)

Lab No	1719081	1719924
Sample ID	TP830	TP408XX
Depth	0.46	1.00
Other ID		
Sample Type	EW	EW
Sampling Date	07/08/2020	05/08/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0	< 1.0
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l		0.21
Acenaphthylene	DETSC 3304	0.01	ug/l		0.12
Acenaphthene	DETSC 3304	0.01	ug/l		0.24
Fluorene	DETSC 3304	0.01	ug/l		0.66
Phenanthrene	DETSC 3304	0.01	ug/l		0.15
Anthracene	DETSC 3304	0.01	ug/l		0.37
Fluoranthene	DETSC 3304	0.01	ug/l		0.25
Pyrene	DETSC 3304	0.01	ug/l		0.64
Benzo(a)anthracene	DETSC 3304	0.01	ug/l		< 0.10
Chrysene	DETSC 3304	0.01	ug/l		< 0.10
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l		0.15
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l		< 0.10
Benzo(a)pyrene	DETSC 3304	0.01	ug/l		< 0.10
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l		0.12
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l		< 0.10
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l		0.20
PAH Total	DETSC 3304	0.2	ug/l		3.1

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708136	1708137	1708138	1708139	1708140	1708142
Sample ID	BH319	BH813	BH804	BH802	TP428	SSC817
Depth	0.00-0.10	0.10-0.20	0.80	0.70	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	15/07/2020	16/07/2020	16/07/2020	16/07/2020	17/07/2020	17/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%					0.21	
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	22	12	7.6	12		15
Barium	DETSC 2301#	1.5	mg/kg	88	69	150	64		83
Beryllium	DETSC 2301#	0.2	mg/kg	1.4	1.0	1.2	0.9		0.9
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.0	1.5	3.3	1.0		1.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.9	0.5	0.6	0.3		2.4
Chromium	DETSC 2301#	0.15	mg/kg	43	33	21	22		30
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	13	8.6	8.7	12		18
Copper	DETSC 2301#	0.2	mg/kg	98	33	32	27		46
Iron	DETSC 2301	25	mg/kg	44000	27000	23000	29000		38000
Lead	DETSC 2301#	0.3	mg/kg	47	47	12	14		46
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05		0.06
Molybdenum	DETSC 2301#	0.4	mg/kg	8.2	2.6	2.8	1.8		3.2
Nickel	DETSC 2301#	1	mg/kg	72	32	25	25		39
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	0.7	< 0.5		1.0
Vanadium	DETSC 2301#	0.8	mg/kg	45	43	48	49		45
Zinc	DETSC 2301#	1	mg/kg	150	140	100	95		700
Inorganics									
Organic matter	DETSC 2002#	0.1	%	7.1	6.5				
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01			
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01			
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01			
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5			
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2			
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5			
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4			
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg			< 3.4			
Aliphatic C5-C35	DETSC 3072*	10	mg/kg			< 10			
Aliphatic C5-C40	DETSC 3072*	10	mg/kg			< 10			
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01			
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01			
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01			
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9			
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5			
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6			
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4			
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg			< 1.4			
Aromatic C5-C35	DETSC 3072*	10	mg/kg			< 10			
Aromatic C5-C40	DETSC 3072*	10	mg/kg			< 10			
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg			< 10			

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708136	1708137	1708138	1708139	1708140	1708142
Sample ID	BH319	BH813	BH804	BH802	TP428	SSC817
Depth	0.00-0.10	0.10-0.20	0.80	0.70	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	15/07/2020	16/07/2020	16/07/2020	16/07/2020	17/07/2020	17/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETSC 3321#	0.01	mg/kg			< 0.01			
Ethylbenzene	DETSC 3321#	0.01	mg/kg			< 0.01			
Toluene	DETSC 3321#	0.01	mg/kg			< 0.01			
Xylene	DETSC 3321#	0.01	mg/kg			< 0.01			
MTBE	DETSC 3321	0.01	mg/kg			< 0.01			
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.03		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.19	0.05	0.17		0.05
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.03		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.04	0.34	0.07	0.21		0.14
Pyrene	DETSC 3303#	0.03	mg/kg	0.03	0.28	0.06	0.18		0.14
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.09	< 0.03	0.07		0.06
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	0.16	< 0.03	0.08		0.06
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.11	< 0.03	0.05		0.05
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.09	0.03	0.04		0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.11	< 0.03	0.05		0.04
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.07	< 0.03	0.04		0.04
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.08	< 0.03	0.04		0.04
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	1.5	0.18	0.96		0.40
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg						
Phenol	DETSC 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
p-cresol	DETSC 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg						

Information in Support of the Analytical Results

Our Ref 20-14433
 Client Ref PC207899
 Contract Ground Investigation for Graven Hill, Bicester

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1708105	TP308 0.10 SOIL	23/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708106	CC504 0.20-0.50 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708107	TP409 0.00-0.20 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708108	CC302 0.25-0.40 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708109	RC715 0.30-0.50 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708110	RC715 0.50-0.75 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708111	RC713 0.70-0.90 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708112	SSC 304 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708113	SSC 303 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708114	SSC 302 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708115	SSC 605 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708116	SSC 301 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708117	SSC 306 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708118	SSC 712 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708119	SSC 711 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708120	SSC 710 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708121	SSC 709 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708122	SSC 708 0.10 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708123	TP301 0.20 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708124	TP603 0.20 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708125	TP602 0.60 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708126	TP610 0.35 SOIL	21/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708127	SSC704 0.10 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L, Other (non plastic, non glass)		
1708128	SSC803 0.10 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L, Other (non plastic, non glass)		
1708129	SSC802 0.10 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L, Other (non plastic, non glass)		
1708130	SSC801 0.10 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L, Other (non plastic, non glass)		
1708131	SSC505 0.10 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L, Other (non plastic, non glass)		
1708132	SSC504 0.10 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L, Other (non plastic, non glass)		
1708133	TP335 0.10 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708134	TP335 0.30 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708135	TP330 0.10 SOIL	22/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1708136	BH319 0.00-0.10 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708137	BH813 0.10-0.20 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708138	BH804 0.80 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708139	BH802 0.70 SOIL	16/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708140	TP428 0.10 SOIL	17/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708209	1708210	1708211	1708212	1708213	1708214
Sample ID	BH803	BH701	BH701	BH701	RC801	RC805
Depth	0.10	0.05	0.30	0.70	0.60	0.15
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	15/07/2020	14/07/2020	14/07/2020	14/07/2020	15/07/2020	15/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	11		14		7.7	
Barium	DETSC 2301#	1.5	mg/kg	55		210		490	
Beryllium	DETSC 2301#	0.2	mg/kg	1.0		2.4		2.1	
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.9		1.0		1.6	
Cadmium	DETSC 2301#	0.1	mg/kg	0.4		0.3		0.2	
Chromium	DETSC 2301#	0.15	mg/kg	39		21		33	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0		< 1.0		< 1.0	
Cobalt	DETSC 2301#	0.7	mg/kg	11		8.2		12	
Copper	DETSC 2301#	0.2	mg/kg	31		65		36	
Iron	DETSC 2301	25	mg/kg	28000		28000		27000	
Lead	DETSC 2301#	0.3	mg/kg	21		30		16	
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05		< 0.05		< 0.05	
Molybdenum	DETSC 2301#	0.4	mg/kg	2.9		1.7		5.2	
Nickel	DETSC 2301#	1	mg/kg	31		22		33	
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5		1.8		< 0.5	
Vanadium	DETSC 2301#	0.8	mg/kg	42		66		60	
Zinc	DETSC 2301#	1	mg/kg	110		100		95	
Inorganics									
Organic matter	DETSC 2002#	0.1	%	5.5					
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5	< 1.5	< 1.5	
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2	< 1.2	< 1.2	
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5	< 1.5	< 1.5	
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4	< 3.4	< 3.4	
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg			< 3.4	< 3.4	< 3.4	
Aliphatic C5-C35	DETSC 3072*	10	mg/kg			< 10	< 10	< 10	
Aliphatic C5-C40	DETSC 3072*	10	mg/kg			< 10	< 10	< 10	
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9	< 0.9	< 0.9	
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5	< 0.5	< 0.5	
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6	< 0.6	< 0.6	
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4	< 1.4	< 1.4	
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg			< 1.4	< 1.4	< 1.4	
Aromatic C5-C35	DETSC 3072*	10	mg/kg			< 10	< 10	< 10	
Aromatic C5-C40	DETSC 3072*	10	mg/kg			< 10	< 10	< 10	
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg			< 10	< 10	< 10	

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708209	1708210	1708211	1708212	1708213	1708214
Sample ID	BH803	BH701	BH701	BH701	RC801	RC805
Depth	0.10	0.05	0.30	0.70	0.60	0.15
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	15/07/2020	14/07/2020	14/07/2020	14/07/2020	15/07/2020	15/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETSC 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Ethylbenzene	DETSC 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Toluene	DETSC 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
Xylene	DETSC 3321#	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
MTBE	DETSC 3321	0.01	mg/kg			< 0.01	< 0.01	< 0.01	
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.30	0.05		< 0.03	0.70
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.48	0.06		< 0.03	< 0.30
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.39	1.7		< 0.03	1.5
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.30	0.46		< 0.03	1.1
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.80	1.7		< 0.03	8.2
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	0.98	1.1		< 0.03	3.1
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	29	5.7		< 0.03	21
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	29	5.2		< 0.03	18
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	22	1.8		< 0.03	10
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	11	1.3		< 0.03	5.9
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	30	1.1		< 0.03	12
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	11	0.74		< 0.03	3.6
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	33	2.1		< 0.03	9.1
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	9.9	0.45		< 0.03	2.4
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	1.9	0.12		< 0.03	0.55
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	12	0.62		< 0.03	2.6
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	7.4	0.5		< 0.1	2.3
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 184.63	24		< 0.10	100
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg		< 0.3				< 0.3
Phenol	DETSC 3451*	0.01	mg/kg		< 0.10				< 0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg		< 0.10				< 0.01
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.10				< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.10				< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg		< 0.10				< 0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.10				< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.10				< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.10				< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708143	1708144	1708145	1708146	1708147	1708148
Sample ID	SSC815	RC701	RC701	RC703	RC706	RC706
Depth	0.10	0.20	0.60	0.40	0.20	0.50
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	17/07/2020	16/07/2020	16/07/2020	16/07/2020	17/07/2020	17/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	12	5.2	25	5.5		
Barium	DETSC 2301#	1.5	mg/kg	250	39	130	390		
Beryllium	DETSC 2301#	0.2	mg/kg	1.8	0.2	1.2	6.3		
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.6	0.2	2.3	6.2		
Cadmium	DETSC 2301#	0.1	mg/kg	0.9	0.2	0.4	< 0.1		
Chromium	DETSC 2301#	0.15	mg/kg	20	4.5	25	23		
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0		
Cobalt	DETSC 2301#	0.7	mg/kg	24	4.7	12	1.8		
Copper	DETSC 2301#	0.2	mg/kg	940	19	48	16		
Iron	DETSC 2301	25	mg/kg	36000	15000	80000	6600		
Lead	DETSC 2301#	0.3	mg/kg	30	5.2	27	2.4		
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05		
Molybdenum	DETSC 2301#	0.4	mg/kg	3.9	< 0.4	2.2	0.6		
Nickel	DETSC 2301#	1	mg/kg	55	4.1	31	3.2		
Selenium	DETSC 2301#	0.5	mg/kg	0.6	< 0.5	1.3	4.7		
Vanadium	DETSC 2301#	0.8	mg/kg	50	37	68	54		
Zinc	DETSC 2301#	1	mg/kg	360	41	96	9.7		
Inorganics									
Organic matter	DETSC 2002#	0.1	%						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg				< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg				< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg				< 1.5		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg				< 3.4		< 3.4
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg				< 3.4		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg				< 10		< 10
Aliphatic C5-C40	DETSC 3072*	10	mg/kg				< 10		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg				< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg				< 0.5		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg				< 0.6		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg				< 1.4		< 1.4
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg				< 1.4		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg				< 10		< 10
Aromatic C5-C40	DETSC 3072*	10	mg/kg				< 10		< 10
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg				< 10		< 10

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708143	1708144	1708145	1708146	1708147	1708148
Sample ID	SSC815	RC701	RC701	RC703	RC706	RC706
Depth	0.10	0.20	0.60	0.40	0.20	0.50
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	17/07/2020	16/07/2020	16/07/2020	16/07/2020	17/07/2020	17/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETSC 3321#	0.01	mg/kg				< 0.01		< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg				< 0.01		< 0.01
Toluene	DETSC 3321#	0.01	mg/kg				< 0.01		< 0.01
Xylene	DETSC 3321#	0.01	mg/kg				< 0.01		< 0.01
MTBE	DETSC 3321	0.01	mg/kg				< 0.01		< 0.01
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.30	< 0.03	0.11	150	
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.94	< 0.03	< 0.03	5.4	
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	21	< 0.03	0.19	190	
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	9.8	< 0.03	0.09	200	
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.07	81	0.06	0.39	370	
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	32	< 0.03	0.10	180	
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.15	190	0.27	0.52	270	
Pyrene	DETSC 3303#	0.03	mg/kg	0.14	170	0.24	0.43	240	
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.04	97	0.11	0.13	180	
Chrysene	DETSC 3303	0.03	mg/kg	0.06	70	0.10	0.12	160	
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.04	74	0.05	0.09	170	
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.03	34	0.05	0.05	78	
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.03	76	0.10	0.10	160	
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.04	21	0.05	0.05	35	
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	4.5	< 0.03	< 0.03	< 0.30	
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.03	21	0.06	0.05	46	
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	7.0	7.7	4.9	31	
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	0.43	< 896.90	1.1	2.4	2500	
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg					7.3	
Phenol	DETSC 3451*	0.01	mg/kg					< 0.10	
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg					< 0.10	
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg					< 0.10	
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg					< 0.10	
p-cresol	DETSC 3451*	0.01	mg/kg					< 0.10	
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg					< 0.10	
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg					< 0.10	
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg					< 0.10	

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708144	1708200
Sample ID	RC701	RC505
Depth	0.20	0.30
Other ID		
Sample Type	ES	ES
Sampling Date	16/07/2020	14/07/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708144	1708200
Sample ID	RC701	RC505
Depth	0.20	0.30
Other ID		
Sample Type	ES	ES
Sampling Date	16/07/2020	14/07/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Information in Support of the Analytical Results

Our Ref 20-14433
 Client Ref PC207899
 Contract Ground Investigation for Graven Hill, Bicester

Lab No	Sample ID	Date		Containers Received	Holding time exceeded for tests	Inappropriate container for tests
		Sampled				
1708141	TP428 0.40 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L		
1708142	SSC817 0.10 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708143	SSC815 0.10 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708144	RC701 0.20 SOIL	16/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days), VOC (7 days)	
1708145	RC701 0.60 SOIL	16/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708146	RC703 0.40 SOIL	16/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708147	RC706 0.20 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708148	RC706 0.50 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708149	RC706 1.00 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708150	RC704 0.20 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708151	RC704 0.50 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708152	RC704 1.00 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708153	TP503 0.10 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708154	TP502 0.10 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708155	TP502 0.40 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708156	TP421 0.20 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708157	TP421 0.60 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708158	TP424 0.10 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708159	TP424 0.60 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708160	TP504 0.50 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708161	RC407 0.20 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708162	RC709 0.15 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days), Phenols MS (14 days), Cyanide/Mono nHob (14 days)	
1708163	RC708 0.50 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708164	RC810 0.15 SOIL	20/07/20		GJ 250ml, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708165	RC810 1.00 SOIL	20/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1708166	TP520 0.20 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708167	TP327 0.10 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	
1708168	TP327 0.60 SOIL	17/07/20		GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH HFD (14 days), PAH MS (14 days)	

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708161	1708162	1708163	1708164	1708165	1708166
Sample ID	RC407	RC709	RC708	RC810	RC810	TP520
Depth	0.20	0.15	0.50	0.15	1.00	0.20
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	20/07/2020	20/07/2020	20/07/2020	20/07/2020	20/07/2020	17/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg			7.5	1.5		9.7
Barium	DETSC 2301#	1.5	mg/kg			130	13		63
Beryllium	DETSC 2301#	0.2	mg/kg			1.2	< 0.2		1.1
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg			0.6	< 0.2		1.2
Cadmium	DETSC 2301#	0.1	mg/kg			< 0.1	0.2		0.8
Chromium	DETSC 2301#	0.15	mg/kg			12	2.7		44
Chromium, Hexavalent	DETSC 2204*	1	mg/kg			< 1.0	< 1.0		< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg			13	1.0		11
Copper	DETSC 2301#	0.2	mg/kg			51	7.2		41
Iron	DETSC 2301	25	mg/kg			18000	2600		26000
Lead	DETSC 2301#	0.3	mg/kg			10	4.2		27
Mercury	DETSC 2325#	0.05	mg/kg			< 0.05	< 0.05		0.07
Molybdenum	DETSC 2301#	0.4	mg/kg			1.7	< 0.4		5.1
Nickel	DETSC 2301#	1	mg/kg			33	1.4		42
Selenium	DETSC 2301#	0.5	mg/kg			< 0.5	< 0.5		< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg			56	9.7		43
Zinc	DETSC 2301#	1	mg/kg			55	32		150
Inorganics									
Organic matter	DETSC 2002#	0.1	%						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg				< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg				< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg				< 1.5		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg				< 3.4		< 3.4
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg				< 3.4		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg				< 10		< 10
Aliphatic C5-C40	DETSC 3072*	10	mg/kg				< 10		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg				< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg				< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg				< 0.5		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg				< 0.6		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg				< 1.4		< 1.4
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg				< 1.4		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg				< 10		< 10
Aromatic C5-C40	DETSC 3072*	10	mg/kg				< 10		< 10
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg				< 10		< 10

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708161	1708162	1708163	1708164	1708165	1708166
Sample ID	RC407	RC709	RC708	RC810	RC810	TP520
Depth	0.20	0.15	0.50	0.15	1.00	0.20
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	20/07/2020	20/07/2020	20/07/2020	20/07/2020	20/07/2020	17/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETSC 3321#	0.01	mg/kg					< 0.01	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg					< 0.01	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg					< 0.01	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg					< 0.01	< 0.01
MTBE	DETSC 3321	0.01	mg/kg					< 0.01	< 0.01
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	170	0.06	0.81		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	0.12	7.9	< 0.03	1.8		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	430	0.04	24		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	340	0.04	33		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.08	1500	0.26	390		0.09
Anthracene	DETSC 3303	0.03	mg/kg	0.14	480	0.08	82		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	1.5	1300	0.35	370		0.18
Pyrene	DETSC 3303#	0.03	mg/kg	2.9	1000	0.31	270		0.16
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	1.2	410	0.14	110		0.09
Chrysene	DETSC 3303	0.03	mg/kg	1.5	360	0.12	100		0.07
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	4.5	380	0.17	130		0.12
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	1.4	160	0.06	57		0.04
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	3.9	360	0.13	100		0.09
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	2.0	89	0.06	42		0.04
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.52	24	< 0.03	11		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	2.4	87	0.06	44		0.04
Coronene	DETSC 3301*	0.1	mg/kg	< 1.0	6.3	< 0.1	69		3.7
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	22	7200	1.9	1800		0.91
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	6.0				
Phenol	DETSC 3451*	0.01	mg/kg	< 0.01	< 0.01				
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg	< 0.01	< 0.01				
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01	< 0.01				
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01	< 0.01				
p-cresol	DETSC 3451*	0.01	mg/kg	< 0.01	< 0.01				
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01	< 0.01				
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01	< 0.01				
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01	< 0.01				

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716944	1716945	1716946	1716947	1716948	1716949
Sample ID	SSC502	SSC508	SSC509	SSC701	SSC702	SSC703
Depth	0.10	0.10	0.10	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	28/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg		13		43		22
Barium	DETSC 2301#	1.5	mg/kg		160		41		1100
Beryllium	DETSC 2301#	0.2	mg/kg		0.9		1.0		11
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg		3.0		2.8		0.9
Cadmium	DETSC 2301#	0.1	mg/kg		1.4		0.5		0.3
Chromium	DETSC 2301#	0.15	mg/kg		42		32		36
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0		< 1.0		< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg		9.1		15		37
Copper	DETSC 2301#	0.2	mg/kg		77		40		120
Iron	DETSC 2301	25	mg/kg		27000		69000		68000
Lead	DETSC 2301#	0.3	mg/kg		72		23		36
Mercury	DETSC 2325#	0.05	mg/kg		0.14		0.08		< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg		3.7		3.4		8.0
Nickel	DETSC 2301#	1	mg/kg		36		44		100
Selenium	DETSC 2301#	0.5	mg/kg		0.6		< 0.5		< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg		38		67		130
Zinc	DETSC 2301#	1	mg/kg		270		150		350
Inorganics									
Organic matter	DETSC 2002#	0.1	%						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg						
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg						
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg						
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg						
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg						
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg						
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg						
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg						
Aliphatic C5-C35	DETSC 3072*	10	mg/kg						
Aliphatic C5-C40	DETSC 3072*	10	mg/kg						
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg						
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg						
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg						
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg						
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg						
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg						
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg						
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg						
Aromatic C5-C35	DETSC 3072*	10	mg/kg						
Aromatic C5-C40	DETSC 3072*	10	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716944	1716945	1716946	1716947	1716948	1716949
Sample ID	SSC502	SSC508	SSC509	SSC701	SSC702	SSC703
Depth	0.10	0.10	0.10	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	28/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg						
Benzene	DETSC 3321#	0.01	mg/kg						
Ethylbenzene	DETSC 3321#	0.01	mg/kg						
Toluene	DETSC 3321#	0.01	mg/kg						
Xylene	DETSC 3321#	0.01	mg/kg						
MTBE	DETSC 3321	0.01	mg/kg						
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg						
Acenaphthylene	DETSC 3303#	0.03	mg/kg						
Acenaphthene	DETSC 3303#	0.03	mg/kg						
Fluorene	DETSC 3303	0.03	mg/kg						
Phenanthrene	DETSC 3303#	0.03	mg/kg						
Anthracene	DETSC 3303	0.03	mg/kg						
Fluoranthene	DETSC 3303#	0.03	mg/kg						
Pyrene	DETSC 3303#	0.03	mg/kg						
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg						
Chrysene	DETSC 3303	0.03	mg/kg						
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg						
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg						
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg						
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg						
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1		0.3		< 0.1	
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1		0.2		< 0.1	
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg						

Information in Support of the Analytical Results

Our Ref 20-16110
 Client Ref PC207899
 Contract Ground Investigation for Graven Hill, Bicester

					Inappropriate container for tests
Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	
1716941	SSC826 0.10 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716942	SSC827 0.10 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716943	SSC501 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716944	SSC502 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716945	SSC508 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716946	SSC509 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716947	SSC701 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716948	SSC702 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716949	SSC703 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716950	SSC506 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716951	SSC507 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716952	SSC804 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716953	SSC806 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716954	SSC807 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716955	SSC808 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716956	SSC809 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716957	SSC813 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716958	SSC814 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716959	SSC816 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716960	SSC822 0.10 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716961	TP509 0.10 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716962	TP518 0.40 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716963	TP508 0.30 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716964	RC602 0.20 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), Phenols MS (14 days), Cyanide/Mono pHoh (14 days)	
1716965	RC602 0.45 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days), VOC (7 days)	
1716966	RC303 0.20 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716967	RC303 0.40 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716968	BH430 0.10-0.30 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716969	BH402 0.10-0.30 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716970	TP406 0.30 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716971	TP511 0.10 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716972	TP809 0.50 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	
1716973	TP804 0.50 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716974	TP515 0.05 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716975	TP407 0.20 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716976	BH602 0.00-0.10 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L		
1716977	BH602 0.50-0.60 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	
1716978	BH413 1.00 SOIL	30/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716979	BH422 0.50 SOIL	27/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1716980	BH424 1.00 SOIL	27/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Mercury (28 days), Naphthalene (14 days), PAH FID (14 days)	
1716981	BH410 0.50 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days), Naphthalene (14 days), PAH FID (14 days)	
1716982	BH412 0.30 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Naphthalene (14 days), PAH FID (14 days)	
1716983	BH412 2.40 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1716984	BH423 0.50 SOIL	28/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1716985	BH411 0.50 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1716986	BH411 1.40 SOIL	29/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (14 days), BTEX (14 days)	
1716987	TP426 1.00 SOIL	24/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Organic Matter (Manual) (28 days)	
1716988	TP426 1.70 SOIL	24/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Organic Matter (Manual) (28 days)	
1716989	TP607 0.10 SOIL	24/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L	Mercury (28 days), Kone Cr6 (30 days), Naphthalene (14 days), PAH FID (14 days), PAH MS (14 days)	

Summary of Chemical Analysis Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716944	1716945	1716946	1716947	1716948	1716949
Sample ID	SSC502	SSC508	SSC509	SSC701	SSC702	SSC703
Depth	0.10	0.10	0.10	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	28/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6		< 1.6		< 1.6	
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg						
Phenol	DETSC 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
p-cresol	DETSC 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708124	1708125	1708126	1708127	1708128	1708129
Sample ID	TP603	TP602	TP610	SSC704	SSC803	SSC802
Depth	0.20	0.60	0.35	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	21/07/2020	21/07/2020	21/07/2020	22/07/2020	22/07/2020	22/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	14	7.5	12	9.8	11	14
Barium	DETSC 2301#	1.5	mg/kg	89	53	110	48	75	70
Beryllium	DETSC 2301#	0.2	mg/kg	1.4	0.7	1.4	0.9	0.8	1.0
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.4	0.5	1.1	2.0	2.4	0.7
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2	0.5	0.5	8.3	1.3
Chromium	DETSC 2301#	0.15	mg/kg	49	21	19	36	31	35
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	9.3	6.8	12	8.4	14	16
Copper	DETSC 2301#	0.2	mg/kg	25	14	34	34	36	81
Iron	DETSC 2301	25	mg/kg	40000	21000	25000	25000	25000	36000
Lead	DETSC 2301#	0.3	mg/kg	28	10	21	22	52	22
Mercury	DETSC 2325#	0.05	mg/kg	0.07	< 0.05	< 0.05	< 0.05	0.06	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	1.8	0.5	3.4	2.9	2.2	2.2
Nickel	DETSC 2301#	1	mg/kg	29	19	28	33	35	36
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	0.6	< 0.5	0.7	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	69	36	63	42	35	45
Zinc	DETSC 2301#	1	mg/kg	140	70	130	150	1800	320
Inorganics									
Organic matter	DETSC 2002#	0.1	%	3.4	0.6				
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01			
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01			
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01			
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5			
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2			
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5			
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4			
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg			< 3.4			
Aliphatic C5-C35	DETSC 3072*	10	mg/kg			< 10			
Aliphatic C5-C40	DETSC 3072*	10	mg/kg			< 10			
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01			
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01			
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01			
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9			
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5			
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6			
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4			
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg			< 1.4			
Aromatic C5-C35	DETSC 3072*	10	mg/kg			< 10			
Aromatic C5-C40	DETSC 3072*	10	mg/kg			< 10			
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg			< 10			

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708124	1708125	1708126	1708127	1708128	1708129
Sample ID	TP603	TP602	TP610	SSC704	SSC803	SSC802
Depth	0.20	0.60	0.35	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	21/07/2020	21/07/2020	21/07/2020	22/07/2020	22/07/2020	22/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETS 3321#	0.01	mg/kg			< 0.01			
Ethylbenzene	DETS 3321#	0.01	mg/kg			< 0.01			
Toluene	DETS 3321#	0.01	mg/kg			< 0.01			
Xylene	DETS 3321#	0.01	mg/kg			< 0.01			
MTBE	DETS 3321	0.01	mg/kg			< 0.01			
PAHs									
Naphthalene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Acenaphthylene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Acenaphthene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Fluorene	DETS 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Phenanthrene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Anthracene	DETS 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Fluoranthene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.05		< 0.03
Pyrene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.05		< 0.03
Benzo(a)anthracene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Chrysene	DETS 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(b)fluoranthene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(k)fluoranthene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(a)pyrene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Indeno(1,2,3-c,d)pyrene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Dibenzo(a,h)anthracene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(g,h,i)perylene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Coronene	DETS 3301*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		6.1
PAH - USEPA 16, Total	DETS 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	0.11		< 0.10
Phenols									
Phenol - Monohydric	DETS 2130#	0.3	mg/kg						
Phenol	DETS 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETS 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETS 3451*	0.01	mg/kg						
p-cresol	DETS 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETS 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETS 3451*	0.01	mg/kg						

Appendix E

Commercial Exceedances Drawings

- **WIE11386-139-87-101-EAR-Commerical Exceedances - A01 Sheet 1
– Sheet 8**