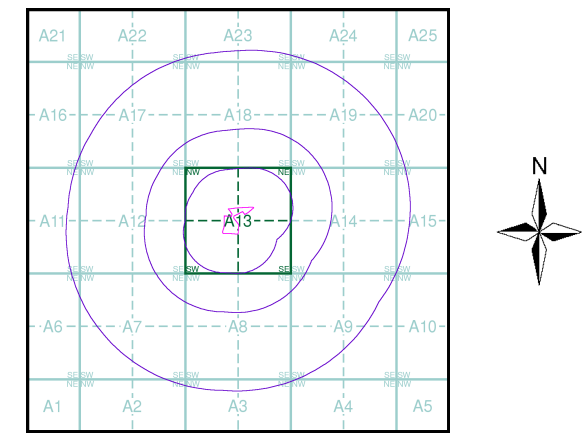


- General**
- Specified Site
  - Specified Buffer(s)
  - Bearing Reference Point
  - Map ID
  - Several of Type at Location
- Historical Building Plans**
- Area Cleared due to Enemy Action
- Historical Land Use**
- Former Marsh
  - Historical Flood Liability
  - Historical Flood Liability (Location)
  - Potentially Contaminative Industrial Use (Past Land Use)
  - Potentially Contaminative Industrial Use (Past Land Use) (Linear)
  - Potentially Contaminative Industrial Use (Past Land Use) (Location)
  - Potentially Infilled Land (Non-Water)
  - Potentially Infilled Land (Non-Water) (Linear)
  - Potentially Infilled Land (Non-Water) (Location)
  - Potentially Infilled Land (Water)
  - Potentially Infilled Land (Water) (Linear)
  - Potentially Infilled Land (Water) (Location)

**Historical Data Report - Slice Map A**



**Order Details**

Order Number: 38669898\_1\_1  
Customer Ref: 12-0083 Bacton  
National Grid Reference: 528120, 185290  
Slice: A  
Site Area (Ha): 1.48  
Search Buffer (m): 1000

**Site Details**


























Site at 528080, 185250



## **APPENDIX C**

### **EXPLORATORY HOLE LOGS**

# DATA SHEET - Symbols and Abbreviations used on Records

Sample Types		Groundwater	Strata, Continued
B	Bulk disturbed sample	Water Strike 	Mudstone 
BLK	Block sample	Depth Water Rose To 	Siltstone 
C	Core sample		<b>Metamorphic Rock</b>
D	Small disturbed sample (tub/jar)	<b>Instrumentation</b>	Fine Grained 
E	Environmental test sample	Seal 	Medium Grained 
ES	Environmental soil sample		Coarse Grained 
EW	Environmental water sample	Filter	<b>Igneous Rock</b>
G	Gas sample		Fine Grained 
L	Liner sample		Medium Grained 
LB	Large bulk disturbed sample		Coarse Grained 
P	Piston sample (PF - failed P sample)		<b>Backfill Materials</b>
TW	Thin walled push in sample		Arisings 
U	Open Tube - 102mm diameter with blows to take sample. (UF - failed U sample)		Bentonite Seal
UT	Thin wall open drive tube sampler - 102mm diameter with blows to take sample. (UTF - failed UT sample)	<b>Strata</b>	Concrete
V	Vial sample	Made Ground Type 1 	Fine Gravel Filter
W	Water sample	Type 2 	General Fill
#	Sample Not Recovered	Topsoil 	Gravel Filter
Insitu Testing / Properties		Cobbles and Boulders 	Grout
CBRP	CBR using TRL probe	Gravel 	Sand Filter
CHP	Constant Head Permeability Test	Sand 	Tarmacadam
COND	Electrical conductivity	Silt 	
HV	Strength from Hand Vane	Clay 	
ICBR	CBR Test	Peat 	
IDEN	Density Test		
IRES	Resistivity Test		
MEX	CBR using Mexecon Probe Test		
PKR	Packer Permeability Test		
PLT	Plate Load Test		
PP	Strength from Pocket Penetrometer		
Temp	Temperature		
VHP	Variable Head Permeability Test		
VN	Strength from Insitu Vane		
w%	Water content		
(All other strengths from undrained triaxial testing)		<b>Note: Composite soil types shown by combined symbols</b>	
S	Standard Penetration Test (SPT)	Chalk 	
C	SPT with cone	Limestone 	
N	SPT Result	Sandstone 	
-/-	Blows/penetration (mm) after seating drive	Coal 	
*/- (mm)	Total blows/penetration		
( )	Extrapolated value		
			<b>Rotary Core</b>
			RQD Rock Quality Designation (% of intact core >100mm)
			FRACTURE INDEX Fractures/metre
			FRACTURE Maximum
			SPACING (mm) Minimum
			NI Non-intact core
			NR No core recovery
			AZCL Assumed zone of core loss
			(where core recovery is unknown it is assumed to be at the base of the run)

# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH1 PC124991**

Client **ROLTON GROUP** Ground Level **42.45** 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		
0.30	D					Tarmac. ** [MADE GROUND]	G.L.		42.45		
0.30	E						0.10		42.35		
0.50- 0.70	B					Concrete. ** [MADE GROUND]	0.30		42.15		
0.50	D						0.50		41.95		
0.70- 1.00	B					Orangish brown mottled grey and black slightly clayey very gravelly sand. Gravel is angular to subangular fine to coarse quartzite, flint and brick.	0.70		41.75		
0.70	D										
1.00	D										
1.00	E										
1.20- 1.65	D	1.20 (DRY)			S7	[MADE GROUND]					
1.70- 1.90	B					Soft greyish brown mottled black sandy gravelly clay. Gravel is angular to rounded fine to coarse quartzite, flint and brick. With a slight hydrocarbon odour.	1.70		40.75		
1.70	D										
2.00	D						2.00		40.45		
2.00	E										
2.20- 2.65	U53	1.50 (DRY)	54	23		[MADE GROUND]					
2.65	D					Very soft dark grey mottled bluish grey and orange slightly sandy slightly gravelly slightly organic clay. Gravel is angular to subrounded fine to coarse flint, quartzite, brick and slag. With a slight hydrocarbon odour.	2.65		39.80		
2.70- 3.10	B					[MADE GROUND]					
						At 1.00m, mottling absent. Below 1.20m, becoming greenish grey mottled bluish grey.					
3.90- 4.35	D	1.50 (DRY)			S23	Soft orangish brown mottled black sandy gravelly clay. Gravel is angular to subrounded fine to coarse flint, quartzite and brick.					
						[MADE GROUND]					
						Stiff brown mottled bluish grey slightly gravelly CLAY. Gravel is subrounded fine to medium flint. At 2.20m, medium strength					
5.40- 5.85	U55	1.50 (DRY)				Stiff fissured brown mottled grey CLAY. Fissures are extremely closely spaced, randomly orientated and stained bluish grey.					
5.85	D					At 2.65m, with rare subangular medium claystone gravel					
						Below 3.90m, becoming laminated in parts.					
7.00- 7.45	D	1.50 (DRY)			S15	At 4.10m, driller notes presence of claystone layer.					
8.00	D					Below 5.85m, slightly micaceous, fissures becoming extremely closely to very closely spaced smooth, dull and occasionally stained orange.					
8.20- 8.65	UT70	1.50 (DRY)	115	30							
8.65	D					Below 8.00m, becoming dark brownish grey with occasional fine to medium gravel sized silt pockets. Fissures generally subhorizontal to subvertical, dull, some polished.					
						At 8.20m, high strength					
9.80-10.25	D	1.50 (DRY)			S20	Below 9.80m, becoming very stiff.					

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	0.15	Inspection Pit	DC	G.I.	1.50	DRY	16/08/12	08:00					
30.00		Cable Percussion	DC	14.80	1.50	DRY	16/08/12	18:00					
				14.80	1.50	DRY	17/08/12	08:00					
				30.00	1.50	DRY	17/08/12	18:00					
None encountered during boring.													

Remarks **ACS** Inspection pit hand excavated to 1.20m depth.

\*\* Drillers description.

E sample = 1 x vial, 1 x plastic jar and 1 amber jar

A 50mm standpipe was installed to 10.00m with a slotted section from 2.00m to 10.00m with flush lockable protective cover. Backfill details from base of hole: bentonite seal up to 10.00m, gravel filter up to 2.00m, bentonite seal up to 0.30m, concrete up to ground level. Chiselling: 15.90-16.30m for 60 minutes.

All dimensions are in metres.

Logged in accordance with BS5930:1999 + A2:2010



Logged by **SC / CO**

Figure **1 of 3**  
20/09/2012

**geotechnics**

# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH1 PC124991**  
 Client **ROLTON GROUP** Ground Level **42.45** 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					
10.30-10.70	B													
11.30-11.75	U80	1.50 (DRY)	157	28		At 11.30m, very high strength								
11.75	D													
12.80-13.25	D	1.50 (DRY)			S27									
14.30-14.75	U120	1.50 (DRY)	115	26		At 14.30m, high strength								
14.75	D					At 14.75m, with some fine to coarse gravel sized fragments of claystone.								
15.90-16.70	D					At 15.90m, claystone boulder.** Recovered as dark grey fine to coarse claystone gravel.								
16.70-17.15	D	1.50 (DRY)			S29	At 16.70m, with occasional fine to medium gravel sized silt pockets of rare shell fragments.								
18.20-18.50	UT130	1.50 (DRY)												
18.50	D					Below 18.50m, silt pockets absent.								
19.70-20.15	D	1.50 (DRY)			S33									
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
<b>Remarks</b>  Driller notes claystone boulder pushed ahead of borehole from 15.9 to 16.7m, pushed aside at 16.7m.														
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.														
Logged in accordance with BS5930:1999 + A2:2010														
Logged by <b>sc / co</b> Figure <b>2 of 3</b> 20/09/2012 														

# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH1 PC124991**

Client **ROLTON GROUP** Ground Level **42.45** 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	
21.20-21.65	U120	1.50 (DRY)	125	28		At 21.20m, high strength				
21.65	D									
22.70-23.15	D	1.50 (DRY)			S32					
24.20-24.50	U130	1.50 (DRY)				Below 24.85m, fissures subhorizontal and extremely closely spaced polished with an occasional silt dusting.				
24.50	D									
25.70-26.15	D	1.50 (DRY)			S30					
27.40-27.85	UT110	1.50 (DRY)	165	26		Below 27.00m, fissure spacing increasing becoming randomly orientated, smooth, dull and clean. At 27.40m, very high strength				
27.85	D									
29.00-29.45	D	1.50 (DRY)			S33					
30.00	D									
End of Borehole							30.00		12.45	

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



**BOREHOLE RECORD** - Cable Percussion

Project	BACTON LOW RISE, GOSPEL OAK, NORTH LONDON
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Engineer **ROLTON GROUP**


<b>Borehole</b>	<b>BH2</b>
<b>Project No</b>	<b>PC124991</b>

Client **ROLTON GROUP**

Ground Level 43.45 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
G.L.	B					Tarmac. ** [MADE GROUND]	0.08	[Pattern]	43.45
0.30- 0.50	D								43.37
0.30	E						0.30	[Pattern]	43.15
0.50- 1.00	B					Concrete. ** [MADE GROUND]	0.50	[Pattern]	42.95
0.50	D								
1.00	D					Light brown mottled grey black, orange and yellow slightly clayey very gravelly sand. Gravel is angular to subangular fine to coarse brick, concrete and clinker. [MADE GROUND]	1.00	[Pattern]	42.45
1.00	E								
1.10	D						1.20	[Pattern]	42.25
1.20- 1.65	D	1.20 (DRY)			S6	Very soft brown mottled black, orange and yellow sandy gravelly clay. Gravel is angular to rounded fine to coarse clinker, brick and concrete. [MADE GROUND]	2.00	[Pattern]	41.45
2.00	D								
2.00	E								
2.70- 3.15	U50	1.50 (DRY)	55	33		Soft greyish brown mottled black, orange and yellow sandy gravelly slightly organic clay. Gravel is angular to subrounded fine to coarse flint, quartzite, brick and clinker. [MADE GROUND] At 1.10m, becoming slightly gravelly.			
3.15	D						3.15	[Pattern]	40.30
3.20- 3.60	B					Soft greyish brown mottled bluish grey and orange slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint and quartz. [POSSIBLE MADE GROUND]			
						Firm brown mottled bluish grey slightly sandy CLAY. At 2.70m, medium strength			
4.20- 4.65	D	1.50 (DRY)			S13	Firm fissured brown mottled bluish grey CLAY with some sand and fine gravel sized gypsum crystals. Fissures are extremely to very closely spaced randomly orientated, smooth, dull and occasionally stained orange. Below 4.20m, thinly laminated in parts.			
5.70- 6.15	U70	1.50 (DRY)	96	31		At 5.70m, fissures slightly polished with light blue grey staining. At 5.70m, high strength			
6.15	D								
						Below 7.00m, becoming stiff.			
7.20- 7.65	D	1.50 (DRY)			S17				
8.70- 9.00	UT100	1.50 (DRY)				Below 9.00m, becoming very stiff and dark greyish brown in colour. At 9.00m, recovered with angular to subrounded fine to coarse gravel sized fragments of claystone.			
9.00	D								
9.20- 9.50	B								

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 20.00	0.15	Inspection Pit Cable Percussion	DC DC	G.L. 20.00	1.50	DRY	20/08/12 20/08/12	08:00 18:00						None encountered during boring.

Remarks	 Inspection pit hand excavated to 1.20m depth, 0.5 hours breaking out concrete.
---------	--



\*\* Drillers description.

E sample = 1 x vial, 1 x plastic jar and 1 amber jar

At 8.70m, UT shoe damaged

A 50mm standpipe was installed to 10.00m with a geowrapped slotted section from 2.00m to 10.00m with flush lockable protective cover. Backfill details from base of hole: arisings up to 12.00m, bentonite seal up to 10.00m, gravel filter up to 2.00m, bentonite seal up to 0.30m, concrete up to ground level.

Logged by **co**

Figure 1 of 2  
20/09/2012

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions  
are in metres.

Logged in accordance with BS5930:1999 + A2:2010

**geotechnics**



# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH2 PC124991**  
 Client **ROLTON GROUP** Ground Level **43.45** 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		
10.20-10.65	D	1.50 (DRY)			S24	Below 10.20m, light bluish grey mottling absent.					
11.60	D					At 11.60m, recovered as angular to subrounded fine to coarse gravel sized fragments of light grey claystone.					
11.80-12.25	U90	1.50 (DRY)									
12.25	D					Below 12.25m, fissures becoming very closely spaced, randomly orientated, smooth, dull and with a slight silt dusting.					
13.30-13.75	D	1.50 (DRY)			S31						
14.80-15.25	U95	1.50 (DRY)									
15.25	D					Below 15.25m, with rare fine to medium gravel sized shell fragments, fissure spacing increasing and silt dusting absent.					
16.30-16.75	D	1.50 (DRY)			S29						
17.80	D					At 17.80m, recovered as angular to subrounded fine to coarse gravel sized fragments of light grey claystone.					
18.00-18.45	UT125	1.50 (DRY)									
18.45	D					At 18.70m, recovered as angular to subrounded fine to coarse gravel sized fragments of light grey claystone.					
18.70	D										
19.50-19.95	D	1.50 (DRY)			S36						
End of Borehole							20.00			23.45	

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	

# Fieldwork Results - SPT Results Summary

**Project** BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

**Project No** PC124991

**Client** ROLTON GROUP

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH2	1.20	42.25	S	-	1	1	2	1	2	1	6	*					
BH2	4.20	39.25	S	-	1	2	3	3	3	4	13		*				
BH2	7.20	36.25	S	-	2	3	4	4	4	5	17			*			
BH2	10.20	33.25	S	-	3	4	4	7	7	6	24				*		
BH2	13.30	30.15	S	-	3	5	8	8	6	9	31					*	
BH2	16.30	27.15	S	-	2	5	5	7	8	9	29					*	
BH2	19.50	23.95	S	-	4	7	7	8	9	12	36						*
Driller			David Cowling				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005										
Hammer No.			EQU436														
Energy Ratio, Er (%)			74.00														
Calibration Date			23/03/2012														

-/- Blows/penetration (mm) after seating

-\*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

**geotechnics**



# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH3 PC124991**  
 Client **ROLTON GROUP** Ground Level **43.78** 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		
0.30	D					Asphalt. ** [MADE GROUND]	G.L.		43.78		
0.50	D					Concrete. ** [MADE GROUND]	0.07		43.71		
1.00	E					Firm orange brown mottled red and blue sandy gravelly clay. Gravel is angular to subrounded fine to coarse brick, concrete, slate and flint.	0.40		43.38		
1.20- 1.65	D	NIL (DRY)			S10	[MADE GROUND]					
2.00	E					Firm orange brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint and quartz.	1.30		42.48		
2.70- 3.15	U30	NIL (DRY)	72	31		Firm to stiff fissured brown mottled bluish grey CLAY. Fissures are extremely to very closely spaced, randomly orientated, smooth and dull with a slight silt dusting and occasional orange staining. At 2.70m, medium strength	2.50		41.28		
3.20	D										
4.20- 4.65	D	2.50 (DRY)			S15	Below 4.20m, becoming thinly laminated in places.					
5.70- 6.15	U40	2.50 (DRY)									
6.20	D					At 6.20m, becoming slightly micaceous and with occasional orange staining on fissure surfaces.					
7.20- 7.65	D	2.50 (DRY)			S21						
8.70- 9.15	U70	2.50 (DRY)									
9.20	D					Below 9.20m, becoming very stiff and greyish brown in colour. Orange staining on fissure surfaces absent.					

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	CR/PJ	G.L.			16/08/12	08:00						None encountered during boring.
30.20		Cable Percussion	CR/PJ	7.20	2.50	DRY	16/08/12	18:00						
				7.20	2.50	DRY	17/08/12	08:00						
				30.20	2.50	DRY	17/08/12	18:00						

Remarks **Inspection pit hand excavated to 1.20m depth.**  
**\*\* Drillers description.**  
 E sample = 1 x vial, 1 x plastic jar and 1 amber jar  
 A 50mm standpipe was installed to 5.00m with a geowrapped slotted section from 1.00m to 5.00m with flush lockable protective cover. Backfill details from base of hole: arisings up to 7.00m, bentonite seal up to 5.00m, gravel filter up to 1.00m, bentonite seal up to 0.30m, concrete up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:1999 + A2:2010

Logged by **SC/CO**  
 Figure **1 of 4**  
 20/09/2012


**geotechnics**

# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH3 PC124991**  
 Client **ROLTON GROUP** Ground Level **43.78** 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
10.20-10.65	D	2.50 (DRY)			S41	Between 10.20-10.65m, recovered with subangular medium to coarse claystone gravel. At 10.30m, driller notes thin mudstone band.			
11.70-12.15	U70	2.50 (DRY)							
12.20	D								
13.20-13.65	D	2.50 (DRY)			S29	Below 13.20m, becoming dark grey in colour and occasional silt partings.			
14.70-15.15	U80	2.50 (DRY)							
15.20	D								
15.50	D								
16.20-16.65	D	2.50 (DRY)			S27				
17.70-18.15	U80	2.50 (DRY)				At 17.50m, driller notes thin mudstone band.			
18.20	D								
19.20-19.65	D	2.50 (DRY)			S38				

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

Remarks 

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

Logged in accordance with BS5930:1999 + A2:2010

Logged by **sc/co**  
 Figure **2 of 4**  
 20/09/2012  


# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH3 PC124991**

Client **ROLTON GROUP** Ground Level **43.78** 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		
20.70-21.15	U80	2.50 (DRY)									
21.20	D										
22.20-22.65	D	2.50 (DRY)			43						
23.70-24.15	U85	2.50 (DRY)									
24.20	D					Below 24.20m, fissures becoming randomly orientated occasionally subhorizontal very closely spaced, smooth, occasionally polished with black mottling.					
25.20-25.65	D	2.50 (DRY)			S50/295						
26.70-27.15	U85	2.50 (DRY)									
27.20	D										
28.20-28.63	D	2.50 (DRY)			S50/280						
29.70-30.15	U100	2.50 (DRY)									

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



# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH3 PC124991**  
 Client **ROLTON GROUP** Ground Level **43.78** 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						
30.20	D					At 30.20m, fissures become extremely closely spaced, subhorizontal, smooth, dull and clean with occasional black mottling. End of Borehole	30.20		13.58						
<div>Boring</div> <div>Progress</div> <div>Groundwater</div>															
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	

Remarks
 

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

Logged by **sc/co**  
 Figure **4 of 4**  
 20/09/2012

Logged in accordance with BS5930:1999 + A2:2010

# Fieldwork Results - SPT Results Summary

**Project** BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

**Project No** PC124991

**Client** ROLTON GROUP

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH3	1.20	42.58	S	-	1	-	2	1	3	4	10	*				
BH3	4.20	39.58	S	-	1	3	3	3	4	5	15	*				
BH3	7.20	36.58	S	-	3	3	4	5	6	6	21		*			
BH3	10.20	33.58	S	-	3	10	10	9	10	12	41				*	
BH3	13.20	30.58	S	-	4	5	6	7	7	9	29			*		
BH3	16.20	27.58	S	-	4	5	5	7	7	8	27			*		
BH3	19.20	24.58	S	-	4	5	8	8	10	12	38				*	
BH3	22.20	21.58		-	5	8	10	9	10	14	43				*	
BH3	25.20	18.58	S	-	6	10	12	14	11	13/70	50/295					>
BH3	28.20	15.58	S	-	5	10	14	14	15	7/55	50/280					>
Driller			Chris Rainsbury				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005									
Hammer No.			SDS04													
Energy Ratio, Er (%)			81.00													
Calibration Date			13/02/2012													

-/- Blows/penetration (mm) after seating

-\*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

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**BOREHOLE RECORD** - Cable Percussion

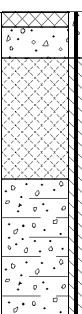
Project	BACTON LOW RISE, GOSPEL OAK, NORTH LONDON
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Engineer **ROLTON GROUP**

<b>Borehole</b>	<b>BH4</b>
<b>Project No</b>	<b>PC124991</b>

Client **ROLTON GROUP**

Ground Level    41.65    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
0.30- 0.60 0.30 0.30	B					Tarmac. ** [MADE GROUND]	G.L.		41.65
	D					0.10	41.55		
	E					0.30	41.35		
1.00 1.00 1.10 1.20- 1.65	D E D D	1.20 (DRY)	67	34	S9	Firm light brown, locally mottled grey and orange brown, slightly sandy slightly gravelly clay with occasional pockets (up to 3mm in size) of black carbonaceous deposits. Gravel is angular to subrounded fine to medium quartzite, flint and calcareous siltstone. [PROBABLE MADE GROUND] At 1.00m, driller notes presence of claystone.	1.10		40.55
2.00 2.00	D E					Firm thinly laminated in parts, brown locally bluish grey and orange brown mottled slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to medium calcareous siltstone.	2.00		39.65
2.70- 3.15	U40	1.20 (DRY)				Firm brown locally bluish grey and orange brown mottled CLAY, thinly laminated in parts. At 2.70m, medium strength			
3.15	D					Below 3.15m, fissured with rare medium to coarse sand sized gypsum crystals. Fissures are extremely closely spaced and randomly orientated.			
4.20- 4.65	D	1.50 (DRY)			S11				
5.70- 6.15	U70	1.50 (DRY)							
6.15	D					Below 6.15m, polished surface on some discontinuities.			
7.20- 7.65	D	1.50 (DRY)			S15				
7.70- 8.00	B					Stiff thinly laminated fissured brownish grey micaceous CLAY. Fissures are extremely to very closely spaced randomly orientated with rare white silt dustings on some surfaces.	7.50		34.15
8.70- 9.15	UT90	1.50 (DRY)							
9.15	D					Below 9.15m, with occasional dark grey silt dustings on some surfaces.			
9.60	D					At 9.60m, recovered as angular to subrounded medium to coarse gravel and cobble sized fragments of medium strong grey calcareous siltstone.			

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 20.00	0.15	Inspection Pit Cable Percussion	DC DC	G.L. 20.00	1.50	DRY	21/08/12 21/08/12	08:00 18:00						None encountered during boring.

Remarks	Inspection pit hand excavated to 1.20m depth, 0.5 hours breaking out concrete.
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AGS

\*\* Drillers description.

E sample = 1 x vial, 1 x plastic jar and 1 amber jar

A 50mm standpipe was installed to 5.00m with a geowrapped slotted section from 2.00m to 5.00m with flush lockable protective cover. Backfill details from base of hole: arisings up to 7.00m, bentonite seal up to 5.00m, gravel filter up to 2.00m, bentonite seal up to 0.30m, concrete up to ground level.

Logged by **NT/CO**

Figure 1 of 2  
20/09/2012

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions  
are in metres.

Logged in accordance with BS5930:1999 + A2:2010

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# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH4 PC124991**  
 Client **ROLTON GROUP** Ground Level **41.65** 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		
10.20-10.65	D	1.50 (DRY)			S26						
11.70-12.15	U100	1.50 (DRY)									
12.15	D										
13.20-13.65	D	1.50 (DRY)			S25						
14.70-15.15	U110	1.50 (DRY)									
15.15	D					Below 15.15m, becoming stiff to very stiff and grey and brownish grey in colour.					
15.50	D										
16.40-16.85	D	1.50 (DRY)			S31	Between 16.40-16.85m, with rare fine gravel sized shell fragments and rare orange brown silt dustings on some discontinuities.					
17.90-18.35	UT110	1.50 (DRY)									
18.35	D					Below 18.35m, with occasional angular to subrounded fine to coarse gravel sized calcareous siltstone / mudstone.					
19.50-19.95	D	1.50 (DRY)			S38						
End of Borehole							20.00			21.65	

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

Remarks 

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **NT/CO**  
 Figure **2 of 2**  
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# Fieldwork Results - SPT Results Summary

**Project** BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

**Project No** PC124991

**Client** ROLTON GROUP

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH4	1.20	40.45	S	-	1	1	2	2	2	3	9	*				
BH4	4.20	37.45	S	-	1	2	2	3	3	3	11	*				
BH4	7.20	34.45	S	-	2	3	3	4	4	4	15	*				
BH4	10.20	31.45	S	-	3	4	6	6	7	7	26			*		
BH4	13.20	28.45	S	-	3	4	6	6	6	7	25			*		
BH4	16.40	25.25	S	-	3	5	7	7	7	10	31			*		
BH4	19.50	22.15	S	-	3	10	8	9	10	11	38				*	
Driller			David Cowling				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005									
Hammer No.			EQU436													
Energy Ratio, Er (%)			74.00													
Calibration Date			23/03/2012													

-/- Blows/penetration (mm) after seating

-\*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

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# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH5 PC124991**  
 Client **ROLTON GROUP** Ground Level **44.75** 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		
0.30- 0.90	B					Tarmac. ** [MADE GROUND]	G.L.		44.75		
0.30	D						0.05		44.70		
0.30	E					Concrete. ** [MADE GROUND]	0.30		44.45		
0.90- 1.20	B					Soft brown sandy gravelly clay with occasional roots. Gravel is angular to subangular fine to coarse brick, flint, clinker and concrete. [MADE GROUND]	0.90		43.85		
0.90	D										
0.90	E										
1.20- 1.65	D	1.20 (DRY)			S6	Firm greyish brown mottled orangish brown slightly sandy CLAY with occasional rootlets. With rare angular to subangular fine to medium flint gravel. Below 1.80m, becoming brown mottled bluish grey and slightly micaceous.					
1.80	D										
1.90- 2.40	B										
1.90	E										
1.90- 2.35	UF40	1.50 (DRY)									
2.40- 2.85	U43	1.50 (DRY)									
2.85	D										
3.20	D					At 3.20m, recovered with angular to subangular coarse gravel of claystone. Below 3.30m, becoming stiff with occasional firm to medium gravel sized sandy pockets.					
3.30- 3.90	B										
3.30	D										
3.90- 4.35	D	1.50 (DRY)			S12	Below 3.90m, becoming thinly laminated in places and fissured. Fissures are randomly orientated extremely closely to very closely spaced, dull and clean with occasional black staining and an occasional silt dusting.					
5.40- 5.85	U78	1.50 (DRY)									
5.85	D					Below 5.80m, fissures becoming extremely to very closely spaced, subhorizontal to subvertical.					
6.90- 7.35	D	1.50 (DRY)			S18						
8.20	D					Below 8.20m, becoming very stiff and dark greyish brown in colour. Fissures slightly polished with dark orangish brown staining in places. At 8.40m, high strength					
8.40- 8.70	UT90	1.50 (DRY)	76	30							
8.70	D										
8.90- 9.30	B										
9.90-10.35	D	1.50 (DRY)			S23						

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 Cable Percussion	DC/LC DC/LC	G.L.			13/08/12	08:00						None encountered during boring.
30.00				25.50	1.50	DRY	13/08/12	18:00						
				25.50	1.50	DRY	14/08/12	08:00						
				30.00	1.50	DRY	14/08/12	18:00						

Remarks **ACS** Inspection pit hand excavated to 1.20m depth.  
 \*\* Drillers description.  
 E sample = 1 x vial, 1 x plastic jar and 1 amber jar  
 A 50mm standpipe was installed to 5.00m with a slotted section from 2.00m to 5.00m with flush lockable protective cover. Backfill details from base of hole: gravel filter up to 7.00m, bentonite seal up to 5.00m, gravel filter up to 2.00m, bentonite seal up to 0.30m, concrete up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010


Logged by **SC**  
 Figure **1 of 4**  
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# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH5 PC124991**  
 Client **ROLTON GROUP** Ground Level **44.75** 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						
11.40-11.85	U100	1.50 (DRY)	156	24	S26	At 11.40m, very high strength									
11.85	D					At 11.85m, becoming slightly sandy and with occasional shell fragments. Laminae absent.									
12.90-13.35	D	1.50 (DRY)				Below 12.95m, with silt partings (up to 1mm in thickness) and occasional silt pockets (up to 1cm in size).									
14.40-14.85	U110	1.50 (DRY)			S35	Below 14.85m, with occasional black staining on fissure surfaces.									
14.85	D														
16.00-16.45	D	1.50 (DRY)													
17.50-17.80	UT120	1.50 (DRY)	151	27	S36	At 17.50m, thinly laminated. At 17.50m, very high strength									
17.80	D														
19.00-19.45	D	1.50 (DRY)				Below 20.00m, with occasional shell fragments.									
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

Remarks  Driller notes claystone boulder pushed from 26.6 to 28.0m, pushed aside at 28.0m.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **SC**  
 Figure **2 of 4**  
 20/09/2012



# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH5 PC124991**  
 Client **ROLTON GROUP** Ground Level **44.75** 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		
20.50-20.80	U130	1.50 (DRY)									
20.80	D										
22.00-22.45	D	1.50 (DRY)			S34						
23.50-23.95	U120	1.50 (DRY)	87	28		At 23.50m, with occasional fine gravel sized shell fragments. At 23.50m, high strength Between 23.95-26.62m, fissures occasionally polished.					
23.95	D										
25.00-25.45	D	1.50 (DRY)			S48						
26.40-26.60	UTF 130	1.50 (DRY)				At 26.60m, driller notes presence of claystone boulder.					
26.50-26.60	D										
26.60-27.50	B										
26.80-26.80		1.50 (DRY)			C50*/1						
28.00-28.50	B										
28.00	D										
28.00-28.45	UF100	1.50 (DRY)									
28.50-28.95	D	1.50 (DRY)			S51						
29.50-29.95	U130	1.50 (DRY)	17	28		At 29.50m, extremely closely fissured, randomly orientated and open (possibly affected by disturbance during sampling) At 29.95m, Fissures become subhorizontal and extremely closely spaced. At 29.50m, very low strength	30.00			14.75	
29.95	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	

Remarks **At 23.50 and 29.50, measured undrained strength possibly affected by fissuring in test specimen and disturbance during sampling.**  
**At 26.40m, UT sample shoe damaged.**

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **SC**  
 Figure **3 of 4**  
 20/09/2012

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<p><b>Remarks</b> </p> <p>Symbols and abbreviations are explained on the accompanying key sheet.</p> <p>All dimensions are in metres.</p>	<p>Logged by <b>SC</b></p> <p>Figure <b>4 of 4</b></p> <p>20/09/2012</p> <div style="text-align: center;"> </div>
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# Fieldwork Results - SPT Results Summary

**Project** BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

**Project No** PC124991

**Client** ROLTON GROUP

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH5	1.20	43.55	S	-	1	-	1	1	2	2	6	*					
BH5	3.90	40.85	S	-	2	3	3	3	3	3	12	*					
BH5	6.90	37.85	S	-	2	3	4	4	5	5	18		*				
BH5	9.90	34.85	S	-	4	4	4	6	6	7	23			*			
BH5	12.90	31.85	S	-	3	4	6	6	7	7	26			*			
BH5	16.00	28.75	S	-	6	8	8	9	9	9	35				*		
BH5	19.00	25.75	S	-	6	7	8	9	9	10	36				*		
BH5	22.00	22.75	S	-	6	8	8	8	9	9	34				*		
BH5	25.00	19.75	S	-	8	8	10	11	13	14	48					*	
BH5	26.80	17.95	C	-	50/1						50*/1						>
BH5	28.50	16.25	S	-	6	7	11	11	13	16	51						*
Driller			David Cowling				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005										
Hammer No.			EQU436														
Energy Ratio, Er (%)			74.00														
Calibration Date			23/03/2012														

-/- Blows/penetration (mm) after seating

-\*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

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# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH6 PC124991**

Client **ROLTON GROUP** Ground Level **43.13** 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						
0.30 0.50	E D	NIL (DRY)	82	32	S9	Concrete slab. ** [MADE GROUND]	G.L. 0.17		43.13 42.96						
						Brick fill. ** [MADE GROUND]	0.50		42.63						
1.00 1.20- 1.65	E D					Soft brown mottled bluish grey and black slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to medium quartz, flint, brick and clinker. [MADE GROUND]	1.20		41.93						
						Stiff brown mottled bluish grey CLAY.									
2.00	D														
2.70- 3.15	U40	NIL (DRY)				At 2.70m, high strength									
3.20	D						3.20		39.93						
4.20- 4.65	D	2.50 (DRY)			S18										
5.70- 6.15	U45	2.50 (DRY)													
6.20	D					At 6.20m, with a little sand and fine gravel sized gypsum crystals.									
7.20- 7.65	D	2.50 (DRY)			S24	Below 7.20m, becoming dark greyish brown with occasional fine to coarse gravel sized pockets of grey silt.									
8.70- 9.15	U50	2.50 (DRY)													
9.20	D					Below 9.20m, becoming dark brownish grey in colour.									
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 19.65	0.15	Inspection Pit Cable Percussion		CR/PJ CR/PJ	G.L. 19.65	2.50	DRY	20/08/12 20/08/12	08:00 18:00						None encountered during boring.
Remarks  Inspection pit hand excavated to 1.20m depth. ** Drillers description. E sample = 1 x vial, 1 x plastic jar and 1 amber jar 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 BS5930:1999 + A2:2010					
Logged by										co					
Figure										1 of 2 20/09/2012					
															

# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH6 PC124991**  
 Client **ROLTON GROUP** Ground Level **43.13** 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		
10.20-10.65	D	2.50 (DRY)			S23	At 10.20m, with rare fine gravel sized shell fragments.					
11.70-12.15	U55	2.50 (DRY)									
12.20	D					Below 12.20m, fissures becoming closely spaced with a silt dusting.					
13.20-13.65	D	2.50 (DRY)			S32						
14.70-15.15	U60	2.50 (DRY)									
15.20	D					Below 15.20m, becoming very stiff. Fissures becoming occasionally polished with black mottling, silt dusting absent.					
16.20-16.65	D	2.50 (DRY)			S31						
17.70-18.15	U75	2.50 (DRY)									
18.20	D										
19.20-19.65	D	2.50 (DRY)			S37						
End of Borehole							19.65		23.48		

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


Remarks 

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **co**

Figure **2 of 2**  
20/09/2012



# Fieldwork Results - SPT Results Summary

**Project** BACTON LOW RISE, GOSPEL OAK, NORTH LONDON

**Project No** PC124991

**Client** ROLTON GROUP

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH6	1.20	41.93	S	-	1	1	2	2	2	3	9	*				
BH6	4.20	38.93	S	-	2	3	4	4	5	5	18		*			
BH6	7.20	35.93	S	-	2	4	5	6	6	7	24			*		
BH6	10.20	32.93	S	-	3	4	5	6	5	7	23			*		
BH6	13.20	29.93	S	-	3	5	6	8	8	10	32				*	
BH6	16.20	26.93	S	-	2	4	6	7	8	10	31				*	
BH6	19.20	23.93	S	-	4	6	8	8	9	12	37					*
Driller			Chris Rainsbury				Remarks Equipment checked and calibration carried out in accordance with BS EN ISO 22476-3: 2005									
Hammer No.			SDS04													
Energy Ratio, Er (%)			81.00													
Calibration Date			13/02/2012													

-/- Blows/penetration (mm) after seating

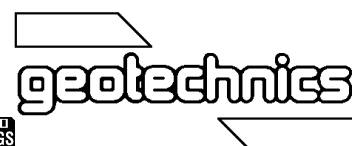
-\*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used



# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH7 PC124991**  
 Client **ROLTON GROUP** Ground Level **42.10** 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					
0.30 0.30 0.50- 1.00 0.50	D E B W	1.30 (1.00)	98	32	S7	Concrete with reinforcing. ** [MADE GROUND]	G.L.		42.10					
1.00 1.00 1.10 1.30- 1.75	D E D D					Brown mottled red, orange and bluish grey very gravelly sand, very clayey in places. Gravel is subangular to subrounded fine to medium brick, clinker, concrete and flint. [MADE GROUND]	0.20		41.90					
1.80- 2.20 2.00 2.00	B D E					Dark brown mottled black and reddish brown very sandy gravel with a high brick and concrete cobble content and rare fine to medium gravel sized pockets of clay. Gravel is angular to subangular fine to coarse brick, slag concrete and clinker. [MADE GROUND]	0.80		41.30					
						Firm fissured brown mottled bluish grey CLAY. Fissures are extremely to very closely spaced, randomly orientated, dull and smooth occasionally stained bluish grey.	1.10		41.00					
2.80- 3.25 3.25	U47 D					At 2.80m, high strength								
						Between 3.25-4.75m, thinly laminated and micaceous.								
4.30- 4.75	D					Below 4.30m, fissures stained orangish brown.								
5.80- 6.25 6.25	U85 D	1.50 (DRY)	110	29	S18	At 6.25m, becoming stiff and laminated with occasional fine gravel sized shell fragments. Occasionally with silt partings up to 1mm thick.								
7.30- 7.75 7.80- 8.30	D B	1.50 (DRY)												
8.80- 9.25 9.25	UT90 D	1.50 (DRY)				At 8.80m, becoming very stiff and dark greyish brown. Fissures very closely spaced, slightly polished occasionally stained dark brown. At 8.80m, high strength Below 9.25m, laminae absent.								
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 20.00	0.15	Inspection Pit Cable Percussion	DC DC	G.L. 10.80 10.80 20.00	1.50 1.50 1.50	DRY DRY DRY	14/08/12 14/08/12 15/08/12 15/08/12	08:00 18:00 08:00 18:00	0.50	NIL			1.50	
Remarks  Inspection pit hand excavated to 1.20m depth, 0.5hours breaking out concrete. ** Drillers description. E sample = 1 x vial, 1 x plastic jar and 1 amber jar A 50mm standpipe was installed to 5.00m with a geowrapped slotted section from 2.00m to 5.00m with flush lockable protective cover. Backfill details from base of hole: arisings up to 7.00m, bentonite seal up to 5.00m, gravel filter up to 2.00m, bentonite seal up to 0.30m, concrete up to ground level. Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.														
Logged in accordance with BS5930:1999 + A2:2010												Logged by <b>SC</b> Figure <b>1 of 2</b> 20/09/2012		

# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH7 PC124991**  
 Client **ROLTON GROUP** Ground Level **42.10** 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		
10.30-10.75	D	1.50 (DRY)			S28						
11.80-12.25	U100	1.50 (DRY)	136	28		At 11.80m, high strength					
12.25	D					Below 12.25m, Fissure spacing increasing, silt and staining absent					
13.30-13.75	D	1.50 (DRY)			S31						
14.80-15.25	U120	1.50 (DRY)									
15.25	D										
16.40-16.85	D	1.50 (DRY)			S26	At 16.40m, with occasional light grey rootlet tracks.					
17.70	D					At 17.70m, claystone boulder, recovered as angular to subangular medium to coarse gravel sized fragments.					
18.00-18.45	UT110	1.50 (DRY)	114	28		At 18.00m, fissure approximately 45 degrees, very closely to closely spaced and sub-vertical, slightly polished.					
18.45	D					At 18.45m, fissures extremely closely spaced, randomly orientated, smooth, occasionally stepped and clean.					
						At 18.00m, high strength					
19.50-19.95	D	1.50 (DRY)			S28						
End of Borehole							20.00			22.10	

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


Remarks 

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **SC**

Figure **2 of 2**  
20/09/2012





**Project No** PC124991

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

# BOREHOLE RECORD - Cable Percussion

Project	BACTON LOW RISE, GOSPEL OAK, NORTH LONDON	Engineer	ROLTON GROUP	Borehole Project No	BH8 PC124991
Client	ROLTON GROUP	Ground Level	42.20	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		
0.30- 0.50	B					Concrete with reinforcing. ** [MADE GROUND]	G.L.		42.20		
0.30	D						0.20		42.00		
0.30	E						0.50		41.70		
0.50- 0.80	B					Firm brown mottled red, orange and black very gravelly sand, occasionally very clayey. Gravel is subangular to subrounded fine to medium brick, clinker and concrete.					
0.50	D					[MADE GROUND]					
1.00	D										
1.00	E										
1.20- 1.70	B					Soft dark brown mottled red, orange, yellow and black sandy gravelly clay, with occasional timber fragments (upto 15cm in size) and a medium cobble content of subangular brick and concrete. Gravel is angular to subangular fine to coarse brick, concrete and clinker.	1.20		41.00		
1.20- 1.65	D	1.20 (DRY)			S10	[MADE GROUND]					
1.70	D						1.70		40.50		
2.00	D										
2.00	E										
2.20- 2.65	U50	1.50 (DRY)	55	33		Soft dark brownish grey mottled black slightly sandy slightly gravelly slightly organic clay, fissured in parts. Fissures are randomly orientated extremely closely spaced. Gravel is angular to subrounded fine to medium brick, quartzite and flint.					
2.65	D					[MADE GROUND]					
						Stiff fissured brown mottled bluish grey slightly micaceous CLAY, thinly laminated in parts and with occasional rootlets. Fissures are randomly orientated, extremely to very closely spaced, smooth, dull with a slight silt dusting.					
3.80- 4.25	D	1.50 (DRY)			S18	At 2.20m, medium strength					
5.30- 5.75	U65	1.50 (DRY)	87	30		At 5.30m, high strength					
5.75	D					Below 5.75m, becoming very stiff and dark greyish brown, with occasional fine to medium gravel sized shell fragments and orange staining on fissure surfaces.					
6.80- 7.25	D	1.50 (DRY)			S21						
7.40	D										
7.60- 8.05	UT100	1.50 (DRY)									
8.05	D					Below 8.05m, orange staining absent.					
9.10- 9.55	D	1.50 (DRY)			S22	Between 9.10-10.95m, with rare silt pockets (upto 10mm in size).					
10.00-10.40	B										

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		Inspection Pit	DC/LC	G.I.	NIL	DRY	15/08/12	08:00					
20.00	0.15	Cable Percussion	DC/LC	10.00	1.50	DRY	15/08/12	18:00					
				10.00	1.50	DRY	16/08/12	08:00					
				20.00	1.50	DRY	16/08/12	18:00					


Remarks	<p>Inspection pit hand excavated to 1.20m depth, 1 hour breaking out concrete.</p> <p>** Drillers description.</p> <p>E sample = 1 x vial, 1 x plastic jar and 1 amber jar</p> <p>Backfill details from base of hole: arisings up to 2.50m, bentonite seal up to 0.50m, concrete up to ground level.</p>	<p>Logged by</p> <p>Figure</p> <p>1 of 2</p> <p>20/09/2012</p> <p>geotechnics</p>
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# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH8 PC124991**  
 Client **ROLTON GROUP** Ground Level **42.20** 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	
10.50-10.95	U90	1.50 (DRY)				Below 10.95m, fissures mottled black.				
10.98	D									
12.00-12.45	D	1.50 (DRY)			S24					
13.50-13.95	U100	1.50 (DRY)								
13.95	D									
15.00-15.45	D	1.50 (DRY)			S27					
15.80	D					At 15.80m, with a subrounded claystone cobble				
16.50-16.80	UT130	1.50 (DRY)								
18.00-18.45	D	1.50 (DRY)			S30	Below 18.00m, fissure spacing increasing and silt absent.				
18.80	D									
19.50-19.80	U130	1.50 (DRY)				At 19.80m, fissures predominantly subhorizontal.				
19.80	D									
20.00	D						20.00		22.20	
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	Remarks on Groundwater	


Remarks 

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **co**

Figure **2 of 2**  
20/09/2012






# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH9 PC124991**

Client **ROLTON GROUP** Ground Level **42.09** 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		
0.30	D					Reinforced concrete slab. ** [MADE GROUND]	G.L.		42.09		
0.30	E						0.20		41.89		
0.70	D					Brown slightly clayey gravelly sand. Gravel is angular to subangular fine to coarse brick, concrete, quartzite and flint. [MADE GROUND]					
1.00	E										
1.20- 1.65	D	NIL (DRY)			S9	Firm orangish brown slightly sandy CLAY.	1.20		40.89		
1.20- 1.65											
2.00	E										
2.70- 3.15	U40	NIL (DRY)	65	35		At 2.70m, medium strength					
3.20	D					Below 3.20m, thinly laminated in places and fissured. Fissures are subhorizontal extremely closely to very closely spaced dull with a silt dusting and occasional orange staining.					
4.20- 4.65	D	2.50 (DRY)			S14	Stiff fissured dark greyish brown mottled orangish brown slightly micaceous CLAY, slightly sandy in parts. Fissures are extremely closely to very closely spaced and randomly orientated with occasional silt dusting and occasional orange staining.	4.00		38.09		
5.70- 6.15	U55	2.50 (DRY)									
6.20	D					Below 6.20m, orange staining absent.					
7.20- 7.65	D	2.50 (DRY)			S22	Below 7.20m, becoming stiff, mottling absent with silt partings on fissure surfaces (upto 1mm in thickness)					
8.70- 9.15	U55	2.50 (DRY)	80	29		At 8.70m, high strength					
9.20	D					At 9.20m, with occasional silt layers (upto 5mm in thickness)					

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	CR/PJ	G.I.			15/08/12	08:00						None encountered during boring.
30.15		Cable Percussion	CR/PJ	18.20	2.50	DRY	15/08/12	18:00						
				18.20	2.50	DRY	16/08/12	08:00						
				30.15	2.50	DRY	16/08/12	18:00						

**Remarks**  Inspection pit hand excavated to 1.20m depth. \*\* Drillers description. E sample = 1 x vial, 1 x plastic jar and 1 amber jar A standpipe was installed to 5.00m with a geowrapped slotted section from 2.00m to 5.00m with flush lockable protective cover. Backfill details from base of hole: arisings up to 7.00m, bentonite seal up to 5.00m, fine gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to ground level.


Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:1999 + A2:2010

Logged by **SC / CO**

Figure **1 of 4**  
20/09/2012




# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH9 PC124991**  
 Client **ROLTON GROUP** Ground Level **42.09** 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
10.20-10.65	D	2.50 (DRY)			S29	Below 10.00m, becoming very stiff greyish brown with occasional fine gravel sized shell fragments, silt layers absent.			
11.70-12.15	U60	2.50 (DRY)							
12.20	D					Below 12.20m, fissures occasionally polished.			
13.20-13.65	D	2.50 (DRY)			S46	At 13.60m, recovered with angular medium to coarse gravel of claystone			
14.70-15.15	U75	2.50 (DRY)	113	29		At 14.70m, high strength			
15.20	D					Below 15.20m, fissure spacing increasing, silt dusting absent.			
16.20-16.65	D	2.50 (DRY)			S34				
17.70-18.15	U75	2.50 (DRY)							
18.20	D								
19.20-19.65	D	2.50 (DRY)			S33				

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


Remarks  At 14.70m, measured undrained strength possibly affected by fissuring in test specimen.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:1999 + A2:2010

Logged by **SC / CO**  
 Figure **2 of 4**  
 20/09/2012



# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH9 PC124991**  
 Client **ROLTON GROUP** Ground Level **42.09** 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
20.70-21.15	U75	2.50 (DRY)	111	26		At 20.70m, high strength			
21.20	D					Below 21.20m, with occasional black staining on fissure surfaces.			
22.20-22.65	D	2.50 (DRY)			S41				
23.70-24.15	U80	2.50 (DRY)							
24.20	D								
25.20-25.65	D	2.50 (DRY)			S36				
26.50	D					At 26.50m, medium strong grey claystone cobble or boulder, recovered as angular medium to coarse gravel sized fragments			
26.70-27.15	U80	2.50 (DRY)	107	26		At 26.70m, with occasional coarse gravel sized fragments of light brown claystone. Fissures extremely to very closely spaced, randomly orientated and open (possibly affected by disturbance during sampling).			
27.20	D					Below 27.20m, with rare fine to medium gravel sized silt pockets			
28.20-28.65	D	2.50 (DRY)			S45	At 26.70m, high strength			
29.70-30.15	U100	2.50 (DRY)							

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

Remarks **At 20.70m, measured undrained strength possibly affected by fissuring in test specimen.**  
**At 26.70m, measured undrained strength possibly affected by fissuring in test specimen and disturbance during sampling.**

Symbols and abbreviations are explained on the accompanying key sheet.  
 All dimensions are in metres. Logged in accordance with BS5930:1999 + A2:2010

Logged by **SC / CO**  
 Figure **3 of 4**  
 20/09/2012

**geotechnics**

# BOREHOLE RECORD - Cable Percussion

Project **BACTON LOW RISE, GOSPEL OAK, NORTH LONDON** Engineer **ROLTON GROUP** Borehole Project No **BH9 PC124991**  
 Client **ROLTON GROUP** Ground Level **42.09** 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		
						End of Borehole	30.15		11.94		

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





## **APPENDIX D**

# **PLANS SECTIONS ILLUSTRATING THE WORKS ADJACENT TO THE BOUNDARIES**

