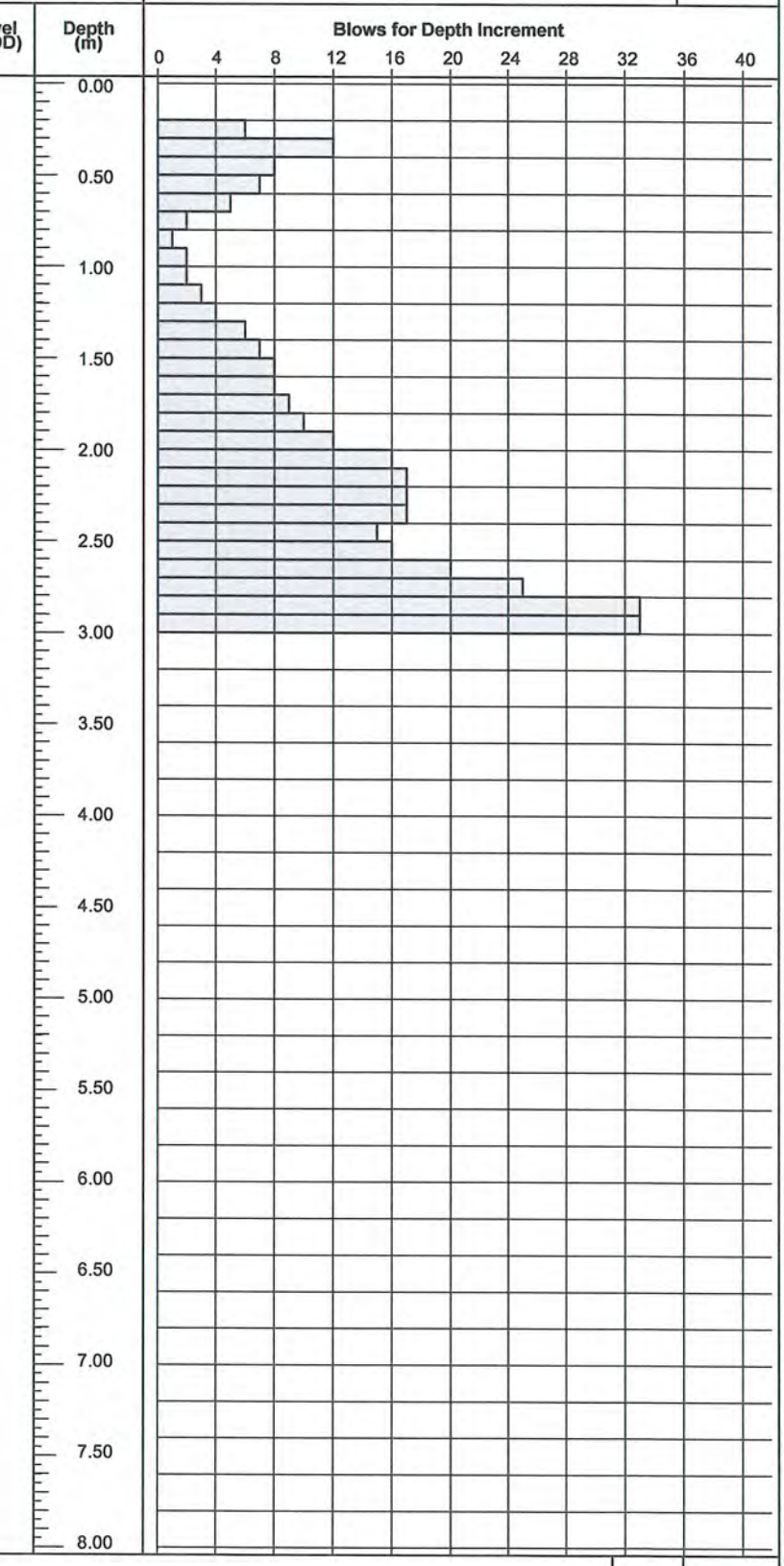
GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans AL4 0PG	Site Queenswood School, Shepherd's Way, Hatfield, Hertfordshire	Probe Number DP3
Method Opendriver Percussive Sampler (Terrier rig)	Cone Dimensions	Ground Level (mOD)	Client Queenswood School Job Number J09020a
	Location	Dates 21/08/2009	Engineer Colin Toms and Partners Sheet 1/1

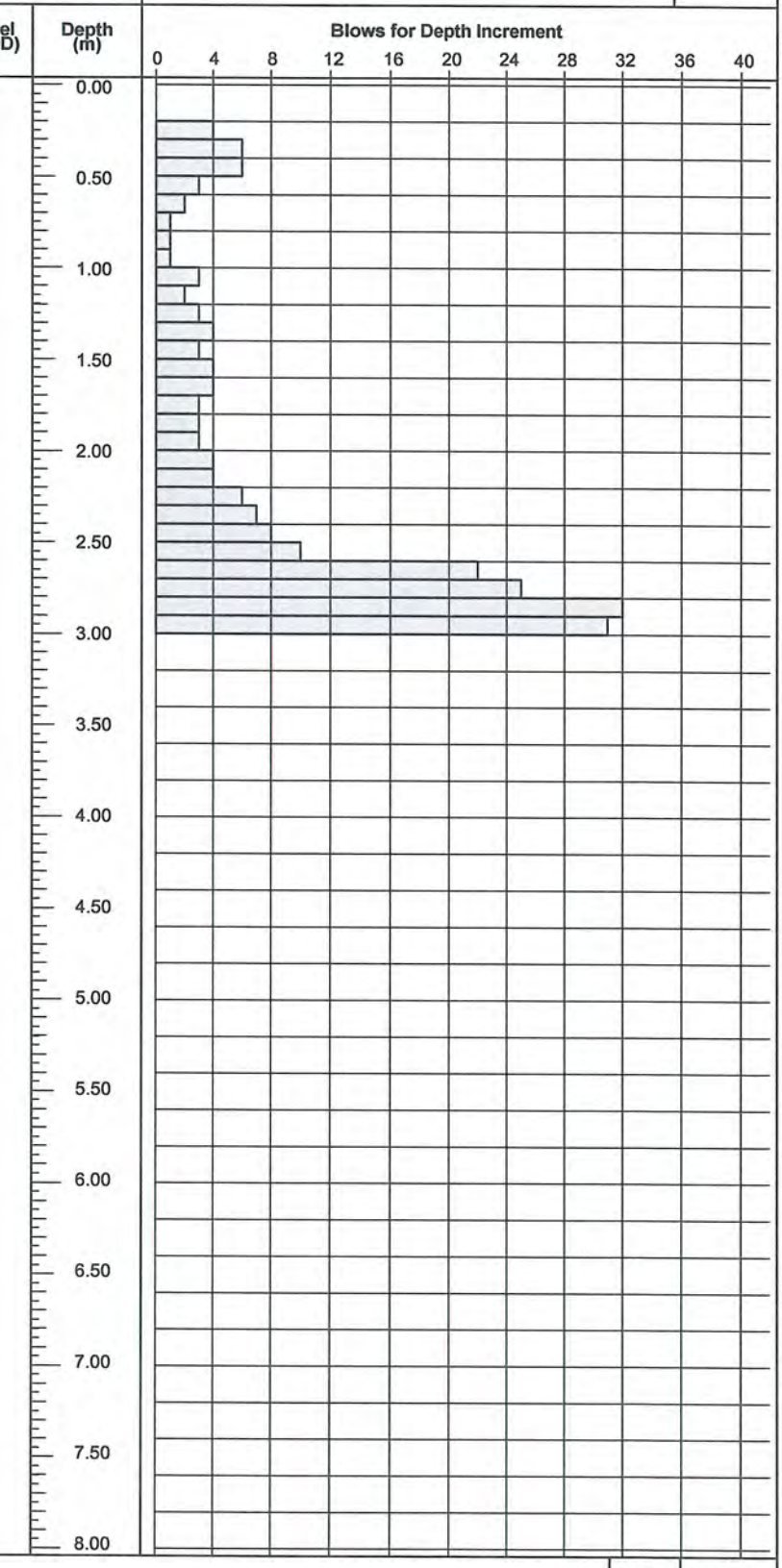
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)
0.20-0.30	6		
0.30-0.40	12		
0.40-0.50	8		
0.50-0.60	7		
0.60-0.70	5		
0.70-0.80	2		
0.80-0.90	1		
0.90-1.00	2		
1.00-1.10	2		
1.10-1.20	3		
1.20-1.30	4		
1.30-1.40	6		
1.40-1.50	7		
1.50-1.60	8		
1.60-1.70	8		
1.70-1.80	9		
1.80-1.90	10		
1.90-2.00	12		
2.00-2.10	16		
2.10-2.20	17		
2.20-2.30	17		
2.30-2.40	17		
2.40-2.50	15		
2.50-2.60	16		
2.60-2.70	20		
2.70-2.80	25		
2.80-2.90	33		
2.90-3.00	33		



Remarks	Scale (approx)	Logged By
	1:40	ML
	Figure No.	
	J09020a.DP3	

GEA Geotechnical & Environmental Associates Tyttenhanger House Coursers Road St Albans AL4 0PG			Site Queenswood School, Shepherd's Way, Hatfield, Hertfordshire	Probe Number DP4
Method Opendriver Percussive Sampler (Terrier rig)	Cone Dimensions	Ground Level (mOD)	Client Queenswood School	Job Number J09020a
	Location	Dates 21/08/2009	Engineer Colin Toms and Partners	Sheet 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)
0.20-0.30	4		
0.30-0.40	6		
0.40-0.50	6		
0.50-0.60	3		
0.60-0.70	2		
0.70-0.80	1		
0.80-0.90	1		
0.90-1.00	1		
1.00-1.10	3		
1.10-1.20	2		
1.20-1.30	3		
1.30-1.40	4		
1.40-1.50	3		
1.50-1.60	4		
1.60-1.70	4		
1.70-1.80	3		
1.80-1.90	3		
1.90-2.00	3		
2.00-2.10	4		
2.10-2.20	4		
2.20-2.30	6		
2.30-2.40	7		
2.40-2.50	8		
2.50-2.60	10		
2.60-2.70	22		
2.70-2.80	25		
2.80-2.90	32		
2.90-3.00	31		



Remarks

Scale (approx)	Logged By
1:40	ML

Figure No.
J09020a.DP4

PROJECT NAME	QUEENSWOOD SCHOOL, HATFIELD, HERTFORDSHIRE
PROJECT NO:	GEO / 14933

Date	29/09/2009
Approved	J Sturges
Page	1 of 1

Sample details				Description	Classification Tests					Density Tests		Undrained Triaxial Compression Tests			Chemical Tests			Other tests and comments
Borehole No.	Depth (m)	No.	Type		MC (%)	LL (%)	PL (%)	PI	<425 mic (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Shear Stress (kPa)	pH	2:1 W/S SO4 (g/l)	Ground Water SO4 (g/l)	
1	0.80	-	D	Mottled light brown and grey silty sandy fine gravelly CLAY with rare rootlets	29													
1	1.10	-	D	Mottled orange brown light grey silty sandy slightly gravelly CLAY, gravel is fine grained	26	78	24	54	99									
1	1.30	-	D	Mottled orange brown and light grey silty sandy slightly gravelly CLAY, gravel is fine grained	24	68	22	46	99									
1	1.60	-	D	Orange and light grey slightly gravelly sandy CLAY, gravel is fine to medium grained	20										8.2	0.072		
1	1.90	-	D	Mottled orange brown and light grey silty sandy CLAY	22													
2	0.70	-	D	Mottled orange brown and light grey silty sandy slightly gravelly CLAY with rare rootlets, gravel is fine grained	31	72	23	49	99						8.3	0.38		
2	1.30	-	D	Mottled orange and light grey silty sandy slightly gravelly CLAY, gravel is fine grained	18													
2	1.60	-	D	Mottled orange and light grey silty sandy CLAY with rare rootlets	23	60	19	41	100									
2	2.60	-	D	Orange grey clayey silty gravelly SAND, gravel is fine to coarse sandstone														Particle Size Distribution Test

SUMMARY OF GEOTECHNICAL TESTING

GEOLABS®

BS1377 : Part 2 : Clause 9 : 1990

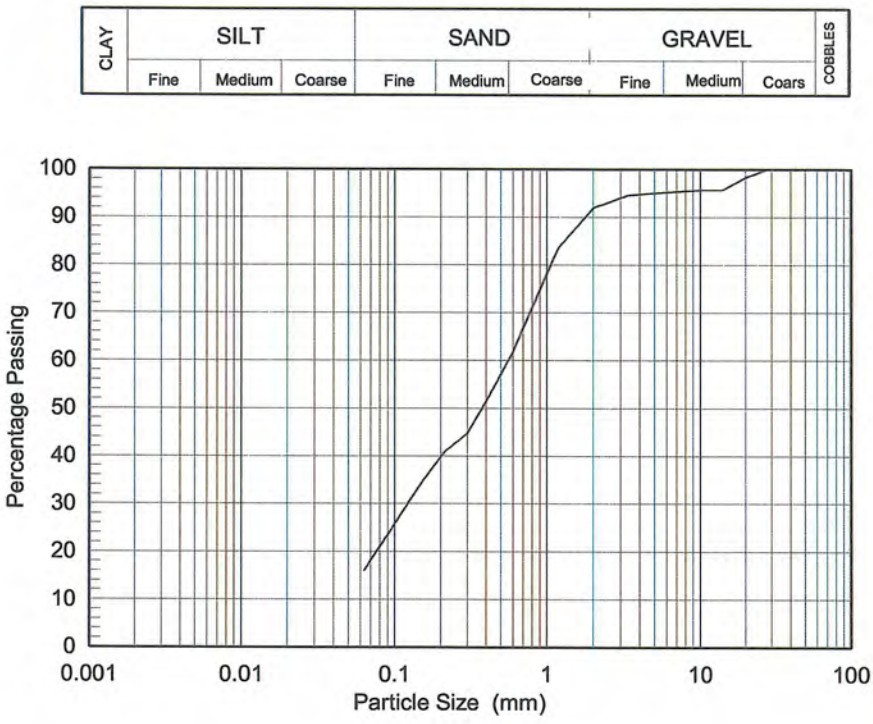
Determination of Particle Size Distribution

Borehole Number:	2
Sample Number:	-
Depth (m):	1.60

Description:
Orange grey clayey silty gravelly SAND, gravel is fine to coarse sandstone

BS1377 : Part 2 : Clause 9.2 : 1990 Wet Sieving Method

SIEVE	
Sieve	% pass
200 mm	100
125 mm	100
90 mm	100
75 mm	100
63 mm	100
50 mm	100
37.5 mm	100
28 mm	100
20 mm	98
14 mm	96
10 mm	96
6.3 mm	95
5 mm	95
3.35 mm	95
2 mm	92
1.18 mm	84
600 µm	62
425 µm	53
300 µm	45
212 µm	41
150 µm	34
63 µm	16



Particle Proportions		
Cobbles	0.0	%
Gravel	8.0	%
Sand	76.1	%
Silt & Clay	15.9	%

Checked and Approved
Initials: JS
Date: 29/09/2009

Project Number:
GEO / 14933
Project Name:
QUEENSWOOD SCHOOL, HATFIELD, HERTFORDSHIRE

UKAS TESTING 1982

GEOLABS®

GEA Geotechnical & Environmental Associates

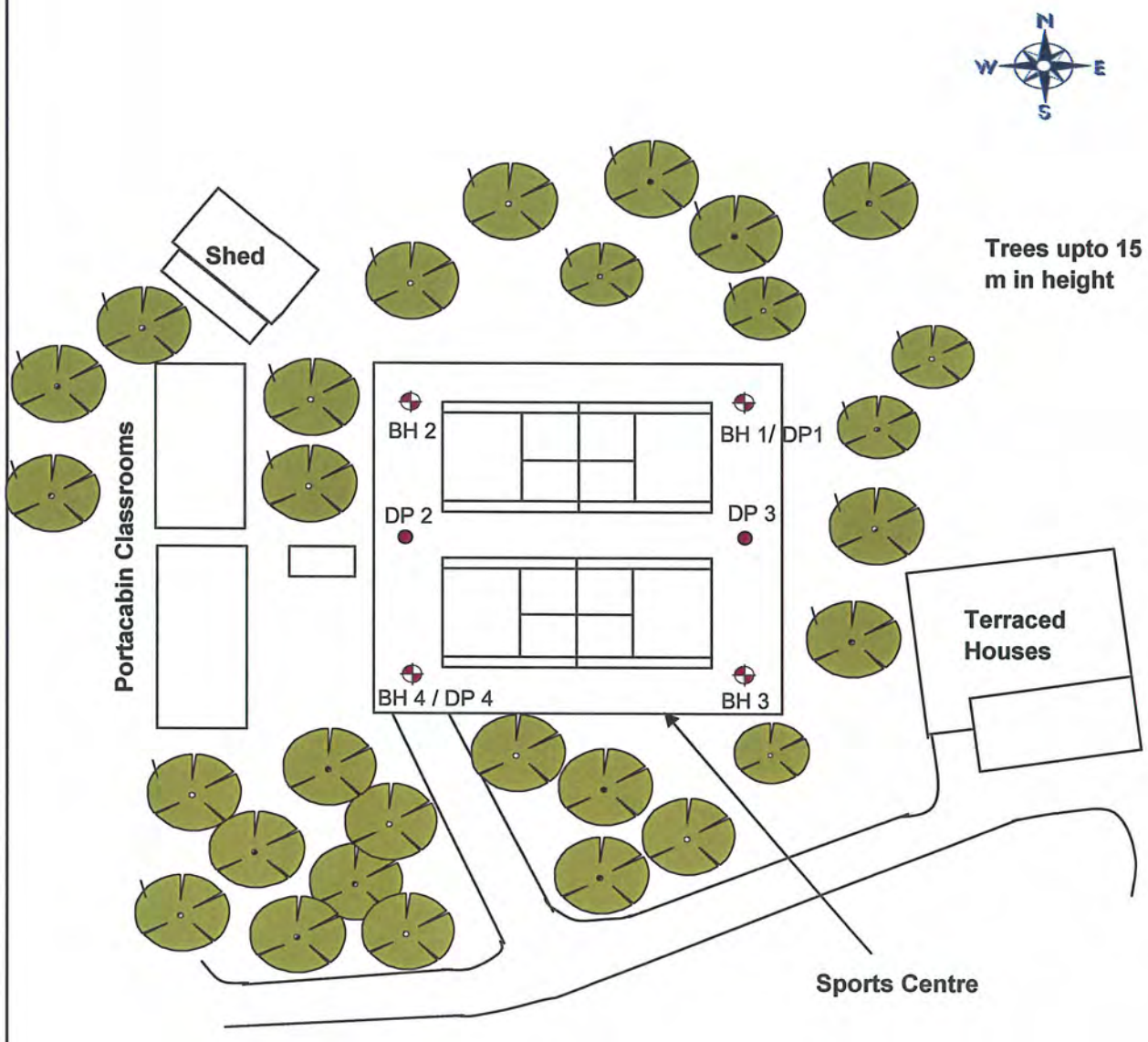
Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

Site Plan

Site	Queenswood School, Shepherd's Way, Hatfield, Hertfordshire
Client	Queenswood School
Engineer	Colin Toms & Partners

Job Number J09020a

Sheet 1 / 1



Approximate Scale in metres

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Appendix C

Exploratory hole logs

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Trial Pit No. **TP1**
Sheet 1 of 1

Project Name: Queenswood School	**Project No.** 47875	**Co-ords:**	Date **14/02/2017**
		Orientation:	**Dimensions (m)**
Location: Shepherds Way, Hatfield, Hertfordshire, AL9 6NS		**Level (m, aOD):**	2.10 / 0.70 / Scale **1:20**
Client: Ball Hall (Project Management) Ltd		**Depth (m):** 2.90	Logged **JS**

Ground water	Samples & In Situ Testing: Depth	Type	Results	Level (m)	Depth (m)	Legend	Stratum Description
	0.20 0.20	ES1 PID	 PID=1.5				Dark brown slightly gravelly clayey fine to medium SAND with roots. Gravel of subangular fine to medium brick, glass, plastic. wood chippings and decayed plant matter. MADE GROUND
					0.60		
	0.70 0.70 0.80	ES2 PID IVN	 PID=0.5 40				Soft becoming firm, grey brown, slightly sandy CLAY with occasional roots and rare fine flint gravel. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	1.20 1.20	D1 IVN	 74		1.30		
▼	1.50	IVN	63				Firm orange and pale grey mottled, slightly gravelly, silty CLAY. Gravel of subangular fine to medium flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN *...Sandy pockets present from 1.5m*
	2.00 2.00	D2 PID	 PID=0.5		2.10		
▼							Orange brown, slightly gravelly, very clayey fine to coarse SAND. Gravel of subangular to subrounded, fine to coarse flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	2.40 2.40	D3 PID	 PID=1.2				
	2.90 2.90	B1 PID	 PID=0.8		2.90		End of Pit at 2.900m

Groundwater: Groundwater seepage at 1.5m, moderate inflow at 2.2m

Stability: Stable

Remarks: Terminated due to groundwater inflow

Key

D	Disturbed	**IVN**	Hand Vane
B	Bulk	**PID**	PID Reading
ES	Environmental	**PP**	Pocket Penetrometer
▽	Groundwater strike	▼	Standing water level

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Trial Pit No.
TP2
Sheet 1 of 1

Project Name:	Queenswood School	**Project No.** 47875	**Co-ords:**
Orientation:		**Dimensions (m)**	Date **14/02/2017**
Location:	Shepherds Way, Hatfield, Hertfordshire, AL9 6NS	**Level (m, aOD):**	1.90 × 0.70
Client:	Ball Hall (Project Management) Ltd	**Depth (m):** 3.00	Scale **1:20** / Logged **JS**

Ground water	Samples & In Situ Testing: Depth	Type	Results	Level (m)	Depth (m)	Legend	Stratum Description
	0.10 0.10	ES1 PID	 PID=2.4				Dark brown slightly gravelly clayey fine to medium SAND with roots. Gravel of subangular to subrounded fine to medium flint and metal.
	0.30 0.30	ES2 PID	 PID=0.5		0.30		MADE GROUND
	0.50 0.50	ES3 PID	 PID=0.3		0.50		Soft grey brown, slightly sandy, gravelly CLAY. Gravel of subangular to subrounded fine to coarse flint. MADE GROUND
	1.00 1.00 1.20	D1 IVN IVN	 64 40				Firm, orange mottled grey, slightly sandy, slightly gravelly CLAY. Gravel of subangular fine to medium flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN *...Sandy pockets present from 1.1m* *..Locally soft at 1.2m*
	1.50 1.50	B1 PID	 PID=0.0		1.30		Orange mottled pale grey, very sandy CLAY. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
▼					2.20		Brown, gravelly, slightly clayey fine to coarse SAND. Gravel of subangular to rounded, fine to coarse flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN *...Collapsing from 2.6m*
	2.50 2.50	B2 PID	 PID=0.0		3.00		End of Pit at 3.000m

Groundwater: Groundwater seepage at 1.8m, moderate inflow at 2.2m

Stability: Sidewall collapse from 2.2m

Remarks: Terminated due to groundwater inflow

Key

D	Disturbed	**IVN**	Hand Vane
B	Bulk	**PID**	PID Reading
ES	Environmental	**PP**	Pocket Penetrometer
▽	Groundwater strike	▼	Standing water level

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Trial Pit No.
TP2A
Sheet 1 of 1

Project Name: Queenswood School	**Project No.** 47875	**Co-ords:**	Date **14/02/2017**
		Orientation:	**Dimensions (m)** 1.80 x 0.70
Location: Shepherds Way, Hatfield, Hertfordshire, AL9 6NS		**Level (m, aOD):**	Scale **1:20**
Client: Ball Hall (Project Management) Ltd		**Depth (m):** 1.80	Logged **JS**

Ground water	Samples & In Situ Testing: Depth	Type	Results	Level (m)	Depth (m)	Legend	Stratum Description
					0.20		Dark brown slightly gravelly clayey fine to medium SAND with roots, decayed plant matter, occasional brick and plastic fragments. MADE GROUND
					0.80		Firm orange brown mottled grey slightly gravelly CLAY. Gravel of subangular fine to medium flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
					1.30		Orange mottled pale grey, slightly sandy CLAY with occasional sand pockets. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
					1.80		Orange mottled pale grey very sandy CLAY. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
							End of Pit at 1.800m

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Infiltration test undertaken between ~1.3m - 1.8m

Key

D	Disturbed	**IVN**	Hand Vane
B	Bulk	**PID**	PID Reading
ES	Environmental	**PP**	Pocket Penetrometer
	Groundwater strike		Standing water level

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CAMBRIDGE
CB22 5NE

Trial Pit No. **TP3**
Sheet 1 of 1

Project Name: Queenswood School	**Project No.** 47875	**Co-ords:**	Date **14/02/2017**
		Orientation:	**Dimensions (m)**
Location: Shepherds Way, Hatfield, Hertfordshire, AL9 6NS		**Level (m, aOD):**	2.40 × 0.60 — Scale **1:20**
Client: Ball Hall (Project Management) Ltd		**Depth (m):** 3.50	Logged **JS**

Ground water	Samples & In Situ Testing: Depth	Type	Results	Level (m)	Depth (m)	Legend	Stratum Description
	0.20	ES1			0.25		Dark brown clayey fine to medium sand with frequent roots and rare plastic packaging. MADE GROUND
	0.20	PID	PID=2.3				
	0.50	ES2			0.40		Soft grey brown gravelly CLAY. Gravel of subangular to subrounded, fine to coarse flint. MADE GROUND
	0.50	PID	PID=1.3				
	0.60	IVN	50				Firm becoming stiff, orange mottled grey CLAY with occasional subangular, fine to medium flint gravel. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	0.90	IVN	74				
	1.10	D1					
	1.10	IVN	92				
	1.10	PID	PID=0.3				
							...Becoming sandy from 1.6m
					1.80		Orange mottled grey, slightly gravelly, very clayey, fine to coarse SAND. Gravel of subrounded to rounded, fine to coarse flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
▼	1.90	D2					
▼	1.90	PID	PID=0.0				
	2.60	B1			2.60		Orange brown slightly clayey, gravelly fine to coarse SAND with frequent grey fine sand partings. Gravel of subangular to subrounded, fine to medium flint SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	2.60	PID	PID=0.0				
					2.90		Yellowish grey brown fine to medium, gravelly SAND. Gravel of subangular to rounded, fine to coarse flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	3.50	B2			3.50		End of Pit at 3.500m
	3.50	PID	PID=0.0				

1 2 3 4

Groundwater: Groundwater encountered at 2.0m

Stability: Some sidewall collapse

Remarks:

Key

D	Disturbed	**IVN**	Hand Vane
B	Bulk	**PID**	PID Reading
ES	Environmental	**PP**	Pocket Penetrometer
▽	Groundwater strike	▼	Standing water level

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Trial Pit No.
TP4
Sheet 1 of 1

Project Name: Queenswood School	**Project No.** 47875	**Co-ords:**	Date **14/02/2017**
		Orientation:	**Dimensions (m)** 1.50 × 0.60
Location: Shepherds Way, Hatfield, Hertfordshire, AL9 6NS		**Level (m, aOD):**	Scale **1:20**
Client: Ball Hall (Project Management) Ltd		**Depth (m):** 1.45	Logged **JW**

Ground water	Samples & In Situ Testing: Depth	Type	Results	Level (m)	Depth (m)	Legend	Stratum Description
	0.30	ES1			0.35		Dark brown, slightly gravelly, silty fine to coarse SAND with roots. Gravel and occasional cobbles of flint, brick and wood fragments. MADE GROUND
▼	0.50	D1					Soft orange mottled grey, slightly sandy silty CLAY with roots. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	0.50	IVN	40				*...Locally soft at 0.60m*
	0.80	ES2					
▼							
	1.00	D2					*...Becoming stiff and slightly gravelly from 1.0m*
	1.00	IVN	105				
					1.45		End of Pit at 1.450m

Groundwater: Perched groundwater at 0.5 and 0.9m

Stability: Stable

Remarks: Excavated to expose foundation

Key

D	Disturbed	**IVN**	Hand Vane
B	Bulk	**PID**	PID Reading
ES	Environmental	**PP**	Pocket Penetrometer
▽	Groundwater strike	▼	Standing water level

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3 YORK HOUSE
GREAT SHELFORD
CAMBRIDGE
CB22 5NE

Trial Pit No. **TP5**
Sheet 1 of 1

Project Name: Queenswood School	**Project No.** 47875	**Co-ords:**	Date **14/02/2017**
		Orientation:	**Dimensions (m)**
Location: Shepherds Way, Hatfield, Hertfordshire, AL9 6NS		**Level (m, aOD):**	1.90 × 0.70
			Scale **1:20**
Client: Ball Hall (Project Management) Ltd		**Depth (m):** 3.10	Logged **JS**

Ground water	Samples & In Situ Testing: Depth	Type	Results	Level (m)	Depth (m)	Legend	Stratum Description
	0.10 0.10	ES1 PID	PID=0.1		0.20		Dark brown CLAY with humus and frequent roots, wood and decayed plant matter. MADE GROUND
	0.40 0.40	ES2 PID	PID=0.3		0.60		Soft grey brown gravelly CLAY. Gravel of fine to coarse subangular to subrounded flint. MADE GROUND *...Becoming darker grey from 0.4m*
	1.00	IVN	70				Firm orange mottled grey, slightly gravelly CLAY. Gravel of fine to coarse subangular flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	1.20 1.20	D1 PID	PID=0.0		1.30		Firm orange mottled grey, slightly gravelly silty CLAY with orange sandy pockets. Gravel of subangular fine to medium flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	2.00 2.00	D2 PID	PID=0.0		2.20		Orange mottled grey, slightly gravelly, clayey fine to medium SAND. Gravel of fine to coarse subangular to subrounded flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
▼	2.50	B1			2.60		Yellow brown, slightly clayey, gravelly, fine to coarse SAND, Gravel of subrounded to rounded fine to coarse flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	3.00	B2			3.10		End of Pit at 3.100m

Groundwater: Groundwater encountered at 2.5m

Stability: Collapse of sidewalls from 2.50m

Remarks: Terminated due to collapse of sidewalls

Key

D	Disturbed	**IVN**	Hand Vane
B	Bulk	**PID**	PID Reading
ES	Environmental	**PP**	Pocket Penetrometer
▽	Groundwater strike	▼	Standing water level

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CAMBRIDGE
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Trial Pit No.
TP6
Sheet 1 of 1

Project Name: Queenswood School	**Project No.** 47875	**Co-ords:**	Date **14/02/2017**
		Orientation:	**Dimensions (m)**
Location: Shepherds Way, Hatfield, Hertfordshire, AL9 6NS		**Level (m, aOD):**	2.30 × 0.70
			Scale **1:20**
Client: Ball Hall (Project Management) Ltd		**Depth (m):** 1.10	Logged **JW**

Ground water	Samples & In Situ Testing: Depth	Type	Results	Level (m)	Depth (m)	Legend	Stratum Description
	0.30	ES1			0.30		Dark brown slightly gravelly, slightly clayey, silty fine SAND with organic matter, roots, wood, concrete and ceramic tile fragments. MADE GROUND
					0.40		Soft grey brown gravelly CLAY. Gravel of fine to coarse subangular to subrounded flint. MADE GROUND
	0.50 0.50	D1 IVN	62				Firm orange brown mottled pale grey, slightly sandy, slightly gravelly CLAY with rare roots. Gravel of subrounded, fine to medium flint and rare chalk. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	1.00 1.00	D2 IVN	50		1.10		*...Becoming sandy from 0.8m* *...groundwater seepage at 1.00m* End of Pit at 1.100m

1
2
3
4

Groundwater: Groundwater seepage at 1.00m

Stability: Stable

Remarks: Excavated to expose foundation

Key

D	Disturbed	**IVN**	Hand Vane
B	Bulk	**PID**	PID Reading
ES	Environmental	**PP**	Pocket Penetrometer
	Groundwater strike		Standing water level

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3 YORK HOUSE
GREAT SHELFORD
CAMBRIDGE
CB22 5NE

Trial Pit No. **TP7**
Sheet 1 of 1

Project Name:	Queenswood School	**Project No.** 47875	**Co-ords:**
Orientation:		**Dimensions (m)**	Date **14/02/2017**
Location:	Shepherds Way, Hatfield, Hertfordshire, AL9 6NS	**Level (m, aOD):**	2.00 × 0.70
Client:	Ball Hall (Project Management) Ltd	**Depth (m):** 3.00	Scale **1:20** / Logged **JS**

Ground water	Samples & In Situ Testing: Depth	Type	Results	Level (m)	Depth (m)	Legend	Stratum Description
	0.20	ES1			0.30		Dark brown CLAY with humus roots, wood and decayed plant matter. MADE GROUND
	0.40	ES2			0.60		Soft grey brown mottled orange, slightly gravelly CLAY. Gravel of fine to coarse subangular to subrounded flint. MADE GROUND
	1.20	D1					Soft becoming firm, orange mottled grey, slightly gravelly CLAY. Gravel of subangular to subrounded fine to medium flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
	1.20	IVN	45				
	2.00	D2			1.80		Firm orange mottled grey, slightly gravelly, silty CLAY. Gravel of subangular fine to coarse subangular flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
▼					2.30		Orange and grey silty fine to coarse SAND. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN *...Becoming gravelly from 2.6m*
	2.90	B3			2.70		Brown slightly silty, gravelly, fine to coarse SAND. Gravel subrounded to rounded, fine to coarse flint. SAND & GRAVEL OF UNCERTAIN AGE AND ORIGIN
					3.00		End of Pit at 3.000m

Groundwater: Groundwater encountered at 2.7m

Stability: Sidewall collapse from 2.70m

Remarks: Terminated due to groundwater inflow

Key

D	Disturbed	**IVN**	Hand Vane
B	Bulk	**PID**	PID Reading
ES	Environmental	**PP**	Pocket Penetrometer
▽	Groundwater strike	▼	Standing water level

Description	Legend	Depth (m)	Water Level	Description Sample Type	Description Sample Depth (m)	Tests Type	Tests Depth (m)	Field Observations
0.33								
GL								
0.22 SMOOTH CONCRETE MG: DARK BROWN SLIGHTLY CLAYEY, SLIGHTLY GRAVELY, SILTY, FINE SAND WITH FREQUENT ROOTS, ORGANIC MATERIAL AND OCCASIONAL COBBLES OF CONCRETE AND RED BRICK. GRAVEL OF FINE TO COARSE FLINT BRICK. (MADE GROUND)				E51	0.30			
		0.35						
0.95 0.73 ROUGH CONCRETE FIRM, ORANGISH BROWN MOTTLED LIGHT GREY, SLIGHTLY GRAVELLY, SLIGHTLY SANDY, SILTY CLAY WITH ROOTS. GRAVEL OF SUBROUNDED, FINE TO MEDIUM FLINT AND RACE CHALK.				D1	0.50	V	0.50m= 40kPa	WATER SEEPAGE NOTED AT 0.50m
...BECOMING SANDY FROM 0.60m								
...BECOMING STIFF FROM 1.00m				D2	1.00	V	1.00= 105kPa	WATER SEEPAGE NOTED AT 0.95m
0.50 NATURAL SOILS ...BECOMING MORE SANDY FROM 1.30m								
		1.45						

Sample test key:
D - Disturbed sample
U - Undisturbed sample
B - Bulk disturbed sample
W - Water sample
M - Mackintosh
Pen - Penetrometer
V - Vane

Remarks

Project
Queenswood School, Hatfield

Title
Foundation Trial Hole Log - TP4

This drawing is to be read in conjunction with all other Engineer's drawings and all other project information. Any discrepancy between the Engineer's drawings and other project information is to be reported to the Engineer immediately.

Client
Ball Hall (Property Management) LTD

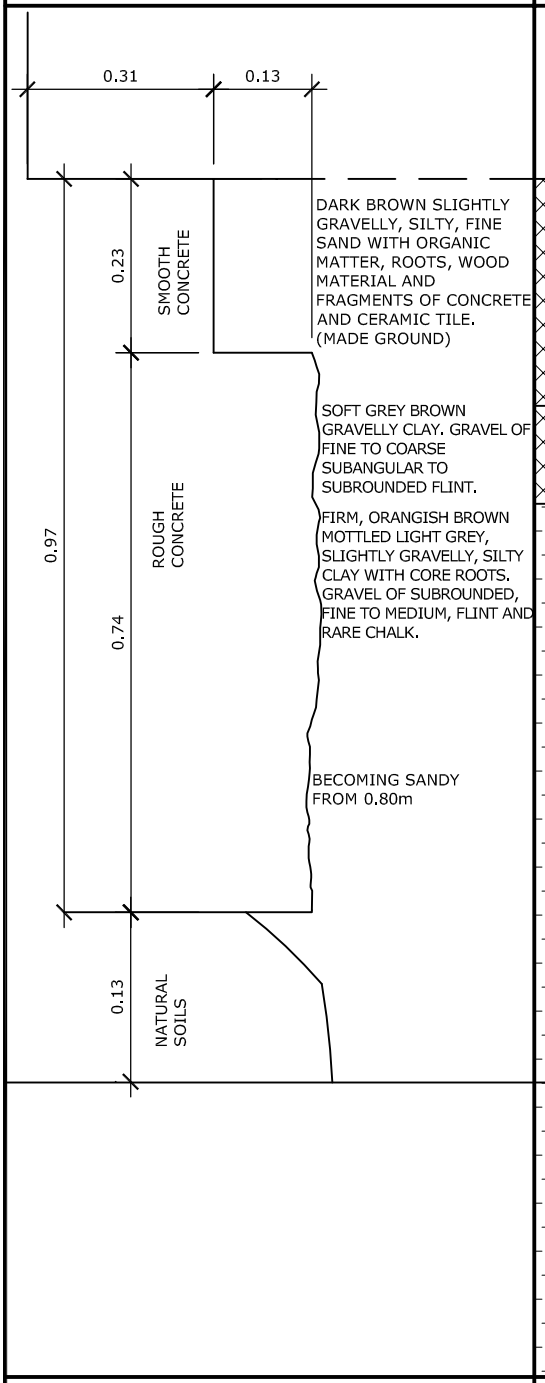
RichardJackson Engineering Consultants
847 The Crescent, Colchester, Essex CO4 9YQ Tel: 01206 228800
Suite 409, 1 Alie Street, London E1 8DE Tel: 020 7448 9910
York House, 3 Station Court, Great Shelford, Cambs CB22 5NE Tel: 01223 314794
6 The Old Church, St. Matthews Road, Norwich, Norfolk NR1 1SP Tel: 01603 230240
The Wheelhouse, Bonds Mill, Stonehouse, Gloucestershire GL10 3RF Tel: 01172 020070
Email Address: mail@rj.uk.com Website: http://www.rj.uk.com

Borehole/Trial Hole Log No.
47875-G-TP4

Drawing Status
☒ INFORMATION ☐ APPROVAL ☐ COSTING
☐ TENDER ☐ CONSTRUCTION ☐ AS CONSTRUCTED

Scale	Drawn	Date	Logged By	Checked	Approved
1:10 @ A4	MW	March 2017	JW		JW

A4
DO NOT SCALE



Description	Legend	Depth (m)	Water Level	Description Sample Type	Description Sample Depth (m)	Tests Type	Tests Depth (m)	Field Observations
				E51	0.30			
				D1	0.50	V	0.50= 62kPa	
				D2	1.00	V	1.00= 50kPa	WATER SEEPAGES NOTED AT 1.00M

Sample test key:
D - Disturbed sample
U - Undisturbed sample
B - Bulk disturbed sample
W - Water sample
M - Mackintosh
Pen - Penetrometer
V - Vane

Remarks

Project
Queenswood School, Hatfield

Title
Foundation Trial Hole Log - TP6

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Client
Ball Hall (Property Management) LTD

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847 The Crescent, Colchester, Essex CO4 9YQ Tel: 01206 228800
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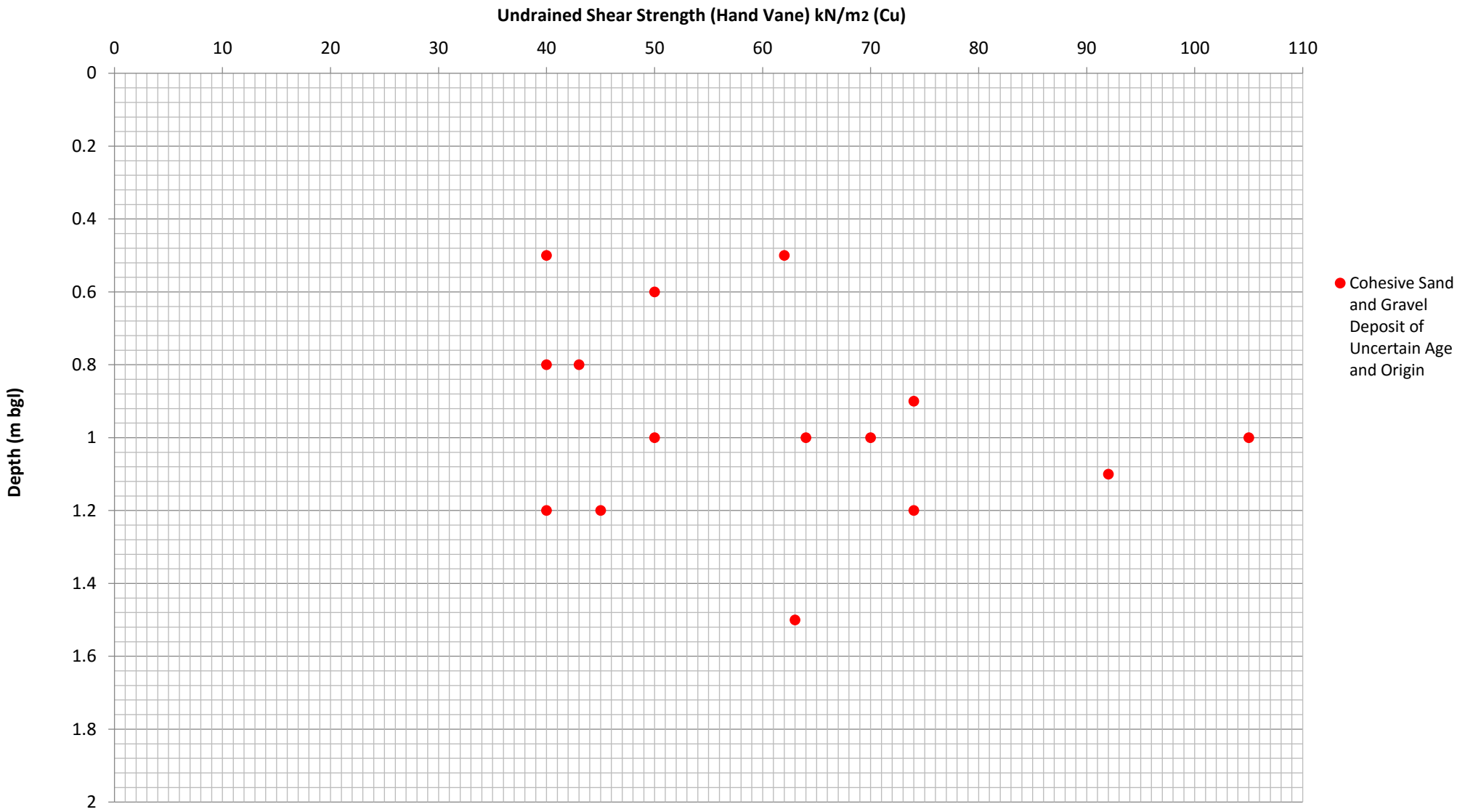
Borehole/Trial Hole Log No.
47875-G-TP6

Drawing Status
☒ INFORMATION ☐ APPROVAL ☐ COSTING
☐ TENDER ☐ CONSTRUCTION ☐ AS CONSTRUCTED

Scale	Drawn	Date	Logged By	Checked	Approved
1:10 @ A4	MW	March 2017	JW		JW

A4
DO NOT SCALE

Plot of Undrained Shear Strength vs Depth at Queenswood School, Hatfield - 47875



RichardJackson Engineering Consultants

Appendix D

Results of Chemical Analyses

Chemtest
The right chemistry to deliver results
Chemtest Ltd.
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.co.uk

Final Report

Report No.:	17-03897-1
Initial Date of Issue:	21-Feb-2017
Client	Richard Jackson Limited
Client Address:	847 The Crescent Colchester Business Park Colchester Essex CO4 9YQ
Contact(s):	Jessica Sheridan
Project	47875 Queenswood School Hatfield

Quotation No.:		**Date Received:**	17-Feb-2017
Order No.:		**Date Instructed:**	17-Feb-2017
No. of Samples:	6		
Turnaround (Wkdays):	3	**Results Due:**	21-Feb-2017
Date Approved:	21-Feb-2017		

Approved By:

Details: Keith Jones, Technical Manager

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 47875 Queenswood School Hatfield

Client: Richard Jackson Limited				**Chemtest Job No.:**	17-03897	17-03897	17-03897	17-03897	17-03897	17-03897
Quotation No.:				**Chemtest Sample ID.:**	413410	413411	413412	413413	413414	413415
Order No.:				Client Sample Ref.:	TP1	TP2	TP3	TP4	TP6	TP7
				Client Sample ID.:	ES1	ES1	ES1	ES1	ES1	ES1
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.2	0.1	0.2	0.3	0.3	0.2
				Date Sampled:	14-Feb-2017	14-Feb-2017	14-Feb-2017	14-Feb-2017	14-Feb-2017	14-Feb-2017
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
ACM Type	U	2192		N/A	-	-	-	-	-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	49	72	30	35	27	33
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones, Roots	Roots	Stones, Roots	Stones, Roots	Stones, Roots	Stones, Roots
Soil Texture	N	2040		N/A	Loam	Loam	Loam	Clay	Clay	Clay
pH	M	2010		N/A	6.5	4.5	5.5	6.0	4.8	4.0
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.026	0.031	0.027	< 0.010	< 0.010	0.027
Total Sulphur	M	2175	%	0.010	0.080	0.16	0.050	0.060	0.050	0.030
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Arsenic	M	2450	mg/kg	1.0	14	1.6	16	13	13	3.5
Cadmium	M	2450	mg/kg	0.10	0.52	0.72	0.86	1.6	0.61	0.29
Chromium	M	2450	mg/kg	1.0	18	5.6	23	25	17	7.0
Copper	M	2450	mg/kg	0.50	33	27	27	36	38	5.9
Mercury	M	2450	mg/kg	0.10	0.28	0.39	0.23	0.28	0.54	0.10
Nickel	M	2450	mg/kg	0.50	14	8.9	13	22	11	3.4
Lead	M	2450	mg/kg	0.50	140	120	150	150	160	67
Selenium	M	2450	mg/kg	0.20	0.21	0.63	0.69	0.76	0.39	< 0.20
Zinc	M	2450	mg/kg	0.50	100	75	110	1400	190	29
Organic Matter	M	2625	%	0.40	26	72	15	14	8.3	9.5
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	3.7	4.7	< 1.0	< 1.0	2.9	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0