# APPENDIX A

## FIELDWORK DATA

Geotechnical Engineering Limited

# KEY TO EXPLORATORY HOLE LOGS

**Sample type**

| | | | | | |
|---|---|---|---|---|---|
| D Small disturbed | D* Contamination | B Bulk disturbed | LB Large bulk disturbed | W Water | Cs Core subsample (prepared) |
| X Dynamic | C Core | U Undisturbed | UT Undisturbed thin wall | P Piston | |

**Test type**

S SPT - Split spoon sampler followed by uncorrected SPT 'N' Value
C SPT - Solid cone followed by uncorrected SPT 'N' Value
(*250 - Where full test drive not completed, linearly extrapolated 'N' value reported, ** - Denotes no effective penetration)

H Hand vane - direct reading in kPa - not corrected for BS1377 (1990). Re* denotes refusal
M Mackintosh probe - number of blows to achieve 100mm penetration
PP Pocket penetrometer - direct reading in kg/sq.cm
Vo Headspace vapour reading, uncorrected peak values in ppm, using a PID (calibrated with Isobutylene, using a 10.6eV bulb)

**Sample/core range/$l_f$**

Dynamic sample

Undisturbed sample - open drive including thin wall. Symbol length reflects recovery

x x = Total Core Recovery (TCR) as percentage of core run

y y = Solid Core Recovery (SCR) as percentage of core run. Assessment of core is based on full diameter.

z z = Rock Quality Designation (RQD). The amount of solid core greater than 100mm expressed as percentage of core run.

Where SPT has been carried out at beginning of core run, disturbed section of core excluded from SCR and RQD assessment.

$l_f$ - fracture spacing - the average fracture spacing (mm) over the indicated length of core. Where spacing varies signficantly, the minimum, average and maximum values are given. NI = non-intact core NA = not applicable

**Instrumentation**

Porous tip | Perforated standpipe | Granular response zone | Bentonite seal | Cement/ bentonite grout | Soil Backfill | Concrete

**Stratum boundaries**

Estimated boundary

Grading boundary

**Logging**

The logging of soils and rocks has been carried out in general accordance with BS 5930:1999 incorporating Amendments 1 (2006) & 2 (2010). Amendment 1 removes text superceded by BS ENO ISO 14688-1:2002, BS EN ISO 14688-2:2004 and BS EN ISO 14689-1:2003, and makes reference to the relevant standard for each affected sub clause. Amendment 2 removes text superceded by BS EN ISO 22475-1:2006 and makes reference to the relevant standard for each affected sub clause.

Chalk is logged in general accordance with Lord et al (2002) CIRIA C574. Where possible, dynamic samples in chalk have been logged in accordance with CIRIA C574; descriptions and gradings should be treated with caution given the potential for sample disturbance.

For rocks the term fracture has been used to identify a mechanical break within the core. Where possible incipient and drilling induced fractures have been excluded from the assessment of fracture state. Where doubt exists, a note has been made in the descriptions. All fractures are considered to be continuous unless otherwise reported.

Made Ground is readily identifiable when, within the material make up, man made constituents are evident. Where Made Ground appears to be reworked natural material the differentiation between in situ natural deposits and Made Ground is much more difficult to ascertain. The interpretation of Made Ground within the logs should therefore be treated with caution.

The descriptors "topsoil" and "tarmacadam" are used as generic terms and do not imply conformation to any particular standard or composition.

**General Comments**

The process of drilling and sampling will inevitably lead to disturbance, mixing or loss of material in some soil and rocks.

Indicated water levels are those recorded during the process of drilling or excavating exploratory holes and may not represent standing water levels.

Legends are drawn in accordance with BS 5930:1999 incorporating Amendment 2.

All depths are measured along the axis of the borehole and are related to ground level at the point of entry.

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC401**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 19 March 2015 | Easting | 458605.6 | | | Scale | 1 : 50 |
| End Date | 19 March 2015 | Northing | 220685.9 | Ground level | 77.55mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/03/15 1430hrs | 1C | 0.00 - 0.15 | | | 100 | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 60-70% angular to subrounded fine to coarse crystalline and limestone gravel sized clasts. Dark grey and black matrix 10% voids up to (3mm). (MADE GROUND) | 0.15 | 77.40 | |
| | 2B | 0.20 - 0.50 | | | | | | | | | |
| | 3D* | 0.40 | | | | | | | | | |
| | 4B | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.70 | | | | | | | 0.80 | 76.75 | |
| | 6B | 0.80 - 1.00 | | | | | | Dark brown, dark grey and light yellow clayey sandy fine to coarse angular to subrounded crystalline, limestone, brick and sandstone GRAVEL with a medium subangular crystalline cobble content. (MADE GROUND) | | | |
| | 7D* | 0.90 | | | | | | | | | |
| | 8X | 1.00 - 2.00 | Nil | | | | | | 1.45 | 76.10 | |
| 19/03/15 1630hrs Dry | | | | | | | | Firm light brown mottled orangish brown silty CLAY with frequent roots (2mm) and rootlets (<1mm). | | | |
| | | | | | | | | Firm light grey and light brown mottled orangish brown slightly gravelly CLAY with rare rootlets (<1mm). Gravel is rounded fine and medium limestone. | 2.00 | 75.55 | |
| | | | | | | | | Borehole completed at 2.00m. | | | |
| | | | | | | | | | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.15m. Hand dug inspection pit 0.15-1.00m. Dynamic sampled (84mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and tarmacadam 0.30-0.00m.

REMARK: Pit could not advance past 1.00m due to cored concrete diameter.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC402**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 19 March 2015 | Easting | 458803.7 | | | Scale | 1 : 50 |
| End Date | 19 March 2019 | Northing | 220760.3 | Ground level | 77.05mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/03/15 1200hrs | 1C | 0.00 | 0.16 | | | 100 | | | Light grey and dark grey locally light reddish brown and light yellow CONCRETE comprising of 60-70% angular to subrounded fine to coarse gravel sized crystalline, limestone and sandstone clasts, within a dark grey matrix with 10-15% voids up to (4mm). (MADE GROUND) | 0.10 | 76.95 | |
| | 2B | 0.20 | 0.50 | | | | | | | 0.13 | 76.92 | |
| | 3D* | 0.30 | | | | | | | | 0.60 | 76.45 | |
| | 4B | 0.70 | 0.80 | | | | | | MADE GROUND composed of tarmacadam. | | | |
| | 5D* | 0.80 | | | | | | | | | | |
| | 6X | 1.00 | 2.00 | Nil | | | | | Dark grey locally dark reddish grey and light yellow clayey sandy angular to subrounded fine to coarse crystalline gravel, limestone, sandstone and clinker GRAVEL with medium angular crystalline cobble content. (MADE GROUND) 0.50 - 0.60m: Band of subangular and subrounded fine to coarse limestone gravel. | 1.27 | 75.78 | |
| 19/03/15 1330hrs Dry | | | | | | | | | | 2.00 | 75.05 | |
| | | | | | | | | | Soft dark greenish grey slightly gravelly silty CLAY with frequent rootlets (< 1mm). Gravel is subangular and subrounded fine to coarse limestone. | | | |
| | | | | | | | | | Soft and firm light grey and light brown locally mottled orangish brown slightly gravelly silty CLAY. Gravel is subrounded fine and medium limestone. | | | |
| | | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.16m. Hand dug inspection pit 0.16-1.00m. Dynamic sampled (84mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and Tarmacadam 0.30- 0.00m.

REMARK: Pit could not advance past 1.00m due to cored concrete diameter.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC403**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 19 March 2015 | Easting | 459032.2 | | | Scale | 1 : 50 |
| End Date | 19 March 2015 | Northing | 220761.8 | Ground level | 76.40mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/03/15 1000hrs | 1C | 0.00 | 0.16 | | | 100 | | | MADE GROUND composed of tarmacadam. | 0.05 | 76.35 | |
| | 2B | 0.30 | 0.50 | | | | | | Light grey and dark grey locally dark reddish grey and light yellowish brown CONCRETE composed of 70-80% of angular to subrounded fine to coarse crystalline, limestone and sandstone gravel sized clasts. Dark grey and black matrix with 10% voids up to (3mm). (MADE GROUND) | 0.16 | 76.24 | |
| | 3D* | 0.40 | | | | | | | | 0.55 | 75.85 | |
| | 4B | 0.60 | 0.80 | | | | | | | | | |
| | 5D* | 0.70 | | | | | | | | | | |
| | 6X | 1.00 | 2.00 | Nil | | | | | Dark grey locally dark reddish brown clayey sandy angular to subrounded fine to coarse crystalline, limestone, flint and clinker GRAVEL with medium angular and subangular crystalline cobble content. (MADE GROUND) | 1.14 | 75.26 | |
| 19/03/15 1130hrs Dry | | | | | | | | | Firm light greenish grey and light grey slightly gravelly silty CLAY with frequent rootlets (<1mm). Gravel is subrounded fine weathered limestone. | 2.00 | 74.40 | |
| | | | | | | | | | Firm light grey mottled orangish brown slightly sandy silty CLAY with rare rootlets (<1mm). 1.70 - 2.00m: Gravelly. Gravel is subrounded fine and medium limestone. Closely fissured. | | | |
| | | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.16m. Hand dug inspection pit 0.16-1.00m. Dynamic sampled (84mm) 1.00-2.00m

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and tarmacadam 0.30-0.00m.

REMARK: Pit could not advance past 1.00m due to cored concrete diameter.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC404**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 20 March 2015 | Easting | 459036.8 | | | Scale | 1 : 50 |
| End Date | 20 March 2015 | Northing | 220935.0 | Ground level | 71.70mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20/03/15 0830hrs | 1C | 0.00 | 0.08 | | | 100 | | | MADE GROUND composed of tarmacadam | 0.08 | 71.62 | |
| | 2B | 0.10 | 0.25 | | | | | | Dark grey and black locally yellow slightly clayey sandy subangular and subrounded fine to coarse crystalline, clinker, limestone and sandstone GRAVEL. (MADE GROUND) | 0.25 | 71.45 | |
| | 3D* | 0.20 | | | | | | | | | | |
| | 4B | 0.30 | 0.60 | | | | | | | | | |
| | 5D* | 0.50 | | | | | | | Light yellow, orangish brown and dark grey clayey sandy subangular and subrounded fine to coarse limestone and sandstone GRAVEL with a medium subangular limestone cobble content. (MADE GROUND) | 0.90 | 70.80 | |
| | 6X | 1.00 | 2.00 | Nil | | | | | | 1.40 | 70.30 | |
| 20/03/15 1030hrs Dry | | | | | | | | | Soft light grey and light orangish brown CLAY with rare rootlets (<1mm). | | | |
| | | | | | | | | | Soft fissured light grey and light orangish brown locally dark grey slightly gravelly CLAY. Gravel is subrounded fine limestone. Fissures are extremely closely spaced subhorizontal planar and smooth. 1.77 - 1.84m: Redeposited gypsum on fissure surfaces. | 2.00 | 69.70 | |
| | | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.08m. Hand dug inspection pit 0.08-1.20m. Dynamic sampled (84mm) 1.00-2.00m

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and tarmacadam 0.30-0.00m.

REMARK: Pit refused at 0.60 on crystalline cobbles. CAT scan carried out and drilling proceeded.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC405**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 20 March 2015 | Easting | 459066.3 | | | Scale | 1 : 50 |
| End Date | 20 March 2015 | Northing | 221127.3 | Ground level | 68.20mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20/03/15 1050hrs | 1C | 0.00 | 0.23 | | | 100 | | | MADE GROUND composed of tarmacadam | 0.05 | 68.15 | |
| | 2B | 0.30 | 0.50 | | | | | | Light yellow, light and dark yellowish brown CONCRETE comprised of 60% subangular and subrounded fine and medium sandstone gravel sized clasts. Dark grey and black matrix with <5% voids (up to 2mm). (MADE GROUND) | 0.12 | 68.08 | |
| | 3D* | 0.40 | | | | | | | | 0.23 | 67.97 | |
| | 4X | 0.50 | 1.00 | Nil | | | | | | 0.90 | 67.30 | |
| | 5X | 1.00 | 2.00 | Nil | | | | | Light grey and dark grey and light yellowish brown CONCRETE comprised of subangular and subrounded fine to coarse crystalline and limestone gravel sized clasts. Black matrix with 10% voids (up to 3mm). (MADE GROUND) | 1.37 | 66.83 | |
| 20/03/15 1230hrs Dry | | | | | | | | | Light reddish brown locally light yellowish brown clayey sandy subangular and subrounded fine to coarse crystalline and limestone GRAVEL with a high subangular crystalline gravel content. (MADE GROUND) 0.85 - 0.90m: Black subrounded fine and medium gravel sized clinker. | 2.00 | 66.20 | |
| | | | | | | | | | Firm light brownish grey mottled orangish brown sandy CLAY with rare rootlets (<1mm) and rare fine gravel sized fragments of organic material. 1.28 - 1.33m: Lens of very sandy clay. | | | |
| | | | | | | | | | Firm fissured light brown and light grey mottled orangish brown CLAY. Fissures are extremely closely spaced randomly orientated, planar, smooth. 1.80 - 1.90m: Light grey mottled orangish brown with abundant coarse sand sized gypsum crystals. 1.90 - 2.00m: Dark greyish brown mottled orangish brown. | | | |
| | | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.23m. Hand dug inspection pit 0.23-0.50m. Dynamic sampled (84mm) 0.50-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and tarmacadam 0.30-0.00m.

REMARK: Pit refused at 0.50m on crystalline cobbles. CAT scan carried out and drilling proceeded.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC406**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 26 March 2015 | Easting | 459047.5 | | | Scale | 1 : 50 |
| End Date | 26 March 2015 | Northing | 221292.9 | Ground level | 67.55mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 26/03/15 0015hrs | 1C | 0.00 - 0.11 | | | 100 | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 20-30% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix. (MADE GROUND) | 0.11 | 67.44 | |
| | 3B | 0.40 - 0.60 | | | | | | 0.04 - 0.06m: 40-50% angular and subangular fine to coarse crystalline gravel sized clasts. | 0.60 | 66.95 | |
| | 4D | 0.40 - 0.60 | | | | | | | 0.80 | 66.75 | |
| | 2D* | 0.40 - 0.60 | | | | | | | | | |
| | 6B | 0.60 - 0.80 | | | | | | | | | |
| | 7D | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.60 - 0.80 | | | | | | | | | |
| | X | 1.00 - 2.00 | Nil | | | | | Light brown silty sandy subangular to subrounded fine to coarse crystalline and sandstone GRAVEL. (MADE GROUND) | | | |
| 26/03/15 0130hrs Dry | | | | | | | | Grey silty sandy angular to rounded fine to coarse crystalline GRAVEL with rare fine gravel sized pockets of soft clay. (MADE GROUND) | 2.00 | 65.55 | |
| | | | | | | | | No recovery. | | | |
| | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.11m. Hand dug inspection pit 0.11-1.00m. Dynamic sampled (64mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: DCP carried out in base of inspection pit. No sample recovered 1.00-2.00m due to barrel blockage.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC407**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 25 March 2015 | Easting | 459082.7 | | | Scale | 1 : 50 |
| End Date | 25 March 2015 | Northing | 221262.4 | Ground level | 67.35mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25/03/15 2230hrs | 1C | 0.00 - 0.30 | | | 100 | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 20-30% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix. (MADE GROUND) | 0.05 | 67.30 | |
| | 3B | 0.30 - 0.50 | | | | | | | 0.30 | 67.05 | |
| | 4D | 0.30 - 0.50 | | | | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix 5% voids (up to 3mm). (MADE GROUND) | | | |
| | 2D* | 0.30 - 0.50 | | | | | | | | | |
| | 6B | 0.60 - 0.80 | | | | | | | | | |
| | 7D | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.60 - 0.80 | | | | | | | | | |
| | 8X | 1.00 - 2.00 | Nil | | | | | | 1.30 | 66.05 | |
| 25/03/15 2345hrs Dry | | | | | | | | Light brown silty sandy angular to subrounded fine to coarse concrete and crystalline GRAVEL with a low subangular concrete cobble content. (MADE GROUND) 1.20 - 1.26m: Red subrounded brick cobble. | 2.00 | 65.35 | |
| | | | | | | | | Stiff light grey mottled orangish brown silty CLAY with rare organic material (up to 5mm long) and a faint organic odour. (MADE GROUND) 1.30 - 1.35m: Soft dark grey slightly gravelly clay. Gravel is angular coarse concrete. | | | |
| | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.30m. Hand dug inspection pit 0.30-1.00m. Dynamic sampled (64mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC408**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 25 March 2015 | Easting | 459073.9 | | | Scale | 1 : 50 |
| End Date | 25 March 2015 | Northing | 221247.0 | Ground level | 67.30mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25/03/15 2015hrs | 1C | 0.00 - 0.30 | | | 100 | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 20-30% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix. (MADE GROUND) | 0.05 | 67.25 | |
| | 3B | 0.30 - 0.50 | | | | | | | 0.30 | 67.00 | |
| | 4D | 0.30 - 0.50 | | | | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix 5% voids (up to 3mm). (MADE GROUND) | | | |
| | 2D* | 0.30 - 0.50 | | | | | | | | | |
| | 6B | 0.60 - 0.80 | | | | | | | | | |
| | 7D | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.60 - 0.80 | | | | | | | 1.10 | 66.20 | |
| | 8X | 1.00 - 2.00 | Nil | | | | | | | | |
| | | | | | | | | Light brown silty sandy angular to subrounded fine to coarse crystalline and sandstone GRAVEL with a low subangular concrete cobble content. (MADE GROUND) | | | |
| 25/03/15 2200hrs Dry | | | | | | | | | 2.00 | 65.30 | |
| | | | | | | | | Firm orangish brown slightly sandy silty CLAY with rare organic material (up to 10mm), moderate organic odour and fine gravel sized gypsum crystals. 1.50m: Becoming light grey mottled orangish brown. | | | |
| | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.30m. Hand dug inspection pit 0.30-1.00m. Dynamic sampled (64mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: DCP carried out in base of inspection pit.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC409**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 26 March 2015 | Easting | 459086.6 | | | Scale | 1 : 50 |
| End Date | 26 March 2015 | Northing | 221353.3 | Ground level | 67.75mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1C | 0.00 - 0.30 | | | 100 | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 20% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix. (MADE GROUND) | 0.05 | 67.70 | |
| | 3B | 0.30 - 0.50 | | | | | | | 0.10 | 67.65 | |
| | 4D | 0.30 - 0.50 | | | | | | | | | |
| | 2D* | 0.30 - 0.50 | | | | | | | 0.60 | 67.15 | |
| | 6B | 0.60 - 0.80 | | | | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix 5% voids (up to 3mm). (MADE GROUND) | | | |
| | 7D | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.60 - 0.80 | | | | | | | 1.00 | 66.75 | |
| | 8X | 1.00 - 2.00 | Nil | | | | | Grey and brown silty sandy angular and subangular fine to coarse crystalline and chalk GRAVEL. (MADE GROUND) | | | |
| | | | | | | | | | 1.80 | 65.95 | |
| | | | | | | | | Light brown clayey sandy subangular and subrounded fine to coarse chalk and crystalline GRAVEL with a low subangular concrete cobble content. (MADE GROUND) | 2.00 | 65.75 | |
| | | | | | | | | Soft dark grey silty CLAY with frequent gravel sized shell fragments. (MADE GROUND) | | | |
| | | | | | | | | Soft dark grey mottled orangish brown slightly sandy silty CLAY. (MADE GROUND) | | | |
| | | | | | | | | Borehole completed at 2.00m. | | | |
| | | | | | | | | | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.30m. Hand dug inspection pit 0.30-1.00m. Dynamic sampled (64mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: DCP carried out in base of inspection pit.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC410**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 27 March 2015 | Easting | 459127.9 | | | Scale | 1 : 50 |
| End Date | 27 March 2015 | Northing | 221275.7 | Ground level | 67.40mOD | Depth | 1.70 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 27/03/15 0001hrs | 1C | 0.00 - 0.30 | | | 100 | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 20% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix. (MADE GROUND) | 0.06 | 67.34 | |
| | 3B | 0.30 - 0.50 | | | | | | | 0.30 | 67.10 | |
| | 4D | 0.30 - 0.50 | | | | | | | | | |
| | 2D* | 0.30 - 0.50 | | | | | | | 0.60 | 66.80 | |
| | 6B | 0.60 - 0.80 | | | | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix 5% voids (up to 3mm). (MADE GROUND) | | | |
| | 7D | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.60 - 0.80 | | | | | | | 1.05 | 66.35 | |
| | 8X | 1.00 - 1.70 | Nil | | | | | | | | |
| 27/03/15 0100hrs Dry | | | | | | | | Light brown silty sandy angular to subrounded fine to coarse crystalline and concrete GRAVEL. (MADE GROUND) | 1.70 | 65.70 | |
| | | | | | | | | Light brown and red clayey sandy angular to subrounded fine to coarse crystalline and sandstone GRAVEL. (MADE GROUND) | | | |
| | | | | | | | | Very stiff friable dark grey slightly sandy silty CLAY with rare fine gravel sized shell fragments and fossils (up to 20mm). 1.40 - 1.50m: Orangish brown. | | | |
| | | | | | | | | Borehole completed at 1.70m. | | | |
| | | | | | | | | | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.30m. Hand dug inspection pit 0.30-1.00m. Dynamic sampled (98mm) 1.00-1.70m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 1.70-0.30m and concrete 0.30-0.00m.

REMARKS: DCP carried out in base of inspection pit.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC411**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 26 March 2015 | Easting | 459138.7 | | | Scale | 1 : 50 |
| End Date | 26 March 2015 | Northing | 221305.1 | Ground level | 68.10mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1C | 0.00 - 0.30 | | | 100 | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 20% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix. (MADE GROUND) | 0.04 | 68.06 | |
| | 3B | 0.30 - 0.50 | | | | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix 5% voids (up to 3mm). (MADE GROUND) | 0.30 | 67.80 | |
| | 4D | 0.30 - 0.50 | | | | | | Light brown and grey silty sandy angular to rounded fine to coarse crystalline and flint GRAVEL with a low subangular concrete cobble content. (MADE GROUND) 0.60m: Becoming very sandy. | 1.05 | 67.05 | |
| | 2D* | 0.30 - 0.50 | | | | | | Stiff friable dark grey silty CLAY with rare fine gravel sized shell fragments. | 1.30 | 66.80 | |
| | 6B | 0.50 - 0.80 | | | | | | Firm dark grey mottled orangish brown slightly sandy silty CLAY with rare fine gravel sized shell fragments. 1.40 - 1.45m: Orangish brown mottled grey. | 2.00 | 66.10 | |
| | 7D | 0.50 - 0.80 | | | | | | Borehole completed at 2.00m. | | | |
| | 5D* | 0.50 - 0.80 | Nil | | | | | | | | |
| | 8X | 1.00 - 2.00 | | | | | | | | | |
| | | | | | | | | | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.30m. Hand dug inspection pit 0.30-1.00m. Dynamic sampled (74mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARKS: DCP carried out in base of inspection pit.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC412**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 23 March 2015 | Easting | 459219.8 | | | Scale | 1 : 50 |
| End Date | 23 March 2015 | Northing | 221226.0 | Ground level | 67.35mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 23/03/15 2100hrs | 1C | 0.00 - 0.30 | | | 100 | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix 5% voids (up to 3mm). (MADE GROUND) | 0.30 | 67.05 | |
| | 3B | 0.25 - 0.45 | | | | | | | | | |
| | 4D | 0.25 - 0.45 | | | | | | | | | |
| | 2D* | 0.25 - 0.45 | | | | | | | | | |
| | 6B | 0.60 - 0.80 | | | | | | Light brown silty sandy subangular to rounded fine to coarse chalk and crystalline GRAVEL. (MADE GROUND) | | | |
| | 7D | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.60 - 0.80 | | | | | | | | | |
| | 8X | 1.00 - 2.00 | Nil | | | | | | 1.50 | 65.85 | |
| 23/03/15 2230hrs Dry | | | | | | | | Firm brown silty sandy CLAY. | 1.80 | 65.55 | |
| | | | | | | | | Soft grey mottled black slightly sandy silty CLAY with a faint organic odour. | 2.00 | 65.35 | |
| | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.30m. Hand dug inspection pit 0.30-1.00m. Dynamic sampled (64mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: DCP carried out in base of inspection pit.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC413**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 23 March 2015 | Easting | 459268.5 | | | Scale | 1 : 50 |
| End Date | 24 March 2015 | Northing | 221235.9 | Ground level | 66.80mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 23/03/15 2300hrs | 1C | 0.00 - 0.30 | | | 100 | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix 5% voids (up to 3mm). (MADE GROUND) | 0.30 | 66.50 | |
| | 3B | 0.30 - 0.50 | | | | | | | 0.50 | 66.30 | |
| | 4D | 0.30 - 0.50 | | | | | | Dark grey sandy angular and subangular fine to coarse concrete and crystalline GRAVEL. (MADE GROUND) | | | |
| | 2D* | 0.30 - 0.50 | | | | | | | | | |
| | 6B | 0.50 - 0.80 | | | | | | | | | |
| | 7D | 0.50 - 0.80 | | | | | | | | | |
| | 5D* | 0.50 - 0.80 | | | | | | | 1.10 | 65.70 | |
| | 8X | 1.00 - 2.00 | Nil | | | | | Light brown clayey sandy angular to subrounded fine to coarse chalk and concrete GRAVEL. (MADE GROUND) | | | |
| 24/03/15 0030hrs Dry | | | | | | | | Soft grey mottled black slightly sandy silty CLAY with a faint organic odour. | 1.60 | 65.20 | |
| | | | | | | | | Soft grey mottled orangish brown slightly sandy silty CLAY. | 2.00 | 64.80 | |
| | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.30m. Hand dug inspection pit 0.30-1.00m. Dynamic sampled (64mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: DCP carried out in base of inspection pit.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC414**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 26 March 2015 | Easting | 459145.5 | | | Scale | 1 : 50 |
| End Date | 26 March 2015 | Northing | 221169.9 | Ground level | 67.90mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 26/03/15 0030hrs | 1C | 0.00 - 0.07 | | | 100 | | | Light grey and dark grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix 5% voids up to (3mm). (MADE GROUND) | 0.07 | 67.83 | |
| | 3B | 0.40 - 0.60 | | | | | | | 0.40 | 67.50 | |
| | 4D | 0.40 - 0.60 | | | | | | | 0.60 | 67.30 | |
| | 2D* | 0.40 - 0.60 | | | | | | | | | |
| | 6B | 0.60 - 0.80 | | | | | | Black and grey angular fine to coarse crystalline and tarmacadam gravel. (MADE GROUND) | 1.00 | 66.90 | |
| | 7D | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.60 - 0.80 | | | | | | | | | |
| | 8X | 1.00 - 2.00 | Nil | | | | | Dark grey and red sandy angular to subrounded fine to coarse crystalline and sandstone GRAVEL. (MADE GROUND) | 1.40 | 66.50 | |
| 26/03/15 0200hrs Dry | | | | | | | | Brown sandy angular to subrounded fine to coarse crystalline and concrete GRAVEL. (MADE GROUND) | 2.00 | 65.90 | |
| | | | | | | | | Soft dark grey slightly sandy silty CLAY with a slight organic odour and rare organic material (up to 10mm). | | | |
| | | | | | | | | Soft grey mottled orangish brown slightly sandy silty CLAY. | | | |
| | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.07m. Hand dug inspection pit 0.07-1.00m. Dynamic sampled (64mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC415**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 25 March 2015 | Easting | 459160.8 | | | Scale | 1 : 50 |
| End Date | 25 March 2015 | Northing | 221170.4 | Ground level | 67.85mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25/03/15 2145hrs | 1C | 0.00 - 0.13 | | | 100 | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix. (MADE GROUND) 0.13m: Geotextile. | 0.13 | 67.72 | |
| | 3B | 0.40 - 0.60 | | | | | | | | | |
| | 4D | 0.40 - 0.60 | | | | | | | | | |
| | 2D* | 0.40 - 0.60 | | | | | | | 0.60 | 67.25 | |
| | 6B | 0.60 - 0.80 | | | | | | | | | |
| | 7D | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.60 - 0.80 | | | | | | Light brown silty sandy angular to subrounded fine to coarse chalk, sandstone and crystalline GRAVEL with a low subangular chalk cobble content. (MADE GROUND) | 1.10 | 66.75 | |
| | 8X | 1.00 - 2.00 | Nil | | | | | | | | |
| | | | | | | | | Brown and grey clayey sandy angular to subrounded fine to coarse crystalline and sandstone GRAVEL. (MADE GROUND) | | | |
| 25/03/15 2300hrs Dry | | | | | | | | Firm light grey mottled orangish brown silty CLAY with rare organic material (up to 15mm). 1.70m: Becoming grey mottled orangish brown. | 2.00 | 65.85 | |
| | | | | | | | | Borehole completed at 2.00m. | | | |
| | | | | | | | | | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.13m. Hand dug inspection pit 0.13-1.00m. Dynamic sampled (64mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: DCP carried out in base of inspection pit.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC416**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 24 March 2015 | Easting | 459211.2 | | | Scale | 1 : 50 |
| End Date | 25 March 2015 | Northing | 221101.5 | Ground level | 69.80mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24/03/15 2315hrs | 1C | 0.00 - 0.15 | | | 100 | | | MADE GROUND composed of tarmacadam. | 0.05 | 69.75 | |
| | 3B | 0.40 - 0.60 | | | | | | Light grey and dark grey locally light reddish grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix. (MADE GROUND) | 0.15 | 69.65 | |
| | 4D | 0.40 - 0.60 | | | | | | | 0.60 | 69.20 | |
| | 2D* | 0.40 - 0.60 | | | | | | | | | |
| | 6B | 0.60 - 0.80 | | | | | | | | | |
| | 7D | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.60 - 0.80 | | | | | | Brown and grey sandy angular to subrounded fine to coarse crystalline and sandstone GRAVEL. (MADE GROUND) | | | |
| | 8X | 1.00 - 2.00 | Nil | | | | | | 1.30 | 68.50 | |
| 25/03/15 0030hrs Dry | | | | | | | | Brown and grey silty sandy angular to subrounded fine to coarse chalk, sandstone and crystalline GRAVEL with frequent coarse gravel sized pockets of firm clay. (MADE GROUND) | 2.00 | 67.80 | |
| | | | | | | | | Firm light grey mottled orangish brown silty CLAY with rare organic material (up to 5mm) and faint organic odour. 1.90m: Becoming orangish brown mottled grey. | | | |
| | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.15m. Hand dug inspection pit 0.15-1.00m. Dynamic sampled (64mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: DCP carried out in base of inspection pit.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CC417**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 24 March 2015 | Easting | 459246.9 | | | Scale | 1 : 50 |
| End Date | 24 March 2015 | Northing | 221083.2 | Ground level | 70.00mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24/03/15 2000hrs | 1C | 0.00 - 0.30 | | | 100 | | | Light grey and dark grey CONCRETE comprising of 30-40% angular and subangular fine to coarse crystalline gravel sized clasts. Dark grey and black matrix. (MADE GROUND) | 0.30 | 69.70 | |
| | 3B | 0.40 - 0.60 | | | | | | | | | |
| | 4D | 0.40 - 0.60 | | | | | | | | | |
| | 2D* | 0.40 - 0.60 | | | | | | Grey and brown silty sandy fine to coarse crystalline and concrete GRAVEL with frequent fabric material (up to 100mm long). (MADE GROUND) | 0.60 | 69.40 | |
| | 6B | 0.60 - 0.80 | | | | | | | | | |
| | 7D | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.60 - 0.80 | | | | | | | 1.05 | 68.95 | |
| | 8X | 1.00 - 2.00 | Nil | | | | | Light brown slightly sandy clayey angular to subrounded fine to coarse chalk and crystalline GRAVEL. (MADE GROUND) | | | |
| | | | | | | | | Firm grey mottled orangish brown slightly sandy silty CLAY. | 1.55 | 68.45 | |
| 24/03/15 2130hrs Dry | | | | | | | | Soft light grey silty CLAY with frequent organic material (up to 20mm long) and a faint organic odour. | 2.00 | 68.00 | |
| | | | | | | | | Borehole completed at 2.00m. | | | |
| | | | | | | | | | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.30m. Hand dug inspection pit 0.30-1.00m. Dynamic sampled (64mm) 1.00-2.00m.

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: DCP carried out in base of inspection pit.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CC418**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 19 March 2015 | Easting | 459203.4 | | | Scale | 1 : 50 |
| End Date | 19 March 2015 | Northing | 220731.2 | Ground level | 74.05mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/03/15 0830hrs | 1C | 0.00 | 0.13 | | | 100 | | | MADE GROUND comprising of tarmacadam. | 0.03 | 74.02 | |
| | 2B | 0.20 | 0.50 | | | | | | Light grey and dark grey locally reddish grey CONCRETE comprising of 70-80% of angular to subrounded fine to coarse crystalline, limestone and sandstone gravel sized clasts. Dark grey matrix with 5% voids up to (3mm). (MADE GROUND) | 0.13 | 73.92 | |
| | 3D* | 0.40 | | | | | | | | 0.50 | 73.55 | |
| | 4B | 0.60 | 0.80 | | | | | | | | | |
| | 5D* | 0.70 | | | | | | | | | | |
| | 6X | 1.00 | 2.00 | Nil | | | | | Dark grey, reddish brown and light grey sandy angular to subrounded fine to coarse crystalline, flint and limestone GRAVEL with a medium subangular crystalline cobble content. (MADE GROUND)<br>0.30 - 0.50m: Grading to fine to medium sized gravel. | 1.13 | 72.92 | |
| 19/03/15 0945hrs Dry | | | | | | | | | Firm light greenish brown locally dark grey slightly gravelly silty CLAY with rare rootlets (<1mm). Gravel is subangular and subrounded fine sandstone. | 1.48 | 72.57 | |
| | | | | | | | | | Firm light grey mottled light brown silty CLAY. | 2.00 | 72.05 | |
| | | | | | | | | | Firm fissured light grey and light brown slightly sandy silty CLAY with frequent fine and medium gravel sized fossil fragments. Fissures are extremely and very closely spaced subhorizontal, planar, smooth.<br>1.95 - 2.00m: Rare coarse gravel sized organic fragments.<br>Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.13m. Hand dug inspection pit 0.13-1.00m. Dynamic sampled (84mm) 1.00-2.00m

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: Pit could not advance past 1.00m due to cored concrete diameter.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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Geotechnical Engineering Limited

# BOREHOLE LOG

**CC419**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 18 March 2015 | Easting | 459398.9 | | | Scale | 1 : 50 |
| End Date | 18 March 2015 | Northing | 220634.4 | Ground level | 74.40mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18/03/15 1145hrs | 1C | 0.00 - 0.12 | | | 100 | | | MADE GROUND comprising of tarmacadam | 0.12 | 74.28 | |
| | 2B | 0.20 - 0.50 | | | | | | Soft dark grey locally light reddish grey clayey sandy fine to coarse angular and subangular crystalline GRAVEL with medium crystalline cobble content. (MADE GROUND) | 0.50 | 73.90 | |
| | 3D* | 0.40 | | | | | | | | | |
| | 4B | 0.60 - 0.80 | | | | | | | | | |
| | 5D* | 0.80 | | | | | | Soft light greyish green slightly sandy CLAY with rare rootlets (<1mm). | 0.97 | 73.43 | |
| | 6X | 1.00 - 2.00 | Nil | | | | | Firm fissured light grey and light brown slightly gravelly CLAY with rare rootlets (<1mm). Gravel is subrounded and rounded fine and medium limestone. Fissures are randomly orientated extremely closely planar smooth. 1.72 - 2.00m: Abundant white fine and medium gravel sized weathered fossil fragments. | | | |
| 18/03/15 1330hrs Dry | | | | | | | | | 2.00 | 72.40 | |
| | | | | | | | | Borehole completed at 2.00m. | | | |
| | | | | | | | | | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.12m. Hand dug inspection pit 0.12-1.00m. Dynamic sampled (84mm) 1.00-2.00m

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: Pit could not advance past 1.00m due to cored concrete diameter.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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# BOREHOLE LOG

**CC420**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 18 March 2015 | Easting | 459389.6 | | | Scale | 1 : 50 |
| End Date | 18 March 2015 | Northing | 220457.2 | Ground level | 77.95mOD | Depth | 2.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18/03/15 1400hrs | 1C | 0.00 | 0.30 | | | 100 | | | MADE GROUND comprising of tarmacadam. | 0.05 | 77.90 | |
| | | | | | | | | | | 0.30 | 77.65 | |
| | 2B | 0.30 | 0.60 | | | | | | Light grey and light reddish grey CONCRETE comprised of 70% angular and subangular fine to coarse limestone gravel sized clasts. Dark grey and black matrix with 5% voids (up to 3mm). (MADE GROUND) | | | |
| | 3D* | 0.40 | | | | | | | | 0.60 | 77.35 | |
| | 4B | 0.70 | 0.80 | | | | | | | | | |
| | 5D* | 0.80 | | | | | | | | | | |
| | 6X | 1.00 | 2.00 | Nil | | | | | Dark grey and light grey clayey sandy angular and subangular fine to coarse limestone, concrete and crystalline GRAVEL. (MADE GROUND) | 1.27 | 76.68 | |
| 18/03/15 1645hrs Dry | | | | | | | | | Soft light brown, dark and light grey slightly sandy and gravelly CLAY with rare roots (<3mm) and rootlets (<1mm). Gravel is subangular and subrounded fine and medium sandstone. | 1.83 | 76.12 | |
| | | | | | | | | | | 2.00 | 75.95 | |
| | | | | | | | | | Firm fissured light grey and light brown mottled orangish brown CLAY with frequent roots (<2mm) and rootlets (<1mm). Fissures are randomly orientated extremely closely spaced planar smooth. | | | |
| | | | | | | | | | Firm fissured light grey silty CLAY. Fissures are randomly orientated extremely closely spaced planar smooth with white silt on fissure surfaces. | | | |
| | | | | | | | | | Borehole completed at 2.00m. | {8.00} | | |

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Waterflush concrete corer rig (254mm) 0.00-0.30m. Hand dug inspection pit 0.30-1.00m. Dynamic sampled (84mm) 1.00-2.00m

CASING: No casing used.

BACKFILL: On completion, hole backfilled with bentonite pellets 2.00-0.30m and concrete 0.30-0.00m.

REMARK: Pit could not advance past 1.00m due to cored concrete diameter.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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# BOREHOLE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **CP101** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 19 March 2015 | Easting | 458156.4 | | | Scale | 1 : 50 |
| End Date | 19 March 2015 | Northing | 220875.9 | Ground level | 65.80mOD | Depth | 8.25 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/03/15 1230hrs | 1D* | 0.25 | | | | | | | Grass over firm brown slightly sandy slightly gravelly silty CLAY with frequent rootlets (<1mm diam). Gravel is subangular and subrounded fine to coarse brick. (MADE GROUND) | 0.20 | 65.60 | |
| | 2B | 0.25 | | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | Firm fissured orangish brown and grey slightly sandy CLAY with frequent fine to coarse gravel sized pockets of orangish brown silt. Fissures are randomly orientated undulating smooth. | | | |
| | 4B | 0.50 | | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | | | |
| | 6B | 1.00 | | | | | | | | | | |
| | 7D | 1.20 | | | | | | | | | | |
| | 8UT | 1.70 - 2.15 | | 1.70 | | | | | | | | |
| | 9D | 2.20 | | | | | | | | 2.20 | 63.60 | |
| | 10D | 2.20 - 2.65 | | 1.70 | S 10 | | | | Firm bluish grey rarely mottled orangish brown sandy CLAY with frequent fine to coarse gravel sized pockets of off-white fine to coarse sand sized gypsum crystals. | | | |
| | 11UT | 2.70 - 3.15 | | 1.70 | | | | | | | | |
| | 12D | 3.20 | | | | | | | | 3.20 | 62.60 | |
| | 13D | 3.20 - 3.65 | | 1.70 | S 13 | | | | Firm bluish grey silty CLAY with frequent fine to coarse gravel sized pockets of orangish brown sand and frequent fine to coarse sand sized gypsum crystals along fissure surfaces. | | | |
| | 14UT | 3.70 - 4.15 | | 1.70 | | | | | | | | |
| | 15D | 4.20 | | | | | | | | | | |
| | 16D | 4.20 - 4.65 | | 1.70 | S 17 | | | | 4.20 - 4.70m: Brownish grey. | | | |
| | | | | | | | | | | 4.70 | 61.10 | |
| | 17UT | 4.70 - 5.15 | | 1.70 | | | | | Stiff brownish grey sandy CLAY with frequent fine to coarse gravel sized shell fragments, belemnite fossils and rare fragments (up to 10mm) of carbonaceous material. | | | |
| | 18D | 5.20 | | | | | | | | | | |
| | 19D | 5.20 - 5.65 | | 1.70 | S 15 | | | | | | | |
| | 20D | 6.20 | | | | | | | | 6.20 | 59.60 | |
| | 21UT | 6.20 - 6.65 | | 1.70 | | | | | Very stiff indistinctly laminated greyish brown slightly sandy silty CLAY with rare fine to coarse gravel sized belemnite fossils and shell fragments. | | | |
| | 22D | 6.70 | | | | | | | | | | |
| | 23D | 6.70 - 7.15 | | 1.70 | S 49 | | | | 6.70 - 7.20m: Locally tending to clayey sand. | | | |
| | 24D | 7.20 | | | | | | | | | | |
| 19/03/15 1530hrs | 25UT | 7.70 - 8.15 | | 1.70 | | | | | | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.20m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.20-0.50m, bentonite seal 0.50m-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks | | | |
|---|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | AGS | CONTRACT **30378** | CHECKED |

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# BOREHOLE LOG

**CP101**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 19 March 2015 | Easting | 458156.4 | | | Scale | 1 : 50 |
| End Date | 19 March 2015 | Northing | 220875.9 | Ground level | 65.80mOD | Depth | 8.25 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dry | 26D | 8.20 | | | | | | | | 8.20 | 57.60 | |
| | | | | | | | | | Borehole completed at 8.25m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP102**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | Sheet | 1 of 2 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Scale | 1 : 50 |
| Start Date | 24 March 2015 | Easting | 458069.5 | | | | |
| End Date | 24 March 2015 | Northing | 220930.0 | Ground level | 65.45mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24/03/15 0830hrs | 1D* | 0.25 | | | | | | Grass over firm brown slightly sandy slightly gravelly silty CLAY with frequent rootlets (<1mm diam). Gravel is subangular and subrounded fine to coarse brick. (MADE GROUND) | 0.25 | 65.20 | |
| | 2B | 0.25 | 0.45 | | | | | | | | |
| | 3D* | 0.50 | | | | | | | | | |
| | 4B | 0.50 | 0.70 | | | | | | | | |
| | 5D* | 1.00 | | | | | | Firm fissured orangish brown and brown silty CLAY with frequent rootlets (<1mm diam) and rare black angular fine and medium gravel sized organic fragments. | 1.00 | 64.45 | |
| | 6B | 1.00 | 1.20 | | | | | | | | |
| | 7D | 1.20 | | | | | | Firm fissured orangish brown and bluish grey slightly sandy silty CLAY with rare part decomposed plant remains (<3mm diam). | | | |
| | 8UT | 1.70 | 2.10 | 1.70 | | | | | | | |
| | 9D | 2.10 | 2.20 | | | | | | | | |
| | 10D | 2.20 | 2.65 | 1.70 | S 13 | | | | 2.40 | 63.05 | |
| | 10AUT | 2.70 | 3.10 | 1.70 | | | | Firm fissured brownish grey silty CLAY with light yellowish brown silt on fissure surfaces and rare coarse gravel sized pockets of fine and medium gypsum crystals. | | | |
| | 11D | 3.10 | 3.20 | | | | | | | | |
| | 12D | 3.20 | 3.65 | 1.70 | S 7 | | | | 3.40 | 62.05 | |
| | 13UT | 3.70 | 4.10 | 1.70 | | | | Stiff fissured brownish grey silty CLAY with frequent fine and medium sand sized gypsum crystals on fissure surfaces. | | | |
| | 14D | 4.10 | 4.20 | | | | | | 4.20 | 61.25 | |
| | 15D | 4.20 | 4.65 | 1.70 | S 28 | | | Medium dense grey very clayey fine to coarse SAND with rare fine to coarse gravel sized shell fragments. | | | |
| | 16UT | 4.70 | 5.00 | 1.70 | | | | | | | |
| | 17D | 5.00 | | | | | | | 5.00 | 60.45 | |
| | 18D | 5.00 | 5.20 | 1.70 | S*150 | | | Weak grey fine and medium SANDSTONE, recovered as subangular and subrounded fine to coarse gravel. | | | |
| | | | | | | | | | 6.00 | 59.45 | |
| | 19D | 6.00 | | | | | | Soft grey very sandy CLAY. (Drilling disturbed) | 6.20 | 59.25 | |
| | 20D | 6.20 | 6.65 | 1.70 | S 44 | | | Dense grey very clayey fine to coarse SAND with rare fine to coarse gravel sized shell fragments. | | | |
| | 21D | 7.00 | | | | | | | | | |
| | | | | | | | | | 7.60 | 57.85 | |
| | 22D | 7.60 | | | | | | Very stiff grey slightly sandy silty CLAY with rare fine and medium gravel sized pryritized fossils. | | | |
| 24/03/15 1500hrs | 23UT | 7.70 | 8.10 | 1.70 | | | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.20m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.20-0.50m, bentonite seal 0.50m-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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# BOREHOLE LOG

**CP102**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 24 March 2015 | Easting | 458069.5 | | | Scale | 1 : 50 |
| End Date | 24 March 2015 | Northing | 220930.0 | Ground level | 65.45mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dry | 24D | 8.10 | 8.20 | | | | | | | 8.20 | 57.25 | |
| | | | | | | | | | Borehole completed at 8.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP103**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 23 March 2015 | Easting | 458195.6 | | | Scale | 1 : 50 |
| End Date | 23 March 2015 | Northing | 221031.9 | Ground level | 65.85mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 23/03/15 1230hrs | 1D* | 0.25 | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.25 | 65.60 | |
| | 2B | 0.25 | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | | | |
| | 4B | 0.50 | | | | | | Firm fissured orangish brown mottled brown silty CLAY with frequent rootlets (<1mm diam). | 1.00 | 64.85 | |
| | 5D* | 1.00 | | | | | | | | | |
| | 6B | 1.00 | | | | | | Firm orangish brown mottled grey slightly gravelly silty CLAY. Gravel is subangular fine and medium limestone. | | | |
| | 7D | 1.20 | | | | | | | | | |
| | 8UT | 1.70 - 2.15 | | 1.70 | | | | | | | |
| | 9D | 2.20 - 2.65 | | 1.70 | S 8 | | | | 2.40 | 63.45 | |
| | | | | | | | | Firm fissured brownish grey silty CLAY with rare fine and medium gravel sized pockets of yellowish silt and frequent fine to coarse sand sized gypsum crystals on fissure surfaces. | | | |
| | 10UT | 2.70 - 3.15 | | 1.70 | | | | | | | |
| | 11D | 3.15 - 3.20 | | | | | | | 3.20 | 62.65 | |
| | 12D | 3.20 - 3.65 | | 1.70 | S 21 | | | Stiff closely fissured brownish grey silty CLAY. | | | |
| | 13UT | 3.70 - 4.15 | | 1.70 | | | | | | | |
| | 14D | 4.15 - 4.20 | | 1.70 | S 30 | | | 4.20 - 5.20m: With rare fine to coarse gravel sized shell fragments. | | | |
| | 15D | 4.20 - 4.65 | | | | | | | | | |
| | 16UT | 4.70 - 5.15 | | 1.70 | | | | | | | |
| | 17D | 5.15 - 5.20 | | | | | | | 5.20 | 60.65 | |
| | 18D | 5.20 - 5.64 | | 1.70 | S*52 | | | Very dense grey clayey fine to coarse SAND with frequent fine to coarse gravel sized shell fragments. | | | |
| | 19D | 6.20 | | | | | | | | | |
| | 20D | 6.20 - 6.45 | | 1.70 | S*100 | | | | | | |
| | 21D | 7.20 | | | | | | | 7.40 | 58.45 | |
| | 22D | 7.40 | | | | | | Stiff indistinctly laminated brownish grey silty CLAY with rare fine and medium gravel sized shell fragments. | | | |
| 23/03/15 1500hrs | 23UT | 7.70 - 8.15 | | 1.70 | | | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.20m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.20-0.50m, bentonite seal 0.50m-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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# BOREHOLE LOG

**CP103**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 23 March 2015 | Easting | 458195.6 | | | Scale | 1 : 50 |
| End Date | 23 March 2015 | Northing | 221031.9 | Ground level | 65.85mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dry | | | | | | | | | | 8.20 | 57.65 | |
| | 24D | 8.15 - 8.20 | | | | | | | Borehole completed at 8.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP104**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 23 March 2015 | Easting | 458271.4 | | | Scale | 1 : 50 |
| End Date | 23 March 2015 | Northing | 221135.7 | Ground level | 66.35mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 23/03/15 0830hrs | 1D* | 0.25 | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.25 | 66.10 | |
| | 2B | 0.25 | 0.45 | | | | | | | | |
| | 3D* | 0.50 | | | | | | Firm fissured orangish brown mottled brown silty CLAY with frequent rootlets (<1mm diam) and rare black angular fine and medium organic fragments. | | | |
| | 4B | 0.50 | 0.70 | | | | | | | | |
| | 5D* | 1.00 | | | | | | | 1.00 | 65.35 | |
| | 6B | 1.00 | 1.20 | | | | | Firm fissured bluish grey and orangish brown slightly sandy silty CLAY. | | | |
| | 7D | 1.20 | 1.25 | | | | | | | | |
| | 8UT | 1.70 | 2.15 | 1.70 | | | | | | | |
| | 9D | 2.15 | 2.20 | | | | | | 2.20 | 64.15 | |
| | 10D | 2.20 | 2.65 | 1.70 | S 10 | | | Firm fissured brown mottled light yellowish brown silty CLAY. | | | |
| | 11UT | 2.70 | 3.15 | 1.70 | | | | | | | |
| | | | | | | | | | 3.20 | 63.15 | |
| | 12D | 3.15 | 3.20 | | | | | Firm fissured brownish grey silty CLAY with frequent grey fine and medium sand on fissure surfaces. | | | |
| | 13D | 3.20 | 3.65 | 1.70 | S 16 | | | | | | |
| | 14UT | 3.70 | 4.15 | 1.70 | | | | | | | |
| | | | | | | | | | 4.20 | 62.15 | |
| | 15D | 4.15 | 4.20 | | | | | Stiff indistinctly laminated brownish grey silty CLAY with rare fine to coarse gravel sized shell fragments. | | | |
| | 16D | 4.20 | 4.65 | 1.70 | S 26 | | | | | | |
| | 17UT | 4.70 | 5.15 | 1.70 | | | | | | | |
| | | | | | | | | | 5.20 | 61.15 | |
| | 18D | 5.15 | 5.20 | | | | | Very dense grey and light grey clayey fine and medium SAND with rare fine to coarse gravel sized shell fragments. | 5.40 | 60.95 | |
| | 19D | 5.20 | 5.63 | 1.70 | S*55 | | | | | | |
| | 20D | 5.40 | | | | | | Very stiff grey very sandy CLAY. | | | |
| | 21D | 6.20 | 6.47 | 1.70 | S*130 | | | | | | |
| | 22D | 6.70 | | | | | | | | | |
| | 23D | 7.40 | | | | | | | | | |
| 23/03/15 1200hrs | 24UT | 7.70 | 8.15 | 1.70 | | | | | 8.00 {8.00} | 58.35 | |

Continued Next Page

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.20m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.20-0.50m, bentonite seal 0.50m-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP104**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 23 March 2015 | Easting | 458271.4 | | | Scale | 1 : 50 |
| End Date | 23 March 2015 | Northing | 221135.7 | Ground level | 66.35mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dry | 25D | 8.15 - 8.20 | | | | | | | Very stiff fissured brownish grey silty CLAY with frequent grey fine and medium sand on fissure surfaces. | 8.20 | 58.15 | |
| | | | | | | | | | Borehole completed at 8.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP105**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 20 March 2015 | Easting | 458339.2 | | | Scale | 1 : 50 |
| End Date | 20 March 2015 | Northing | 221149.3 | Ground level | 66.60mOD | Depth | 8.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20/03/15 1230hrs | 1D* | 0.25 | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.20 | 66.40 |
| | 2B | 0.25 | | | | | | | | |
| | 3D* | 0.50 | | | | | | | | |
| | 4B | 0.50 | | | | | | Firm brown mottled orangish brown slightly sandy silty CLAY. | | |
| | 5D* | 1.00 | | | | | | | 1.00 | 65.60 |
| | 6B | 1.00 | | | | | | Soft orangish brown very sandy CLAY. | | |
| | 7D | 1.20 - 1.25 | | | | | | | | |
| | 8UT | 1.70 - 2.15 | | 1.70 | | | | | | |
| | 9D | 2.15 - 2.20 | | | | | | | 2.20 | 64.40 |
| | 10D | 2.20 - 2.65 | | 1.70 | S 4 | | | Soft fissured brown mottled bluish grey slightly sandy silty CLAY. | | |
| | 11UT | 2.70 - 3.15 | | 1.70 | | | | | | |
| | 12D | 3.15 - 3.20 | | | | | | | 3.20 | 63.40 |
| | 13D | 3.20 - 3.65 | | 1.70 | S 11 | | | Firm closely fissured bluish grey silty CLAY. | | |
| | 14UT | 3.70 - 4.15 | | 1.70 | | | | | | |
| | 15D | 4.15 - 4.20 | | | | | | | 4.20 | 62.40 |
| | 16D | 4.20 - 4.65 | | 1.70 | S 22 | | | Stiff indistinctly laminated brownish grey silty CLAY with rare sand partings (<2mm thickness). | | |
| | 17UT | 4.70 - 5.15 | | 1.70 | | | | | | |
| | 18D | 5.15 - 5.20 | | | | | | | 5.20 | 61.40 |
| | 19D | 5.20 - 5.65 | | 1.70 | S 30 | | | Stiff brownish grey mottled light grey very sandy CLAY. | | |
| | 20D | 6.20 - 6.25 | | | | | | | 6.20 | 60.40 |
| | 21UT | 6.20 - 6.65 | | 1.70 | | | | Very stiff fissured brownish grey silty CLAY. | | |
| | 22D | 6.65 - 6.70 | | | | | | | 6.70 | 59.90 |
| | 23D | 6.70 - 7.08 | | 1.70 | S*67 | | | Very dense grey and light grey clayey fine to coarse SAND with rare fine to coarse gravel sized belemnite fossils. | | |
| 20/03/15 1500hrs Dry | 24D | 7.70 | | | | | | | 7.70 | 58.90 |
| | 25D | 7.70 - 8.15 | | 1.70 | S*105 | | | Very stiff grey very sandy clayey SILT. | 8.00 | 58.60 |
| | | | | | | | | Borehole completed at 8.00m. | {8.00} | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-7.75m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.00-0.40m, bentonite seal 0.40m-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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# BOREHOLE LOG

**CP106**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 20 March 2015 | Easting | 458290.1 | | | Scale | 1 : 50 |
| End Date | 20 March 2015 | Northing | 221217.9 | Ground level | 67.00mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20/03/15 0830hrs | 1D* | 0.25 | | | | | | Grass over brown silty fine to coarse SAND with frequent rootlets (<1mm diam). | | | |
| | 2B | 0.25 | | | | | | | 0.50 | 66.50 | |
| | 3D* | 0.50 | | | | | | Firm orangish brown mottled brown slightly sandy CLAY with frequent rootlets (<1mm diam). | | | |
| | 4B | 0.50 | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | | |
| | 6B | 1.00 | 1.20 | | | | | | | | |
| | 7D | 1.20 | 1.25 | | | | | | | | |
| | 8UT | 1.70 | 2.10 | 1.70 | | | | | | | |
| | 9D | 2.10 | 2.20 | | | | | | 2.20 | 64.80 | |
| | 10D | 2.20 | 2.65 | 1.70 | S 11 | | | Firm fissured brownish grey silty CLAY with frequent yellowish brown and orangish brown silt on fissure surfaces and frequent fine to coarse gravel sized pockets of fine to coarse sand sized gypsum crystals. | | | |
| | 11UT | 2.70 | 3.15 | 1.70 | | | | | | | |
| | 12D | 3.15 | 3.20 | | | | | | 3.20 | 63.80 | |
| | 13D | 3.20 | 3.65 | 1.70 | S 16 | | | Stiff fissured brownish grey silty CLAY with rare dark orangish brown silt on fissure surfaces and frequent fine to coarse gravel sized gypsum crystals. | | | |
| | 14UT | 3.70 | 4.15 | 1.70 | | | | | | | |
| | 15D | 4.15 | 4.20 | | | | | | 4.20 | 62.80 | |
| | 16D | 4.20 | 4.65 | 1.70 | S 24 | | | Stiff becoming very stiff grey and light grey very sandy CLAY. | | | |
| | 17UT | 4.70 | 5.15 | 1.70 | | | | | | | |
| | 18D | 5.15 | 5.20 | | | | | | | | |
| | 19D | 5.20 | 5.63 | 1.70 | S*55 | | | 5.20 - 7.40m: Locally tending to clayey fine to coarse sand with frequent fine to coarse gravel sized shell fragments. | | | |
| | 20D | 6.20 | | | | | | | | | |
| | 21D | 6.70 | 7.04 | 1.70 | S*78 | | | | | | |
| | 22D | 7.20 | | | | | | | 7.40 | 59.60 | |
| | 23D | 7.40 | | | | | | Very stiff thinly laminated grey and light grey silty CLAY. | | | |
| 20/03/15 1200hrs | 24UT | 7.70 | 8.15 | 1.70 | | | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.00m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.00-0.40m, bentonite seal 0.40m-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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# BOREHOLE LOG

**CP106**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 20 March 2015 | Easting | 458290.1 | | | Scale | 1 : 50 |
| End Date | 20 March 2015 | Northing | 221217.9 | Ground level | 67.00mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dry | 25D | 8.15 | 8.20 | | | | | | Borehole completed at 8.20m. | 8.20 | 58.80 | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP107**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 16 March 2015 | Easting | 458390.7 | | | Scale | 1 : 50 |
| End Date | 16 March 2015 | Northing | 220703.8 | Ground level | 71.70mOD | Depth | 8.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 16/03/15 1000hrs | 1D* | 0.25 | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.20 | 71.50 |
| | 2B | 0.25 | | | | | | | | |
| | 3D* | 0.50 | | | | | | Firm orangish brown sandy CLAY with frequent rootlets (<1mm diam). | | |
| | 4B | 0.50 | | | | | | | | |
| | 5D* | 1.00 | | | | | | | 1.00 | 70.70 |
| | 6B | 1.00 | | | | | | Firm orangish brown mottled grey sandy CLAY with frequent rootlets (<1mm diam) and rare black angular fine and medium organic fragments. | | |
| | 7D | 1.20 | | | | | | | | |
| | | | | | | | | | 1.70 | 70.00 |
| | 8D | 1.70 - 2.15 | | 1.70 | S 40 | | | Stiff orangish brown slightly sandy very gravelly CLAY. Gravel is angular and subangular fine and medium flint. | | |
| | 9D | 2.20 | | | | | | | 2.20 | 69.50 |
| | 10UT | 2.20 - 2.65 | | 1.70 | | | | Stiff orangish brown mottled grey and brown slightly sandy very gravelly CLAY. Gravel is angular and subangular fine to coarse flint. | | |
| | 11D | 2.65 - 2.70 | | | | | | | 2.70 | 69.00 |
| | 12D | 2.70 - 3.15 | | 1.70 | S 14 | | | Stiff fissured brownish grey mottled grey silty CLAY with frequent fine to coarse sand sized gypsum crystals along fissure surfaces. Fissures are randomly orientated undulating and smooth. | | |
| | 13UT | 3.20 - 3.65 | | 1.70 | | | | | | |
| | 14D | 3.65 - 3.70 | | | | | | | | |
| | 15D | 3.70 - 4.15 | | 1.70 | S 22 | | | | | |
| | 16UT | 4.20 - 4.65 | | 1.70 | | | | | | |
| | 17D | 4.65 - 4.70 | | | | | | | | |
| | 18D | 4.70 - 5.15 | | 1.70 | S 20 | | | | | |
| | 19UT | 5.20 - 5.65 | | 1.70 | | | | | | |
| | 20D | 5.65 - 5.70 | | | | | | | 5.70 | 66.00 |
| | 21D | 5.70 - 6.15 | | 1.70 | S 32 | | | Very stiff locally indistinctly laminated brownish grey silty CLAY with frequent fine and medium gravel sized shell fragments. | | |
| | 22UT | 6.20 - 6.65 | | 1.70 | | | | | | |
| | 23D | 6.65 - 6.70 | | | | | | | | |
| | 24D | 7.20 | | | | | | | | |
| | 25D | 7.20 - 7.65 | | 1.70 | S 29 | | | 7.20 - 8.00m: Bluish grey. | | |
| 16/03/15 1600hrs Dry | | | | | | | | | | |
| | 26D | 8.00 | | | | | | | 8.00 {8.00} | 63.70 |
| | | | | | | | | Borehole completed at 8.00m. | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.00m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.00-0.40m, bentonite seal 0.40-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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# BOREHOLE LOG

## CP108

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 17 March 2015 | Easting | 458596.2 | | | Scale | 1 : 50 |
| End Date | 17 March 2015 | Northing | 220805.4 | Ground level | 73.50mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 17/03/15 0900hrs | 1D* | 0.25 | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.20 | 73.30 |
| | 2B | 0.25 | | | | | | | | |
| | 3D* | 0.50 | | | | | | Firm brown mottled grey silty slightly gravelly CLAY with frequent rootlets (<1mm diam). Fissures are randomly orientated undulating and rough. Gravel is subangular fine and medium brick. (MADE GROUND) | 0.50 | 73.00 |
| | 4B | 0.50 | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | |
| | 6B | 1.00 | | | | | | | 1.20 | 72.30 |
| | 7D | 1.20 | | | | | | Firm closely fissured brown mottled grey slightly gravelly silty CLAY with frequent rootlets (<1mm diam). Fissures are randomly orientated undulating and rough. Gravel is subangular fine and medium limestone. | | |
| | 8UT | 1.70 - 2.15 | | 1.70 | | | | | | |
| | 9D | 2.15 - 2.20 | | | | | | Firm orangish brown mottled grey locally slightly gravelly silty CLAY with rare rootlets (<1mm diam). | 2.20 | 71.30 |
| | 10D | 2.20 - 2.65 | | 1.70 | S 9 | | | Firm orangish brown and bluish grey slightly sandy silty CLAY with frequent fine to coarse gravel sized shells and shell fragments. | | |
| | 11UT | 2.70 - 3.15 | | 1.70 | | | | | | |
| | 12D | 3.15 - 3.20 | | | | | | | 3.20 | 70.30 |
| | 13D | 3.20 - 3.65 | | 3.30 | S 10 | | | Firm indistinctly laminated brown and dark grey silty CLAY with rare fine and medium sand sized gypsum crystals and rare part decomposed plant remains (<2mm diam). | | |
| | 14UT | 3.70 - 4.15 | | 3.30 | | | | | | |
| | 15D | 4.15 - 4.20 | | | | | | | 4.20 | 69.30 |
| | 16D | 4.20 - 4.65 | | 3.30 | S 11 | | | Firm brown and orangish brown silty CLAY with frequent siltstone laminae (<10mm thickness) and frequent fine to coarse gravel sized pockets of orangish brown silt and rare fine to coarse sand sized gypsum crystals. | | |
| | 17UT | 4.70 - 5.15 | | 3.30 | | | | | | |
| | 18D | 5.15 - 5.20 | | | | | | | 5.20 | 68.30 |
| | 19D | 5.20 - 5.65 | | 3.30 | S 30 | | | Stiff indistinctly laminated brownish grey silty CLAY with frequent fine to coarse gravel sized shell fragments. | | |
| | 20D | 6.20 | | | | | | | | |
| | 21UT | 6.20 - 6.65 | | 3.30 | | | | | | |
| | 22D | 6.65 - 6.70 | | | | | | | | |
| | 23D | 6.70 - 7.15 | | 3.30 | S 43 | | | | | |
| | 24D | 7.70 | | | | | | | | |
| 17/03/15 1230hrs | 25UT | 7.70 - 8.15 | | 3.30 | | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | |

legend

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.20m.

CASING: 150mm diam to 3.30m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.00-0.40m, bentonite seal 0.40m-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks |
|---|---|---|---|---|
| 3.30 | 3.30 | 3.30 | 20 | Seepage |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP108**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 17 March 2015 | Easting | 458596.2 | | | Scale | 1 : 50 |
| End Date | 17 March 2015 | Northing | 220805.4 | Ground level | 73.50mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dry | 26D | 8.15 | 8.20 | | | | | | | 8.20 | 65.30 | |
| | | | | | | | | | Borehole completed at 8.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | AGS | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|---|
| | | | | | | 30378 | |

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# BOREHOLE LOG

**CP109**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | Sheet | 1 of 2 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Scale | 1 : 50 |
| Start Date | 19 March 2015 | Easting | 458821.6 | | | | |
| End Date | 19 March 2015 | Northing | 220891.1 | Ground level | 73.35mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/03/15 0800hrs | 1D* | 0.25 | | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.20 | 73.15 | |
| | 2B | 0.25 | | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | Firm fissured orangish brown and bluish grey slightly sandy silty CLAY with frequent rootlets (<1mm diam). | | | |
| | 4B | 0.50 | | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | | | |
| | 6B | 1.00 | | | | | | | | | | |
| | 7D | 1.20 | | | | | | | | | | |
| | 8UT | 1.70 | 2.15 | 1.70 | | | | | | | | |
| | 9D | 2.20 | | | | | | | | 2.20 | 71.15 | |
| | 10D | 2.20 | 2.65 | 1.70 | S 9 | | | | Firm fissured bluish grey mottled orangish brown silty CLAY with frequent partings (<5mm thickness) of white fine to coarse sand sized gypsum crystals and frequent fine and medium gravel sized shell fragments. Frequent part decomposed plant remains (<3mm diam) also present. | | | |
| | 11UT | 2.70 | 3.15 | 1.70 | | | | | | | | |
| | 12D | 3.20 | | | | | | | | | | |
| | 13D | 3.20 | 3.65 | 1.70 | S 4 | | | | | | | |
| | 14UT | 3.70 | 4.15 | 1.70 | | | | | | | | |
| | 15D | 4.20 | | | | | | | | 4.20 | 69.15 | |
| | 16D | 4.20 | 4.65 | 1.70 | S 10 | | | | Firm fissured dark grey silty CLAY with frequent coarse gravel sized pockets of fine and medium gravel sized gypsum crystals and frequent part decomposed plant remains (<3mm) along fissures. Fissures are randomly orientated, undulating smooth. | | | |
| | 17UT | 4.70 | 5.15 | 1.70 | | | | | | | | |
| | 18D | 5.20 | | | | | | | | 5.20 | 68.15 | |
| | 19D | 5.20 | 5.65 | 1.70 | S 34 | | | | Very stiff fissured friable brownish grey silty CLAY with frequent fine to coarse gravel sized pockets of fine and medium sand sized crystals and frequent fine to coarse gravel sized shell fragments. Fissures are randomly orientated, undulating smooth. | | | |
| | 20UT | 6.20 | 6.65 | 1.70 | | | | | | | | |
| | 21D | 6.20 | | | | | | | | | | |
| | 23D | 6.70 | 7.15 | 1.70 | S 36 | | | | | | | |
| | 22D | 6.70 | | | | | | | | | | |
| 19/03/15 1200hrs | 24D | 7.70 | | | | | | | | | | |
| | 25UT | 7.70 | 8.15 | 1.70 | | | | | | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.20m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, hole backfilled with bentonite pellets.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP109**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 19 March 2015 | Easting | 458821.6 | | | Scale | 1 : 50 |
| End Date | 19 March 2015 | Northing | 220891.1 | Ground level | 73.35mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dry | 26D | 8.20 | | | | | | | | 8.20 | 65.15 | |
| | | | | | | | | | Borehole completed at 8.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP110**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 17 March 2015 | Easting | 458915.6 | | | Scale | 1 : 50 |
| End Date | 17 March 2015 | Northing | 220845.0 | Ground level | 74.25mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17/03/15 1300hrs | 1D* | 0.25 | | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.20 | 74.05 | |
| | 2B | 0.25 | | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | Firm closely fissured orangish brown and bluish grey slightly sandy silty CLAY with frequent rootlets (<1mm diam). | | | |
| | 4B | 0.50 | | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | 1.00 | 73.25 | |
| | 6B | 1.00 | | | | | | | Firm orangish brown and grey slightly sandy silty CLAY with rare fine and medium gravel sized pockets of orangish brown silt. | | | |
| | 7D | 1.20 | | | | | | | | | | |
| | 8UT | 1.70 | 2.15 | 1.70 | | | | | | | | |
| | 9D | 2.15 | 2.20 | | | | | | | 2.20 | 72.05 | |
| | 10D | 2.20 | 2.65 | 1.70 | S 10 | | | | Firm orangish brown mottled bluish grey silty CLAY with frequent fine to coarse gravel sized shell fragments and fine to coarse gravel sized pockets of orangish brown silt. | | | |
| | 11UT | 2.70 | 3.15 | 1.70 | | | | | | | | |
| | 12D | 3.15 | 3.20 | | | | | | | 3.20 | 71.05 | |
| | 13D | 3.20 | 3.65 | 1.70 | S 17 | | | | Stiff brown mottled orangish brown and grey slightly sandy silty CLAY with frequent fine to coarse sand sized yellowish gypsum crystals. | | | |
| | 14UT | 3.70 | 4.15 | 3.20 | | | | | | | | |
| | 15D | 4.15 | 4.20 | | | | | | | 4.20 | 70.05 | |
| | 16D | 4.20 | 4.65 | 4.00 | S 12 | | | | Firm brown and dark brown silty CLAY with frequent fine to coarse gravel sized shell fragments. | | | |
| | 17UT | 4.70 | 5.15 | 4.70 | | | | | | | | |
| | 18D | 5.15 | 5.20 | | | | | | | 5.20 | 69.05 | |
| | 19D | 5.20 | 5.65 | 4.70 | S 29 | | | | Stiff becoming very stiff fissured dark brown silty CLAY with frequent fine and medium gravel sized yellowish gypsum crystals and rare fine to coarse gravel sized shell fragments. Fissures are randomly orientated and smooth. | | | |
| | 28W | 5.70 | | | | | | | | | | |
| | 20D | 5.70 | | | | | | | | | | |
| | 21D | 6.20 | | | | | | | | | | |
| | 22UT | 6.20 | 6.65 | 6.20 | | | | | | | | |
| | 23D | 6.65 | 6.70 | | | | | | | | | |
| | 24D | 6.70 | 7.15 | 6.20 | S 38 | | | | | | | |
| | 25D | 7.70 | | | | | | | | | | |
| 17/03/15 1530hrs | 26UT | 7.70 | 8.15 | 6.20 | | | | | | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.20m.

CASING: 150mm diam to 6.20m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.25-0.40m, bentonite seal 0.40-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks |
|---|---|---|---|---|
| 5.20 | 4.70 | 3.30 | 20 | |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP110**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 17 March 2015 | Easting | 458915.6 | | | Scale | 1 : 50 |
| End Date | 17 March 2015 | Northing | 220845.0 | Ground level | 74.25mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7.00m | 27D | 8.15 | 8.20 | | | | | | | 8.20 | 66.05 | |
| | | | | | | | | | Borehole completed at 8.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | AGS | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|---|
| | | | | | | 30378 | |

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# BOREHOLE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **CP111** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 18 March 2015 | Easting | 459038.7 | | | Scale | 1 : 50 |
| End Date | 18 March 2015 | Northing | 220839.0 | Ground level | 74.35mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 18/03/15 0800hrs | 1D* | 0.25 | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.20 | 74.15 |
| | 2B | 0.25 | | | | | | | | |
| | 3D* | 0.50 | | | | | | Black ashy subangular fine to coarse clinker GRAVEL and COBBLES. (MADE GROUND) | | |
| | 4B | 0.50 | | | | | | | | |
| | 5D* | 1.00 | | | | | | | 1.00 | 73.35 |
| | 6B | 1.00 | | | | | | Soft orangish brown mottled grey slightly sandy slightly gravelly CLAY with rare angular fine and medium organic fragments. Gravel is subangular and subrounded fine and medium limestone. | | |
| | 7D | 1.20 | | | | | | | | |
| | 8UT | 1.70 | 2.15 | 1.70 | | | | | | |
| | 9D | 2.15 | 2.20 | | | | | | 2.20 | 72.15 |
| | 10D | 2.20 | 2.65 | 1.70 | S 8 | | | Firm fissured orangish brown and grey slightly sandy silty CLAY with frequent fine and medium gravel sized fossil fragments, frequent fine to coarse sand sized yellowish gypsum crystals. | | |
| | 11UT | 2.70 | 3.15 | 1.70 | | | | | | |
| | 12D | 3.15 | 3.20 | | | | | | | |
| | 13D | 3.20 | 3.65 | 1.70 | S 6 | | | | | |
| | 14UT | 3.70 | 4.15 | 1.70 | | | | | | |
| | 15D | 4.15 | 4.20 | | | | | | 4.20 | 70.15 |
| | 16D | 4.20 | 4.65 | 1.70 | S 7 | | | Firm fissured brownish grey silty CLAY with fine to coarse sand sized yellowish gypsum crystals along fissure surfaces. | | |
| | 17UT | 4.70 | 5.15 | 1.70 | | | | | | |
| | 18D | 5.15 | 5.20 | | | | | | 5.20 | 69.15 |
| | 19D | 5.20 | 5.65 | 4.70 | S 35 | | | Very stiff fissured dark brown silty CLAY with frequent fine to coarse shell fragments. | | |
| | 20D | 6.20 | | | | | | | | |
| | 21UT | 6.20 | 6.65 | 4.70 | | | | | | |
| | 22D | 6.65 | 6.70 | | | | | | | |
| | 23D | 6.70 | 7.08 | 4.70 | S*67 | | | | 7.00 | 67.35 |
| | | | | | | | | Very stiff dark grey slightly sandy CLAY with frequent fine to coarse gravel sized shells and shell fragments. | | |
| | 24D | 7.70 | | | | | | | | |
| 18/03/15 1230hrs | 25UT | 7.70 | 8.15 | 4.70 | | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.20m.

CASING: 150mm diam to 4.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.20-0.40m, bentonite seal 0.40-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks |
|---|---|---|---|---|
| 4.70 | 1.70 | 3.00 | 20 | Seepage |

AGS

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# BOREHOLE LOG

**CP111**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 18 March 2015 | Easting | 459038.7 | | | Scale | 1 : 50 |
| End Date | 18 March 2015 | Northing | 220839.0 | Ground level | 74.35mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dry | 26D | 8.15 | 8.20 | | | | | | | 8.20 | 66.15 | |
| | | | | | | | | | Borehole completed at 8.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | AGS | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|---|
| | | | | | | 30378 | |

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# BOREHOLE LOG

**CP112**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 18 March 2015 | Easting | 458939.6 | | | Scale | 1 : 50 |
| End Date | 18 March 2015 | Northing | 220980.3 | Ground level | 71.20mOD | Depth | 3.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18/03/15 0800hrs | 1D* | 0.25 | | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.20 | 71.00 | |
| | 2B | 0.25 | | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | Firm closely fissured orangish brown and grey silty CLAY with frequent rootlets (<1mm diam). | | | |
| | 4B | 0.50 | | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | 1.00 | 70.20 | |
| | 6B | 1.00 | | | | | | | Firm closely fissured orangish brown mottled grey slightly sandy silty CLAY. Fissures are randomly orientated and undulating. | | | |
| | 7D | 1.20 | | | | | | | | | | |
| | 8UT | 1.70 | 2.15 | 1.70 | | | | | | | | |
| | 9D | 2.15 | 2.20 | | | | | | | 2.20 | 69.00 | |
| | 10D | 2.20 | 2.65 | 1.70 | S 12 | | | | Stiff fissured dark brown locally mottled orangish brown silty CLAY with frequent off-white fine to coarse sand sized gypsum crystals along fissures. Fissures are randomly orientated undulating and smooth. | | | |
| 18/03/15 1200hrs Dry | 11UT | 2.70 | 3.15 | 1.70 | | | | | | 3.00 | 68.20 | |
| | 12D | 3.15 | 3.20 | | | | | | Soft orangish brown rarely mottled grey gravelly CLAY. Gravel is subangular fine and medium siltstone. | 3.10 | 68.10 | |
| | D | 3.20 | 3.65 | 1.70 | S** | | | | | 3.20 | 68.00 | |
| | 13D | 3.20 | | | | | | | Strong light grey LIMESTONE recovered as angular fine to coarse gravel. | | | |
| | | | | | | | | | Borehole completed at 3.20m. | {8.00} | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-3.20m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, hole backfilled with bentonite pellets.

REMARKS: Hole advanced by chiselling 3.20m (1hr). Hole terminated in limestone.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**CP113**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 25 March 2015 | Easting | 458905.2 | | | Scale | 1 : 50 |
| End Date | 25 March 2015 | Northing | 221152.0 | Ground level | 68.45mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25/03/15 0800hrs | D* | 0.25 | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.25 | 68.20 | |
| | 1B | 0.25 | | | | | | | | | |
| | 2D* | 0.50 | | | | | | Firm brown sandy silty CLAY with frequent rootlets (<1mm diam). | | | |
| | 3B | 0.50 | | | | | | | | | |
| | 4D* | 1.00 | | | | | | | 1.00 | 67.45 | |
| | 5B | 1.00 | | | | | | Firm fissured orangish brown and bluish grey slightly sandy silty CLAY with frequent black angular fine and medium gravel sized organic fragments. | | | |
| | 6D | 1.20 - 1.25 | | | | | | | | | |
| | 7UT | 1.70 - 2.10 | | 1.70 | | | | | | | |
| | 8D | 2.10 - 2.20 | | | | | | | 2.20 | 66.25 | |
| | 9D | 2.20 - 2.65 | | 1.70 | S 10 | | | Firm fissured brownish grey slightly sandy silty CLAY with orangish brown and yellowish brown silt on fissure surfaces and rare fine and medium gravel sized gypsum crystals. | | | |
| | 10UT | 2.70 - 3.10 | | 1.70 | | | | | | | |
| | 11D | 3.10 - 3.20 | | | | | | | 3.20 | 65.25 | |
| | 12D | 3.20 - 3.65 | | 1.70 | S 12 | | | Firm brownish grey silty CLAY with rare fine and medium gravel sized pockets of orangish brown silt and frequent coarse gravel sized gypsum crystals. | | | |
| | 13UT | 3.70 - 4.10 | | 1.70 | | | | | | | |
| | 14D | 4.10 - 4.20 | | | | | | | 4.20 | 64.25 | |
| | 15D | 4.20 - 4.65 | | 1.70 | S 18 | | | Firm becoming stiff brownish grey silty CLAY with rare fine and medium gravel sized shell fragments. | | | |
| | 16UT | 4.70 - 5.10 | | 1.70 | | | | | | | |
| | 17D | 5.10 - 5.20 | | | | | | | | | |
| | 18D | 5.20 - 5.65 | | 1.70 | S 24 | | | | | | |
| | 19D | 6.20 - 6.25 | | | | | | | | | |
| | 20UT | 6.20 - 6.60 | | 1.70 | | | | | | | |
| | 21D | 6.60 - 6.70 | | | | | | | | | |
| | 22D | 6.70 - 7.15 | | 1.70 | S 39 | | | 6.70m: Very stiff with frequent fine to coarse gravel sized shell fragments. | | | |
| | 23D | 7.70 - 7.75 | | | | | | | | | |
| 25/03/15 1100hrs | 24UT | 7.70 - 8.10 | | 1.70 | | | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.20m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.20-0.40m, bentonite seal 0.40-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CP113**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 25 March 2015 | Easting | 458905.2 | | | Scale | 1 : 50 |
| End Date | 25 March 2015 | Northing | 221152.0 | Ground level | 68.45mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dry | 25D | 8.10 | 8.20 | | | | | | 8.10 - 8.20m: Indistinctly laminated. | 8.20 | 60.25 | |
| | | | | | | | | | Borehole completed at 8.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **CP114** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 24 March 2015 | Easting | 459190.7 | | | Scale | 1 : 50 |
| End Date | 24 March 2015 | Northing | 220986.4 | Ground level | 71.10mOD | Depth | 8.10 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24/03/15 1230hrs | 1D* | 0.25 | | | | | | Grass over firm brown mottled orangish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.25 | 70.85 | |
| | 2B | 0.25 | | | | | | | | | |
| | 3D* | 0.50 | | | | | | Firm fissured orangish brown mottled grey slightly sandy silty CLAY with frequent black angular fine and medium gravel sized organic fragments. | | | |
| | 4B | 0.50 | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | | |
| | 6B | 1.00 | 1.20 | | | | | | | | |
| | 7D | 1.20 | 1.25 | | | | | | | | |
| | 8UT | 1.70 | 2.10 | 1.70 | | | | | | | |
| | 9D | 2.10 | 2.20 | | | | | | 2.20 | 68.90 | |
| | 10D | 2.20 | 2.65 | 1.70 | S 11 | | | Firm fissured brownish grey silty CLAY with orangish brown silt on fissure surfaces and rare fine and medium sand sized gypsum crystals. | | | |
| | 11UT | 2.70 | 3.10 | | | | | | | | |
| | 12D | 3.20 | 3.65 | 1.70 | S 11 | | | | | | |
| | 13UT | 3.70 | 4.10 | | | | | | | | |
| | 14D | 4.10 | 4.20 | | | | | | 4.20 | 66.90 | |
| | 15D | 4.20 | 4.65 | 1.70 | S 18 | | | Stiff becoming very stiff indistinctly laminated brownish grey silty CLAY with frequent fine to coarse gravel sized shell fragments. | | | |
| | 16UT | 4.70 | 5.10 | | | | | | | | |
| | 17D | 5.20 | 5.25 | | | | | | | | |
| | 18D | 5.20 | 5.65 | 1.70 | S 22 | | | | | | |
| | 19D | 6.20 | 6.25 | | | | | | | | |
| | 20UT | 6.20 | 6.60 | 1.70 | | | | | | | |
| | 21D | 6.70 | 6.75 | | | | | | | | |
| | 22D | 6.70 | 7.15 | 1.70 | S 31 | | | 6.70 - 7.70m: Sandy with rare fine to coarse gravel sized belemnite fossils. | | | |
| | 23D | 7.70 | 7.75 | | | | | | | | |
| 24/03/15 1500hrs Dry | 24UT | 7.70 | 8.10 | 1.70 | | | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.10m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.10-0.40m, bentonite seal 0.40-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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# BOREHOLE LOG

**CP114**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | Sheet | 2 of 2 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Scale | 1 : 50 |
| Start Date | 24 March 2015 | Easting | 459190.7 | | | | |
| End Date | 24 March 2015 | Northing | 220986.4 | Ground level | 71.10mOD | Depth | 8.10 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Borehole completed at 8.10m. | 8.10 | 63.00 | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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Geotechnical Engineering Limited

# BOREHOLE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **CP115** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 25 March 2015 | Easting | 458895.5 | | | Scale | 1 : 50 |
| End Date | 25 March 2015 | Northing | 221298.7 | Ground level | 67.55mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25/03/15 1200hrs | 1D* | 0.25 | | | | | | Brown gravelly fine to coarse SAND with frequent roots (<5mm diam) and rootlets (<1mm diam). Gravel is subangular and subrounded fine to coarse crystalline. (MADE GROUND) | 0.50 | 67.05 | |
| | 2B | 0.25 | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | | | |
| | 4B | 0.50 | | | | | | | | | |
| | 5D* | 1.00 | | | | | | Brown slightly sandy clayey subangular and subrounded fine to coarse brick GRAVEL and COBBLES. (MADE GROUND) | 1.00 | 66.55 | |
| | 6B | 1.00 - 1.20 | | | | | | Soft bluish grey and orangish brown slightly gravelly silty CLAY with rare rootlets (<2mm diam). Gravel is subangular and subrounded fine and medium brick. (MADE GROUND) | 1.50 | 66.05 | |
| | 7D* | 1.50 - 1.55 | | | | | | 1.00 - 1.20m: With frequent fine to coarse gravel sized plastic fragments. | | | |
| | 8UT | 1.70 - 2.10 | | 1.70 | | | | Firm fissured brownish grey silty CLAY with rare rootlets (<1mm diam) are rare grey fine and medium sand partings and rare fine to coarse sand sized gypsum crystals. | | | |
| | 9D* | 2.20 - 2.25 | | 1.70 | S 7 | | | | | | |
| | 10D | 2.20 - 2.65 | | | | | | | | | |
| | 11UT | 2.70 - 3.10 | | 1.70 | | | | | 2.90 | 64.65 | |
| | 12D | 3.20 - 3.25 | | 1.70 | S 13 | | | Firm indistinctly laminated brownish grey silty CLAY with frequent orangish brown silt partings (<2mm diam) and frequent fine and medium gravel sized gypsum crystals. | | | |
| | 13D | 3.20 - 3.65 | | | | | | | | | |
| | 14UT | 3.70 - 4.10 | | 1.70 | | | | | 4.20 | 63.35 | |
| | 15D | 4.20 - 4.25 | | 1.70 | S 28 | | | Stiff brownish grey silty CLAY with frequent fine and medium gravel sized shell fragments. | | | |
| | 16D | 4.20 - 4.65 | | | | | | | | | |
| | 17UT | 4.70 - 5.10 | | 1.70 | | | | | | | |
| | 18D | 5.10 - 5.20 | | | | | | | | | |
| | 19D | 5.20 - 5.38 | | 1.70 | S*600 | | | | 6.20 | 61.35 | |
| | 20D | 6.20 - 6.25 | | 1.70 | | | | Stiff thinly laminated brownish grey silty CLAY with frequent light grey fine and medium sand partings (<1mm diam). | | | |
| | 21UT | 6.20 - 6.60 | | | | | | | 6.70 | 60.85 | |
| | 22D | 6.70 - 6.75 | | 1.70 | S 29 | | | Stiff thinly laminated brownish grey silty CLAY with rare fine and medium gravel sized shell fragments. | | | |
| | 23D | 6.70 - 7.15 | | | | | | | | | |
| 25/03/15 1500hrs | 24D | 7.70 - 7.75 | | 1.70 | | | | | | | |
| | 25UT | 7.70 - 8.10 | | | | | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Light cable percussive (shell and auger) rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (150mm) 1.20-8.20m.

CASING: 150mm diam to 1.70m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 8.00m, granular response zone 8.20-1.50m, bentonite seal 1.50-0.10m, concrete and traffic rated cover 0.10-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | | | |
|---|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | AGS | CONTRACT **30378** | CHECKED |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**CP115**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 25 March 2015 | Easting | 458895.5 | | | Scale | 1 : 50 |
| End Date | 25 March 2015 | Northing | 221298.7 | Ground level | 67.55mOD | Depth | 8.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dry | 26D | 8.10 | 8.20 | | | | | | 8.00 - 8.20m: Slightly sandy. | 8.20 | 59.35 | |
| | | | | | | | | | Borehole completed at 8.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**RC301**

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | Sheet | 1 of 2 |
| Start Date | 9 March 2015 | Easting | 458355.6 | Scale | 1 : 50 |
| End Date | 10 March 2015 | Northing | 220703.7 Ground level 71.10mOD | Depth | 15.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | $I_f$ | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09/03/15 1400hrs | 1D* | 0.20 | | | | | | | Grass over firm brown slightly sandy slightly gravelly silty CLAY with frequent rootlets (<1mm diam). Gravel is subangular and subrounded fine to coarse brick. (MADE GROUND) | 0.15 | 70.95 | |
| | 2B | 0.20 | 0.40 | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | | | | |
| | 4B | 0.50 | 0.70 | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | Firm closely fissured orangish brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is subangular and subrounded fine and medium limestone. Fissures are randomly orientated and undulating. | 0.80 | 70.30 | |
| | 6B | 1.00 | 1.20 | | | | | | | | | |
| | 7UT | 1.20 | 1.65 | Nil | | | | | | | | |
| | 9X | 1.20 | 2.20 | 2.20 | | | | | Stiff closely fissured orangish brown mottled bluish grey slightly sandy silty CLAY with rare rootlets (<1mm diam) and rare partings (<2mm) of fine to coarse sand sized gypsum crystals. Fissures are randomly orientated and undulating. 1.45 - 1.55m: With frequent partings (<2mm) of fine to coarse sand sized gypsum crystals. | 1.55 | 69.55 | |
| | 8D | 1.65 | 1.70 | Nil | | | | | | 1.70 | 69.40 | |
| | 10UT | 2.20 | 2.65 | 2.20 | | | | | | | | |
| | 12X | 2.20 | 3.20 | | | | | | Stiff closely fissured orangish brown rarely mottled grey silty CLAY with frequent fine to coarse gravel sized pockets of orangish brown silt. Fissures are randomly orientated and undulating. | 2.50 | 68.60 | |
| | 11D | 2.65 | 2.70 | | | | | | | | | |
| | 13UT | 3.20 | 3.65 | 2.20 | | | | | Stiff closely fissured brownish grey mottled orangish brown silty CLAY. Fissures are intersecting and rough with orangish brown sand on surfaces. | | | |
| | 15X | 3.20 | 4.20 | | | | | | | | | |
| 09/03/15 1600hrs 3.89m | 14D | 3.65 | 3.70 | | | | | | Stiff closely fissured greyish brown mottled light orangish brown slightly sandy silty CLAY. Fissures are intersecting and rough. 2.80 - 4.50m: With frequent fine and medium (rare coarse) gravel sized gypsum crystals. 3.50 - 4.50m: With frequent yellowish brown fine and medium gravel sized silt pockets. | | | |
| 10/03/15 1000hrs 3.98m | 16UT | 4.20 | 4.65 | 2.20 | | | | | | | | |
| | 17X | 4.20 | 5.20 | 4.20 | | | | | | 4.50 | 66.60 | |
| | 18D | 4.65 | 4.70 | | | | | | Stiff indistinctly laminated greyish brown sandy CLAY with rare fine and medium gravel sized shell fragments. 4.50 - 4.60m: With frequent fine and medium gravel sized shell fragments. 5.10 - 7.10m: Dark bluish grey. | | | |
| | 19C | 5.20 | 6.30 | 4.20 | | 100 | | | | | | |
| | 20C | 6.30 | 7.30 | 4.20 | | 100 | | | | | | |
| | | | | | | | | | | 7.10 | 64.00 | |
| | 21C | 7.30 | 8.50 | 4.20 | | 100 | | | Very stiff brownish grey sandy CLAY with frequent fine and medium gravel sized shell fragments. | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-5.20m. Waterflush rotary core drilled (146mm) 5.20-15.20m.

CASING: 168mm diam to 4.20m.

BACKFILL: On completion, hole backfilled with bentonite pellets 15.20-0.50m, arisings 0.50-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

Geotechnical Engineering Ltd, Tel. 01452 527743 30378 MASTER.GPJ TRIALJH.GPJ GEOTECH.GLB 29/07/2015 10:50:15 ED CT

Geotechnical Engineering Limited

# BOREHOLE LOG

**RC301**

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | Sheet | 2 of 2 |
| Start Date | 9 March 2015 | Easting | 458355.6 | Scale | 1 : 50 |
| End Date | 10 March 2015 | Northing | 220703.7 Ground level 71.10mOD | Depth | 15.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | $I_f$ | instru -ment | description | depth (m) | reduced level (m) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22C | 8.50 | 10.00 | 4.20 | | 93 | | | | | |
| | 23Cs | 9.40 | 9.80 | | | | | | | | |
| | 24C | 10.00 | 11.50 | 4.20 | | 93 | | | | | |
| | 25C | 11.50 | 13.00 | 4.20 | | 100<br>13<br>13 | | | | | |
| | | | | | | | | | Very stiff brown slightly sandy silty CLAY with frequent fine to coarse shell fragments.<br>12.00m: Band of weak black mudstone (5mm). | 11.90 | 59.20 |
| | | | | | | | 200 | | Strong light grey and white LIMESTONE. No fractures in core. | 12.80 | 58.30 |
| | 26C | 13.00 | 14.50 | 4.20 | | 100 | | | Very stiff closely fissured brown slightly sandy silty CLAY with frequent fine to coarse shell fragments. Fissures are randomly orientated and undulating. | 13.00 | 58.10 |
| | 27Cs | 13.70 | 14.00 | | | | | | 14.10 - 14.20m: 1 no. 85° polished shear surface. | | |
| | 28C | 14.50 | 15.20 | 4.20 | | 100 | | | 14.40 - 14.50m: 1 no. 85° polished shear surface. | | |
| 10/03/15<br>1600hrs<br>2.26m | | | | | | | | | 14.95 - 15.20m: Sandy. | 15.20 | 55.90 |
| | | | | | | | | | Borehole completed at 15.20m. | | |
| | | | | | | | | | | {18.00} | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered. |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

## RC302

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | Sheet | 1 of 2 |
| Start Date | 11 March 2015 | Easting | 458361.6 | Scale | 1 : 50 |
| End Date | 11 March 2015 | Northing | 220649.9 Ground level 72.20mOD | Depth | 15.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11/03/15 0900hrs | 2B<br>1D* | 0.20 - 0.40<br>0.20 | | | | | | Grass over firm brown slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse brick. (MADE GROUND) | 0.15 | 72.05 | |
| | 4B<br>3D* | 0.50 - 0.70<br>0.50 | | | | | | Firm closely fissured orangish brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is subangular and subrounded fine and medium limestone. Fissures are randomly orientated and undulating. | 0.80 | 71.40 | |
| | 6B<br>5D* | 1.00 - 1.20<br>1.00 | | | | | | | | | |
| | 7UT<br>9X | 1.20 - 1.65<br>1.20 - 2.20 | Nil | | | | | Firm orangish brown and grey silty CLAY.<br>1.40 - 1.85m: With frequent fine to coarse gravel sized pockets of white silt. | | | |
| | 8D | 1.65 - 1.70 | Nil | | | | | | 1.85 | 70.35 | |
| | | | | | | | | Soft orangish brown very sandy CLAY with rare fine to coarse gravel sized pockets of white silt. | 2.00<br>2.20 | 70.20<br>70.00 | |
| | 10UT<br>12X | 2.20 - 2.65<br>2.20 - 3.20 | 2.20 | | | | | Firm closely fissured grey and brown silty CLAY with part decomposed plant remains and yellowish fine to coarse sand sized gypsum crystals along fissure surfaces. Fissures are randomly orientated and undulating. | 2.30<br>2.45 | 69.90<br>69.75 | |
| | 11D | 2.65 - 2.70 | | | | | | Firm orangish brown and grey silty CLAY with frequent fine to coarse gravel sized pockets of white silt. | | | |
| | 13UT<br>15X | 3.20 - 3.65<br>3.20 - 4.20 | 2.20 | | | | | Soft orangish brown very sandy silty CLAY. | | | |
| | 14D | 3.65 - 3.70 | | | | | | Firm closely fissured brownish grey slightly sandy silty CLAY with frequent orangish brown silt on fissure surfaces and frequent fine to coarse sand sized gypsum crystals.<br>3.40 - 4.50m: Stiff. | | | |
| | 16UT<br>18X | 4.20 - 4.65<br>4.20 - 5.20 | 4.20 | | | | | | 4.50 | 67.70 | |
| | 17D | 4.65 - 4.70 | 4.20 | | | | | Very stiff closely fissured brownish grey slightly sandy silty CLAY with frequent fine and medium gravel sized shell fragments. Fissures are randomly orientated and undulating. | | | |
| | 19UT<br>20X | 5.20 - 5.65<br>5.20 - 6.20 | 4.20 | | | | | | | | |
| | 21D | 5.65 - 5.70 | | | | | | | | | |
| | 22C | 6.20 - 7.50 | 6.20 | | 100 | | | | 6.50 | 65.70 | |
| | | | | | | | | Very stiff brownish grey silty CLAY with rare fine and medium gravel sized shell fragments.<br>7.10m: 1 no. polished 45° shear surface. | | | |
| | 23C | 7.50 - 9.00 | 6.20 | | 100 | | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-6.20m. Waterflush rotary core drilled (146mm) 6.20-15.00m.

CASING: 168mm diam to 6.20m.

BACKFILL: On completion, hole backfilled with bentonite pellets 15.00-0.50m, arisings 0.50-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | | | |
|---|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | AGS | CONTRACT 30378 | CHECKED |

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**RC302**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 11 March 2015 | Easting | 458361.6 | | | Scale | 1 : 50 |
| End Date | 11 March 2015 | Northing | 220649.9 | Ground level | 72.20mOD | Depth | 15.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24Cs | 8.00 | 8.30 | | | | | | 8.30 - 8.45m: 1 no. polished 45° shear surface. | | | |
| | 25C | 9.00 | 10.50 | 6.20 | | 100 | | | | | | |
| | | | | | | | | | Very stiff closely fissured brownish grey slightly sandy silty CLAY with frequent fine and medium gravel sized shell fragments. Fissures are randomly orientated and undulating. | 9.80 | 62.40 | |
| | 26C<br>27Cs | 10.50<br>10.60 | 12.00<br>11.00 | 6.20 | | 100 | | | | | | |
| | 28C | 12.00 | 13.50 | 6.20 | | 100 | | | | | | |
| | 29Cs | 12.40 | 12.70 | | | | | | | | | |
| | 30C | 13.50 | 15.00 | 6.20 | | 100 | | | 13.35m: 1 no. smooth 80° undulating shear surface.<br>13.60 - 14.50m: With frequent fine and medium gravel sized shell fragments. | | | |
| 11/03/15<br>1530hrs<br>2.59m | | | | | | | | | 14.75m: 1 no. smooth 30° undulating shear surface. | 15.00 | 57.20 | |
| | | | | | | | | | Borehole completed at 15.00m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered. | 30378 | |

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# BOREHOLE LOG

## RC303

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 12 March 2015 | Easting | 458425.8 | | | Scale | 1 : 50 |
| End Date | 12 March 2015 | Northing | 220651.0 | Ground level | 73.85mOD | Depth | 15.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/03/15 0930hrs | 1D* | 0.20 | | | | | | Grass over firm brown slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse brick. (MADE GROUND) | 0.15 | 73.70 | |
| | 2B | 0.20 | 0.40 | | | | | | | | |
| | 3D* | 0.50 | | | | | | | | | |
| | 4B | 0.50 | 0.70 | | | | | Firm closely fissured orangish brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is subangular and subrounded fine and medium limestone. Fissures are randomly orientated and undulating. | 0.70 | 73.15 | |
| | 5D* | 1.00 | | | | | | | | | |
| | 6B | 1.00 | 1.20 | | | | | | | | |
| | 7UT | 1.20 | 1.65 | Nil | | | | Firm closely fissured bluish grey and orangish brown silty CLAY. Fissures are randomly orientated, undulating and smooth. | | | |
| | 8X | 1.20 | 2.20 | | | | | | | | |
| | 9D | 1.65 | 1.70 | Nil | | | | 1.80 - 2.35m: With rare part decomposed plant remains (<5mm diam). | | | |
| | | 2.00 | | | H 60 | | | | | | |
| | 10UT | 2.20 | 2.65 | 2.20 | | | | Stiff closely fissured brown silty CLAY with frequent fine to coarse gravel sized pockets of yellowish brown fine to coarse sand sized crystals and a faint organic odour. Fissures are randomly orientated, intersecting and rough. | 2.35 | 71.50 | |
| | 11X | 2.20 | 3.20 | | | | | | | | |
| | 12D | 2.65 | 2.70 | | | | | | | | |
| | 13UT | 3.20 | 3.65 | 3.20 | | | | | | | |
| | 14X | 3.20 | 4.20 | | | | | | 3.50 | 70.35 | |
| | 15D | 3.65 | 3.70 | | | | | Very stiff indistinctly thinly laminated friable brown silty CLAY with a faint organic odour. | | | |
| | 16UT | 4.20 | 4.65 | 4.20 | | | | 4.10 - 5.60m: With rare fine to coarse gravel sized pockets of yellowish fine to coarse sand sized gypsum crystals. | | | |
| | 17X | 4.20 | 5.20 | | | | | | | | |
| | 18D | 4.65 | 4.70 | | | | | 4.60 - 4.70m: With frequent fine to coarse gravel sized shells and shell fragments. | | | |
| | 19UT | 5.20 | 5.65 | 4.20 | | 100 | | | | | |
| | 20C | 5.20 | 6.70 | 5.20 | | | | | 5.60 | 68.25 | |
| | 21D | 5.65 | 5.70 | | | | | Very stiff indistinctly laminated brownish grey silty CLAY with frequent fine and medium gravel sized shell fragments. | | | |
| | | 5.90 | | | H 118 | | | | | | |
| | 22Cs | 6.40 | 6.70 | | | | | | | | |
| | 23C | 6.70 | 7.50 | 5.20 | | 88 | | | | | |
| | 24C | 7.50 | 9.00 | 5.20 | | 100 | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-5.20m. Waterflush rotary core drilled (146mm) 5.20-15.00m.

CASING: 168mm diam to 5.20m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 15.00m, granular response zone 15.00-1.00m, bentonite seal 1.00m-0.40m, gravel 0.40-0.30m, concrete and traffic rated cover 0.30-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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# BOREHOLE LOG

**RC303**

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | Sheet | 2 of 2 |
| Start Date | 12 March 2015 | Easting | 458425.8 | Scale | 1 : 50 |
| End Date | 12 March 2015 | Northing | 220651.0 Ground level 73.85mOD | Depth | 15.00 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25Cs | 8.55 - 8.80 | | | | | | | | | |
| | 26C | 9.00 - 10.50 | 5.20 | | 100 | | | | | | |
| | | | | | | | | 10.00 - 15.00m: With rare fine to coarse gravel sized shells and shell fragments. | | | |
| | 27Cs | 10.20 - 10.50 | | | | | | | | | |
| | 28C | 10.50 - 10.80 | 5.20 | | 100 | | | | | | |
| | 29C | 10.80 - 12.00 | 5.20 | | 100 | | | | | | |
| | 30C | 12.00 - 13.50 | 5.20 | | 87 | | | | | | |
| | | | | | | | | 12.60 - 12.65m: 1 no. 45° smooth shear surface. | | | |
| | 31C | 13.50 - 15.00 | 5.20 | | 100 | | | | | | |
| | | | | | | | | 13.75 - 13.80m: With frequent fine to coarse gravel sized shells and shell fragments.<br>13.75 - 15.00m: Slightly sandy.<br>14.00 - 14.10m: 1 no. 60° smooth shear surface. | | | |
| 12/03/15 1600hrs 2.68m | 32Cs | 14.70 - 15.00 | | | | | | | 15.00 | 58.85 | |
| | | | | | | | | Borehole completed at 15.00m. | | | |
| | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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# BOREHOLE LOG

**RC304**

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | Sheet | 1 of 2 |
| Start Date | 13 March 2015 | Easting | 458442.0 | Scale | 1 : 50 |
| End Date | 16 March 2015 | Northing | 220693.3 Ground level 73.20mOD | Depth | 15.40 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13/03/15 1045hrs | 1D* | 0.20 | | | | | | | Grass over firm brown slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse brick. (MADE GROUND) | 0.15 | 73.05 | |
| | 2B | 0.20 | 0.40 | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | | | | |
| | 4B | 0.50 | 0.70 | | | | | | Firm closely fissured orangish brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is subangular and subrounded fine and medium limestone. Fissures are randomly orientated and undulating. | 0.70 | 72.50 | |
| | 5D* | 1.00 | | | | | | | | | | |
| | 6B | 1.00 | 1.20 | | | | | | | | | |
| | 7UT | 1.20 | 1.65 | Nil | | | | | Firm orangish brown and bluish grey silty CLAY. | | | |
| | 9X | 1.20 | 2.20 | | | | | | | | | |
| | 8D | 1.65 | 1.70 | | | | | | 1.70 - 1.85m: Rare part decomposed plant remains (<5mm diam). | 1.85 | 71.35 | |
| | | 1.80 | | | H 39 | | | | | | | |
| | | 2.00 | | | H 60 | | | | | | | |
| | 10UT | 2.20 | 2.65 | 2.20 | | | | | Firm indistinctly laminated bluish grey and orangish brown silty CLAY with frequent part decomposed plant remains (<5mm diam) and a faint organic odour. | 2.50 | 70.70 | |
| | 12X | 2.20 | 3.20 | | | | | | | | | |
| | 11D | 2.65 | 2.70 | | | | | | Very stiff indistinctly laminated brown mottled grey silty CLAY with fine and medium gravel sized pockets of off-white silt. | | | |
| | 13UT | 3.20 | 3.65 | 3.20 | | | | | | | | |
| | 15X | 3.20 | 4.20 | | | | | | | | | |
| | 14D | 3.65 | 3.70 | | | | | | | 3.90 | 69.30 | |
| | 16UT | 4.20 | 4.65 | 4.20 | | | | | Very stiff closely fissured brown slightly sandy silty CLAY with frequent fine and medium gravel sized shell fragments. Fissures are randomly orientated, undulating and smooth. | | | |
| | 18X | 4.20 | 5.20 | | | | | | | | | |
| | 17D | 4.65 | 4.70 | | | | | | | | | |
| | 19UT | 5.20 | 5.65 | 4.20 | | | | | | | | |
| | 21X | 5.20 | 6.20 | | | | | | | | | |
| | 20D | 5.65 | 5.70 | | | | | | | | | |
| | 22UT | 6.20 | 6.65 | 4.20 | | | | | | | | |
| | 24X | 6.20 | 7.20 | | | | | | | | | |
| | 23D | 6.65 | 6.70 | | | | | | | | | |
| 13/03/15 1330hrs 5.12m | | | | | | | | | | 7.00 | 66.20 | |
| 16/03/15 0930hrs 5.21m | 25UT | 7.20 | 7.65 | 4.20 | | 80 | | | Very stiff indistinctly laminated greyish brown slightly sandy silty CLAY with rare fine to coarse gravel sized belemnite fossils and shell fragments. | | | |
| | 27C | 7.20 | 8.70 | 7.20 | | | | | | | | |
| | 26D | 7.65 | 7.70 | | | | | | | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-7.20m. Waterflush rotary core drilled (146mm) 7.20-15.40m.

CASING: 168mm diam to 7.20m.

BACKFILL: On completion, hole backfilled with bentonite pellets 15.40-0.50m, arisings 0.50-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks |
|---|---|---|---|---|
| 1.20 | Nil | 1.03 | 20 | 1.13m (5 mins), 1.07m (10mins), 1.03m (15 mins) |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# BOREHOLE LOG

**RC304**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 13 March 2015 | Easting | 458442.0 | | | Scale | 1 : 50 |
| End Date | 16 March 2015 | Northing | 220693.3 | Ground level | 73.20mOD | Depth | 15.40 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 28C | 8.70 | 10.20 | 7.20 | | 93 | | | | | | |
| | 29Cs | 9.70 | 10.00 | | | | | | | | | |
| | 30C | 10.20 | 10.90 | 7.20 | | 85 | | | | | | |
| | 31C | 10.90 | 12.40 | 7.20 | | 90 | | | 11.55m: 1 no. cobble sized ammonite fossil with iron pyritization. | | | |
| | 32C | 12.40 | 13.90 | 7.20 | | 87 | | | | | | |
| | 33C | 13.90 | 15.40 | 7.20 | | 100 | | | 14.30 - 15.40m: Slightly sandy with frequent fine to coarse gravel sized shells and shell fragments. | | | |
| | 34Cs | 14.55 | 14.90 | | | | | | | | | |
| 16/03/15 1300hrs 1.89m | | | | | | | | | | 15.40 | 57.80 | |
| | | | | | | | | | Borehole completed at 15.40m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | AGS | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|---|
| | | | | | | 30378 | |

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# BOREHOLE LOG

**RC305**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | Sheet | 1 of 2 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Scale | 1 : 50 |
| Start Date | 16 March 2015 | Easting | 458746.9 | | | | |
| End Date | 18 March 2015 | Northing | 220852.0 | Ground level | 74.10mOD | Depth | 15.70 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16/03/15 1120hrs | 1D* | 0.25 | | | | | | | Grass over clay - Driller's Description. | | | |
| | 2B | 0.25 | 0.40 | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | | | | |
| | 4B | 0.50 | 0.70 | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | | | |
| | 6B | 1.00 | 1.20 | | | | | | | 1.20 | 72.90 | |
| | 7UT | 1.20 | 1.65 | Nil | | | | | Firm very closely fissured dark grey mottled orangish brown slightly sandy silty CLAY. Fissures are frequently infilled with white silt (<1mm). | | | |
| | 9X | 1.20 | 2.20 | | | | | | | | | |
| | 8D | 1.65 | 1.70 | | H 47 | | | | | | | |
| | | 1.70 | | | | | | | | 2.10 | 72.00 | |
| | 10UT | 2.20 | 2.65 | 2.20 | | | | | Firm very closely fissured dark grey mottled orangish brown slightly sandy silty CLAY with fine and medium sand-sized crystals of gypsum. | | | |
| | 12X | 2.20 | 3.20 | | | | | | | | | |
| | 11D | 2.65 | 2.70 | | | | | | | | | |
| | | 3.00 | | | H 46 | | | | | | | |
| | 13UT | 3.20 | 3.65 | 3.20 | | | | | | | | |
| | 15X | 3.20 | 4.20 | | | | | | | 3.50 | 70.60 | |
| | 14D | 3.65 | 3.70 | | | | | | Firm closely fissured brown mottled yellowish brown sandy silty CLAY with frequent shell fragments (up to 5mm). | | |
| | | 4.10 | | | H 54 | | | | | | | |
| | 16UT | 4.20 | 4.65 | 4.20 | | | | | | | | |
| | 18X | 4.20 | 5.20 | | | | | | | | | |
| | 17D | 4.65 | 4.70 | | | | | | | | | |
| | | | | | | | | | | 5.20 | 68.90 | |
| | 19X | 5.20 | 6.20 | 5.20 | | | | | Very stiff black silty CLAY with rare shell fragments (up to 5mm). | | | |
| | 20UT | 5.20 | 5.65 | | | | | | | | | |
| | 21D | 5.65 | 5.70 | | | | | | | | | |
| | 22UT | 6.20 | 6.65 | 6.20 | | | | | | | | |
| | 24X | 6.20 | 7.20 | | | | | | | | | |
| 16/03/15 1630hrs 5.20m | 23D | 6.65 | 6.70 | | | | | | | | | |
| 17/03/15 0930hrs 4.80m | 25C | 7.20 | 8.70 | 6.20 | | 85 | | | | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-7.20m. Waterflush rotary core drilled (146mm) 7.20-15.70m.

CASING: 168mm diam to 6.20m.

BACKFILL: On completion, hole backfilled with bentonite pellets 15.70-1.00m and arisings 1.00-0.00m.

REMARKS: Dynamic sampling carried out to recover dropped core. 12.70-14.20m recovered 1.50m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks |
|---|---|---|---|---|
| 2.00 | 2.20 | | 20 | |

AGS

CONTRACT **30378**

CHECKED

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# BOREHOLE LOG

**RC305**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 16 March 2015 | Easting | 458746.9 | | | Scale | 1 : 50 |
| End Date | 18 March 2015 | Northing | 220852.0 | Ground level | 74.10mOD | Depth | 15.70 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 8.50 | 65.60 | |
| | 26Cs | 8.50 - 8.70 | | | | | | | Very stiff black and dark grey silty CLAY with frequent pyritised shell fragments (up to 10mm). | | | |
| | 27C | 8.70 - 9.70 | | | | 94 | | | | | | |
| | | 9.60 | | | H 130 | | | | | | | |
| | 28C | 9.70 - 11.20 | | 6.20 | | 93 | | | | 9.80 | 64.30 | |
| | | | | | | | | | Very stiff greenish grey CLAY with frequent shell fragments (up to 10mm). | | | |
| | | | | | | | | | 10.90m: Fissure is 10° planar smooth. | | | |
| | 29C | 11.20 - 12.70 | | | | 89 | | | | | | |
| | | | | | | | | | 12.50m: Fissure is 30° planar smooth. | | | |
| | 30C | 12.70 - 14.20 | | 6.20 | | 92 | | | | | | |
| | | 12.90 | | | H 130 | | | | | | | |
| 17/03/15 1600hrs 4.20m | | | | | | | | | | | | |
| | 31C | 14.20 - 14.30 | | 6.20 | | 99 | | | | | | |
| 18/03/15 0810hrs 4.80m | 32C | 14.30 - 15.70 | | | | 94 | | | | | | |
| | 33Cs | 14.60 - 14.85 | | | | | | | | | | |
| 18/03/15 1600hrs | | | | | | | | | | 15.70 | 58.40 | |
| | | | | | | | | | Borehole completed at 15.70m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | | 30378 | |

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Geotechnical Engineering Limited

# BOREHOLE LOG

**RC306**

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | Sheet | 1 of 2 |
| Start Date | 18 March 2015 | Easting | 458818.7 | Scale | 1 : 50 |
| End Date | 19 March 2015 | Northing | 220866.6 Ground level 74.20mOD | Depth | 15.40 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18/03/15 1055hrs | 1D* | 0.20 | | | | | | | Grass over firm brown slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse brick. (MADE GROUND) | 0.15 | 74.05 | |
| | 2B | 0.25 - 0.40 | | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | Firm closely fissured orangish brown and bluish grey silty CLAY with frequent fine and medium gravel sized shell fragments. Fissures are randomly orientated, undulating and rough. | | | |
| | 4B | 0.50 - 0.70 | | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | | | |
| | 6B | 1.00 - 1.20 | | | | | | | | | | |
| | 7UT | 1.20 - 1.65 | | Nil | | | | | | | | |
| | 9X | 1.20 - 2.20 | | | | | | | | | | |
| | 8D | 1.65 - 1.70 | | | | | | | | | | |
| | | 2.00 | | | H 47 | | | | | | | |
| | 10UT | 2.20 - 2.65 | | 2.20 | | | | | 2.10 - 2.20m: With frequent fine to coarse gravel sized pockets of off-white silt and rare part decomposed plant remains (<3mm diam). | | | |
| | 12X | 2.20 - 3.20 | | | | | | | 2.20 - 4.60m: With frequent fine to coarse gravel sized pockets of fine to coarse sand sized gypsum crystals. | | | |
| | 11D | 2.65 - 2.70 | | | | | | | 2.60 - 4.60m: With rare fine to coarse gravel sized pockets of orangish brown sand. | | | |
| | 13UT | 3.20 - 3.65 | | 3.20 | | | | | | | | |
| | 15X | 3.20 - 4.20 | | | | | | | | | | |
| | 14D | 3.65 - 3.70 | | | | | | | 3.55 - 3.65m: With frequent fine to coarse gravel sized pockets of orangish brown silt. | | | |
| | 16UT | 4.20 - 4.65 | | 4.20 | | | | | | | | |
| | 18X | 4.20 - 5.20 | | | | | | | | 4.60 | 69.60 | |
| | 17D | 4.65 - 4.70 | | | | | | | Very stiff indistinctly laminated friable dark brown silty CLAY with frequent fine and medium gravel sized shell fragments and belemnite fossils. | | | |
| | 19UT | 5.20 - 5.65 | | 5.20 | | | | | | | | |
| | 21X | 5.20 - 6.20 | | | | | | | | | | |
| | 20D | 5.65 - 5.70 | | | | | | | | | | |
| | 22C | 6.20 - 7.20 | | 6.20 | | 100 | | | | | | |
| | 23C | 7.20 - 8.70 | | 6.20 | | 93 | | | | | | |
| | | | | | | | | | 7.60m: 1 no. 60° smooth shear surface. 7.65 - 7.80m: Sandy. | 7.80 | 66.40 | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-6.20m. Waterflush rotary core drilled (146mm) 6.20-15.40m.

CASING: 168mm diam to 6.20m.

BACKFILL: On completion, hole backfilled with bentonite pellets 15.40-0.50m, arisings 0.50-0.00m

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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Geotechnical Engineering Limited

# BOREHOLE LOG

**RC306**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 18 March 2015 | Easting | 458818.7 | | | Scale | 1 : 50 |
| End Date | 19 March 2015 | Northing | 220866.6 | Ground level | 74.20mOD | Depth | 15.40 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18/03/15 1615hrs 4.20m | | | | | | | | | Very stiff closely fissured brownish grey silty CLAY with frequent fine to coarse gravel sized shell fragments. Fissures are randomly orientated, undulating and rough. | | | |
| 19/03/15 0800hrs 4.20m | 24C | 8.70 | 10.20 | 6.20 | | 87 | | | | | | |
| | | | | | | | | | 9.20m: 1 no. coarse gravel sized pryatized fossil. | | | |
| | | | | | | | | | 9.60 - 9.70m: 1 no. 60° polished shear surface. | | | |
| | | | | | | | | | 9.85 - 9.95m: 1 no. 60° smooth shear surface. | | | |
| | 25C | 10.20 | 11.70 | 6.20 | | 100 | | | | | | |
| | | | | | | | | | 11.00 - 15.70m: Indistinctly laminated. | | | |
| | 26Cs | 11.40 | 11.70 | | | | | | | | | |
| | 27C | 11.70 | 13.20 | 6.20 | | 67 | | | | | | |
| | 28Cs | 12.05 | 12.20 | | | | | | | | | |
| | | | | | | | | | 12.60 - 12.70m: 1 no. 60° smooth shear surface. | | | |
| | 29C | 13.20 | 14.20 | 6.20 | | 100 | | | 13.10m: 1 no. 45° smooth shear surface. | | | |
| | 30Cs | 13.30 | 13.60 | | | | | | | | | |
| | 31C | 14.20 | 15.40 | 6.20 | | 100 | | | | | | |
| | 32Cs | 14.60 | 14.90 | | | | | | | | | |
| 19/03/15 1410hrs 4.00m | | | | | | | | | | 15.40 | 58.80 | |
| | | | | | | | | | Borehole completed at 15.40m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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# BOREHOLE LOG

## RC307

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 17 March 2015 | Easting | 458912.9 | | | Scale | 1 : 50 |
| End Date | 18 March 2015 | Northing | 220938.8 | Ground level | 72.00mOD | Depth | 15.30 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17/03/15 0915hrs | 1D* | 0.20 | | | | | | | Grass over firm brown slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse brick. (MADE GROUND) | 0.15 | 71.85 | |
| | 2B | 0.20 | 0.40 | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | Firm fissured orangish brown mottled bluish grey silty CLAY with frequent fine and medium gravel sized shell fragments and off- white silt on fissure surfaces. Fissures are randomly orientated, undulating and rough. | | | |
| | 4B | 0.50 | 0.70 | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | | | |
| | 6B | 1.00 | 1.20 | | | | | | | | | |
| | 7UT | 1.20 | 1.65 | Nil | | | | | | | | |
| | 8X | 1.20 | 2.20 | | | | | | | | | |
| | UT | 1.65 | 1.70 | Nil | | | | | | | | |
| | 9UT | 2.20 | 2.65 | 2.20 | | | | | | | | |
| | 11X | 2.20 | 3.20 | | | | | | | 2.50 | 69.50 | |
| | 10D | 2.65 | 2.70 | 2.20 | | | | | Firm fissured brownish grey silty CLAY with frequent fine to coarse sand sized gypsum crystals along fissures and part decomposed plant remains (<2mm diam). Fissures are randomly orientated, undulating and rough. 3.10 - 3.30m: With frequent off-white silt on fissure surfaces. | | | |
| | | 2.90 | | | H 58 | | | | | | | |
| | 12UT | 3.20 | 3.65 | 3.20 | | | | | | 3.30 | 68.70 | |
| | 14X | 3.20 | 4.20 | | | | | | Firm friable fissured dark brown silty CLAY with frequent fine and medium sand sized gypsum on fissure surfaces. Fissures are randomly orientated, intersecting and smooth. | | | |
| | 13D | 3.65 | 3.70 | 3.20 | | | | | | | | |
| | 15UT | 4.20 | 4.65 | 4.20 | | | | | | | | |
| | 17X | 4.20 | 5.20 | | | | | | | 4.50 | 67.50 | |
| | 16D | 4.65 | 4.70 | 4.20 | | | | | Stiff friable brownish grey silty CLAY with frequent fine and medium gravel sized shell fragments. | | | |
| | 18C | 5.20 | 5.70 | 4.20 | | 100 | | | | | | |
| | 19C | 5.70 | 7.20 | 4.20 | | 93 | | | | 6.00 | 66.00 | |
| | | | | | | | | | Stiff becoming very stiff indistinctly laminated brownish grey silty CLAY with frequent fine to coarse gravel sized shell fragments. | | | |
| | 20C | 7.20 | 8.70 | 4.20 | | 100 | | | | | | |
| | 21Cs | 7.40 | 7.70 | | | | | | | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-5.20m. Waterflush rotary core drilled (146mm) 5.20-11.90m and 12.90-15.30m, (116mm) 11.90-12.90m.

CASING: 168mm diam to 4.20m.

BACKFILL: On completion, hole backfilled with bentonite pellets 15.30-0.50m, arisings 0.50-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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Geotechnical Engineering Limited

# BOREHOLE LOG

**RC307**

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | Sheet | 2 of 2 |
| Start Date | 17 March 2015 | Easting | 458912.9 | Scale | 1 : 50 |
| End Date | 18 March 2015 | Northing | 220938.8 Ground level 72.00mOD | Depth | 15.30 m |

| progress date/time water depth | sample no & type | depth (m) from to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22C | 8.70 - 9.40 | 4.20 | | 93 | | | | | | |
| | 23C | 9.40 - 10.90 | 4.20 | | 100 | | | 9.50 - 15.30m: Slightly sandy. | | | |
| | 24Cs | 10.19 - 10.56 | | | | | | | | | |
| | 25C | 10.90 - 11.90 | 4.20 | | 100 | | | | | | |
| | 26Cs | 11.30 - 11.55 | | | | | | | | | |
| | 27C | 11.90 - 12.90 | 4.20 | | 100 | | | 11.75m: 1 no. grey and white subangular limestone cobble. | | | |
| 17/03/15 1530hrs 1.98m | | | | | | | | | | | |
| 18/03/15 0830hrs 1.84m | 28C | 12.90 - 14.10 | 4.20 | | 100 | | | | | | |
| | 29Cs | 13.47 - 13.79 | | | | | | | | | |
| | 30C | 14.10 - 15.30 | 4.20 | | 100 | | | | | | |
| 18/03/15 1000hrs 1.89m | 31Cs | 14.85 - 15.15 | | | | | | | 15.30 | 56.70 | |
| | | | | | | | | Borehole completed at 15.30m. | | | |
| | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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Geotechnical Engineering Ltd, Tel. 01452 527743 30378 MASTER.GPJ TRIALJH.GPJ GEOTECH.GLB 29/07/2015 10:50:24 ED RE

Geotechnical Engineering Limited

# BOREHOLE LOG

## RC308

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 18 March 2015 | Easting | 458964.6 | | | Scale | 1 : 50 |
| End Date | 19 March 2015 | Northing | 220949.3 | Ground level | 71.35mOD | Depth | 15.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18/03/15 1200hrs | 1D* | 0.20 | | | | | | Grass over firm brown slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse brick. (MADE GROUND) | 0.20 | 71.15 | |
| | 2B | 0.20 | 0.40 | | | | | | | | |
| | 3D* | 0.50 | | | | | | Firm friable dark grey, light grey and brown slightly sandy silty CLAY with rare fine to coarse gravel sized metal fragments. (MADE GROUND) | 0.50 | 70.85 | |
| | 4B | 0.50 | 0.70 | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | | |
| | 6B | 1.00 | 1.20 | | | | | Very soft light orangish brown mottled grey slightly sandy silty CLAY. | 1.20 | 70.15 | |
| | 7UT | 1.20 | 1.65 | Nil | | | | | | | |
| | 9X | 1.20 | 2.20 | | | | | Firm closely fissured bluish grey and orangish brown silty CLAY with frequent fine to coarse gravel sized pockets of off-white silt on fissure surfaces. Fissures are randomly orientated, undulating and rough. | 1.55 | 69.80 | |
| | 8D | 1.65 | 1.70 | Nil | | | | | | | |
| | | 1.90 | | | H 45 | | | | | | |
| | 10UT | 2.20 | 2.65 | 2.20 | | | | Firm fissured brown and bluish grey slightly sandy silty CLAY with frequent off-white silt and part decomposed plant remains on fissure surfaces. | 2.50 | 68.85 | |
| | 12X | 2.20 | 3.20 | | | | | | | | |
| | 11D | 2.65 | 2.70 | 2.20 | | | | Firm becoming stiff fissured dark grey and brown silty CLAY with frequent fine to coarse gravel sized pockets of fine to coarse sand sized gypsum crystals. | | | |
| | 13UT | 3.20 | 3.65 | 3.20 | | | | | | | |
| | 15X | 3.20 | 4.20 | | | | | | | | |
| | 14D | 3.65 | 3.70 | 3.20 | | | | | | | |
| | | 4.00 | | | H 59 | | | | 4.20 | 67.15 | |
| | 16UT | 4.20 | 4.65 | 4.20 | | | | Very stiff fissured dark grey and brown silty CLAY with frequent fine to coarse gravel sized pockets of fine to coarse sand sized gypsum crystals. | | | |
| | 18X | 4.20 | 5.20 | | | | | | | | |
| | 17D | 4.65 | 4.70 | 4.20 | | | | | | | |
| | 19Cs | 5.20 | 5.50 | | | | | | | | |
| | 20C | 5.20 | 6.20 | 4.20 | | 100 | | | | | |
| | 21C | 6.20 | 7.70 | 4.20 | | 93 | | | | | |
| | 22Cs | 6.70 | 6.95 | | | | | 7.10m: 1 no. 45° smooth shear surface. | | | |
| | 23C | 7.70 | 9.20 | 4.20 | | 100 | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-5.20m. Waterflush rotary core drilled (146mm) 5.20-15.20m.

CASING: 168mm diam to 4.20m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 15.20m, granular response zone 15.20-1.00m, bentonite seal 1.00m-0.40m, gravel 0.40-0.30m, concrete and traffic rated cover 0.30-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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# BOREHOLE LOG

**RC308**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 18 March 2015 | Easting | 458964.6 | | | Scale | 1 : 50 |
| End Date | 19 March 2015 | Northing | 220949.3 | Ground level | 71.35mOD | Depth | 15.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18/03/15 1530hrs 1.39m | 24Cs | 8.75 | 9.05 | | | | | | 8.45m: 1 no. 45° smooth shear surface.<br>8.60m: 1 no. 45° smooth shear surface.<br>8.60 - 8.75m: 1 no. 80° polished shear surface. | | | |
| 19/03/15 0830hrs 1.91m | 25C | 9.20 | 10.70 | 4.20 | | 100 | | | 9.50m: 1 no. 45° smooth shear surface.<br>9.60m: 1 no. 70° smooth shear surface.<br>9.65m: 1 no. 70° smooth shear surface. | | | |
| | 26Cs | 10.05 | 10.35 | | | | | | | | | |
| | 27C | 10.70 | 12.20 | 4.20 | | 100 | | | 10.85m: 1 no. 30° polished shear surface.<br>10.90m: 1 no. 30° polished shear surface.<br>11.05 - 11.10m: Sandy. | | | |
| | 28C | 12.20 | 13.70 | 4.20 | | 100 | | | | | | |
| | 29Cs | 13.40 | 13.70 | | | | | | | | | |
| | 30C | 13.70 | 15.20 | 4.20 | | 100 | | | | | | |
| | 31Cs | 14.00 | 14.30 | | | | | | | | | |
| 19/03/15 1100hrs 2.07m | | | | | | | | | | 15.20 | 56.15 | |
| | | | | | | | | | Borehole completed at 15.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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# BOREHOLE LOG

**RC309**

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | Sheet | 1 of 2 |
| Start Date | 19 March 2015 | Easting | 459014.0 | Scale | 1 : 50 |
| End Date | 26 March 2015 | Northing | 220932.0 Ground level 72.60mOD | Depth | 15.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/03/15 1610hrs | | | | | | | | | Grass over firm fissured brown mottled orangish brown and grey silty CLAY with frequent rootlets (<1mm diam). | 0.45 | 72.15 | |
| | 1B | 0.25 - 0.45 | | | | | | | | | | |
| | 2B | 0.50 - 0.70 | | | | | | | Firm fissured orangish brown mottled grey silty CLAY with frequent off-white silt on fissure surfaces and rare part decomposed plant remains. | | | |
| 19/03/15 1625hrs Dry | 3B | 1.00 - 1.20 | | | | | | | 1.00 - 2.05m: Grey. | | | |
| 20/03/15 0800hrs Dry | 4UT | 1.20 - 1.65 | | Nil | | | | | | | | |
| | 6X | 1.20 - 2.20 | | | | | | | | | | |
| | 5D | 1.65 - 1.70 | | | | | | | | | | |
| | | 2.00 | | | H 89 | | | | | 2.05 | 70.55 | |
| | 7UT | 2.20 - 2.65 | | 2.20 | | | | | Firm fissured orangish brown and bluish grey silty CLAY with rare fine to coarse gravel sized pockets of off-white silt. | | | |
| | 9X | 2.20 - 3.20 | | | | | | | | 2.50 | 70.10 | |
| | 8D | 2.65 - 2.70 | | | | | | | Firm fissured brownish grey and bluish grey silty CLAY with frequent part decomposed plant remains along fissure surfaces. 2.70 - 3.05m: 1 no. vertical fissure with frequent part decomposed plant remains (<3mm diam) on surface. | | | |
| | 10UT | 3.20 - 3.65 | | 3.20 | | | | | | 3.40 | 69.20 | |
| | 12X | 3.20 - 4.20 | | | | | | | | | | |
| | 11D | 3.65 - 3.70 | | | | | | | Stiff fissured brownish grey silty CLAY with frequent fine to coarse gravel sized pockets of yellowish fine to coarse sand sized gypsum crystals. 3.40 - 3.60m: With rare fine and medium gravel sized pockets of black organic material. | | | |
| | 13UT | 4.20 - 4.65 | | 4.20 | | | | | | | | |
| | 15X | 4.20 - 5.20 | | | | | | | | | | |
| | 14D | 4.65 - 4.70 | | | | | | | | 4.80 | 67.80 | |
| | | | | | | | | | Stiff indistinctly laminated brownish grey and orangish brown silty CLAY with rare fine and medium gravel sized shell fragments. | 5.30 | 67.30 | |
| | UT | 5.20 - 5.30 | | 5.20 | | 100 | | | | | | |
| | 16C | 5.20 - 6.50 | | | | 15 15 | | | Strong light grey LIMESTONE. No fractures in core. | 5.50 | 67.10 | |
| | | | | | | | | | Stiff indistinctly laminated brownish grey and orangish brown silty CLAY with rare fine and medium gravel sized shell fragments. 5.50 - 5.60m: Slightly gravelly. Gravel is subangular and subrounded fine and medium limestone. | | | |
| 20/03/15 1230hrs 0.70m | 17Cs | 6.25 - 6.50 | | | | | | | | | | |
| 26/03/15 0930hrs 2.36m | 18C | 6.50 - 8.00 | | 5.20 | | 100 | | | | | | |
| | | | | | | | | | 7.10m: 1 no. 45° shear surface. 7.20m: 1 no. 45° shear surface. | | | |
| | 19Cs | 7.65 - 7.95 | | | | | | | | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-5.20m. Waterflush rotary core drilled (146mm) 5.20-15.00m.

CASING: 168mm diam to 5.20m.

BACKFILL: On completion, hole backfilled with bentonite pellets 15.00-0.50m and arisings 0.50-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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# BOREHOLE LOG

**RC309**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 19 March 2015 | Easting | 459014.0 | | | Scale | 1 : 50 |
| End Date | 26 March 2015 | Northing | 220932.0 | Ground level | 72.60mOD | Depth | 15.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20C | 8.00 | 9.50 | 5.20 | | 93 | | | | | | |
| | | | | | | | | | | 9.40 | 63.20 | |
| | 21C | 9.50 | 11.00 | 5.20 | | 100 | | | Very stiff brownish grey silty CLAY with rare fine and medium gravel sized shell fragments. | | | |
| | 22Cs | 10.65 | 11.00 | | | | | | | | | |
| | 23C | 11.00 | 12.00 | 5.20 | | 60 | | | 11.65m: 1 no. 60° smooth shear surface. | | | |
| | 24C | 12.00 | 13.50 | 5.20 | | 100 | | | | | | |
| | 25C | 13.50 | 15.00 | 5.20 | | 100 | | | | | | |
| | 26Cs | 13.80 | 14.15 | | | | | | | | | |
| 26/03/15 1400hrs 1.93m | | | | | | | | | | 15.00 | 57.60 | |
| | | | | | | | | | Borehole completed at 15.00m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks |
|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. |

AGS

CONTRACT **30378**

CHECKED

DRAFT

Geotechnical Engineering Limited

# BOREHOLE LOG

**RC310**

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | Sheet | 1 of 2 |
| Start Date | 23 March 2015 | Easting | 458948.1 | Scale | 1 : 50 |
| End Date | 23 March 2015 | Northing | 221019.1 Ground level 70.00mOD | Depth | 15.10 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23/03/15 0830hrs | 1D* | 0.20 | | | | | | | Grass over black ashy subangular and subrounded fine and medium clinker GRAVEL. (MADE GROUND) | | | |
| | 2B | 0.20 | 0.40 | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | | 0.50 | 69.50 | |
| | 4B | 0.50 | 0.70 | | | | | | Light orangish brown slightly clayey sandy subangular and subrounded fine and medium clinker GRAVEL. (MADE GROUND) | | | |
| | 5D* | 1.00 | | | | | | | | 1.00 | 69.00 | |
| | 6B | 1.00 | 1.20 | | | | | | Very soft gravelly CLAY. Gravel is subangular and subrounded fine to coarse crystalline. (MADE GROUND) | 1.30 | 68.70 | |
| | 7UT | 1.20 | 1.65 | Nil | | | | | | | | |
| | 9X | 1.20 | 2.20 | | | | | | Firm fissured orangish brown and bluish grey silty CLAY with frequent off-white silt on fissure surfaces. 1.50 - 1.80m: With frequent fine and medium gravel sized pockets of orangish brown silt. | | | |
| | 8D | 1.65 | 1.70 | | | | | | | 1.80 | 68.20 | |
| | | 2.00 | | | H 93 | | | | | | | |
| | 10UT | 2.20 | 2.65 | 2.20 | | | | | Stiff fissured brownish grey silty CLAY with yellowish brown and orangish brown silt on fissure surfaces and frequent fine to coarse gypsum crystals. Fissures are randomly orientated, undulating and rough. | | |
| | 12X | 2.20 | 3.20 | | | | | | | | | |
| | 11D | 2.65 | 2.70 | | | | | | | | | |
| | | 3.00 | | | H 108 | | | | | | | |
| | 13UT | 3.20 | 3.65 | 3.20 | | | | | | 3.30 | 66.70 | |
| | 15X | 3.20 | 4.20 | | | | | | Firm indistinctly laminated silty CLAY with rare fine and medium gravel sized shell fragments. | | | |
| | 14D | 3.65 | 3.70 | | | | | | | 3.90 | 66.10 | |
| | | | | | | | | | Very stiff indistinctly laminated silty CLAY with frequent fine to coarse gravel sized shell fragments. | | | |
| | 16UT | 4.20 | 4.65 | 4.20 | | 100 | | | | | | |
| | 18C | 4.20 | 5.20 | | | | | | | | | |
| | 17D | 4.65 | 4.70 | | | | | | | | | |
| | 19C | 5.20 | 6.00 | 4.20 | | 88 | | | 5.20 - 11.75m: Bluish grey with rare fine to coarse gravel sized shell fragments. | | | |
| | 20C | 6.00 | 7.50 | 4.20 | | 87 | | | | | | |
| | 21C | 7.50 | 8.00 | 4.20 | | 100 | | | | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-4.20m. Waterflush rotary core drilled (146mm) 4.20-15.00m.

CASING: 168mm diam to 4.20m.

BACKFILL: On completion, hole backfilled with bentonite pellets 15.00-0.50m and arisings 0.50-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (min) | remarks |
|---|---|---|---|---|
| 0.46 | Nil | 0.39 | 20 | |

AGS

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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Geotechnical Engineering Limited

# BOREHOLE LOG

**RC310**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 23 March 2015 | Easting | 458948.1 | | | Scale | 1 : 50 |
| End Date | 23 March 2015 | Northing | 221019.1 | Ground level | 70.00mOD | Depth | 15.10 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22C | 8.00 | 9.50 | 4.20 | | 100 | | | | | | |
| | | | | | | | | | 8.80 - 11.75m: Slightly sandy. | | | |
| | 23Cs | 9.05 | 9.35 | | | | | | | | | |
| | 24C | 9.50 | 11.00 | 4.20 | | 100 | | | | | | |
| | | | | | | | | | 10.40m: 1 no. 30° smooth shear surface. | | | |
| | | | | | | | | | 10.65m: 1 no. 60° smooth shear surface. | | | |
| | 25C | 11.00 | 12.50 | 4.20 | | 100 7 7 | | | | | | |
| | | | | | | | | | 11.20 - 11.30m: 1 no. 45° smooth shear surface. 11.32 - 11.40m: 1 no. 45° smooth shear surface. 11.42 - 11.52m: 1 no. 45° smooth shear surface. | 11.75 | 58.25 | |
| | | | | | | | | | Strong light grey and off-white LIMESTONE. Fractures are vertical and horizontal, very closely and closely spaced, undulating and rough. | 12.00 | 58.00 | |
| | 26C | 12.50 | 14.00 | 4.20 | | 100 | | | Very stiff indistinctly laminated slightly sandy silty CLAY with frequent fine and medium gravel sized shell fragments. | | | |
| | | | | | | | | | 13.38 - 13.48m: 1 no. 30° smooth shear surface. 13.50 - 13.60m: 1 no. 30° smooth shear surface. | | | |
| | 27C | 14.00 | 15.10 | 4.20 | | 100 | | | | | | |
| | 28Cs | 14.30 | 14.55 | | | | | | | | | |
| 23/03/15 1530hrs 1.84m | | | | | | | | | 14.90 - 15.10m: Very sandy with frequent lenses (<2mm diam) of light grey sand. | 15.10 | 54.90 | |
| | | | | | | | | | Borehole completed at 15.10m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | AGS | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|---|
| | | | | | | 30378 | |

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# BOREHOLE LOG

**RC311**

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | Sheet | 1 of 2 |
| Start Date | 19 March 2015 | Easting | 459004.1 | Scale | 1 : 50 |
| End Date | 20 March 2015 | Northing | 220985.3 Ground level 71.20mOD | Depth | 15.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | $I_f$ | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/03/15 1300hrs | 1D* | 0.20 | | | | | | | Grass over firm fissured brown mottled orangish brown and grey silty CLAY with frequent rootlets (<1mm diam). | 0.20 | 71.00 | |
| | 2B | 0.20 | 0.40 | | | | | | Firm fissured bluish grey and orangish brown silty CLAY with frequent rootlets (<1mm diam) with black angular fine and medium gravel sized organic fragments. | | | |
| | 3D* | 0.50 | | | | | | | | | | |
| | 4B | 0.50 | 0.70 | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | | | |
| | 6B | 1.00 | 1.20 | | | | | | | | | |
| | 7UT | 1.20 | 1.65 | Nil | | | | | 1.20 - 1.55m: Soft. With frequent off-white silt on fissure surfaces and rare part decomposed plant remains (<3mm diam). | 1.55 | 69.65 | |
| | 9X | 1.20 | 2.20 | | | | | | | | | |
| | 8D | 1.65 | 1.70 | Nil | | | | | Firm fissured brown mottled orangish brown silty CLAY with frequent fine to coarse gravel sized pockets of yellowish fine to coarse sand sized gypsum crystals. | | | |
| | 10UT | 2.20 | 2.65 | 2.20 | | | | | | | | |
| | 12X | 2.20 | 3.20 | | | | | | | | | |
| | 11D | 2.65 | 2.70 | | | | | | | | | |
| | 13UT | 3.20 | 3.65 | 3.20 | | | | | | | | |
| | 15X | 3.20 | 4.20 | | | | | | | | | |
| | 14D | 3.65 | 3.70 | | | | | | | | | |
| | 16UT | 4.20 | 4.65 | 4.20 | | | | | Stiff indistinctly laminated brownish grey silty CLAY with frequent fine to coarse gravel sized shell fragments. | 4.20 | 67.00 | |
| | 18X | 4.20 | 5.20 | | | | | | | | | |
| | 17D | 4.65 | 4.70 | | | | | | | | | |
| | 19C | 5.20 | 6.20 | 4.20 | | 100 | | | | | | |
| 19/03/15 1530hrs 1.68m | | | | | | | | | | | | |
| 20/03/15 0900hrs 1.98m | 20C | 6.20 | 7.20 | 4.20 | | 100 | | | | | | |
| | 21C | 7.20 | 8.70 | 4.20 | | 93 | | | | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-5.20m. Waterflush rotary core drilled (146mm) 5.20-15.00m.

CASING: 168mm diam to 4.20m.

BACKFILL: On completion, hole backfilled with bentonite pellets 15.00-0.50m, arisings 0.50-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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Geotechnical Engineering Limited

# BOREHOLE LOG

**RC311**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 19 March 2015 | Easting | 459004.1 | | | Scale | 1 : 50 |
| End Date | 20 March 2015 | Northing | 220985.3 | Ground level | 71.20mOD | Depth | 15.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | $I_f$ | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22Cs | 7.90 | 8.20 | | | | | | 8.00 - 8.70m: Slightly sandy. | | | |
| | 23C | 8.70 | 10.20 | 4.20 | | 87 | | | 8.70 - 10.80m: Rare fine to coarse gravel sized shell fragments. | | | |
| | 24Cs | 9.60 | 9.90 | | | | | | | | | |
| | 25C | 10.20 | 11.20 | 4.20 | | 80<br>28<br>28 | | | | | | |
| | | | | | | | 100 | | Very strong light grey and off-white LIMESTONE. Fractures are horizontal, closely spaced, stepped and rough with a little clay infill. | 10.90 | 60.30 | |
| | 26C<br>27Cs | 11.20<br>11.30 | 12.00<br>11.60 | 4.20 | | 100 | | | Stiff indistinctly laminated brownish grey silty CLAY with frequent fine to coarse gravel sized shell fragments. | 11.20 | 60.00 | |
| | 28C | 12.00 | 13.50 | 4.20 | | 87 | | | 11.98 - 12.00m: Bed of grey and light grey limestone.<br>12.55m: 1 no. 20° smooth shear surface.<br>12.70m: 1 no. 60° smooth shear surface. | | | |
| | 29C | 13.50 | 15.00 | 4.20 | | 100 | | | 14.10 - 15.00m: Slightly sandy with frequent fine to coarse gravel sized shell fragments. | | | |
| 20/03/15<br>1300hrs<br>2.01m | 30Cs | 14.35 | 14.65 | | | | | | | 15.00 | 56.20 | |
| | | | | | | | | | Borehole completed at 15.00m. | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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# BOREHOLE LOG

**RC312**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 2 |
| Start Date | 24 March 2015 | Easting | 459081.9 | | | Scale | 1 : 50 |
| End Date | 24 March 2015 | Northing | 221076.0 | Ground level | 69.15mOD | Depth | 15.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24/03/15 0930hrs | 1D* | 0.20 | | | | | | | Grass over firm fissured brown mottled orangish brown and grey silty CLAY with frequent rootlets (<1mm diam). | 0.20 | 68.95 | |
| | 2B | 0.20 | 0.40 | | | | | | | | | |
| | 3D* | 0.50 | | | | | | | Firm fissured orangish brown and grey silty CLAY with frequent rootlets (<1mm diam) and rare black angular fine and medium gravel sized organic fragments. | | | |
| | 4B | 0.50 | 0.70 | | | | | | | | | |
| | 5D* | 1.00 | | | | | | | | 1.00 | 68.15 | |
| | 6B | 1.00 | 1.20 | | | | | | Soft becoming firm fissured bluish grey and orangish brown sandy CLAY with frequent fine and medium gravel sized pockets of off-white fine to coarse sand. 1.20 - 1.80m: With frequent angular fine gravel sized organic fragments. | | | |
| | 7UT | 1.20 | 1.65 | Nil | | | | | | | | |
| | 9X | 1.20 | 2.20 | | | | | | | | | |
| | 8D | 1.65 | 1.70 | | | | | | | | | |
| | | 2.00 | | | H 49 | | | | | | | |
| | 10UT | 2.20 | 2.65 | 2.20 | | | | | | 2.30 | 66.85 | |
| | 12X | 2.20 | 3.20 | | | | | | Firm becoming stiff fissured brown silty CLAY with yellowish brown staining on fissure surfaces and rare fine and medium gravel sized gypsum crystals. | | | |
| | 11D | 2.65 | 2.70 | | | | | | | | | |
| | | 3.00 | | | H 110 | | | | | | | |
| | 13UT | 3.20 | 3.65 | 3.20 | | | | | | 3.30 | 65.85 | |
| | 15X | 3.20 | 4.20 | | | | | | Stiff indistinctly laminated bluish grey silty CLAY with frequent fine to coarse gravel sized gypsum crystals. | | | |
| | 14D | 3.65 | 3.70 | | | | | | | | | |
| | | 4.00 | | | H 98 | | | | | | | |
| | 16UT | 4.20 | 4.65 | 4.20 | | | | | | | | |
| | 18X | 4.20 | 5.20 | | | | | | | | | |
| | 17D | 4.65 | 4.70 | | | | | | | | | |
| | | 5.00 | | | H 107 | | | | | | | |
| | 19C | 5.20 | 6.70 | 4.20 | | 93 | | | | | | |
| | | | | | | | | | 5.60 - 5.80m: Slightly sandy. | | | |
| | 20Cs | 6.20 | 6.50 | | | | | | | | | |
| | 21C | 6.70 | 7.70 | 4.20 | | 90 | | | | | | |
| | | | | | | | | | 7.30 - 10.90m: Slightly sandy. | | | |
| | 22C | 7.70 | 9.00 | 4.20 | | 100 | | | | | | |
| | | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-5.20m. Waterflush rotary core drilled (146mm) 5.20-15.00m.

CASING: 168mm diam to 4.20m.

BACKFILL: On completion, hole backfilled with bentonite pellets 15.00-0.50m and arisings 0.50-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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# BOREHOLE LOG

**RC312**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 24 March 2015 | Easting | 459081.9 | | | Scale | 1 : 50 |
| End Date | 24 March 2015 | Northing | 221076.0 | Ground level | 69.15mOD | Depth | 15.00 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23Cs | 8.30 | 8.60 | | | | | | 8.25 - 8.26m: With frequent black angular fine and medium organic fragments. | | | |
| | 24C | 9.00 | 10.50 | 4.20 | | 100 | | | | | | |
| | 25Cs | 9.90 | 10.20 | | | | | | 10.00 - 10.90m: With frequent fine to coarse shell fragments. | | | |
| | 26C | 10.50 | 12.00 | 4..2 | | 86 7 7 | | | | 10.90 | 58.25 | |
| | | | | | | | | | Very strong light grey LIMESTONE. No fractures in core. | 11.00 | 58.15 | |
| | | | | | | | | | Stiff indistinctly laminated brownish grey silty CLAY with frequent fine to coarse gravel sized shell fragments. | | | |
| | 27C | 12.00 | 13.50 | 4.20 | | 100 | | | 12.00 - 12.55m: With rare fine to coarse gravel sized shell fragments. | | | |
| | | | | | | | | | 12.55 - 12.57m: Grey subangular fine and medium siltstone gravel with frequent fine to coarse gravel sized shell fragments. | | | |
| | | | | | | | | | 13.25m: 1 no. 60° smooth shear surface. | | | |
| | 28C | 13.50 | 15.00 | 4.20 | | 100 | | | 13.50 - 13.75m: With frequent fine to coarse shell fragments. | | | |
| | 29Cs | 13.80 | 14.05 | | | | | | | | | |
| | | | | | | | | | 14.20m: 1 no. 45° smooth shear surface. | | | |
| 24/03/15 1600hrs 2.36m | | | | | | | | | 14.40 - 14.70m: Very sandy locally tending to clayey fine and medium sand. 14.70 - 15.00m: Sandy with frequent lenses (<2mm diam) of light grey sand. | 15.00 | 54.15 | |
| | | | | | | | | | Borehole completed at 15.00m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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Geotechnical Engineering Limited

# BOREHOLE LOG

## RC313

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | Sheet | 1 of 2 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Scale | 1 : 50 |
| Start Date | 25 March 2015 | Easting | 459112.0 | | | | |
| End Date | 25 March 2015 | Northing | 221083.5 | Ground level | 69.25mOD | Depth | 15.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25/03/15 0900hrs | 1D* | 0.20 | | | | | | Grass over firm fissured brown mottled orangish brown and grey silty CLAY with frequent rootlets (<1mm diam). (MADE GROUND) | 0.20 | 69.05 | |
| | 2B | 0.20 | 0.40 | | | | | | | | |
| | 3D* | 0.50 | | | | | | Firm brown slightly sandy slightly gravelly CLAY. Gravel is subangular and subrounded fine to coarse limestone. | 0.50 | 68.75 | |
| | 4B | 0.50 | 0.70 | | | | | | | | |
| | 5D* | 1.00 | | | | | | Firm orangish brown and grey slightly sandy slightly gravelly CLAY. Gravel is subangular and subrounded fine to coarse limestone. | 1.00 | 68.25 | |
| | 6B | 1.00 | 1.20 | | | | | | | | |
| | 7UT | 1.20 | 1.65 | Nil | | | | | | | |
| | 9X | 1.20 | 2.20 | | | | | Firm fissured orangish brown and grey slightly sandy silty CLAY with frequent rootlets (<1mm diam). | 1.50 | 67.75 | |
| | 8D | 1.65 | 1.70 | | | | | | 1.80 | 67.45 | |
| | | 2.10 | | | H 56 | | | Firm orangish brown mottled grey very sandy CLAY with rare rootlets (<1mm diam) and rare black angular fine and medium organic fragments. | 2.25 | 67.00 | |
| | 10UT | 2.20 | 2.65 | 2.20 | | | | | | | |
| | 12X | 2.20 | 3.20 | | | | | Firm fissured bluish grey and orangish brown silty CLAY. Fissures are randomly orientated, undulating and rough. | 2.50 | 66.75 | |
| | 11D | 2.65 | 2.70 | | | | | Firm indistinctly laminated brownish grey silty CLAY with rare laminae of yellowish sand (<3mm diam). | | | |
| | | 3.10 | | | H 64 | | | Firm fissured brownish grey silty CLAY with frequent yellowish brown silt on fissure surfaces and rare fine to coarse gravel sized pockets of fine to coarse sand sized gypsum crystals. | 3.50 | 65.75 | |
| | 13UT | 3.20 | 3.65 | 3.20 | | | | | | | |
| | 15X | 3.20 | 4.20 | | | | | | | | |
| | 14D | 3.65 | 3.70 | | | | | Stiff fissured indistinctly laminated brownish grey silty CLAY with rare fine and medium gravel sized shell fragments. | | | |
| | | 4.00 | | | H 78 | | | | | | |
| | 16C | 4.20 | 5.00 | 4.20 | | 100 | | 4.40 - 4.50m: With frequent yellowish brown silt along fissure surfaces. | | | |
| | | 4.90 | | | H 65 | | | | | | |
| | 17C | 5.00 | 6.50 | 4.20 | | 100 | | | | | |
| | | 6.40 | | | H 99 | | | | | | |
| | 18C | 6.50 | 8.00 | 4.20 | | 100 | | | | | |
| | | | | | | | | Continued Next Page | {8.00} | | |

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-4.20m. Waterflush rotary core drilled (146mm) 4.20-15.20m.

CASING: 168mm diam to 4.20m.

BACKFILL: On completion, a slotted standpipe (50mm) was installed to 15.20m, granular response zone 15.20-1.00m, bentonite seal 1.00m-0.40m, gravel 0.40-0.30m, concrete and traffic rated cover 0.30-0.00m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

Geotechnical Engineering Ltd, Tel. 01452 527743 30378 MASTER.GPJ TRIALJH.GPJ GEOTECH.GLB 29/07/2015 10:50:32 ED RE

Geotechnical Engineering Limited

# BOREHOLE LOG

**RC313**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 2 of 2 |
| Start Date | 25 March 2015 | Easting | 459112.0 | | | Scale | 1 : 50 |
| End Date | 25 March 2015 | Northing | 221083.5 | Ground level | 69.25mOD | Depth | 15.20 m |

| progress date/time water depth | sample no & type | depth (m) from | to | casing depth (m) | test type & value | samp. /core range | | instru -ment | description | depth (m) | reduced level (m) | legend |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 19C | 8.00 | 9.50 | 4.20 | | 100 | | | | | | |
| | 20Cs | 8.40 | 8.70 | | | | | | 9.00 - 9.10m: 1 no. 80° smooth shear surface. | | | |
| | 21C | 9.50 | 10.90 | 4.20 | | 100 | | | 9.70m: 1 no. 45° smooth shear surface. | | | |
| | 22Cs | 10.50 | 10.90 | | | | | | 10.14 - 10.17m: Band of grey subangular siltstone gravel with frequent fine to coarse gravel sized shell fragments. 10.17 - 11.70m: Slightly sandy with rare fine and medium gravel sized shell fragments and rare fine to coarse gravel sized belemnite fossils. | | | |
| | 23C | 10.90 | 12.20 | 4.20 | | 100 | | | | | | |
| | 24C | 12.20 | 13.70 | 4.20 | | 100 | | | 12.90 - 14.70m: Sandy with frequent lenses (<5mm diam) of grey fine to coarse sand. | | | |
| | 25Cs | 13.40 | 13.70 | | | | | | | | | |
| | 26C | 13.70 | 15.20 | 4.20 | | 100 | | | | | | |
| | 27Cs | 13.85 | 14.15 | | | | | | 14.15 - 14.35m: 1 no. 70° polished shear surface. | | | |
| | | | | | | | | | | 14.70 | 54.55 | |
| 25/03/15 1530hrs 1.87m | | | | | | | | | Grey and light grey clayey fine and medium SAND with frequent fine to coarse gravel sized shells and shell fragments. | 15.20 | 54.05 | |
| | | | | | | | | | Borehole completed at 15.20m. | | | |
| | | | | | | | | | | {18.00} | | |

| water strike (m) | casing (m) | rose to (m) | time to rise (m) | remarks | CONTRACT | CHECKED |
|---|---|---|---|---|---|---|
| | | | | Groundwater not encountered prior to use of water flush. | 30378 | |

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# TRIAL PIT LOG

**HP703**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 25 March 2015 | Easting | 459121.9 | | | Scale | 1 : 25 |
| End Date | 25 March 2015 | Northing | 220778.2 | Ground level | 75.25mOD | Depth | 0.50 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | D* | | 0.10 | Grass over firm light brown and light grey mottled orangish brown silty CLAY with frequent roots (4mm) and rootlets (<1mm). (MADE GROUND/REWORKED NATURAL DEPOSITS) | 0.30 | 74.95 | |
| | | | | Firm dark brown slightly gravelly silty CLAY with a low subangular clinker and brick cobble content. Gravel is subrounded fine brick fragments. (MADE GROUND) | 0.50 | 74.75 | |
| Dry | D* | | 0.50 | Trial pit completed at 0.50m. | | | |

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Notes

Trial pit excavated by hand.
Goundwater was not encountered.
Trial pit sides remained stable.
On completion, the trial pit was backfilled and the surface reinstated.
Trial pit dimensions 0.30x0.30x0.50m.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

Geotechnical Engineering Ltd, Tel. 01452 527743 30378 MASTER.GPJ TRIALJH.GPJ GEOTECH.GLB 29/07/2015 10:50:55 RD JS

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# TRIAL PIT LOG

**HP704**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 25 March 2015 | Easting | 459219.2 | | | Scale | 1 : 25 |
| End Date | 25 March 2015 | Northing | 220824.8 | Ground level | 71.45mOD | Depth | 0.55 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | D* | | 0.20 | Soft dark brown and brown silty CLAY with frequent roots (6mm) and rootlets (<1mm). | 0.30 | 71.15 | |
| | D* | | 0.40 | Soft and firm light brown mottled orangish brown silty CLAY with frequent roots (3mm) and rootlets(<1mm). | 0.55 | 70.90 | |
| Dry | | | | Trial pit completed at 0.55m. | | | |

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Notes

Trial pit excavated by hand.
Groundwater was not encountered.
Trial pit sides remained stable.
On completion, the trial pit was backfilled and the surface reinstated.
Trial pit dimensions 0.30x0.30x0.55m.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP501** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 5 March 2015 | Easting | 458114.3 | | | Scale | 1 : 25 |
| End Date | 5 March 2015 | Northing | 220701.0 | Ground level | 65.90mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over firm dark brown slightly gravelly sandy CLAY with frequent rootlets (<2mm diam). Gravel is subangular and subrounded fine to coarse flint with rare brick and rare coarse gravel sized glass fragments. (MADE GROUND) | 0.20 | 65.70 | |
| | 1D | | 0.30 | | | | |
| | 2D* | | 0.30 | Firm orangish brown mottled grey very sandy CLAY with frequent rootlets (<2mm diam) and rare fine gravel sized black organic fragments. | | | |
| | | | | 0.20 - 0.50m: With rare fine to coarse gravel sized shell fragments. | | | |
| | | H 54 | 0.65 | | | | |
| | 4B | | 1.00 | | | | |
| 0.80m: Seepage | 5D | | 1.00 | | | | |
| | 3D* | | 1.00 | | | | |
| | | H 51 | 1.30 | | | | |
| | | | | 1.50 - 2.50m: Orangish brown and grey. | | | |
| | 6D | | 2.00 | | | | |
| | 7B | H 75 | 2.00 | 2.00 - 2.50m: Closely fissured with off-white silt along fissure surfaces. | | | |
| | | | | | 2.50 | 63.40 | |
| | | | | Stiff closely fissured bluish grey mottled brown silty CLAY with rare rootlets (<1mm diam), reddish brown staining along fissure surfaces and frequent fine and medium gravel sized gypsum crystals. | | | |
| | 8B | | 3.00 | | | | |
| | 9D | | 3.00 | | | | |
| | | | | | 3.00 | 62.90 | |
| Damp | | H 83 | 3.00 | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Slight seepage encountered at 0.80m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.80x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP502** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 4 March 2015 | Easting | 458146.5 | | | Scale | 1 : 25 |
| End Date | 4 March 2015 | Northing | 220688.2 | Ground level | 66.80mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over dark brown slightly silty sandy subangular to rounded fine to coarse flint GRAVEL with frequent roots (<20mm diam) and rootlets. (MADE GROUND) | 0.15 | 66.65 | |
| | 1D* | | 0.30 | Firm orangish brown and bluish grey very sandy CLAY with frequent rootlets and rare fine gravel sized black organic fragments. | | | |
| | 2D | | 0.30 | | | | |
| | | H 50 | 0.60 | | | | |
| | 3D* | | 1.00 | | | | |
| | 4B | H 53 | 1.00 | 1.00 - 2.50m: With frequent fine and medium gypsum crystals. | | | |
| | 5D | | 1.00 | | | | |
| 1.30m: Seepage | | | | | | | |
| | 6B | H 63 | 2.00 | | | | |
| | | | | Stiff closely fissured greyish brown mottled light yellowish brown CLAY with frequent fine to coarse tabular gravel sized gypsum crystals. | 2.50 | 64.30 | |
| | 7B | | 3.00 | | 3.00 | 63.80 | |
| 2.80m | | H 63 | 3.00 | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater encountered at 1.30m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.90x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP503** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 11 March 2015 | Easting | 458178.9 | | | Scale | 1 : 25 |
| End Date | 11 March 2015 | Northing | 220868.7 | Ground level | 66.10mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) |
|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Soft dark brown mottled orangish brown silty CLAY with abundant root (<3mm) | | |
| | 2D* | | 0.20 | | 0.30 | 65.80 |
| | 3B | | 0.40- 0.50 | Soft light brown and light grey mottled orangish brown slightly sandy silty CLAY with frequent roots (<2mm). | | |
| | 4D | H 77 | 0.50 | | | |
| | 5D* | | 0.60 | 0.70 - 0.75m: Mottled orangish brown sand lens. | 1.10 | 65.00 |
| | 6B | | 1.10- 1.20 | Soft light bluish grey mottled orangish brown slightly sandy silty CLAY with fine gravel size subrounded organic fragments. | | |
| | 7D | H 73 | 1.20 | | | |
| | 8D* | | 1.30 | 1.10 - 1.20m: Dark orangish brown sand lens. | | |
| 1.80m: Seepage. | | | | 1.80 - 2.00m: Light orangish brown very sandy clay. | 2.00 | 64.10 |
| | 9B | | 2.30- 2.40 | Soft fissured dark brownish grey slightly sandy silty CLAY, with partly decomposed roots (<3mm) and rare fine gravel size fossil fragments. Fissures are extremely closely spaced randomly orientated planar smooth. | | |
| | 10D | | 2.40 | | | |
| | | H 57 | 2.50 | 2.70 - 2.80m: Light yellowish brown gravelly clay lens. Gravel is abundent fine angular shell fragments. | 3.00 | 63.10 |
| Damp | | | | Trial pit completed at 3.00m. | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater seepage encountered at 1.80m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.00x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP504** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 16 March 2015 | Easting | 458101.8 | | | Scale | 1 : 25 |
| End Date | 16 March 2015 | Northing | 220947.5 | Ground level | 65.45mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1B | | 0.20- 0.30 | Grass over soft dark brown and brown slightly sandy silty CLAY with frequent roots (<5mm diam). | | | |
| | 3D | | 0.30 | | | | |
| | 2D* | | 0.30 | | 0.40 | 65.05 | |
| | 4B | | 0.50- 0.80 | Firm orangish brown and light grey slightly sandy locally very sandy CLAY. | | | |
| | | H 46 | 0.60 | | | | |
| | 5D* | | 0.80 | | | | |
| | 6D | | 0.90 | | | | |
| | 7B | | 1.50- 1.60 | | | | |
| 1.70m: Seepage. | 8D | | 1.70 | | | | |
| | | H 58 | 1.80 | | | | |
| | | | | | 2.30 | 63.15 | |
| | 9B | | 2.40- 2.60 | Firm dark grey CLAY with frequent coarse sand-sized gypsum crystals. | | | |
| | 10D | | 2.70 | | | | |
| | | H 72 | 2.80 | | | | |
| | | | | | 3.00 | 62.45 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 1.70m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.10x0.60x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP505** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 12 March 2015 | Easting | 458196.6 | | | Scale | 1 : 25 |
| End Date | 12 March 2015 | Northing | 220994.9 | Ground level | 65.75mOD | Depth | 2.70 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Grass over soft dark brown and brown slightly sandy CLAY with frequent roots (<5mm diam). | 0.20 | 65.55 | |
| | 2B | | 0.30- 0.60 | Soft yellowish brown and orangish brown slightly sandy CLAY. | | | |
| | 3D | | 0.70 | | | | |
| 0.80m: Seepage. | | | | | | | |
| | | | | | 1.70 | 64.05 | |
| | 4B | | 1.80- 2.10 | Soft orangish brown mottled light grey very sandy CLAY. | | | |
| | 5D | | 2.20 | | | | |
| | | | | | 2.40 | 63.35 | |
| | 6B | | 2.40- 2.50 | Firm fissured dark grey and grey CLAY. | | | |
| | 7D | | 2.60 | | 2.70 | 63.05 | |
| Dry | | | | Trial pit completed at 2.70m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 0.80m.
Sidewall spalling 0.90-2.40m.
Trial pit terminated due to excessive spalling of sidewalls.
Trial pit dimensions 2.10x0.70x2.70m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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| CONTRACT | CHECKED |
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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP506** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 12 March 2015 | Easting | 458246.0 | | | Scale | 1 : 25 |
| End Date | 12 March 2015 | Northing | 221091.1 | Ground level | 66.15mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1B | | 0.10- 0.20 | Grass over soft dark brown slightly sandy CLAY with frequent roots (<3mm diam). | | | |
| | 2D | | 0.20 | | 0.30 | 65.85 | |
| | 3B | | 0.40- 0.70 | Soft orangish brown slightly sandy locally very sandy CLAY. | | | |
| | 4D | | 0.80 | | | | |
| | 5B | | 1.00- 1.10 | | | | |
| | 6D | | 1.20 | | 1.40 | 64.75 | |
| 1.40m: Seepage. | 7B | | 1.50- 1.80 | Firm fissured light grey silty CLAY. | | | |
| | 8D | | 1.90 | | 2.20 | 63.95 | |
| | 9B | | 2.30- 2.50 | Firm friable dark grey slightly sandy slightly gravelly CLAY. Gravel is angular fine to coarse lithorelicts of very stiff clay. | | | |
| | 10D | | 2.60 | | | | |
| Dry | | | | Trial pit completed at 3.00m. | 3.00 | 63.15 | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 1.40m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.10x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP507** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 12 March 2015 | Easting | 458266.8 | | | Scale | 1 : 25 |
| End Date | 12 March 2015 | Northing | 221092.0 | Ground level | 66.35mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1B | | 0.20- 0.40 | Grass over soft dark brown and brown slightly sandy silty CLAY with frequent roots (<5mm diam). | | | |
| | 2D | | 0.50 | | 0.60 | 65.75 | |
| 0.70m: Seepage. | 3B | | 0.80- 1.10 | Soft orangish brown very sandy CLAY. | | | |
| | 4D | | 1.20 | | 1.40 | 64.95 | |
| | 5B | | 1.50- 1.70 | Firm orangish brown and bluish grey slightly sandy CLAY. | | | |
| | 6D | | 1.90 | | 2.10 | 64.25 | |
| | 7B | | 2.20- 2.50 | Stiff fissured dark grey CLAY. Fissures are infilled with white silt (<1mm). | | | |
| | 8D | | 2.60 | | 3.00 | 63.35 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 0.70m.
Sidewall spalling 0.10-1.40m.
Trial pit dimensions 2.30x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP508** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 12 March 2015 | Easting | 458297.0 | | | Scale | 1 : 25 |
| End Date | 12 March 2015 | Northing | 221067.9 | Ground level | 66.20mOD | Depth | 2.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft dark brown slightly sandy CLAY with frequent roots (<3mm diam). | | | |
| | 1B | | 0.20- 0.30 | | | | |
| | 2D | | 0.40 | | | | |
| | | | | | 0.80 | 65.40 | |
| 0.80m: Seepage. | | | | Soft orangish brown very sandy CLAY. | | | |
| | 3B | | 0.90- 1.20 | | | | |
| | 4D | | 1.30 | | | | |
| | | | | | 1.50 | 64.70 | |
| | | | | Firm dark grey CLAY. | | | |
| | 5B | | 1.60- 1.80 | | | | |
| | 6D | | 1.90 | | | | |
| | | | | | 2.00 | 64.20 | |
| Dry | | | | Trial pit completed at 2.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 0.80m.
Sidewall spalling from 0.10-2.00m.
Trial pit dimensions 2.20x0.70x2.00m.
Trial pit terminated at 2.00m due to excessive sidewall collapse.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP509** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 12 March 2015 | Easting | 458291.3 | | | Scale | 1 : 25 |
| End Date | 12 March 2015 | Northing | 221143.9 | Ground level | 66.40mOD | Depth | 3.10 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) |
|---|---|---|---|---|---|---|
| | | | | Soft dark brown slightly sandy silty CLAY with frequent roots (<2mm). | | |
| | 1D | | 0.20 | | 0.30 | 66.10 |
| | | | | Soft light orangish brown mottled orange sandy silty CLAY with frequent rootlets (<1mm) and rare fine subangular and subrounded gravel size organic material. | | |
| | 2B | | 0.40- 0.60 | | | |
| | 3D | H 28 | 0.50 | | | |
| | 4D* | | 0.60 | 0.60 - 0.70m: Dark orangish brown | | |
| 1.10m: High flow. | | | | 1.10 - 1.20m: Clayey gravel lens. Gravel is fine to coarse angular limestone and flint. | 1.20 | 65.20 |
| | | | | Soft and firm light bluish grey mottled orangish brown very sandy CLAY with rare rootlets (<1mm). | | |
| | 5B | | 1.30- 1.60 | | | |
| | 6D | H 69 | 1.40 | | | |
| | 7D* | | 1.50 | | 1.70 | 64.70 |
| | | | | Firm fissured dark brownish grey mottled orangish grey and light grey locally light yellowish brown slightly sandy CLAY. Fissures are extremely closely spaced randomly orientated planer and smooth. | | |
| | 8B | | 1.80- 2.00 | | | |
| | 9D | | 1.90 | | | |
| | | H 85 | 2.00 | | 2.10 | 64.30 |
| | | | | Stiff fissured dark bluish grey silty CLAY with frequent fine to coarse gravel size fossil fragments. Fissures are extremely closely to closely spaced randomly orientated planer and smooth. | | |
| | 10B | | 2.30- 2.50 | | | |
| | 11D | H 102 | 2.40 | | | |
| | | | | | 3.10 | 63.30 |
| Damp | | | | Trial pit completed at 3.10m. | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater encountered at 1.10m.
Trial pit sidewalls spalling 0.60-1.20m.
Trial pit dimensions 2.10x0.60x3.10m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP510** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 12 March 2015 | Easting | 458318.2 | | | Scale | 1 : 25 |
| End Date | 12 March 2015 | Northing | 221199.1 | Ground level | 66.80mOD | Depth | 3.10 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1B | | 0.10- 0.25 | Soft dark brown sandy CLAY with abundant roots (<2mm). | | | |
| | 3D | | 0.20 | | 0.25 | 66.55 | |
| | 2D* | | 0.20 | Soft light orangish brown mottled orangish brown very sandy CLAY with frequent roots (<2mm) and rare fine subangular gravel size organic fragments. | | | |
| | 4B | | 0.40- 0.70 | | | | |
| | 5D | H 21 | 0.50 | | | | |
| | 6D* | | 0.60 | | | | |
| 0.80m: High flow. | | | | | | | |
| | | | | 1.10 - 1.20m: Lens of fine to coarse angular limestone gravel. | 1.20 | 65.60 | |
| | 7B | | 1.30- 1.50 | Firm fissured light bluish mottled orangish brown silty CLAY. Fissures are extremely closely spaced randomly orientated planer and smooth. | | | |
| | 8D | | 1.40 | | | | |
| | 9D* | H92 | 1.50 | | | | |
| | | | | | 2.00 | 64.80 | |
| | 10B | | 2.20- 2.50 | Stiff fissured dark bluish grey CLAY with frequent fine to coarse gravel size fossil fragments. Fissures are extremely closely to closely spaced randomly orientated planar and smooth. | | | |
| | 11D | | 2.30 | | | | |
| | | H100 | 2.50 | | | | |
| | | | | | 3.10 | 63.70 | |
| Dry | | | | Trial pit completed at 3.10m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater encountered 0.80m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.10x0.60x3.10m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP511** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 16 March 2015 | Easting | 458306.8 | | | Scale | 1 : 25 |
| End Date | 16 March 2015 | Northing | 220697.8 | Ground level | 70.00mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Grass over soft greyish brown slightly sandy slightly gravelly CLAY with frequent roots (<4mm diam). Gravel is angular to subrounded fine and medium sandstone and flint. | 0.20 | 69.80 | |
| | | H 42 | 0.30 | Firm orangish brown mottled light grey slightly sandy CLAY. | | | |
| | 2B | | 0.40- 0.60 | | | | |
| | 3D | | 0.70 | | | | |
| | 4B | | 1.00- 1.20 | | | | |
| | 5D | | 1.30 | | | | |
| 1.40m: Seepage. | | | | | 1.50 | 68.50 | |
| | 6B | | 1.60- 1.80 | Soft friable brownish orange mottled light grey slightly sandy locally very sandy CLAY. | | | |
| | 7D | | 1.90 | | | | |
| | | | | | 2.20 | 67.80 | |
| | 8B | | 2.30- 2.60 | Very stiff grey very sandy gravelly CLAY with rare cobble sized pockets of very stiff clay. Gravel is subangular and subrounded fine to coarse lithorelicts of very stiff clay. | | | |
| | 9D | | 2.70 | | | | |
| | | | | | 3.00 | 67.00 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

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Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 1.40m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.30x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP512** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 6 March 2015 | Easting | 458354.9 | | | Scale | 1 : 25 |
| End Date | 6 March 2015 | Northing | 220593.3 | Ground level | 73.00mOD | Depth | 3.30 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over brown firm slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse brick with rare fine to coarse gravel sized glass and ceramic fragments. (MADE GROUND) | 0.15 | 72.85 | |
| | 1D | | 0.20 | | | | |
| | 2D* | | 0.30 | Firm closely fissured orangish brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is subangular and subrounded fine and medium limestone. | | | |
| | | | | | 0.80 | 72.20 | |
| | 3B | | 1.00 | Firm closely fissured bluish grey and orangish brown slightly gravelly silty CLAY. Gravel is subangular and subrounded fine and medium limestone. | | | |
| | 4D | | 1.00 | | | | |
| | | H 55 | 1.30 | | | | |
| | | | | | 1.60 | 71.40 | |
| | | | | Firm thickly laminated dark grey and orangish brown slightly sandy silty CLAY with frequent laminae of off-white and light orangish brown silt. | | | |
| | 5B | | 2.00 | | | | |
| | 6D | | 2.00 | | 2.10 | 70.90 | |
| | | | | Stiff thickly bedded dark grey silty CLAY with a faint organic odour and frequent yellowish fine to coarse sand sized gypsum crystals. | | | |
| | | H 50 | 2.30 | | | | |
| | 7B | | 3.00 | | | | |
| | 8D | | 3.00 | | | | |
| | | | | | 3.30 | 69.70 | |
| Dry | | | | Trial pit completed at 3.30m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.90x0.65x3.30m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP513** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 6 March 2015 | Easting | 458409.7 | | | Scale | 1 : 25 |
| End Date | 6 March 2015 | Northing | 220568.8 | Ground level | 75.40mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over brown firm slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse brick, flint and sandstone. (MADE GROUND) | 0.15 | 75.25 | |
| | 2D | | 0.30 | | | | |
| | 1D* | | 0.30 | Firm closely fissured orangish brown mottled grey slightly sandy silty CLAY with rare rootlets (<1mm diam). | | | |
| | | H 55 | 0.50 | | | | |
| | 3D* | | 1.00 | 0.80 - 2.00m: Slightly gravelly. Gravel is subangular and subrounded fine and medium limestone. | | | |
| | 4B | | | | | | |
| | 5D | | 1.00 | | | | |
| | | H 71 | 1.00 | | | | |
| | 6B | | 2.00 | | | | |
| | 7D | H 74 | 2.00 | 2.00 - 2.40m: With rare fine and medium sized black angular organic fragments and frequent fine to coarse gravel and cobble sized pockets of orangish brown silt. | | | |
| | | | | | 2.40 | 73.00 | |
| | | | | Firm grey sandy CLAY with frequent fine to coarse gravel sized shell fragments and frequent fine to coarse gravel and cobble sized pockets of orangish brown silt. | | | |
| | 8B | | 3.00 | | | | |
| | 9D | | 3.00 | | 3.00 | 72.40 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.90x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP514** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 6 March 2015 | Easting | 458389.2 | | | Scale | 1 : 25 |
| End Date | 6 March 2015 | Northing | 220676.7 | Ground level | 72.30mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Grass over soft dark brown and brown slightly sandy silty CLAY with frequent roots (<5mm diam). | | | |
| | 2D* | | 0.20 | | 0.30 | 72.00 | |
| | 3B | | 0.40- 0.70 | Firm orangish brown and bluish grey CLAY. | | | |
| | | H 56 | 0.50 | | | | |
| | 4D | | 0.80 | | | | |
| | 5D* | | 1.00 | 0.90m: Ceramic land drain (60mm diam). | | | |
| | | H 60 | 1.10 | | 1.30 | 71.00 | |
| | 6B | | 1.40- 1.70 | Firm fissured grey silty CLAY. | | | |
| | 7D | | 1.80 | | | | |
| | | | | 2.50 - 2.60m: Very sandy. | 2.60 | 69.70 | |
| | 8B | | 2.60- 2.70 | Firm fissured dark grey and blackish grey slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse lithorelicts of very stiff clay. | | | |
| | 9D | | 2.80 | | | | |
| Dry | | | | Trial pit completed at 3.00m. | 3.00 | 69.30 | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.10x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP515** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 6 March 2015 | Easting | 458472.6 | | | Scale | 1 : 25 |
| End Date | 6 March 2015 | Northing | 220735.7 | Ground level | 74.00mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 2D | | 0.05 | Grass over soft dark brown and brown slightly sandy silty CLAY with frequent roots (<5mm diam). | 0.10 | 73.90 | |
| | 1D* | | 0.05 | Firm orangish brown slightly sandy CLAY. | | | |
| | 3B | | 0.30- 0.60 | | | | |
| | | H 68 | 0.30 | | | | |
| | 4D | | 0.80 | | | | |
| | 5D* | | 1.00 | | | | |
| | 6B | | 1.10- 1.20 | | | | |
| | 7D | | 1.30 | | 1.40 | 72.60 | |
| | | | | Firm fissured light grey CLAY. Fissures are infilled with white silt (<1mm). | | | |
| | 8B | | 1.60- 1.80 | | | | |
| | | | | 1.70m: Ceramic field drain (60mm). | | | |
| | 9D | | 1.90 | | | | |
| | 10 | | | | | | |
| | 11B | | 2.60- 2.80 | | | | |
| | 12D | | 2.90 | | 3.00 | 71.00 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.30x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP516** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 6 March 2015 | Easting | 458475.7 | | | Scale | 1 : 25 |
| End Date | 6 March 2015 | Northing | 220661.4 | Ground level | 75.00mOD | Depth | 2.30 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over brown firm slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse brick, flint and sandstone. (MADE GROUND) | 0.15 | 74.85 | |
| | 1D* | | 0.30 | Firm closely fissured orangish brown mottled grey slightly sandy silty CLAY with rare rootlets (<1mm diam). | | | |
| | 2D | | 1.00 | | | | |
| | 3B | | 1.00 | | 0.90 | 74.10 | |
| | 4D* | | 1.00 | Firm orangish brown and bluish grey slightly sandy slightly gravelly CLAY with rare rootlets (<1mm). Gravel is subangular and subrounded fine and medium limestone. 1.00m: Cobble sized fragments of terracotta land drain in south of pit. | | | |
| | | H 70 | 1.30 | | | | |
| | 5B | | 2.00 | | | | |
| | 6D | | 2.00 | 2.00 - 2.30m: With rare fine and medium gravel sized pockets of black organic material. | | | |
| | 7B | H 63 | 2.30 | | | | |
| Dry | | | 2.30 | Trial pit completed at 2.30m. | 2.30 | 72.70 | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.20x0.65x2.30m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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Geotechnical Engineering Ltd, Tel. 01452 527743 30378 MASTER.GPJ TRIALJH.GPJ GEOTECH.GLB 29/07/2015 10:51:05 ED RE

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP517** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 6 March 2015 | Easting | 458450.5 | | | Scale | 1 : 25 |
| End Date | 6 March 2015 | Northing | 220607.7 | Ground level | 76.10mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D* | | 0.30 | Grass over firm brown slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse brick, flint and sandstone. (MADE GROUND) | 0.15 | 75.95 | |
| | | H 73 | 0.50 | Firm closely fissured orangish brown mottled grey slightly sandy silty CLAY with rare rootlets (<1mm diam). | 0.80 | 75.30 | |
| | 2D* | | 1.00 | Stiff closely fissured bluish grey and orangish brown slightly gravelly silty CLAY with frequent fine to coarse gravel sized shell fragments. Gravel is subangular and subrounded fine to coarse limestone. | | | |
| | 3B | H 68 | 1.00 | | | | |
| | 4D | | 2.00 | | | | |
| | 5B | H 77 | 2.00 | | | | |
| | | | | Stiff closely fissured locally indistinctly laminated bluish grey mottled orangish brown slightly sandy silty CLAY with frequent fine to coarse gravel sized shell fragments and rare part decomposed plant remains (<5mm diam). | 2.50 | 73.60 | |
| | 6D | | 3.00 | | | | |
| Dry | 7B | H 75 | 3.00 | Trial pit completed at 3.00m. | 3.00 | 73.10 | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.90x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP518** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 2 March 2015 | Easting | 458463.3 | | | Scale | 1 : 25 |
| End Date | 2 March 2015 | Northing | 220550.5 | Ground level | 78.45mOD | Depth | 2.90 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.20 | Grass over soft greyish brown slightly sandy CLAY with frequent roots (<5mm diam) and rare glass fragments (up to 100mm). (MADE GROUND) | | | |
| | 2D* | | 0.25 | | 0.30 | 78.15 | |
| | | | | Firm yellowish brown mottled bluish grey slightly sandy CLAY. | | | |
| | 3B | | 0.40- 0.60 | | | | |
| | 4D | | 0.70 | 0.70m: Ceramic field drain (100mm diam) encountered. | | | |
| | 5D* | H 78 | 1.20 | | | | |
| | | | 1.30 | | | | |
| | | H 76 | 1.50 | | | | |
| | 6B | | 1.50- 1.70 | | | | |
| | 7D | | 1.70 | | 1.90 | 76.55 | |
| | | H 75 | 2.00 | Stiff bluish grey CLAY. | | | |
| | 8B | | 2.00- 2.20 | | | | |
| | 9D | | 2.40 | | | | |
| | | H 76 | 2.60 | | 2.90 | 75.55 | |
| Dry | | | | Trial pit completed at 2.90m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.20x0.65x2.90m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

**TP519**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 2 March 2015 | Easting | 458536.3 | | | Scale | 1 : 25 |
| End Date | 2 March 2015 | Northing | 220536.3 | Ground level | 83.00mOD | Depth | 3.40 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft brown silty CLAY with frequent roots (<5mm diam). | | | |
| | 1D* | | 0.20 | | | | |
| | 2D | | 0.30 | | 0.40 | 82.60 | |
| | | | | Firm orangish brown and light grey slightly sandy CLAY. | | | |
| | 3B | | 0.50- 0.80 | | | | |
| | | H 55 | 0.70 | | | | |
| | 4D | | 1.00 | | | | |
| | 5D* | | 1.20 | | | | |
| 1.40m: Seepage. | | | | | | | |
| | | | | | 1.70 | 81.30 | |
| | | | | Stiff orangish brown and bluish grey CLAY. | | | |
| | | H 96 | 1.90 | | | | |
| | 6B | | 1.90- 2.10 | | | | |
| | 7D | | 2.20 | | | | |
| | 8B | H 85 | 2.90- 3.10 | | | | |
| | 7D | | 3.30 | | 3.40 | 79.60 | |
| Dry | | | | Trial pit completed at 3.40m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 1.40m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.50x0.70x3.40m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

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# TRIAL PIT LOG

**TP520**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 2 March 2015 | Easting | 458526.9 | | | Scale | 1 : 25 |
| End Date | 2 March 2015 | Northing | 220607.7 | Ground level | 78.65mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Grass over soft brown slightly sandy CLAY with frequent roots (<5mm diam) and rare glass fragments (up to 30mm). (MADE GROUND) | | | |
| | 2D* | | 0.25 | | 0.40 | 78.25 | |
| | 3B | | 0.60- 0.80 | Firm orangish brown and light grey slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse lithorelicts of very stiff clay. | | | |
| | | 62 | 0.90 | | | | |
| | 4D | | 0.90 | | | | |
| | 5D* | | 1.10 | | | | |
| | | 67 | 1.50 | | | | |
| | 6B | | 1.70- 1.90 | | | | |
| | 7D | | 2.00 | | 2.20 | 76.45 | |
| | 8B | | 2.30- 2.60 | Stiff bluish grey and grey CLAY. | | | |
| | | 84 | 2.40 | | | | |
| | 9D | | 2.70 | | | | |
| Dry | | | | Trial pit completed at 3.00m. | 3.00 | 75.65 | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.40x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP521** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 3 March 2015 | Easting | 458622.7 | | | Scale | 1 : 25 |
| End Date | 3 March 2015 | Northing | 220598.5 | Ground level | 83.45mOD | Depth | 3.10 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft dark brown slightly sandy CLAY with frequent roots (<5mm diam). | | | |
| | 1D | | 0.20 | | | | |
| | 2D* | | 0.30 | | 0.40 | 83.05 | |
| | | | | Firm orangish brown slightly sandy CLAY. | | | |
| | 3B | | 0.50- 0.70 | | | | |
| | | H 75 | 0.70 | | | | |
| | 4D | | 0.80 | | | | |
| | 5D* | | 1.00 | | | | |
| | | | | | 1.30 | 82.15 | |
| | | | | Firm bluish grey CLAY. | | | |
| | | H 78 | 1.40 | | | | |
| | | | | 1.50 - 1.60m: Very sandy. | | | |
| | 6B | | 1.60- 1.80 | | | | |
| | | | | 1.70m: Limestone boulder. | | | |
| | 7D | | 1.90 | | | | |
| | | H 80 | 2.00 | | | | |
| | 8B | | 2.50- 2.80 | | | | |
| | | H 82 | 2.70 | | | | |
| | 9D | | 2.90 | | | | |
| | | | | | 3.10 | 80.35 | |
| Dry | | | | Trial pit completed at 3.10m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.10x0.70x3.10m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP522** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 3 March 2015 | Easting | 458561.5 | | | Scale | 1 : 25 |
| End Date | 3 March 2015 | Northing | 220634.2 | Ground level | 78.60mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Grass over soft dark brown slightly sandy slightly gravelly CLAY with frequent roots (<5mm diam). Gravel is subrounded and rounded fine and medium flint. | | | |
| | 2D* | | 0.20 | | 0.25 | 78.35 | |
| | | | | Firm orangish brown slightly sandy CLAY. | | | |
| | 3B | | 0.40- 0.60 | | | | |
| | 4D | | 0.80 | | | | |
| | 5D* | | 1.00 | | | | |
| | | H 70 | 1.20 | | | | |
| | 6D | | 1.80- 2.00 | | | | |
| | | H 70 | 1.90 | | | | |
| | | | | | 2.50 | 76.10 | |
| | 7B | | 2.50- 2.70 | Firm bluish grey CLAY. | | | |
| | | H 66 | 2.60 | | | | |
| | 8D | | 2.80 | | | | |
| | | | | | 3.00 | 75.60 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.00x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP523** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 9 March 2014 | Easting | 458563.4 | | | Scale | 1 : 25 |
| End Date | 9 April 2015 | Northing | 220692.4 | Ground level | 76.10mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D* | | 0.20 | Grass over firm dark brown slightly sandy gravelly CLAY. Gravel is subangular and subrounded fine to coarse brick, flint and concrete with a medium tabular brick content, frequent roots (3mm) and rootlets (<1mm) and frequent fine and medium size pockets of organic material. (MADE GROUND) | | | |
| | 2D | | 0.20 | | 0.40 | 75.70 | |
| | 3D* | | 0.60 | Firm light brown locally mottled orangish brown slightly gravelly silty CLAY, with frequent rootlets (<1mm). Gravel is angular to subrounded fine to coarse flint and limestone. (MADE GROUND) | | | |
| | 4D | | 0.60 | | | | |
| | 5B | | 0.60- 0.80 | | | | |
| | 6B | | 0.80 | | | | |
| | | H 74 | 0.80 | | | | |
| | 8B | | 1.00- 1.10 | | | | |
| | 7D* | | 1.00 | | | | |
| | 9D | | 1.00 | | | | |
| | | | | | 1.40 | 74.70 | |
| | | | | Soft light brown and light grey mottled orangish brown slightly sandy CLAY with rare medium gravel sized fragments of black carbonaceous material. | | | |
| | 10B | | 2.00- 2.10 | | | | |
| | 11B | | 2.10 | | | | |
| | | H 58 | 2.30 | | 2.40 | 73.70 | |
| | 12B | | 2.40- 2.60 | Soft and firm locally fissured light bluish grey locally mottled orangish brown and reddish brown slightly sandy CLAY with abundant fine and medium gravel size fossil fragments and frequent fine gravel sized gypsum crystals. Fissures are very closely and closely spaced randomly oriented planar and smooth. | | | |
| | | H 67 | 2.50 | | | | |
| | 13D | | 2.60 | | | | |
| | | | | | 3.00 | 73.10 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.90x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP524** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 3 March 2015 | Easting | 458626.1 | | | Scale | 1 : 25 |
| End Date | 3 March 2015 | Northing | 220677.7 | Ground level | 77.85mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Grass over soft dark brown slightly gravelly silty CLAY with frequent roots (<5mm diam). Gravel is rounded fine and medium flint. 0.10 - 0.30m: Locally orangish brown. | | | |
| | 2D* | | 0.25 | | 0.30 | 77.55 | |
| | 3B | | 0.50- 0.70 | Stiff orangish brown very sandy CLAY. | | | |
| | 4D | | 0.80 | | | | |
| | 5D* | | 1.00 | | | | |
| | | H 86 | 1.00 | | | | |
| | | | | | 1.70 | 76.15 | |
| | 6B | | 1.80- 2.00 | Firm bluish grey and orangish brown CLAY. | | | |
| | 7D | | 2.10 | | | | |
| | 8B | | 2.60- 2.80 | 2.60 - 2.70m: Partially decomposed organic material. | | | |
| | 9D | | 2.90 | | 3.00 | 74.85 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.30x0.60x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# TRIAL PIT LOG

**TP525**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 6 March 2015 | Easting | 458542.7 | | | Scale | 1 : 25 |
| End Date | 6 March 2015 | Northing | 220779.3 | Ground level | 73.65mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft dark brown and brown slightly sandy silty CLAY with frequent roots (<5mm diam). | | | |
| | 1D | | 0.20 | | | | |
| | 2D* | | 0.40 | | 0.50 | 73.15 | |
| | | | | Firm orangish brown and reddish brown slightly sandy CLAY. | | | |
| | 3B | | 0.60- 0.80 | | | | |
| | 4D | | 0.90 | | | | |
| | 5D* | | 1.00 | | | | |
| | 6B | | 1.50- 1.60 | | | | |
| | 7D | | 1.70 | | 1.80 | 71.85 | |
| | | | | Firm fissured grey CLAY with frequent decomposed roots (<3mm diam). | | | |
| | 8B | | 2.00- 2.30 | | | | |
| | 9D | | 2.40 | | | | |
| | | | | | 3.00 | 70.65 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

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Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.30x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

**TP526**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 10 March 2015 | Easting | 458541.2 | | | Scale | 1 : 25 |
| End Date | 10 March 2015 | Northing | 220902.3 | Ground level | 71.10mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft dark brown silty CLAY with frequent roots (<3mm diam). | | | |
| | 1D | | 0.10 | | | | |
| | 2D* | | 0.20 | | 0.30 | 70.80 | |
| | | | | Soft fissured orangish brown mottled bluish grey slightly sandy CLAY. | | | |
| | | H 60 | 0.50 | | | | |
| | 3B | | 0.60- 0.80 | | | | |
| | 4D | | 0.90 | | | | |
| | 6D | | 1.20 | | | | |
| | | H 68 | 1.30 | | | | |
| | 7B | | 1.50- 1.80 | 1.50 - 2.10m: Clay. | | | |
| | 8D | | 1.90 | | 2.10 | 69.00 | |
| 2.20m: Seepage. | 9B | | 2.20- 2.50 | Firm fissured friable orangish brown mottled grey slightly sandy silty CLAY with frequent gypsum crystals (up to 5mm diam). | | | |
| | 10D | | 2.60 | | | | |
| Dry | | | | Trial pit completed at 3.00m. | 3.00 | 68.10 | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 2.20m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.40x0.75x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP527** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 10 March 2015 | Easting | 458592.0 | | | Scale | 1 : 25 |
| End Date | 10 March 2015 | Northing | 220896.6 | Ground level | 71.80mOD | Depth | 3.10 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Soft light greyish brown mottled orangish brown slight sandy silty CLAY with frequent roots (<3mm). | | | |
| | 2D* | | 0.20 | | 0.30 | 71.50 | |
| | 3B | | 0.40- 0.50 | Stiff fissured light brown mottled orangish brown slightly sandy CLAY with rare rootlets (<2mm). Fissures are randomly orientated extremely closely spaced planer and smooth. | | | |
| | 4D | H 80 | 0.60 | | | | |
| | 5D* | | 0.70 | | | | |
| | | | | | 1.10 | 70.70 | |
| | | | | Soft fissured light bluish grey locally mottled orangish brown CLAY. Fissures are extremely closely spaced randomly orientated planar and smooth, infilled with white silt. | | | |
| | 6B | | 1.20- 1.40 | | | | |
| | 7D | H 55 | 1.50 | | | | |
| | | | | 1.70 - 1.80m: Reddish brown staining in clay | | | |
| 2.10m: Seepage. | | | | | 2.20 | 69.60 | |
| | | | | Soft fissured dark grey gravelly slightly sandy CLAY with frequent fine gravel sized gypsum crystals. Gravel is subangular and subrounded fine and medium lithorelicts of very stiff clay. Fissures are extremely closely spaced randomly orientated planer and smooth. | | | |
| | 8B | | 2.40- 2.60 | 2.20 - 2.30m: orangish brown very sandy clay lens. | | | |
| | 9D | | 2.60 | | | | |
| | | | | 2.90 - 3.10m: Stiff | | | |
| | | | | | 3.10 | 68.70 | |
| Dry | | | | Trial pit completed at 3.10m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater seepage encountered at 2.10m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.90x0.65x3.10m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP528** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 11 March 2015 | Easting | 458630.0 | | | Scale | 1 : 25 |
| End Date | 11 March 2015 | Northing | 220764.6 | Ground level | 75.20mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | MADE GROUND comprising tarmacadam (90mm) and reddish brown very sandy subangular and subrounded fine to coarse sandstone gravel. | 0.20 | 75.00 | |
| | 1D | | 0.30 | Subangular COBBLES with much yellowish brown and reddish brown slightly sandy subangular and subrounded fine to coarse sandstone gravel. (MADE GROUND) | | | |
| | 2D* | | 0.40 | | | | |
| | | | | | 0.80 | 74.40 | |
| | | | | Stiff greenish grey fissured slightly sandy CLAY. | | | |
| | | H 91 | 1.10 | | | | |
| | 3D* | | 1.10 | | | | |
| | 4B | | 1.20- 1.40 | | | | |
| | 5D | | 1.50 | | | | |
| | 6D* | | 1.80 | | | | |
| | | H 78 | 2.00 | | 2.10 | 73.10 | |
| | | | | Firm fissured light grey and bluish grey CLAY with frequent decomposed rootlets (<1mm diam). | | | |
| | 7B | | 2.30- 2.50 | | | | |
| | 8D | | 2.60 | | | | |
| | | H 72 | 2.80 | | | | |
| | | | | | 3.00 | 72.20 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Sidewall spalling 0.10-0.80m.
Trial pit dimensions 3.10x1.15x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP529** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 10 March 2015 | Easting | 458641.3 | | | Scale | 1 : 25 |
| End Date | 10 March 2015 | Northing | 220797.0 | Ground level | 74.60mOD | Depth | 3.20 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | MADE GROUND comprising tarmacadam (60mm) and reddish brown sandy subangular fine to coarse sandstone gravel. | 0.10 | 74.50 | |
| | 1B | | 0.20- 0.40 | Subangular and subrounded COBBLES with much brownish yellow very sandy subangular fine to coarse sandstone and limestone gravel. (MADE GROUND) | | | |
| | 3D | | 0.50 | | | | |
| | 2D* | | 0.50 | | | | |
| | | | | | 0.90 | 73.70 | |
| | 4B | | 0.90- 1.10 | Firm fissured bluish grey and greenish grey slightly sandy CLAY. | | | |
| | | H 50 | 1.00 | | | | |
| | 5D | | 1.10 | | | | |
| | 6D* | | 1.20 | | | | |
| 1.40m: Seepage. | 7D | | 1.50 | | | | |
| | 8B | | 1.90- 2.10 | | | | |
| | | H 68 | 2.00 | | | | |
| | 9D | | 2.10 | | | | |
| | D* | | 2.20 | | | | |
| | 10B | | 2.90- 3.10 | | | | |
| | 11D | | 3.10 | | 3.20 | 71.40 | |
| Dry | | | | Trial pit completed at 3.20m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 1.40m
Sidewall spalling 0.10-0.90m
Trial pit dimensions 3.40x1.20x3.20m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP530** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 9 March 2015 | Easting | 458670.7 | | | Scale | 1 : 25 |
| End Date | 9 March 2015 | Northing | 220836.3 | Ground level | 73.65mOD | Depth | 3.20 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1B<br>2D*<br>3D | H 75 | 0.20- 3.00<br>0.30<br>0.30 | Grass over soft to firm light brown mottled orangish brown slightly sandy slightly gravely silty CLAY with frequent roots (3mm) and rootlets (<1mm). Gravel is angular and subangular fine to coarse limestone. | 0.70 | 72.95 | |
| | 4B<br>5D*<br>6D<br>7D | H 67 | 0.90- 1.00<br>1.00<br>1.00<br>1.20 | Firm fissured bluish grey mottled orangish brown silty CLAY with rare roots (3mm) and rootlets (<1mm) with a low subangular and subrounded sandstone cobble content. Fractures are closely spaced randomly orientated planar and smooth. | 1.10 | 72.55 | |
| | | H 88<br>H 67 | 1.60<br>1.90 | Firm to stiff light brown and light grey mottled orangish brown slightly gravelly CLAY with rare roots (3mm) and rootlets (<1mm). Gravel is fine to medium subangular and subrounded limestone. | 1.60 | 72.05 | |
| 2.70m: Seepage. | 8B<br>9B<br>10D | H 68 | 2.00- 2.20<br>2.90- 3.10<br>3.00 | Firm fissured light bluish grey and light brown locally mottled orangish brown locally very sandy silty CLAY with frequent medium and coarse gravel size organic fragments and abundant fine to medium gravel size fossil fragments. Fissures are subhorizontal planar and undulating and smooth.<br>2.70 - 2.80m: Soft light orangish brown very sandy CLAY<br>2.80 - 3.20m: Partly decomposed plant remains (1-4mm), with frequent fine gravel sized gypsum crystals | 3.20 | 70.45 | |
| Dry | | | | Trial pit completed at 3.20m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater seepage encountered at 2.70m from lens of sandy clay.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.80x0.70x3.20m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

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# TRIAL PIT LOG

**TP531**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 11 March 2015 | Easting | 458708.5 | | | Scale | 1 : 25 |
| End Date | 11 March 2015 | Northing | 220750.5 | Ground level | 76.20mOD | Depth | 3.10 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over firm friable orangish brown slightly gravelly silty CLAY with frequent roots (<5mm diam). Gravel is subrounded fine and medium flint. | | | |
| | 1D | | 0.20 | | | | |
| | 2D* | | 0.30 | | | | |
| | | H 59 | 0.40 | | | | |
| | 3B | | 0.50- 0.80 | | | | |
| 0.90m: Seepage. | 4D | | 0.90 | | | | |
| | 5D* | | 1.30 | | | | |
| | 6B | | 1.40- 1.70 | | | | |
| | 7 | | | | | | |
| | 8D | | 1.80 | | | | |
| | 9 | | | | 2.00 | 74.20 | |
| | | | | Firm fissured light grey slightly sandy CLAY. Fissures are infilled with white silt (<1mm). | | | |
| | 10B | | 2.20- 2.50 | | | | |
| | 11 | | | | | | |
| | 12D | | 2.60 | | | | |
| | 13 | | | | | | |
| | | | | | 3.10 | 73.10 | |
| Dry | | | | Trial pit completed at 3.10m. | | | |

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Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 0.90m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.30x0.65x3.10m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

## TP532A

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 5 March 2015 | Easting | 458757.0 | | | Scale | 1 : 25 |
| End Date | 5 March 2015 | Northing | 220786.0 | Ground level | 75.70mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Grass over soft greyish brown silty CLAY with frequent roots (<4mm diam). | 0.20 | 75.50 | |
| | 2D* | | 0.15 | Firm orangish brown locally light grey slightly sandy CLAY with a strong organic odour. | | | |
| | 3B | | 0.30- 0.60 | | | | |
| | 4D | | 0.80 | | | | |
| | 5D* | | 1.00 | | | | |
| | 6B | | 1.50- 1.70 | | | | |
| | 7D | | 1.80 | 1.80 - 2.10m: Very sandy. | 2.10 | 73.60 | |
| | 8B | | 2.20- 2.50 | Firm fissured light grey CLAY. Fissures are infilled with white silt (<1mm). | | | |
| | 9D | | 2.60 | | | | |
| Dry | | | | Trial pit completed at 3.00m. | 3.00 | 72.70 | |

Notes

Trial pit TP532A excavated 5.00m to the south of TP532 which was attempted but abandoned due to encountering a field drain with rapid water ingress at 1.00m.
Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.10x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP533** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 5 March 2015 | Easting | 458760.6 | | | Scale | 1 : 25 |
| End Date | 5 March 2015 | Northing | 220870.2 | Ground level | 73.85mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft dark brown and brown slightly sandy slightly gravelly CLAY with frequent roots (<5mm diam). Gravel is subangular fine to coarse limestone. | | | |
| | 1D | | 0.20 | | | | |
| | 2D* | | 0.40 | | 0.50 | 73.35 | |
| | | | | Firm orangish brown slightly sandy CLAY. | | | |
| | 3B | | 0.60- 0.80 | | | | |
| | 4D | | 0.90 | | | | |
| | 5D* | | 1.00 | | | | |
| | 6B | | 1.60- 1.80 | | | | |
| | 7D | | 1.90 | | | | |
| | | | | | 2.20 | 71.65 | |
| | | | | Firm fissured light grey slightly sandy CLAY. Fissures are infilled with white silt (<1mm). | | | |
| | 8B | | 2.30- 2.50 | | | | |
| | 9D | | 2.60 | | | | |
| | | | | | 3.00 | 70.85 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.20x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP534** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 3 March 2015 | Easting | 458853.6 | | | Scale | 1 : 25 |
| End Date | 3 March 2015 | Northing | 220732.3 | Ground level | 77.80mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Grass over soft dark brown and brown slightly sandy CLAY with frequent roots (<5mm diam). | | | |
| | 2D* | | 0.15 | | 0.20 | 77.60 | |
| | 3B | | 0.30- 0.50 | Firm fissured orangish brown slightly sandy CLAY. | | | |
| | 4D | | 0.60 | 0.60m: Ceramic field drain (60mm diam). | | | |
| | | H 60 | 0.80 | | | | |
| | 5D* | | 1.00 | | | | |
| | | H 62 | 1.20 | | | | |
| | 6B | | 1.40- 1.60 | | | | |
| | 7D | | 1.70 | | | | |
| | | H 66 | 1.80 | | | | |
| | | | | | 2.00 | 75.80 | |
| | | | | Stiff fissured bluish grey CLAY. | | | |
| | | H 118 | 2.10 | | | | |
| | 8B | | 2.30- 2.50 | | | | |
| | 9D | | 2.60 | | | | |
| | | H 105 | 2.80 | | | | |
| | | | | | 3.00 | 74.80 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.20x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP535** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 4 March 2015 | Easting | 458907.8 | | | Scale | 1 : 25 |
| End Date | 4 March 2015 | Northing | 220694.6 | Ground level | 79.65mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.05 | Grass over soft dark brown and brown slightly sandy silty CLAY with frequent roots (<5mm diam). | 0.06 | 79.59 | |
| | 2D* | | 0.05 | Firm orangish brown slightly sandy locally very sandy CLAY. | | | |
| | 3B | | 0.30- 0.60 | | | | |
| | 4D | | 0.80 | 0.80 - 1.30m: Very sandy. | | | |
| | 5D* | | 1.00 | | | | |
| | 6B | | 1.50- 1.80 | | | | |
| | | | | 1.80 - 2.50m: Very sandy. | | | |
| | 7D | | 1.90 | | | | |
| | 8B | | 2.40- 2.60 | | | | |
| | 9D | | 2.70 | | | | |
| Dry | | | | Trial pit completed at 3.00m. | 3.00 | 76.65 | |

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Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.50x0.60x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP536** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 5 March 2015 | Easting | 458798.6 | | | Scale | 1 : 25 |
| End Date | 5 March 2015 | Northing | 220863.2 | Ground level | 74.25mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft dark brown and brown slightly sandy silty CLAY with frequent roots (<5mm diam). | | | |
| | 1D | | 0.30 | | | | |
| | 2D* | | 0.40 | | 0.50 | 73.75 | |
| | | | | Firm orangish grey slightly sandy CLAY. | | | |
| | 3B | | 0.60- 0.80 | | | | |
| | 4D | | 0.90 | | | | |
| | 5D* | | 1.00 | | | | |
| | | H 68 | 1.10 | | | | |
| | 6B | | 1.50- 1.80 | | | | |
| | 7D | | 1.90 | | 2.00 | 72.25 | |
| | | | | Firm fissured grey slightly sandy CLAY. Fissures are infilled with white silt (<1mm). | | | |
| | 8B | | 2.20- 2.50 | | | | |
| | 9D | | 2.60 | | | | |
| Dry | | | | Trial pit completed at 3.00m. | 3.00 | 71.25 | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.40x0.60x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# TRIAL PIT LOG

**TP537**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 5 March 2015 | Easting | 458846.7 | | | Scale | 1 : 25 |
| End Date | 5 March 2015 | Northing | 220845.6 | Ground level | 74.60mOD | Depth | 3.10 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft dark brown and brown slightly sandy silty CLAY with frequent roots (<5mm diam). | | | |
| | 1D | | 0.20 | | | | |
| | 2D* | | 0.50 | | 0.60 | 74.00 | |
| | | | | Firm orangish brown and bluish grey slightly sandy CLAY. | | | |
| | 3B | | 0.70- 0.90 | | | | |
| | 4D | | 0.90 | | | | |
| | 5D* | | 1.00 | | | | |
| | 6B | | 1.50- 1.70 | | | | |
| | 7D | | 1.80 | | 2.00 | 72.60 | |
| | | | | Firm fissured light grey and bluish grey slightly sandy silty CLAY.<br>2.10 - 2.90m: Very sandy | | | |
| | 8B | | 2.20- 2.50 | | | | |
| | 9D | | 2.60 | | | | |
| Dry | | | | Trial pit completed at 3.10m. | 3.10 | 71.50 | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.40x0.60x3.10m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP538** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 4 March 2015 | Easting | 458912.4 | | | Scale | 1 : 25 |
| End Date | 4 March 2015 | Northing | 220892.8 | Ground level | 73.25mOD | Depth | 2.50 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.30 | Grass over brown slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular and subrounded fine to coarse flint with rare brick and rare fine to coarse gravel sized ceramic and metal fragments. (MADE GROUND) | | | |
| | 2D* | | 0.30 | | | | |
| | | H 63 | 0.70 | | 0.65 | 72.60 | |
| | | H 69 | 1.00 | Firm closely fissured bluish grey mottled orangish brown slightly sandy silty CLAY with frequent rootlets and frequent fine and medium angular black organic fragments. | 0.90 | 72.35 | |
| | 3D* | | 1.00 | Firm closely fissured light brown mottled orangish brown and bluish grey slightly sandy slightly gravelly silty CLAY with frequent fine and medium gravel sized pockets of orangish brown silt. Gravel is subangular and subrounded fine and medium limestone. | | | |
| | 4D | | 1.00 | | | | |
| | 5B | | 1.00 | | 1.60 | 71.65 | |
| | 6D | | 2.00 | Stiff closely fissured bluish grey mottled orangish brown silty CLAY with frequent fine to coarse gravel sized shell fragments and rare part decomposed plant remains (<5mm diam). | | | |
| | 7B | H 91 | 2.00 | | | | |
| Dry | | | | 2.50m: Refused on limestone. Trial pit completed at 2.50m. | 2.50 | 70.75 | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.00x0.70x2.50m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# TRIAL PIT LOG

**TP539**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 6 March 2015 | Easting | 458924.0 | | | Scale | 1 : 25 |
| End Date | 6 March 2015 | Northing | 220791.2 | Ground level | 75.50mOD | Depth | 3.40 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft dark brown and brown slightly sandy silty CLAY with frequent roots (<5mm diam). | | | |
| | 1D | | 0.20 | | | | |
| | 2D* | | 0.30 | | 0.40 | 75.10 | |
| | | | | Firm orangish brown and yellowish grey silty CLAY. | | | |
| | 3B | | 0.50- 0.70 | | | | |
| | 4D | | 0.80 | | | | |
| | | H 56 | 0.80 | | | | |
| | 5D* | | 1.00 | | | | |
| | | | | | 1.40 | 74.10 | |
| | | | | Firm fissured grey CLAY. Fissures are infilled with white silt (<1mm). | | | |
| | 6B | | 1.50- 1.80 | | | | |
| | 7D | | 1.90 | | | | |
| | | H 50 | 2.50 | | | | |
| | 8B | | 2.50- 2.80 | | | | |
| | 9D | | 2.90 | | | | |
| | | | | | 3.40 | 72.10 | |
| Dry | | | | Trial pit completed at 3.40m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.30x0.70x3.40m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

## TP540A

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 4 March 2015 | Easting | 458985.8 | | | Scale | 1 : 25 |
| End Date | 4 March 2015 | Northing | 220724.6 | Ground level | 77.60mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Grass over soft dark brown slightly sandy slightly gravelly CLAY with frequent roots (<4mm diam). Gravel is subrounded fine to coarse flint, glass and red brick. (MADE GROUND) | | | |
| | 2D* | | 0.25 | | | | |
| | 3B | | 0.40- 0.70 | | 0.45 | 77.15 | |
| | | | | Firm orangish brown slightly sandy CLAY with frequent decomposed roots (<3mm diam). | | | |
| | 4D | | 0.90 | | | | |
| | 5D* | | 1.00 | | | | |
| | | | | | 1.40 | 76.20 | |
| | | | | Stiff fissured light grey CLAY. Fissures are infilled with white silt (<1mm). | | | |
| | 6B | | 1.50- 1.70 | | | | |
| | | H 83 | 1.60 | | | | |
| | 7D | | 1.80 | | | | |
| | | H 104 | 2.30 | | | | |
| | 8B | | 2.40- 2.60 | | | | |
| | 9D | | 2.70 | | | | |
| | | | | | 3.00 | 74.60 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit TP540A excavated 3.00m to the north-west of TP540 which was attempted but abandoned due to encountering a large field drainage structure at 0.80m.
Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.30x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP541** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 4 March 2015 | Easting | 459070.2 | | | Scale | 1 : 25 |
| End Date | 4 March 2015 | Northing | 220713.2 | Ground level | 76.50mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft dark brown and brown slightly sandy silty CLAY with frequent roots (<5mm diam). | | | |
| | 1D | | 0.20 | | | | |
| | 2D* | | 0.35 | | 0.40 | 76.10 | |
| | | | | Soft orangish brown and light grey slightly sandy CLAY. | | | |
| | 3B | | 0.50- 0.80 | | | | |
| | 4D | | 0.90 | | | | |
| | 5D* | | 1.00 | | | | |
| 1.30m: Seepage. | | | | | 1.40 | 75.10 | |
| | | | | Firm orangish brown and bluish grey CLAY. | | | |
| | 6B | | 1.60- 1.90 | | | | |
| | 7D | | 2.00 | | | | |
| | 8B | | 2.60- 2.80 | | | | |
| | 9D | | 2.90 | | 3.00 | 73.50 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 1.30m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.30x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.
Trial pit moved 3.00m NE due to access issues and proximity to observed drainage structures.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP542** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 2 March 2015 | Easting | 458867.6 | | | Scale | 1 : 25 |
| End Date | 2 March 2015 | Northing | 221184.6 | Ground level | 68.00mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Very soft dark brown slightly sandy gravelly CLAY with frequent roots (<8mm) and rootlets. Gravel is subrounded to subangular fine and medium quartz with a low brick cobble content. (MADE GROUND) | 0.20 | 67.80 | |
| | 1D* | | 0.30 | | | | |
| | 2D | | 0.30 | Soft and firm brown and orangish brown mottled slightly sandy slightly gravelly silty CLAY with frequent rootlets. Gravel is fine to course subrounded limestone. | 0.80 | 67.20 | |
| | 3D* | | 1.00 | Firm light brown orangish brown and greyish brown mottled silty CLAY with rare rootlets and rare cobble sized pockets of fine and medium gravel size angular shell fragments. | | | |
| | 4B | H 87 | 1.00 | | | | |
| | 5B | | 1.50- 1.70 | 1.50 - 1.70m: Lens of soft light grey very sandy CLAY. | | | |
| | | H 100 | 2.40 | | 2.60 | 65.40 | |
| | 6B | | 2.60 | Stiff fissured dark brown silty CLAY with partially decomposed roots (<3mm). Fissures are subhorizontal very closely spaced with orangish brown, fine sand on fissure surfaces. 2.60 - 2.80m: Fine and medium gravel sized angular gypsum crystals. | 3.00 | 65.00 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.80x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP543** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 2 March 2015 | Easting | 458944.8 | | | Scale | 1 : 25 |
| End Date | 2 March 2015 | Northing | 221184.9 | Ground level | 68.20mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Very soft dark brown slightly sandy silty CLAY with frequent roots (<3mm) and rootlets. | 0.15 | 68.05 | |
| | 1D* | | 0.30 | Firm reddish brown mottled orangish brown silty CLAY with frequent fine rootlets. | | | |
| | 2D | H 54 | 0.30 | | | | |
| | | | | Firm light brown and orangish brown locally mottled light grey slightly gravelly sandy CLAY with rare rootlets. Gravel is subrounded medium flint. | 0.80 | 67.40 | |
| | 3D* | | 1.00 | | | | |
| | 4B | H 58 | 1.00 | | | | |
| | 5D | | 1.00 | | | | |
| | | | | 1.60m: Light grey locally orangish brown very sandy lenses. | | | |
| | | H 74 | 2.40 | Stiff fissured dark brown locally light brown CLAY with frequent fine and medium gravel sized angular gypsum crystals and rare coarse gravel pockets of orangish brown silty clay. | 2.40 | 65.80 | |
| | 6B | | 2.40- 2.60 | | | | |
| | | | | 2.90 - 3.00m: Dark bluish grey. | 3.00 | 65.20 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.70x0.60x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

**TP544**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 12 March 2015 | Easting | 458870.9 | | | Scale | 1 : 25 |
| End Date | 12 March 2015 | Northing | 221083.9 | Ground level | 69.35mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Firm dark brown slightly gravelly silty CLAY with abundant roots (<5mm). Gravel is fine to coarse subangular and subrounded sandstone and crystalline (MADE GROUND). | 0.25 | 69.10 | |
| | 2B | | 0.40- 0.70 | Soft and firm light brown mottled orangish brown sandy CLAY with frequent rootlets (<1mm) and frequent thin laminations of organic material (<1mm). | | | |
| | 3D | | 0.50 | | | | |
| | | H 67 | 0.60 | | | | |
| | 4D* | | 0.60 | | | | |
| | 5B | | 1.00- 1.20 | Firm light bluish grey mottled orangish brown sandy CLAY with rare rootlets. | 0.90 | 68.45 | |
| | | H 82 | 1.10 | | | | |
| | 6D | | 1.10 | | | | |
| | 7D* | | 1.20 | Soft fissured light grey locally orangish brown silty CLAY. Fissures are extremely closely spaced randomly orientated planar and smooth. | 1.30 | 68.05 | |
| | 8B | | 1.40- 1.70 | 1.50 - 1.70m: Dark reddish brown mottled orangish brown sandy clay lens. | | | |
| | | H 45 | 1.50 | | | | |
| | 9D | | 1.50 | | | | |
| | 10B | | 2.10- 2.30 | Firm to stiff fissured dark brown locally light yellowish brown gravelly silty CLAY with frequent pockets of fine to coarse gravel size gypsum crystals. Gravel is subrounded fine clay lithorelicts. Fissures are extremely closely to closely spaced randomly orientated planar and smooth | 1.90 | 67.45 | |
| | 11D | | 2.20 | | | | |
| | | H 103 | 2.30 | | | | |
| Dry | | | | Trial pit completed at 3.00m. | 3.00 | 66.35 | |

DRAFT

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.00x
0.60mx3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

Geotechnical Engineering Limited

# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP545** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 11 March 2015 | Easting | 458962.8 | | | Scale | 1 : 25 |
| End Date | 11 March 2015 | Northing | 221052.7 | Ground level | 70.20mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over greyish brown slightly sandy silty CLAY with frequent roots (<5mm diam). | 0.10 | 70.10 | |
| | 1D | | 0.05 | Soft fissured orangish brown mottled dark grey slightly sandy CLAY. | | | |
| | 2D* | | 0.30 | | | | |
| | 3B | | 0.50- 0.80 | | | | |
| 0.80m: Seepage. | 4D | | 0.90 | | | | |
| | 5D* | | 1.30 | | 1.40 | 68.80 | |
| | | | | Firm fissured light grey and bluish grey silty CLAY. | | | |
| | 6B | | 1.60- 1.80 | | | | |
| | 7D | | 1.90 | | | | |
| | 8B | | 2.50- 2.80 | | | | |
| | 9D | | 2.90 | | 3.00 | 67.20 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

DRAFT

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 0.80m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.40x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

**TP546**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 11 March 2015 | Easting | 459007.1 | | | Scale | 1 : 25 |
| End Date | 11 March 2015 | Northing | 221050.2 | Ground level | 69.85mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1B | | 0.10- 0.40 | Grass over soft and firm light brown and dark grey mottled orangish brown slightly sandy CLAY with frequent rootlets (<1mm) | | | |
| | 2D | | 0.20 | | | | |
| | 3D* | | 0.30 | | | | |
| | | | | 0.40 - 0.50m: Dark reddish brown silty clay. | | | |
| | | H 54 | 0.60 | | | | |
| | | | | 0.80 - 0.90m: Light orangish brown very sandy clay lens. | | | |
| | | | | | 1.10 | 68.75 | |
| | 4B | | 1.20- 1.40 | Firm light bluish grey and light brown mottled orangish brown CLAY with rare rootlets (<3mm). | | | |
| | 5D | | 1.30 | | | | |
| | | H 52 | 1.40 | | | | |
| | 6D* | | 1.40 | | 1.60 | 68.25 | |
| | | | | Firm fissured dark brown locally mottled dark reddish brown silty CLAY with frequent cobble size pockets of medium and coarse sand size gypsum crystals. Fissures are extremely closely spaced randomly orientated planar and smooth. | | | |
| 1.80m: Seepage. | 7B | | 1.80- 2.00 | | | | |
| | 8D | | 1.90 | | | | |
| | | | | 2.30 - 2.50m: Locally light yellowish brown with frequent fine to coarse sand size and fine gravel size gypsum crystals. | | | |
| | | | | 2.50 - 3.00m: Stiff. | | | |
| | 9B | | 2.60- 2.90 | | | | |
| | 10D | | 2.70 | | | | |
| | | | | | 3.00 | 66.85 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater seepage encountered at 1.80m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.00x0.60x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP547** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 3 March 2015 | Easting | 459051.2 | | | Scale | 1 : 25 |
| End Date | 3 March 2015 | Northing | 221226.2 | Ground level | 67.00mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Soft dark brown silty CLAY with frequent roots (3mm) and rootlet (<1mm). | | | |
| | | H 64 | 0.30 | | 0.25 | 66.75 | |
| | D* | | 0.30 | Firm light brown mottled orangish brown silty CLAY with rare roots (<4mm) and rootlets (<1mm). | | | |
| | 1B | | 0.30- 0.40 | | | | |
| | | | | | 0.80 | 66.20 | |
| | | | | Firm light grey CLAY with frequent coarse gravel sized pockets of orangish brown silty clay, and rare rootlets (<1mm). | | | |
| | 3D | H 50 | 0.90 | | | | |
| | 2D* | | 1.00 | | | | |
| | | | 1.00 | | | | |
| | | H 47 | 1.50 | | 1.50 | 65.50 | |
| | 4B | | 1.50- 1.60 | Firm light greyish brown mottled orangish brown sandy CLAY with abundant fine to coarse sand sized gypsum crystals, and rare rootlets (<1mm). | | | |
| | | | | | 1.80 | 65.20 | |
| | | | | Firm fissured dark greyish brown mottled orangish brown slightly sandy silty CLAY with abundant fine to course sand sized and fine to coarse gravel size angular gypsum crystals. Fissures are closely spaced randomly orientated planar and smooth. | | | |
| | | H 71 | 2.00 | | | | |
| | 5B | | 2.00- 2.20 | | | | |
| | | | | | 2.40 | 64.60 | |
| | | | | Firm and stiff fissured dark bluish grey CLAY with frequent angular coarse gravel size gypsum crystals. | | | |
| | 6D | | 2.50 | | | | |
| | 7B | | 2.80 | | | | |
| | | H 88 | 2.90 | 2.80 - 3.00m: Frequent fine to coarse gravel size shell fragments | | | |
| | 8B | | 2.90- 3.00 | | 3.00 | 64.00 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.80x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP548** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 3 March 2015 | Easting | 459023.8 | | | Scale | 1 : 25 |
| End Date | 3 March 2015 | Northing | 221204.3 | Ground level | 68.00mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Soft dark greyish brown slightly sandy CLAY with frequent roots (3mm) and rootlets (<1mm). | 0.25 | 67.75 | |
| | 1B | | 0.30- 0.40 | Firm fissured light brown locally light bluish grey mottled dark orangish brown slightly sandy CLAY with rare rootlets (<1mm), and rare fine and medium sand size gypsum crystals with rare gravel sized pockets of organic material. Fissures are extremely closely spaced randomly orientated planar and smooth. | | | |
| | 2D | | 0.30 | | | | |
| | 3D* | | 0.30 | | | | |
| | | H 46 | 0.40 | | | | |
| | 4B | | 1.00- 1.10 | | | | |
| | 6D | H 52 | 1.00 | 1.00 - 1.10m: Lens of dark reddish brown clayey fine and medium sand. | 1.10 | 66.90 | |
| 1.10m: Seepage. | 5D* | | 1.00 | Firm fissured light bluish grey mottled orangish brown sandy CLAY, with abundant fine to coarse sand size gypsum crystals. Fissures are extremely closely spaced randomly orientated planar and smooth. | | | |
| | 7D | | 1.60- 1.70 | | 1.70 | 66.30 | |
| | | | | Stiff dark greyish brown locally mottled reddish brown and light grey slightly sandy CLAY, with abundant fine sand and coarse gravel sized gypsum crystals. Fissures are extremely closely spaced randomly orientated planer and smooth. | | | |
| | 8B | | 2.50- 2.60 | | | | |
| | 9D | | 2.50 | | | | |
| | | H 77 | 2.70 | 2.70 - 2.80m: Stiff locally fissured dark bluish grey silty CLAY, with rare coarse gravel sized gypsum crystals. Fissures are extremely closely spaced randomly orientated planar and smooth. | 3.00 | 65.00 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Seepage encountered at 1.10m.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.90x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

**TP548A**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 4 March 2015 | Easting | 459023.8 | | | Scale | 1 : 25 |
| End Date | 4 March 2015 | Northing | 221204.3 | Ground level | 67.25mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Soft dark brown mottled orangish brown silty CLAY with frequent roots (3mm) and rootlets (<1mm). | 0.25 | 67.00 | |
| | | H 57 | 0.50 | Soft and firm light brown mottled light grey and orangish brown silty CLAY with abundant rootlets (<1mm). 1.10 - 1.20m: Light grey locally mottled orangish brown gravelly sandy CLAY. Gravel is subangular and angular fine limestone. | 1.50 | 65.75 | |
| | | H 44 | 1.60 | Firm dark reddish brown mottled orangish brown and light grey sandy CLAY with abundant fine to coarse sand and fine to coarse gravel sized gypsum crystals. 1.70 - 2.60m: Fissured dark reddish brown mottled orangish brown. Fissures are very closely and closely spaced randomly orientated planar and smooth | 2.60 | 64.65 | |
| | | H 67 | 2.00 | | | | |
| | | H 91 | 2.80 | Stiff fissured dark bluish grey locally mottled orangish brown CLAY, with frequent coarse sand sized angular gypsum crystals. Fissures are very closely and closely spaced randomly oriented planar and smooth. | 3.00 | 64.25 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

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Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 1.80x0.60x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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Geotechnical Engineering Limited

# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP549** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 11 March 2015 | Easting | 459103.3 | | | Scale | 1 : 25 |
| End Date | 11 March 2015 | Northing | 221144.1 | Ground level | 68.05mOD | Depth | 2.50 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1B | | 0.10- 0.20 | Grass over stiff closely fissured orangish brown mottled grey slightly gravelly silty CLAY with frequent rootlets (<1mm) and frequent fine to coarse gravel size pockets of organic material. Gravel is subangular and subrounded fine to coarse limestone. | | | |
| | 2D | | 0.20 | | | | |
| | 3D* | | 0.30 | | | | |
| | | H 46 | 0.50 | | 0.60 | 67.45 | |
| | 4B | | 0.60- 0.70 | Firm orangish brown mottled grey very sandy CLAY with frequent rootlets (<1mm). 0.60 - 0.70m: Dark brown. | | | |
| 0.70m: Seepage. | 5D | | 0.70 | | | | |
| | 6D* | | 0.80 | | | | |
| | | H 57 | 0.90 | | 1.10 | 66.95 | |
| | | | | Firm orangish brown mottled grey very sandy CLAY with frequent pockets of fine and medium gravel size organic material and frequent fine to coarse gravel pockets of fine to coarse sand. | | | |
| | 7B | | 1.40- 1.50 | | | | |
| | 8D | H 50 | 1.50 | | | | |
| | | | | | 1.90 | 66.15 | |
| | 9B | | 1.90- 2.00 | Stiff closely fissured bluish grey and orangish brown slightly sandy silty CLAY, with frequent fine to coarse sand size gypsum crystals within fissures. | | | |
| | 10D | H 65 | 2.00 | | | | |
| | | | | | 2.50 | 65.55 | |
| 2.40m | | | | Trial pit completed at 2.50m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater encountered at 0.70m.
Trial pit sidewalls spalling 0.60-2.00m.
Trial pit dimensions 1.90x0.70x2.50m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

**TP550**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 16 March 2015 | Easting | 459168.4 | | | Scale | 1 : 25 |
| End Date | 16 March 2015 | Northing | 221027.7 | Ground level | 70.70mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.05 | Grass over soft dark brown slightly sandy CLAY with frequent roots (<4mm diam). (MADE GROUND) | 0.10 | 70.60 | |
| | 2D | | 0.15 | | | | |
| | 3B | | 0.20- 0.40 | Subrounded tabular COBBLES of sandstone and red brick with much greyish brown slightly sandy subangular sandstone and crystalline gravel. (MADE GROUND) | | | |
| | 4D* | | 0.40 | | | | |
| | 5D | | 0.50 | | | | |
| | | | | 0.70m: Ceramic field drain (80mm diam). | | | |
| | 6B | | 0.90- 1.10 | | | | |
| | 7D* | | 1.10 | | | | |
| | 8D | | 1.10 | | | | |
| | | | | | 1.90 | 68.80 | |
| | 9B | | 2.00- 2.20 | Firm purplish grey CLAY with frequent angular and subangular fine to coarse lithorelicts of very stiff clay. | | | |
| | 10D | | 2.30 | | | | |
| | | | | | 3.00 | 67.70 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.40x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

**TP551**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 16 March 2015 | Easting | 459183.0 | | | Scale | 1 : 25 |
| End Date | 16 March 2015 | Northing | 220972.4 | Ground level | 70.90mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | | | | Grass over soft dark brown slightly sandy CLAY with frequent roots (<3mm diam). | 0.10 | 70.80 | |
| | 1D | | 0.05 | Firm orangish brown slightly sandy CLAY. | | | |
| | 2B | | 0.20- 0.40 | | | | |
| | 3D* | | 0.40 | | | | |
| | 4D | | 0.50 | | | | |
| | 5B | | 1.20- 1.30 | | | | |
| | 6D* | | 1.30 | | | | |
| | 7D | | 1.40 | | 1.80 | 69.10 | |
| | | | | Firm fissured dark grey CLAY with frequent angular and subangular fine to coarse lithorelicts of very stiff clay. | | | |
| | 8B | | 2.00- 2.30 | | | | |
| | 9D | | 2.40 | | 3.00 | 67.90 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

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Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.50x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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Geotechnical Engineering Limited

# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP552** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 11 March 2015 | Easting | 459055.9 | | | Scale | 1 : 25 |
| End Date | 11 March 2015 | Northing | 220952.8 | Ground level | 71.75mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D<br>2D*<br>3B<br>4D<br>5D* | <br><br><br><br>H 58 | 0.10<br>0.20<br>0.30- 0.40<br>0.40<br>0.50 | Soft dark brown gravelly sandy CLAY with frequent rootlets (<3mm) and a low brick and concrete cobble content. Gravel is subrounded and subangular fine to coarse flint, brick and sandstone. (MADE GROUND) | 0.30 | 71.45 | |
| | | | | Soft light brown mottled orangish brown and dark grey brown gravelly silty CLAY with frequent roots (<3mm). Gravel is fine to coarse subangular and subrounded flint and sandstone. (MADE GROUND)<br>0.55 - 0.75m: Band of gravel. Gravel is angular to subrounded coarse limestone | 0.75 | 71.00 | |
| | 6B<br>7D<br>8D* | <br>H 67<br> | 0.90- 1.00<br>1.00<br>1.10 | Firm light brown mottled orangish brown and light grey silty CLAY with rare rootlets (<1mm). | 1.50 | 70.25 | |
| | 9B<br>10D<br>D* | <br>H 65<br> | 1.50- 1.60<br>1.60<br>1.70 | Firm fissured light grey locally mottled orangish brown CLAY. Fissures are extremely closely spaced randomly orientated planar and smooth with white silt on fissure planes. | 2.10 | 69.65 | |
| | 11B<br>12D | <br>H 78 | 2.40- 2.50<br>2.50 | Firm fissured dark brown locally mottled orangish brown CLAY. Fissures are extremely closely to closely spaced randomly orientated planar and smooth. | 3.00 | 68.75 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.00x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

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|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP553** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 13 March 2015 | Easting | 458965.2 | | | Scale | 1 : 25 |
| End Date | 13 March 2015 | Northing | 220991.5 | Ground level | 71.15mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.10 | Grass over soft dark brown and greyish brown slightly sandy silty CLAY with frequent rootlets (<1mm diam). | 0.15 | 71.00 | |
| | 2B | | 0.20- 0.40 | Firm fissured yellowish brown and light grey slightly sandy CLAY with rare rootlets (<1mm diam). | | | |
| | 3D* | | 0.30 | | | | |
| | | H 46 | 0.30 | | | | |
| | 4D | | 0.50 | | 0.60 | 70.55 | |
| | 5B | | 0.80- 1.10 | Soft friable dark grey and brownish orange very sandy CLAY. | | | |
| | 6D* | | 1.10 | | | | |
| | 7D | | 1.20 | | | | |
| | | | | 1.50m: Ceramic field drain (60mm diam). | 1.60 | 69.55 | |
| | 8B | | 1.70- 2.00 | Firm dark grey and orangish brown very sandy CLAY with frequent angular and subangular fine to coarse lithorelicts of very stiff clay. | | | |
| | 9D | | 2.10 | | | | |
| | 10B | | 2.60- 2.80 | | | | |
| | 11D | | 2.90 | | 3.00 | 68.15 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.30x0.65x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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| 30378 | |

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# TRIAL PIT LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | | | | | | **TP554** |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | | | | | Sheet | 1 of 1 |
| Start Date | 13 March 2015 | Easting | 458905.6 | | | Scale | 1 : 25 |
| End Date | 13 March 2015 | Northing | 220959.6 | Ground level | 71.80mOD | Depth | 3.00 m |

| water record | sample/test no/type | result | depth (m) | description | depth (m) | level (m) | legend |
|---|---|---|---|---|---|---|---|
| | 1D | | 0.05 | Grass over soft dark brown and greyish brown slightly sandy CLAY with frequent rootlets (<1mm diam). | 0.10 | 71.70 | |
| | 2B | | 0.10- 0.30 | | | | |
| | 3D* | | 0.20 | Firm orangish brown mottled light grey slightly sandy CLAY. | | | |
| | | H 56 | 0.20 | | | | |
| | 4D | | 0.40 | | 0.50 | 71.30 | |
| | | | | Soft friable dark grey and brownish orange silty CLAY. | | | |
| | 5B | | 0.70- 1.00 | | | | |
| | D* | | 1.00 | | | | |
| | 6D | | 1.10 | | | | |
| | | | | | 1.40 | 70.40 | |
| | | | | Firm fissured orangish brown mottled light grey slightly sandy CLAY. | | | |
| | 7B | | 1.60- 1.90 | | | | |
| | 8D | | 2.00 | | | | |
| | | | | | 2.30 | 69.50 | |
| | | | | Firm dark grey and orangish brown very sandy CLAY with frequent angular and subangular fine to coarse lithorelicts of very stiff clay. | | | |
| | 9B | | 2.40- 2.70 | | | | |
| | 10D | | 2.80 | | | | |
| | | | | | 3.00 | 68.80 | |
| Dry | | | | Trial pit completed at 3.00m. | | | |

Notes

Trial pit excavated by JCB 3CX mechanical excavator.
Groundwater not encountered.
Trial pit sides remained stable and vertical.
Trial pit dimensions 2.20x0.70x3.00m.
On completion, the trial pit was backfilled with materials arising.

Sketch of Foundation - Not to scale. All dimensions in metres.

| CONTRACT | CHECKED |
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EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

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# STANDARD PENETRATION TEST

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole no. | borehole depth (m) | bottom depth (m) | casing depth (m) | water level (m) | seating drive blows | seating drive pen (mm) | test drive blows | test drive pen (mm) | test type | N | energy ratio (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CP101 | 2.20 | 2.65 | 1.70 | Dry | 1 1 | 75 75 | 2 2 3 3 | 75 75 75 75 | S | 10 | 75 |
| CP101 | 3.20 | 3.65 | 1.70 | Dry | 1 1 | 75 75 | 2 3 3 5 | 75 75 75 75 | S | 13 | 75 |
| CP101 | 4.20 | 4.65 | 1.70 | Dry | 1 5 | 75 75 | 3 5 4 5 | 75 75 75 75 | S | 17 | 75 |
| CP101 | 5.20 | 5.65 | 1.70 | Dry | 2 5 | 75 75 | 2 4 4 5 | 75 75 75 75 | S | 15 | 75 |
| CP101 | 6.70 | 7.15 | 1.70 | Dry | 2 9 | 75 75 | 8 9 12 20 | 75 75 75 75 | S | 49 | 75 |
| CP102 | 2.20 | 2.65 | 1.70 | Dry | 1 1 | 75 75 | 1 4 4 4 | 75 75 75 75 | S | 13 | 75 |
| CP102 | 3.20 | 3.65 | 1.70 | Dry | 1 1 | 75 75 | 1 1 2 3 | 75 75 75 75 | S | 7 | 75 |
| CP102 | 4.20 | 4.65 | 1.70 | Dry | 3 5 | 75 75 | 8 6 7 7 | 75 75 75 75 | S | 28 | 75 |
| CP102 | 5.00 | 5.20 | 1.70 | Dry | 11 14 | 75 25 | 28 22 | 75 25 | S | 150 | 75 |
| CP102 | 6.20 | 6.65 | 1.70 | Dry | 8 8 | 75 75 | 9 10 11 14 | 75 75 75 75 | S | 44 | 75 |
| CP103 | 2.20 | 2.65 | 1.70 | Dry | 1 1 | 75 75 | 1 2 2 3 | 75 75 75 75 | S | 8 | 75 |
| CP103 | 3.20 | 3.65 | 1.70 | Dry | 1 1 | 75 75 | 4 5 6 6 | 75 75 75 75 | S | 21 | 75 |
| CP103 | 4.20 | 4.65 | 1.70 | Dry | 2 5 | 75 75 | 10 6 6 8 | 75 75 75 75 | S | 30 | 75 |
| CP103 | 5.20 | 5.64 | 1.70 | Dry | 1 3 | 75 75 | 9 11 13 17 | 75 75 75 65 | S | 52 | 75 |
| CP103 | 6.20 | 6.45 | 1.70 | Dry | 18 7 | 75 20 | 22 26 2 | 75 75 0 | S | 100 | 75 |
| CP104 | 2.20 | 2.65 | 1.70 | Dry | 1 0 | 75 75 | 2 2 3 3 | 75 75 75 75 | S | 10 | 75 |
| CP104 | 3.20 | 3.65 | 1.70 | Dry | 1 2 | 75 75 | 3 4 4 5 | 75 75 75 75 | S | 16 | 75 |
| CP104 | 4.20 | 4.65 | 1.70 | Dry | 3 5 | 75 75 | 8 6 6 6 | 75 75 75 75 | S | 26 | 75 |
| CP104 | 5.20 | 5.63 | 1.70 | Dry | 4 8 | 75 75 | 10 12 15 13 | 75 75 75 50 | S | 55 | 75 |
| CP104 | 6.20 | 6.47 | 1.70 | Dry | 5 13 | 75 75 | 27 23 | 75 40 | S | 130 | 75 |
| CP105 | 2.20 | 2.65 | 1.70 | Dry | 1 | 75 75 | 1 1 1 1 | 75 75 75 75 | S | 4 | 75 |
| CP105 | 3.20 | 3.65 | 1.70 | Dry | 1 2 | 75 75 | 2 3 3 3 | 75 75 75 75 | S | 11 | 75 |
| CP105 | 4.20 | 4.65 | 1.70 | Dry | 1 3 | 75 75 | 5 5 6 6 | 75 75 75 75 | S | 22 | 75 |
| CP105 | 5.20 | 5.65 | 1.70 | Dry | 4 6 | 75 75 | 8 7 7 8 | 75 75 75 75 | S | 30 | 75 |

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. ** Denotes no effective penetration.

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# STANDARD PENETRATION TEST

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole no. | borehole depth (m) | bottom depth (m) | casing depth (m) | water level (m) | seating drive blows | seating drive pen (mm) | test drive blows | test drive pen (mm) | test type | N | energy ratio (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CP105 | 6.70 | 7.08 | 1.70 | Dry | 7 13 | 75 75 | 14 16 20 | 75 75 75 | S | 67 | 75 |
| CP105 | 7.70 | 7.99 | 1.70 | Dry | 4 17 | 75 75 | 23 26 | 75 65 | S | 105 | 75 |
| CP106 | 2.20 | 2.65 | 1.70 | Dry | 1 2 | 75 75 | 2 3 3 3 | 75 75 75 75 | S | 11 | 75 |
| CP106 | 3.20 | 3.65 | 1.70 | Dry | 1 2 | 75 75 | 2 5 5 4 | 75 75 75 75 | S | 16 | 75 |
| CP106 | 4.20 | 4.65 | 1.70 | Dry | 2 5 | 75 75 | 7 5 5 7 | 75 75 75 75 | S | 24 | 75 |
| CP106 | 5.20 | 5.63 | 1.70 | Dry | 3 6 | 75 75 | 11 14 15 10 | 75 75 75 50 | S | 55 | 75 |
| CP106 | 6.70 | 7.04 | 1.70 | Dry | 7 9 | 75 75 | 15 19 16 | 75 75 40 | S | 79 | 75 |
| CP107 | 1.70 | 2.10 | 1.70 | Dry | 14 11 | 75 25 | 21 10 7 2 | 75 75 75 75 | S | 40 | 75 |
| CP107 | 2.70 | 3.15 | 1.70 | Dry | 1 2 | 75 75 | 2 4 4 4 | 75 75 75 75 | S | 14 | 75 |
| CP107 | 3.70 | 4.15 | 1.70 | Dry | 2 2 | 75 75 | 4 5 6 7 | 75 75 75 75 | S | 22 | 75 |
| CP107 | 4.70 | 5.15 | 1.70 | Dry | 1 3 | 75 75 | 3 5 5 7 | 75 75 75 75 | S | 20 | 75 |
| CP107 | 5.70 | 6.15 | 1.70 | Dry | 3 4 | 75 75 | 5 7 10 10 | 75 75 75 75 | S | 32 | 75 |
| CP107 | 7.20 | 7.65 | 1.70 | Dry | 1 3 | 75 75 | 5 7 8 9 | 75 75 75 75 | S | 29 | 75 |
| CP108 | 2.20 | 2.65 | 1.70 | Dry | 1 1 | 75 75 | 2 2 2 3 | 75 75 75 75 | S | 9 | 75 |
| CP108 | 3.20 | 3.65 | 1.70 | Dry | 1 1 | 75 75 | 1 3 3 3 | 75 75 75 75 | S | 10 | 75 |
| CP108 | 4.20 | 4.65 | 3.30 | Dry | 1 1 | 75 75 | 1 3 3 4 | 75 75 75 75 | S | 11 | 75 |
| CP108 | 5.20 | 5.65 | 3.30 | Dry | 4 7 | 75 75 | 7 6 7 10 | 75 75 75 75 | S | 30 | 75 |
| CP108 | 6.70 | 7.15 | 3.30 | Dry | 6 8 | 75 75 | 10 10 11 12 | 75 75 75 75 | S | 43 | 75 |
| CP109 | 2.20 | 2.65 | 1.70 | Dry | 1 1 | 75 75 | 2 2 2 3 | 75 75 75 75 | S | 9 | 75 |
| CP109 | 3.20 | 3.65 | 1.70 | Dry | 1 | 75 75 | 1 1 1 1 | 75 75 75 75 | S | 4 | 75 |
| CP109 | 4.20 | 4.65 | 1.70 | Dry | 1 2 | 75 75 | 2 2 3 3 | 75 75 75 75 | S | 10 | 75 |
| CP109 | 5.20 | 5.65 | 1.70 | Dry | 2 4 | 75 75 | 6 8 10 10 | 75 75 75 75 | S | 34 | 75 |
| CP109 | 6.70 | 7.15 | 1.70 | Dry | 4 6 | 75 75 | 7 10 10 9 | 75 75 75 75 | S | 36 | 75 |
| CP110 | 2.20 | 2.65 | 1.70 | Dry | 1 1 | 75 75 | 2 2 3 3 | 75 75 75 75 | S | 10 | 75 |

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. ** Denotes no effective penetration.

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# STANDARD PENETRATION TEST

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole no. | borehole depth (m) | bottom depth (m) | casing depth (m) | water level (m) | seating drive blows | seating drive pen (mm) | test drive blows | test drive pen (mm) | test type | N | energy ratio (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CP110 | 3.20 | 3.65 | 1.70 | Dry | 2 5 | 75 75 | 6 4 4 3 | 75 75 75 75 | S | 17 | 75 |
| CP110 | 4.20 | 4.65 | 4.00 | Dry | 1 1 | 75 75 | 2 2 4 4 | 75 75 75 75 | S | 12 | 75 |
| CP110 | 5.20 | 5.65 | 4.70 | Dry | 1 2 | 75 75 | 5 8 8 8 | 75 75 75 75 | S | 29 | 75 |
| CP110 | 6.70 | 7.15 | 6.20 | 6.00 | 3 6 | 75 75 | 8 8 10 12 | 75 75 75 75 | S | 38 | 75 |
| CP111 | 2.20 | 2.65 | 1.70 | Dry | 1 1 | 75 75 | 2 2 2 2 | 75 75 75 75 | S | 8 | 75 |
| CP111 | 3.20 | 3.65 | 1.70 | Dry | 1 1 | 75 75 | 1 2 1 2 | 75 75 75 75 | S | 6 | 75 |
| CP111 | 4.20 | 4.65 | 1.70 | Dry | 1 1 | 75 75 | 1 2 2 2 | 75 75 75 75 | S | 7 | 75 |
| CP111 | 5.20 | 5.65 | 4.70 | Dry | 6 6 | 75 75 | 8 8 8 11 | 75 75 75 75 | S | 35 | 75 |
| CP111 | 6.70 | 7.08 | 4.70 | Dry | 2 7 | 75 75 | 9 20 21 | 75 75 75 | S | 67 | 75 |
| CP112 | 2.20 | 2.65 | 1.70 | Dry | 1 2 | 75 75 | 2 3 3 4 | 75 75 75 75 | S | 12 | 75 |
| CP112 | 3.20 | 3.20 | 1.70 | Dry | 25 | 0 | 50 | 0 | S | ** | 75 |
| CP113 | 2.20 | 2.65 | 1.70 | Dry | 1 1 | 75 75 | 2 2 4 2 | 75 75 75 75 | S | 10 | 75 |
| CP113 | 3.20 | 3.65 | 1.70 | Dry | 1 1 | 75 75 | 2 2 4 4 | 75 75 75 75 | S | 12 | 75 |
| CP113 | 4.20 | 4.65 | 1.70 | Dry | 2 2 | 75 75 | 4 4 5 5 | 75 75 75 75 | S | 18 | 75 |
| CP113 | 5.20 | 5.65 | 1.70 | Dry | 1 3 | 75 75 | 5 6 6 7 | 75 75 75 75 | S | 24 | 75 |
| CP113 | 6.70 | 7.15 | 1.70 | Dry | 1 5 | 75 75 | 7 10 12 10 | 75 75 75 75 | S | 39 | 75 |
| CP114 | 2.20 | 2.65 | 1.70 | Dry | 1 1 | 75 75 | 2 3 3 3 | 75 75 75 75 | S | 11 | 75 |
| CP114 | 3.20 | 3.65 | 1.70 | Dry | 1 1 | 75 75 | 2 2 4 3 | 75 75 75 75 | S | 11 | 75 |
| CP114 | 4.20 | 4.65 | 1.70 | Dry | 2 3 | 75 75 | 4 4 5 5 | 75 75 75 75 | S | 18 | 75 |
| CP114 | 5.20 | 5.65 | 1.70 | Dry | 1 3 | 75 75 | 3 5 6 8 | 75 75 75 75 | S | 22 | 75 |
| CP114 | 6.70 | 7.15 | 1.70 | Dry | 3 4 | 75 75 | 6 7 8 10 | 75 75 75 75 | S | 31 | 75 |
| CP115 | 2.20 | 2.65 | 1.70 | Dry | 0 0 | 75 75 | 1 2 2 2 | 75 75 75 75 | S | 7 | 75 |
| CP115 | 3.20 | 3.65 | 1.70 | Dry | 1 1 | 75 75 | 3 3 3 4 | 75 75 75 75 | S | 13 | 75 |
| CP115 | 4.20 | 4.65 | 1.70 | Dry | 2 3 | 75 75 | 5 7 9 7 | 75 75 75 75 | S | 28 | 75 |

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. ** Denotes no effective penetration.

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# STANDARD PENETRATION TEST

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole no. | borehole depth (m) | bottom depth (m) | casing depth (m) | water level (m) | seating drive blows | seating drive pen (mm) | test drive blows | test drive pen (mm) | test type | N | energy ratio (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CP115 | 5.20 | 5.38 | 1.70 | Dry | 2 19 | 75 75 | 50 | 25 | S | 600 | 75 |
| CP115 | 6.70 | 7.15 | 1.70 | Dry | 4 5 | 75 75 | 6 7 8 8 | 75 75 75 75 | S | 29 | 75 |

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notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. ** Denotes no effective penetration.

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# IN-SITU VANE

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | depth (m) | vane peak (kPa) | average vane peak (kPa) | vane remoulded (kPa) | average vane remoulded (kPa) | remarks |
|---|---|---|---|---|---|---|
| RC303 | 2.00 | 60<br>58<br>62 | 60 | | | |
| RC303 | 5.90 | 110<br>114<br>130 | 118 | | | |
| RC304 | 1.80 | 40<br>40<br>38 | 39 | | | |
| RC304 | 2.00 | 60<br>60<br>60 | 60 | | | |
| RC306 | 2.00 | 52<br>40<br>50 | 47 | | | |
| RC307 | 2.90 | 60<br>60<br>54 | 58 | | | |
| RC308 | 1.90 | 44<br>44<br>48 | 45 | | | |
| RC308 | 4.00 | 58<br>60<br>60 | 59 | | | |
| RC309 | 2.00 | 84<br>92<br>90 | 89 | | | |
| RC310 | 2.00 | 104<br>80<br>96 | 93 | | | |
| RC310 | 3.00 | 114<br>100<br>110 | 108 | | | |
| RC312 | 2.00 | 54<br>48<br>46 | 49 | | | |
| RC312 | 3.00 | 104<br>124<br>102 | 110 | | | |
| RC312 | 4.00 | 104<br>104<br>86 | 98 | | | |
| RC312 | 5.00 | 100<br>118<br>104 | 107 | | | |
| RC313 | 2.10 | 54<br>54<br>60 | 56 | | | |
| RC313 | 3.10 | 68<br>70<br>54 | 64 | | | |
| RC313 | 4.00 | 88<br>62<br>84 | 78 | | | |
| RC313 | 4.90 | 60<br>64<br>70 | 65 | | | |

general remarks:

Hand vane test results reported as undrained shear strength.

*Average pocket penetrometer results reported as undrained shear strength.

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# IN-SITU VANE

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | depth (m) | vane peak (kPa) | average vane peak (kPa) | vane remoulded (kPa) | average vane remoulded (kPa) | remarks |
|---|---|---|---|---|---|---|
| RC313 | 6.40 | 90<br>96<br>112 | 99 | | | |
| TP501 | 0.65 | 54<br>56<br>52 | 54 | | | |
| TP501 | 1.30 | 54<br>48<br>50 | 51 | | | |
| TP501 | 2.00 | 74<br>76<br>76 | 75 | | | |
| TP501 | 3.00 | 74<br>84<br>90 | 83 | | | |
| TP502 | 0.60 | 52<br>48<br>50 | 50 | | | |
| TP502 | 1.00 | 58<br>56<br>44 | 53 | | | |
| TP502 | 2.00 | 62<br>70<br>58 | 63 | | | |
| TP502 | 3.00 | 60<br>60<br>68 | 63 | | | |
| TP503 | 0.50 | 75<br>77<br>80 | 77 | | | |
| TP503 | 1.20 | 80<br>70<br>68 | 73 | | | |
| TP503 | 2.50 | 60<br>50<br>60 | 57 | | | |
| TP504 | 0.60 | 46 | 46 | | | |
| TP504 | 1.80 | 58 | 58 | | | |
| TP504 | 2.80 | 72 | 72 | | | |
| TP509 | 0.50 | 30<br>25<br>30 | 28 | | | |
| TP509 | 1.40 | 70<br>60<br>77 | 69 | | | |
| TP509 | 2.00 | 90<br>87<br>77 | 85 | | | |

general remarks:

Hand vane test results reported as undrained shear strength.

*Average pocket penetrometer results reported as undrained shear strength.

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# IN-SITU VANE

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | depth (m) | vane peak (kPa) | average vane peak (kPa) | vane remoulded (kPa) | average vane remoulded (kPa) | remarks |
|---|---|---|---|---|---|---|
| TP509 | 2.40 | 110<br>100<br>97 | 102 | | | |
| TP510 | 0.50 | 18<br>20<br>25 | 21 | | | |
| TP510 | 1.50 | 95<br>90<br>90 | 92 | | | |
| TP510 | 2.50 | 90<br>100<br>110 | 100 | | | |
| TP511 | 0.30 | 42 | 42 | | | |
| TP512 | 1.30 | 54<br>56<br>56 | 55 | | | |
| TP512 | 2.30 | 54<br>44<br>52 | 50 | | | |
| TP513 | 0.50 | 52<br>56<br>58 | 55 | | | |
| TP513 | 1.00 | 70<br>72<br>70 | 71 | | | |
| TP513 | 2.00 | 80<br>72<br>70 | 74 | | | |
| TP514 | 0.50 | 56 | 56 | | | |
| TP514 | 1.10 | 60 | 60 | | | |
| TP515 | 0.30 | 68 | 68 | | | |
| TP516 | 1.30 | 60<br>60<br>90 | 70 | | | |
| TP516 | 2.30 | 64<br>66<br>60 | 63 | | | |
| TP517 | 0.50 | 70<br>78<br>72 | 73 | | | |
| TP517 | 1.00 | 64<br>66<br>74 | 68 | | | |
| TP517 | 2.00 | 84<br>70<br>78 | 77 | | | |

general remarks:

Hand vane test results reported as undrained shear strength.

*Average pocket penetrometer results reported as undrained shear strength.

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# IN-SITU VANE

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | depth (m) | vane peak (kPa) | average vane peak (kPa) | vane remoulded (kPa) | average vane remoulded (kPa) | remarks |
|---|---|---|---|---|---|---|
| TP517 | 3.00 | 70<br>76<br>80 | 75 | | | |
| TP518 | 0.40 | 70 | 70 | | | |
| TP518 | 1.30 | 78 | 78 | | | |
| TP518 | 1.50 | 76 | 76 | | | |
| TP518 | 2.00 | 75 | 75 | | | |
| TP518 | 2.60 | 76 | 76 | | | |
| TP519 | 0.70 | 55 | 55 | | | |
| TP519 | 1.90 | 96 | 96 | | | |
| TP519 | 2.90 | 85 | 85 | | | |
| TP520 | 0.90 | 62 | 62 | | | |
| TP520 | 1.50 | 67 | 67 | | | |
| TP520 | 2.40 | 84 | 84 | | | |
| TP521 | 0.70 | 75 | 75 | | | |
| TP521 | 1.40 | 78 | 78 | | | |
| TP521 | 2.00 | 80 | 80 | | | |
| TP521 | 2.70 | 82 | 82 | | | |
| TP522 | 1.20 | 70 | 70 | | | |
| TP522 | 1.90 | 66 | 66 | | | |

general remarks:

Hand vane test results reported as undrained shear strength.

*Average pocket penetrometer results reported as undrained shear strength.

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# IN-SITU VANE

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | depth (m) | vane peak (kPa) | average vane peak (kPa) | vane remoulded (kPa) | average vane remoulded (kPa) | remarks |
|---|---|---|---|---|---|---|
| TP522 | 2.60 | 70 | 70 | | | |
| TP523 | 0.80 | 58<br>80<br>85 | 74 | | | |
| TP523 | 2.30 | 58<br>60<br>55 | 58 | | | |
| TP523 | 2.50 | 70<br>70<br>60 | 67 | | | |
| TP524 | 1.00 | 86 | 86 | | | |
| TP526 | 0.50 | 60 | 60 | | | |
| TP526 | 1.30 | 68 | 68 | | | |
| TP527 | 0.60 | 80<br>84<br>76 | 80 | | | |
| TP527 | 1.50 | 55<br>55<br>55 | 55 | | | |
| TP528 | 1.10 | 86<br>94<br>92 | 91 | | | |
| TP528 | 2.00 | 74<br>76<br>84 | 78 | | | |
| TP528 | 2.80 | 78<br>72<br>67 | 72 | | | |
| TP529 | 1.00 | 50 | 50 | | | |
| TP529 | 2.00 | 68 | 68 | | | |
| TP530 | 0.30 | 80<br>75<br>70 | 75 | | | |
| TP530 | 1.00 | 70<br>60<br>72 | 67 | | | |
| TP530 | 1.60 | 90<br>90<br>85 | 88 | | | |
| TP530 | 1.90 | 70<br>70<br>60 | 67 | | | |

general remarks:

Hand vane test results reported as undrained shear strength.

*Average pocket penetrometer results reported as undrained shear strength.

| CONTRACT | CHECKED |
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# IN-SITU VANE

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | depth (m) | vane peak (kPa) | average vane peak (kPa) | vane remoulded (kPa) | average vane remoulded (kPa) | remarks |
|---|---|---|---|---|---|---|
| TP530 | 3.00 | 70<br>65<br>70 | 68 | | | |
| TP531 | 0.40 | 59 | 59 | | | |
| TP534 | 0.80 | 60 | 60 | | | |
| TP534 | 1.20 | 62 | 62 | | | |
| TP534 | 1.80 | 66 | 66 | | | |
| TP534 | 2.10 | 118 | 118 | | | |
| TP534 | 2.80 | 105 | 105 | | | |
| TP536 | 1.10 | 68 | 68 | | | |
| TP538 | 0.70 | 60<br>60<br>68 | 63 | | | |
| TP538 | 1.00 | 68<br>68<br>70 | 69 | | | |
| TP538 | 2.00 | 84<br>96<br>92 | 91 | | | |
| TP539 | 0.80 | 56 | 56 | | | |
| TP539 | 2.50 | 50 | 50 | | | |
| TP540A | 1.60 | 83 | 83 | | | |
| TP540A | 2.30 | 104 | 104 | | | |
| TP542 | 1.00 | 88<br>82<br>90 | 87 | 30<br>35<br>30 | 32 | |
| TP542 | 2.40 | 97<br>107<br>98 | 101 | 30<br>37<br>32 | 33 | |
| TP543 | 0.30 | 48<br>56<br>58 | 54 | 25<br>26<br>24 | 25 | |

general remarks:

Hand vane test results reported as undrained shear strength.

*Average pocket penetrometer results reported as undrained shear strength.

CONTRACT **30378**

CHECKED

DRAFT

Geotechnical Engineering Limited

# IN-SITU VANE

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | depth (m) | vane peak (kPa) | average vane peak (kPa) | vane remoulded (kPa) | average vane remoulded (kPa) | remarks |
|---|---|---|---|---|---|---|
| TP543 | 1.00 | 55<br>60<br>58 | 58 | 20<br>24<br>25 | 23 | |
| TP543 | 2.40 | 75<br>70<br>78 | 74 | 31<br>30<br>32 | 31 | |
| TP544 | 0.60 | 75<br>65<br>60 | 67 | | | |
| TP544 | 1.10 | 85<br>80<br>80 | 82 | | | |
| TP544 | 1.50 | 40<br>50<br>45 | 45 | | | |
| TP544 | 2.30 | 100<br>120<br>90 | 103 | | | |
| TP546 | 0.60 | 50<br>60<br>52 | 54 | | | |
| TP546 | 1.40 | 50<br>50<br>55 | 52 | | | |
| TP547 | 0.30 | 73<br>70<br>50 | 64 | 30<br>24<br>18 | 24 | |
| TP547 | 0.90 | 48<br>50<br>52 | 50 | 22<br>20<br>20 | 21 | |
| TP547 | 1.50 | 50<br>50<br>40 | 47 | 25<br>20<br>20 | 22 | |
| TP547 | 2.00 | 70<br>70<br>72 | 71 | 25<br>30<br>27 | 27 | |
| TP547 | 2.90 | 78<br>85<br>100 | 88 | 24<br>25<br>20 | 23 | |
| TP548 | 0.40 | 41<br>58<br>40 | 46 | 22<br>21<br>30 | 24 | |
| TP548 | 1.00 | 50<br>54<br>52 | 52 | 40<br>24<br>42 | 35 | |
| TP548 | 2.70 | 70<br>80<br>82 | 77 | 20<br>30<br>30 | 27 | |
| TP548A | 0.50 | 60<br>50<br>60 | 57 | 26<br>20<br>30 | 25 | |
| TP548A | 1.60 | 40<br>50<br>43 | 44 | 20<br>20<br>20 | 20 | |

general remarks:

Hand vane test results reported as undrained shear strength.

*Average pocket penetrometer results reported as undrained shear strength.

CONTRACT **30378**

CHECKED

DRAFT

Geotechnical Engineering Limited

# IN-SITU VANE

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | depth (m) | vane peak (kPa) | average vane peak (kPa) | vane remoulded (kPa) | average vane remoulded (kPa) | remarks |
|---|---|---|---|---|---|---|
| TP548A | 2.00 | 60<br>65<br>75 | 67 | 30<br>30<br>30 | 30 | |
| TP548A | 2.80 | 80<br>100<br>94 | 91 | 18<br>30<br>25 | 24 | |
| TP549 | 0.50 | 50<br>42<br>45 | 46 | | | |
| TP549 | 0.90 | 55<br>60<br>55 | 57 | | | |
| TP549 | 1.50 | 55<br>45<br>50 | 50 | | | |
| TP549 | 2.00 | 65<br>60<br>70 | 65 | | | |
| TP552 | 0.50 | 60<br>55<br>60 | 58 | | | |
| TP552 | 1.00 | 70<br>70<br>60 | 67 | | | |
| TP552 | 1.60 | 60<br>65<br>70 | 65 | | | |
| TP552 | 2.50 | 80<br>75<br>78 | 78 | | | |
| TP553 | 0.30 | 46 | 46 | | | |
| TP554 | 0.20 | 56 | 56 | | | |

general remarks:

Hand vane test results reported as undrained shear strength.

*Average pocket penetrometer results reported as undrained shear strength.

CONTRACT **30378**

CHECKED

DRAFT

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

**CC406**

DATE 26 March 2015

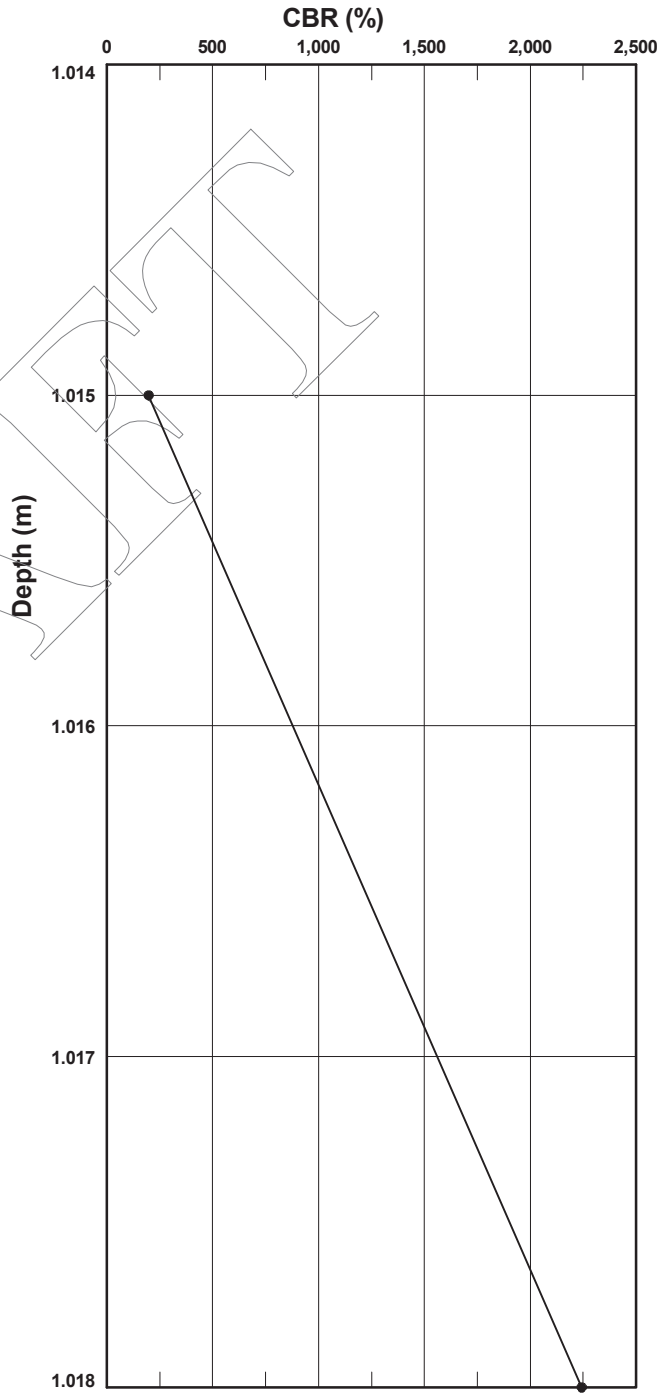
Easting 459047.5

Northing 221292.9

Ground level 67.55mOD

Initial scale reading (mm) 0 Datum bgl (mm) 1000

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 10 | 15 | 15 | 1.02 | 2 | 196.7 |
| 20 | 18 | 3 | 1.02 | 0 | 2243.2 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)
No effective penetration, test abandoned.

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

**CC408**

DATE 25 March 2015

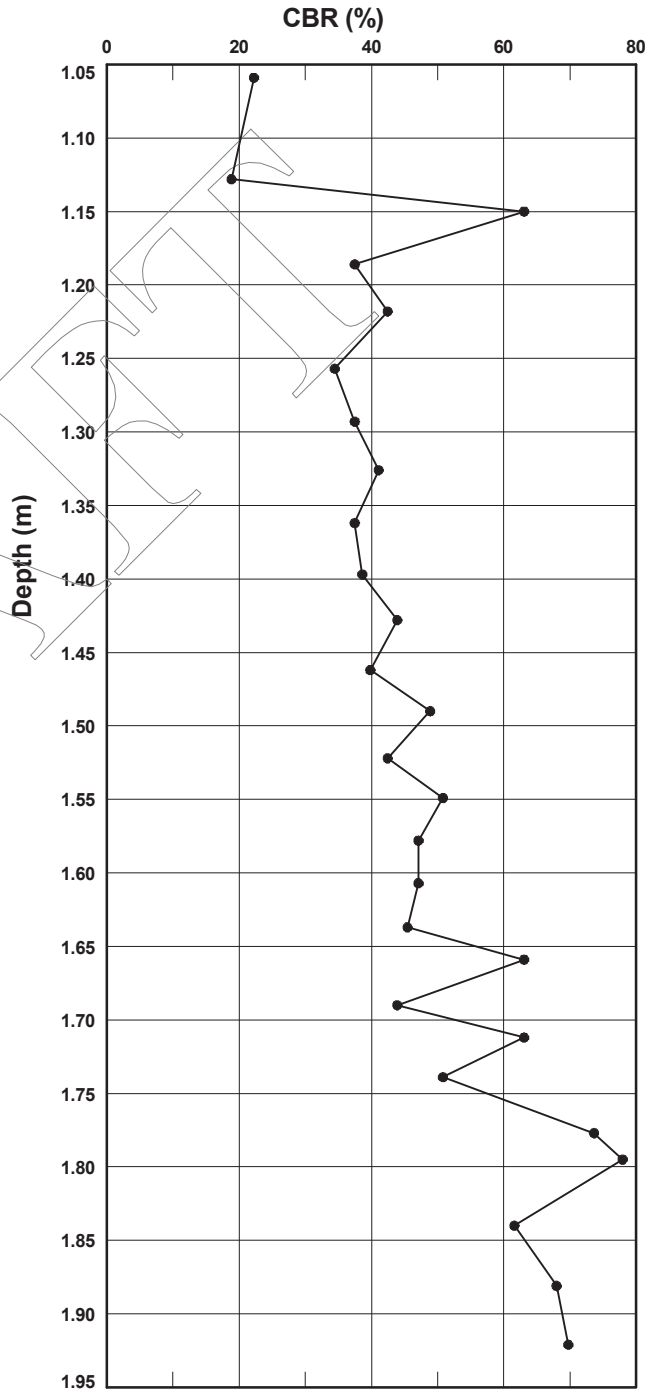
Easting 459073.9

Northing 221247.0

Ground level 67.30mOD

Initial scale reading (mm) 0 Datum bgl (mm) 1000

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 5 | 59 | 59 | 1.06 | 12 | 22.2 |
| 5 | 128 | 69 | 1.13 | 14 | 18.8 |
| 5 | 150 | 22 | 1.15 | 4 | 63.1 |
| 5 | 186 | 36 | 1.19 | 7 | 37.5 |
| 5 | 218 | 32 | 1.22 | 6 | 42.5 |
| 5 | 257 | 39 | 1.26 | 8 | 34.4 |
| 5 | 293 | 36 | 1.29 | 7 | 37.5 |
| 5 | 326 | 33 | 1.33 | 7 | 41.1 |
| 5 | 362 | 36 | 1.36 | 7 | 37.5 |
| 5 | 397 | 35 | 1.40 | 7 | 38.6 |
| 5 | 428 | 31 | 1.43 | 6 | 43.9 |
| 5 | 462 | 34 | 1.46 | 7 | 39.8 |
| 5 | 490 | 28 | 1.49 | 6 | 48.9 |
| 5 | 522 | 32 | 1.52 | 6 | 42.5 |
| 5 | 549 | 27 | 1.55 | 5 | 50.8 |
| 5 | 578 | 29 | 1.58 | 6 | 47.1 |
| 5 | 607 | 29 | 1.61 | 6 | 47.1 |
| 5 | 637 | 30 | 1.64 | 6 | 45.5 |
| 5 | 659 | 22 | 1.66 | 4 | 63.1 |
| 5 | 690 | 31 | 1.69 | 6 | 43.9 |
| 5 | 712 | 22 | 1.71 | 4 | 63.1 |
| 5 | 739 | 27 | 1.74 | 5 | 50.8 |
| 10 | 777 | 38 | 1.78 | 4 | 73.7 |
| 5 | 795 | 18 | 1.80 | 4 | 78.0 |
| 10 | 840 | 45 | 1.84 | 5 | 61.6 |
| 10 | 881 | 41 | 1.88 | 4 | 68.0 |
| 10 | 921 | 40 | 1.92 | 4 | 69.8 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

**CC409**

DATE 26 March 2015

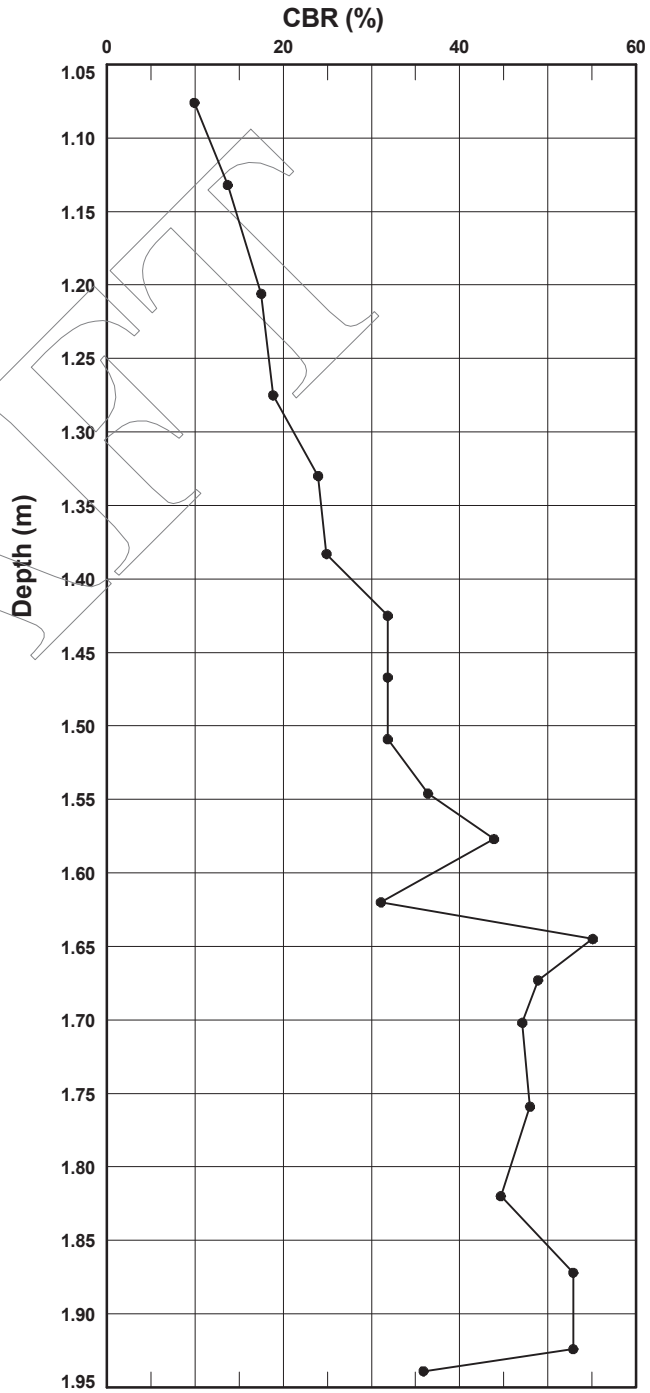
Easting 459086.6

Northing 221353.3

Ground level 67.75mOD

Initial scale reading (mm) 0 Datum bgl (mm) 1000

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 3 | 76 | 76 | 1.08 | 25 | 9.9 |
| 3 | 132 | 56 | 1.13 | 19 | 13.7 |
| 5 | 206 | 74 | 1.21 | 15 | 17.5 |
| 5 | 275 | 69 | 1.28 | 14 | 18.8 |
| 5 | 330 | 55 | 1.33 | 11 | 24.0 |
| 5 | 383 | 53 | 1.38 | 11 | 24.9 |
| 5 | 425 | 42 | 1.43 | 8 | 31.8 |
| 5 | 467 | 42 | 1.47 | 8 | 31.8 |
| 5 | 509 | 42 | 1.51 | 8 | 31.8 |
| 5 | 546 | 37 | 1.55 | 7 | 36.4 |
| 5 | 577 | 31 | 1.58 | 6 | 43.9 |
| 5 | 620 | 43 | 1.62 | 9 | 31.1 |
| 5 | 645 | 25 | 1.65 | 5 | 55.1 |
| 5 | 673 | 28 | 1.67 | 6 | 48.9 |
| 5 | 702 | 29 | 1.70 | 6 | 47.1 |
| 10 | 759 | 57 | 1.76 | 6 | 48.0 |
| 10 | 820 | 61 | 1.82 | 6 | 44.7 |
| 10 | 872 | 52 | 1.87 | 5 | 52.9 |
| 10 | 924 | 52 | 1.92 | 5 | 52.9 |
| 2 | 939 | 15 | 1.94 | 8 | 35.9 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

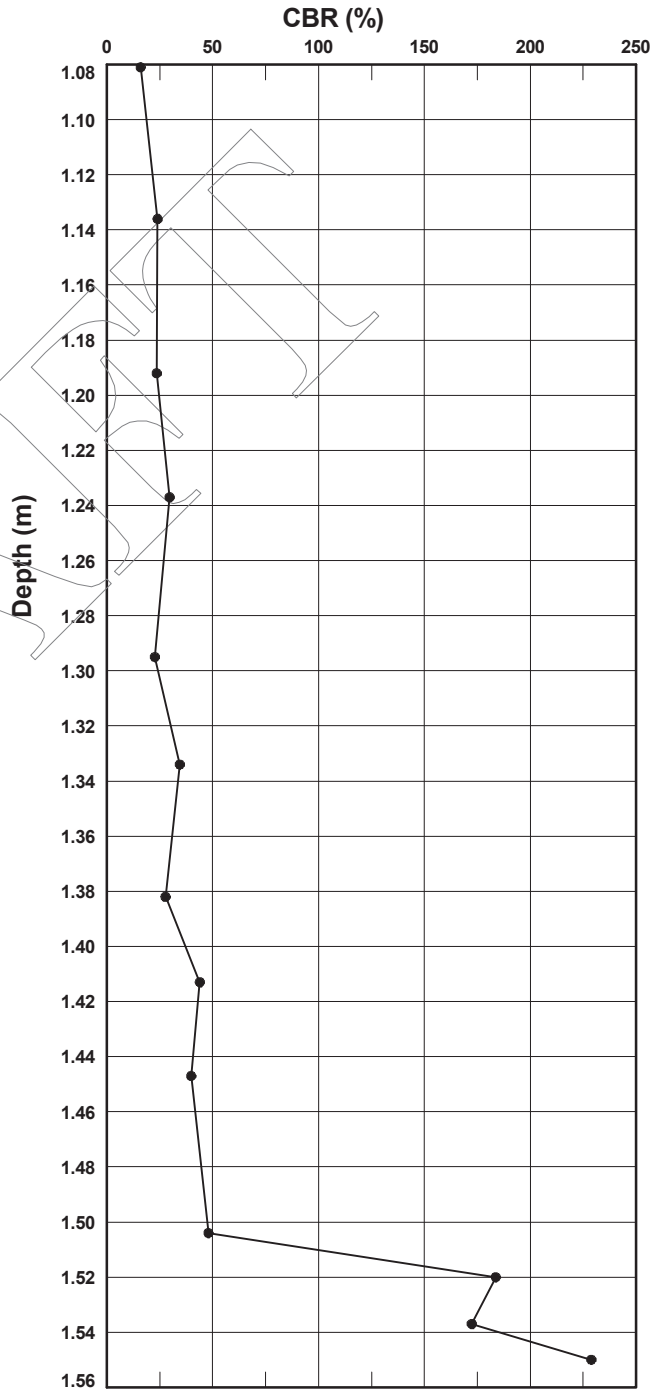
**CC410**

DATE 27 March 2015

Easting 459127.9
Northing 221275.7
Ground level 67.40mOD

Initial scale reading (mm) 0 Datum bgl (mm) 1000

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 5 | 81 | 81 | 1.08 | 16 | 15.9 |
| 5 | 136 | 55 | 1.14 | 11 | 24.0 |
| 5 | 192 | 56 | 1.19 | 11 | 23.5 |
| 5 | 237 | 45 | 1.24 | 9 | 29.6 |
| 5 | 295 | 58 | 1.30 | 12 | 22.6 |
| 5 | 334 | 39 | 1.33 | 8 | 34.4 |
| 5 | 382 | 48 | 1.38 | 10 | 27.7 |
| 5 | 413 | 31 | 1.41 | 6 | 43.9 |
| 5 | 447 | 34 | 1.45 | 7 | 39.8 |
| 10 | 504 | 57 | 1.50 | 6 | 48.0 |
| 10 | 520 | 16 | 1.52 | 2 | 183.8 |
| 10 | 537 | 17 | 1.54 | 2 | 172.4 |
| 10 | 550 | 13 | 1.55 | 1 | 228.9 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

**CC411**

DATE 26 March 2015

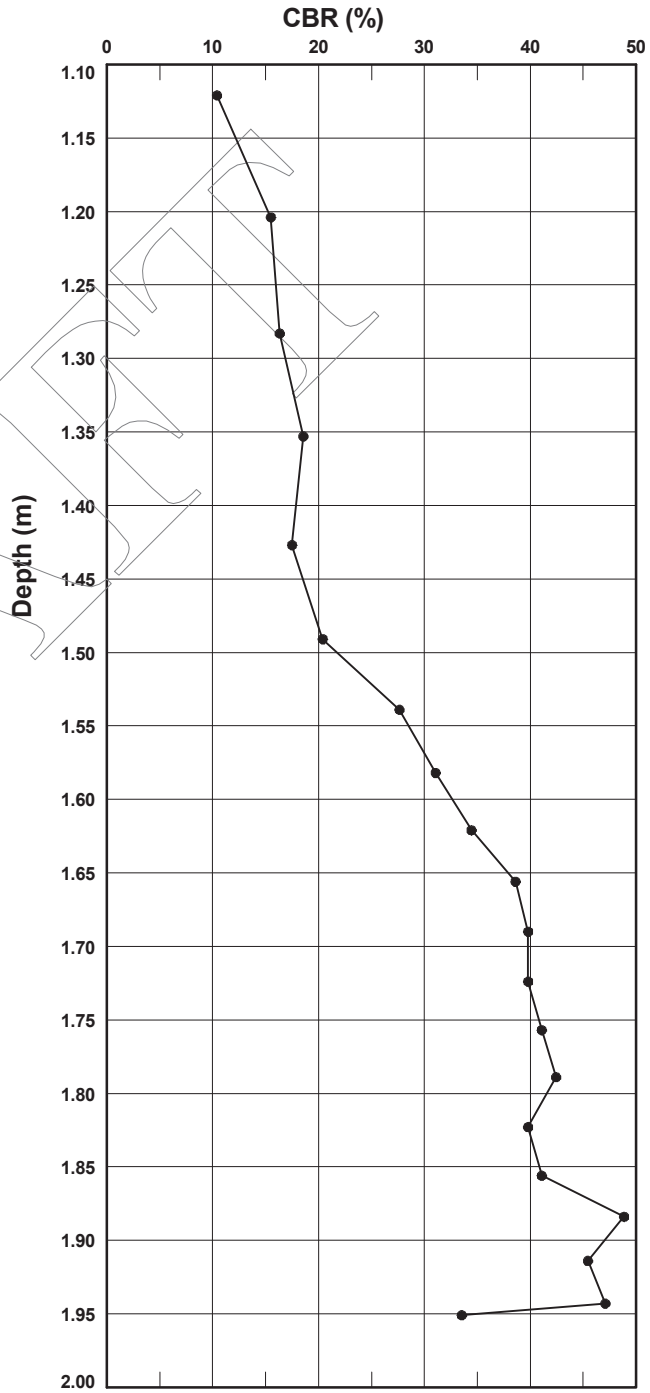
Easting 459138.7

Northing 221305.1

Ground level 68.10mOD

Initial scale reading (mm) 0 Datum bgl (mm) 1000

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 5 | 121 | 121 | 1.12 | 24 | 10.4 |
| 5 | 204 | 83 | 1.20 | 17 | 15.5 |
| 5 | 283 | 79 | 1.28 | 16 | 16.3 |
| 5 | 353 | 70 | 1.35 | 14 | 18.6 |
| 5 | 427 | 74 | 1.43 | 15 | 17.5 |
| 5 | 491 | 64 | 1.49 | 13 | 20.4 |
| 5 | 539 | 48 | 1.54 | 10 | 27.7 |
| 5 | 582 | 43 | 1.58 | 9 | 31.1 |
| 5 | 621 | 39 | 1.62 | 8 | 34.4 |
| 5 | 656 | 35 | 1.66 | 7 | 38.6 |
| 5 | 690 | 34 | 1.69 | 7 | 39.8 |
| 5 | 724 | 34 | 1.72 | 7 | 39.8 |
| 5 | 757 | 33 | 1.76 | 7 | 41.1 |
| 5 | 789 | 32 | 1.79 | 6 | 42.5 |
| 5 | 823 | 34 | 1.82 | 7 | 39.8 |
| 5 | 856 | 33 | 1.86 | 7 | 41.1 |
| 5 | 884 | 28 | 1.88 | 6 | 48.9 |
| 5 | 914 | 30 | 1.91 | 6 | 45.5 |
| 5 | 943 | 29 | 1.94 | 6 | 47.1 |
| 1 | 951 | 8 | 1.95 | 8 | 33.5 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

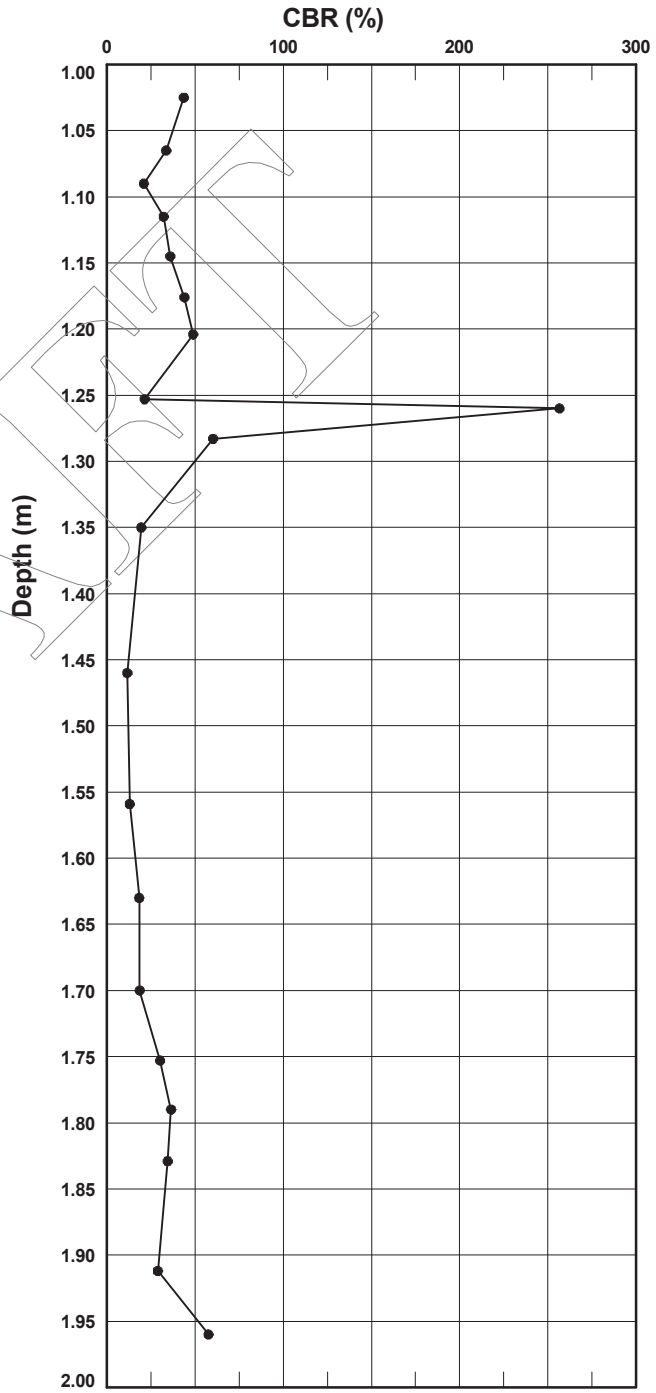
**CC412**

DATE 23 March 2015

Easting 459219.8
Northing 221226.0
Ground level 67.35mOD

Initial scale reading (mm) 0 Datum bgl (mm) 1000

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 4 | 25 | 25 | 1.03 | 6 | 43.5 |
| 5 | 65 | 40 | 1.07 | 8 | 33.5 |
| 2 | 90 | 25 | 1.09 | 13 | 20.9 |
| 3 | 115 | 25 | 1.12 | 8 | 32.1 |
| 4 | 145 | 30 | 1.15 | 8 | 35.9 |
| 5 | 176 | 31 | 1.18 | 6 | 43.9 |
| 5 | 204 | 28 | 1.20 | 6 | 48.9 |
| 4 | 253 | 49 | 1.25 | 12 | 21.4 |
| 6 | 260 | 7 | 1.26 | 1 | 256.6 |
| 5 | 283 | 23 | 1.28 | 5 | 60.2 |
| 5 | 350 | 67 | 1.35 | 13 | 19.4 |
| 5 | 460 | 110 | 1.46 | 22 | 11.5 |
| 5 | 559 | 99 | 1.56 | 20 | 12.9 |
| 5 | 630 | 71 | 1.63 | 14 | 18.3 |
| 5 | 700 | 70 | 1.70 | 14 | 18.6 |
| 6 | 753 | 53 | 1.75 | 9 | 30.2 |
| 5 | 790 | 37 | 1.79 | 7 | 36.4 |
| 5 | 829 | 39 | 1.83 | 8 | 34.4 |
| 9 | 912 | 83 | 1.91 | 9 | 28.9 |
| 10 | 960 | 48 | 1.96 | 5 | 57.5 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

**CC413**

DATE 23 March 2015

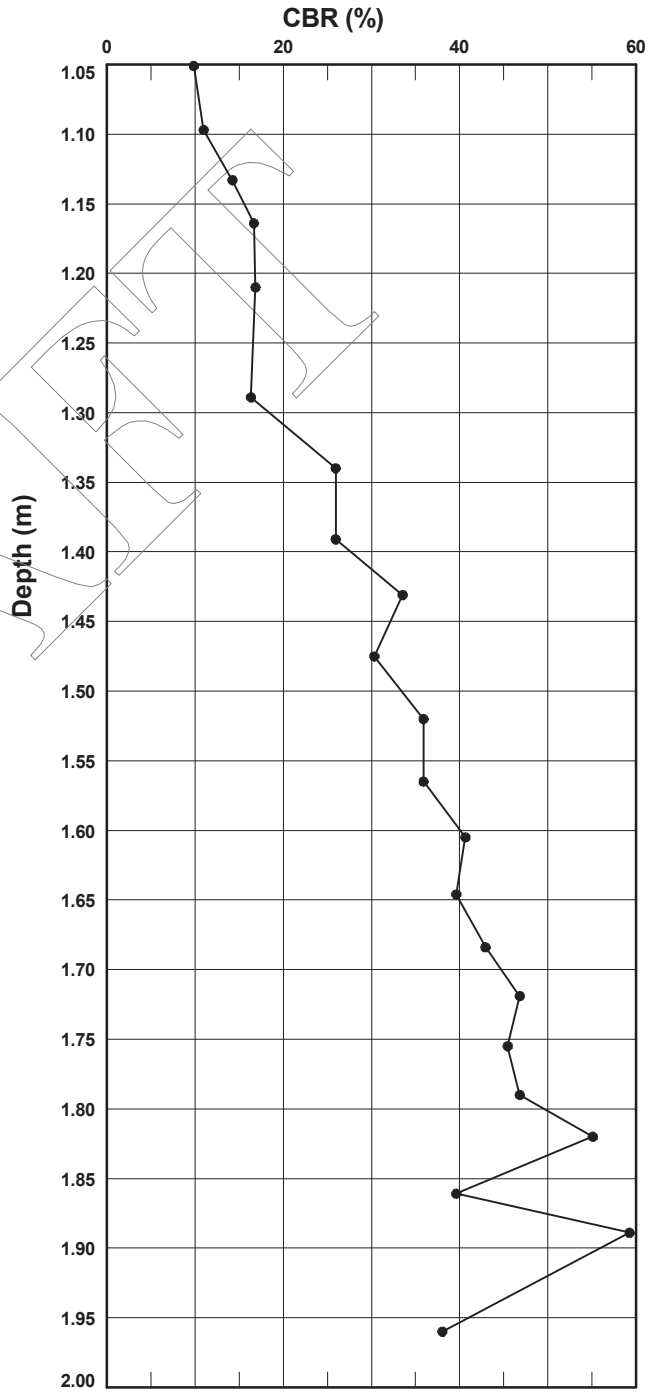
Easting 459268.5

Northing 221235.9

Ground level 66.80mOD

Initial scale reading (mm) 10 Datum bgl (mm) 1000

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 2 | 61 | 51 | 1.05 | 26 | 9.9 |
| 2 | 107 | 46 | 1.10 | 23 | 11.0 |
| 2 | 143 | 36 | 1.13 | 18 | 14.2 |
| 2 | 174 | 31 | 1.16 | 16 | 16.7 |
| 3 | 220 | 46 | 1.21 | 15 | 16.9 |
| 5 | 299 | 79 | 1.29 | 16 | 16.3 |
| 5 | 350 | 51 | 1.34 | 10 | 25.9 |
| 5 | 401 | 51 | 1.39 | 10 | 25.9 |
| 5 | 441 | 40 | 1.43 | 8 | 33.5 |
| 5 | 485 | 44 | 1.48 | 9 | 30.3 |
| 6 | 530 | 45 | 1.52 | 8 | 35.9 |
| 6 | 575 | 45 | 1.57 | 8 | 35.9 |
| 6 | 615 | 40 | 1.61 | 7 | 40.7 |
| 6 | 656 | 41 | 1.65 | 7 | 39.6 |
| 6 | 694 | 38 | 1.68 | 6 | 42.9 |
| 6 | 729 | 35 | 1.72 | 6 | 46.8 |
| 6 | 765 | 36 | 1.76 | 6 | 45.5 |
| 6 | 800 | 35 | 1.79 | 6 | 46.8 |
| 6 | 830 | 30 | 1.82 | 5 | 55.1 |
| 6 | 871 | 41 | 1.86 | 7 | 39.6 |
| 6 | 899 | 28 | 1.89 | 5 | 59.3 |
| 10 | 970 | 71 | 1.96 | 7 | 38.0 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## CC415

DATE 25 March 2015

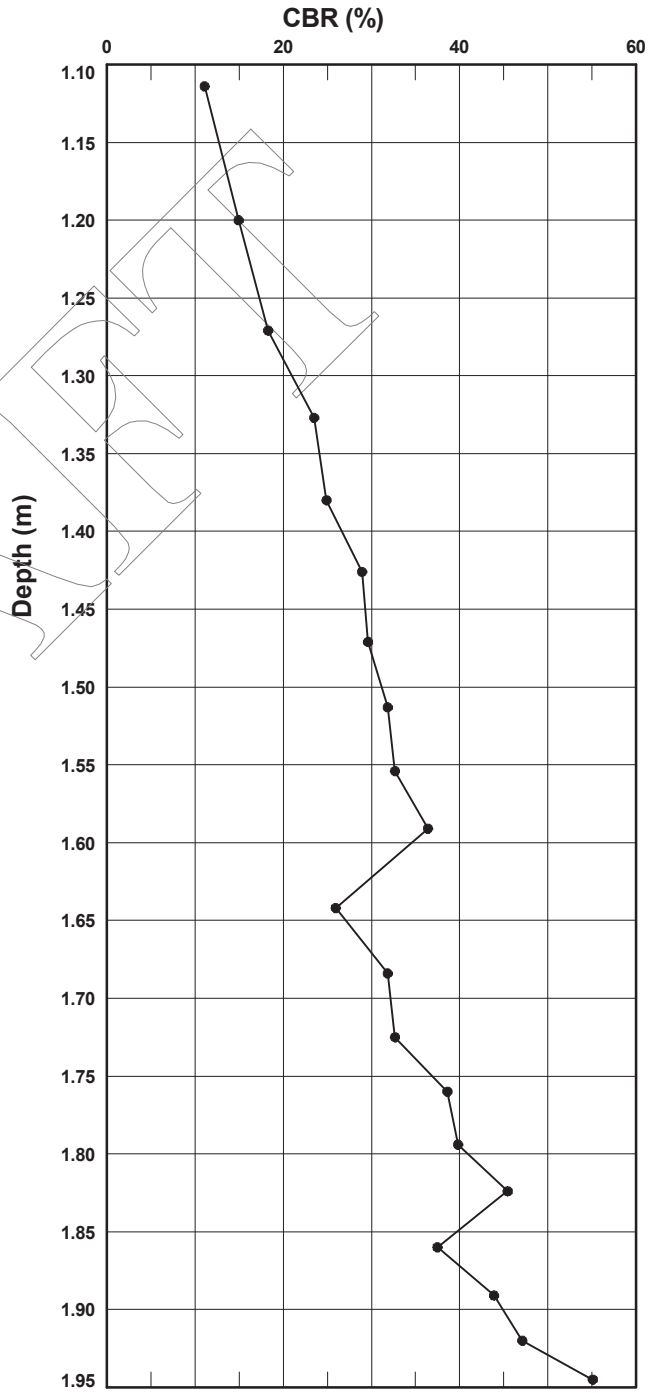
Easting 459160.8

Northing 221170.4

Ground level 67.85mOD

Initial scale reading (mm) 0 Datum bgl (mm) 1000

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 5 | 114 | 114 | 1.11 | 23 | 11.1 |
| 5 | 200 | 86 | 1.20 | 17 | 14.9 |
| 5 | 271 | 71 | 1.27 | 14 | 18.3 |
| 5 | 327 | 56 | 1.33 | 11 | 23.5 |
| 5 | 380 | 53 | 1.38 | 11 | 24.9 |
| 5 | 426 | 46 | 1.43 | 9 | 28.9 |
| 5 | 471 | 45 | 1.47 | 9 | 29.6 |
| 5 | 513 | 42 | 1.51 | 8 | 31.8 |
| 5 | 554 | 41 | 1.55 | 8 | 32.7 |
| 5 | 591 | 37 | 1.59 | 7 | 36.4 |
| 5 | 642 | 51 | 1.64 | 10 | 25.9 |
| 5 | 684 | 42 | 1.68 | 8 | 31.8 |
| 5 | 725 | 41 | 1.73 | 8 | 32.7 |
| 5 | 760 | 35 | 1.76 | 7 | 38.6 |
| 5 | 794 | 34 | 1.79 | 7 | 39.8 |
| 5 | 824 | 30 | 1.82 | 6 | 45.5 |
| 5 | 860 | 36 | 1.86 | 7 | 37.5 |
| 5 | 891 | 31 | 1.89 | 6 | 43.9 |
| 5 | 920 | 29 | 1.92 | 6 | 47.1 |
| 5 | 945 | 25 | 1.95 | 5 | 55.1 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

**CC416**

DATE 24 March 2015

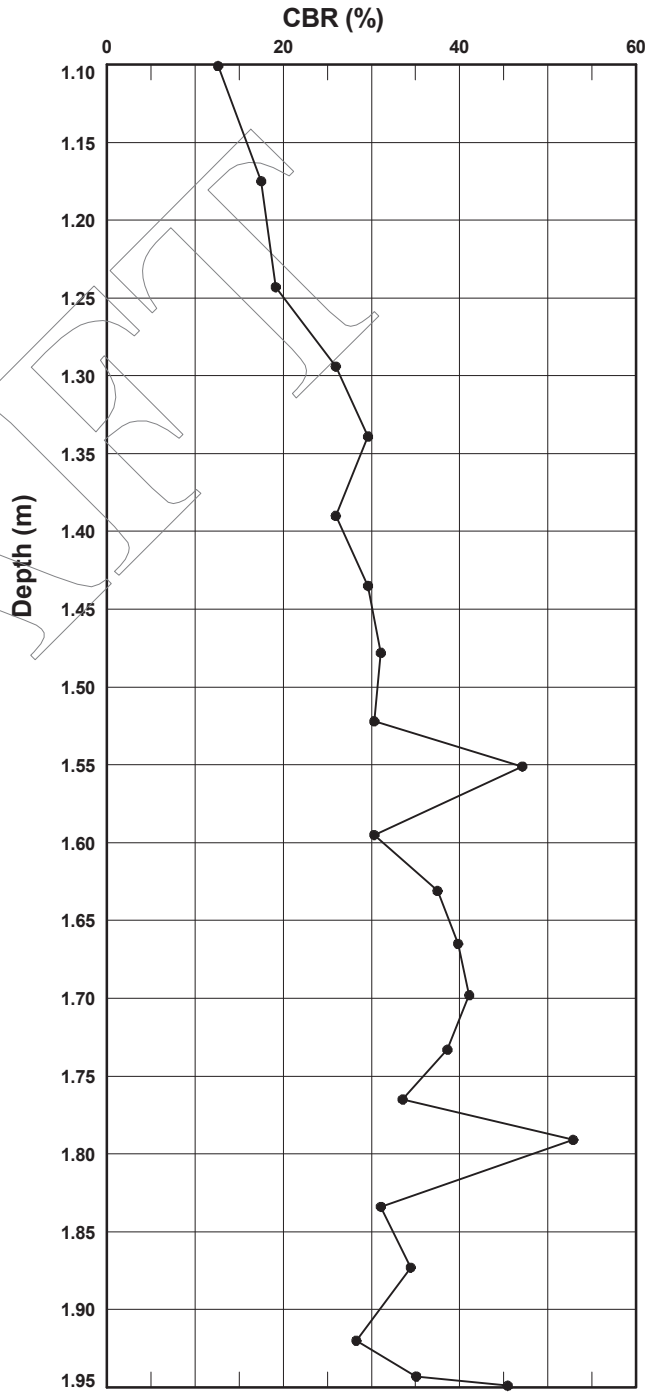
Easting 459211.2

Northing 221101.5

Ground level 69.80mOD

Initial scale reading (mm) 0 Datum bgl (mm) 1000

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 5 | 101 | 101 | 1.10 | 20 | 12.6 |
| 5 | 175 | 74 | 1.18 | 15 | 17.5 |
| 5 | 243 | 68 | 1.24 | 14 | 19.1 |
| 5 | 294 | 51 | 1.29 | 10 | 25.9 |
| 5 | 339 | 45 | 1.34 | 9 | 29.6 |
| 5 | 390 | 51 | 1.39 | 10 | 25.9 |
| 5 | 435 | 45 | 1.44 | 9 | 29.6 |
| 5 | 478 | 43 | 1.48 | 9 | 31.1 |
| 5 | 522 | 44 | 1.52 | 9 | 30.3 |
| 5 | 551 | 29 | 1.55 | 6 | 47.1 |
| 5 | 595 | 44 | 1.60 | 9 | 30.3 |
| 5 | 631 | 36 | 1.63 | 7 | 37.5 |
| 5 | 665 | 34 | 1.67 | 7 | 39.8 |
| 5 | 698 | 33 | 1.70 | 7 | 41.1 |
| 5 | 733 | 35 | 1.73 | 7 | 38.6 |
| 4 | 765 | 32 | 1.77 | 8 | 33.5 |
| 5 | 791 | 26 | 1.79 | 5 | 52.9 |
| 5 | 834 | 43 | 1.83 | 9 | 31.1 |
| 5 | 873 | 39 | 1.87 | 8 | 34.4 |
| 5 | 920 | 47 | 1.92 | 9 | 28.3 |
| 3 | 943 | 23 | 1.94 | 8 | 35.1 |
| 1 | 949 | 6 | 1.95 | 6 | 45.5 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

**CC417**

DATE 24 March 2015

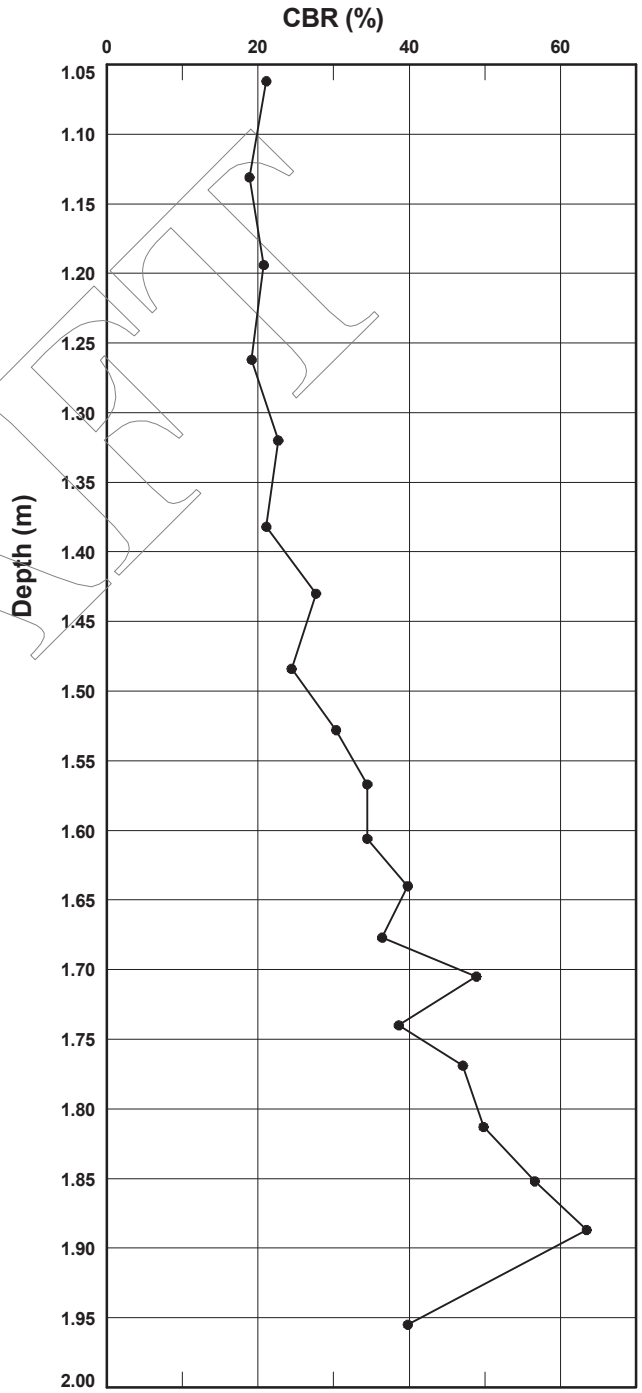
Easting 459246.9

Northing 221083.2

Ground level 70.00mOD

Initial scale reading (mm) 0 Datum bgl (mm) 1000

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 5 | 62 | 62 | 1.06 | 12 | 21.1 |
| 5 | 131 | 69 | 1.13 | 14 | 18.8 |
| 5 | 194 | 63 | 1.19 | 13 | 20.7 |
| 5 | 262 | 68 | 1.26 | 14 | 19.1 |
| 5 | 320 | 58 | 1.32 | 12 | 22.6 |
| 5 | 382 | 62 | 1.38 | 12 | 21.1 |
| 5 | 430 | 48 | 1.43 | 10 | 27.7 |
| 5 | 484 | 54 | 1.48 | 11 | 24.4 |
| 5 | 528 | 44 | 1.53 | 9 | 30.3 |
| 5 | 567 | 39 | 1.57 | 8 | 34.4 |
| 5 | 606 | 39 | 1.61 | 8 | 34.4 |
| 5 | 640 | 34 | 1.64 | 7 | 39.8 |
| 5 | 677 | 37 | 1.68 | 7 | 36.4 |
| 5 | 705 | 28 | 1.71 | 6 | 48.9 |
| 5 | 740 | 35 | 1.74 | 7 | 38.6 |
| 5 | 769 | 29 | 1.77 | 6 | 47.1 |
| 8 | 813 | 44 | 1.81 | 6 | 49.8 |
| 8 | 852 | 39 | 1.85 | 5 | 56.6 |
| 8 | 887 | 35 | 1.89 | 4 | 63.5 |
| 10 | 955 | 68 | 1.96 | 7 | 39.8 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP503

DATE 11 March 2015

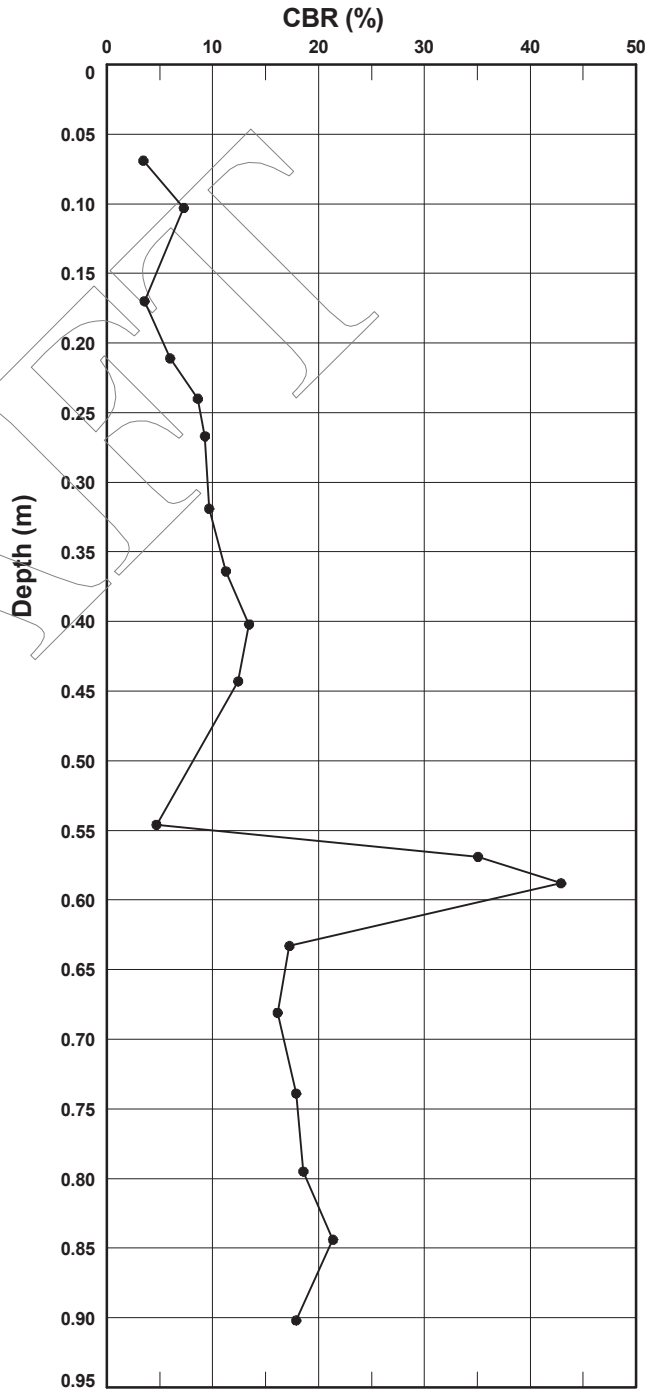
Easting 458178.9

Northing 220868.7

Ground level 66.10mOD

Initial scale reading (mm) 21 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 90 | 69 | 0.07 | 69 | 3.4 |
| 1 | 124 | 34 | 0.10 | 34 | 7.3 |
| 1 | 191 | 67 | 0.17 | 67 | 3.6 |
| 1 | 232 | 41 | 0.21 | 41 | 6.0 |
| 1 | 261 | 29 | 0.24 | 29 | 8.6 |
| 1 | 288 | 27 | 0.27 | 27 | 9.3 |
| 2 | 340 | 52 | 0.32 | 26 | 9.7 |
| 2 | 385 | 45 | 0.36 | 23 | 11.2 |
| 2 | 423 | 38 | 0.40 | 19 | 13.4 |
| 2 | 464 | 41 | 0.44 | 21 | 12.4 |
| 2 | 567 | 103 | 0.55 | 52 | 4.7 |
| 3 | 590 | 23 | 0.57 | 8 | 35.1 |
| 3 | 609 | 19 | 0.59 | 6 | 42.9 |
| 3 | 654 | 45 | 0.63 | 15 | 17.3 |
| 3 | 702 | 48 | 0.68 | 16 | 16.1 |
| 4 | 760 | 58 | 0.74 | 15 | 17.9 |
| 4 | 816 | 56 | 0.80 | 14 | 18.6 |
| 4 | 865 | 49 | 0.84 | 12 | 21.4 |
| 4 | 923 | 58 | 0.90 | 15 | 17.9 |

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Remarks:

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP504

DATE 16 March 2015

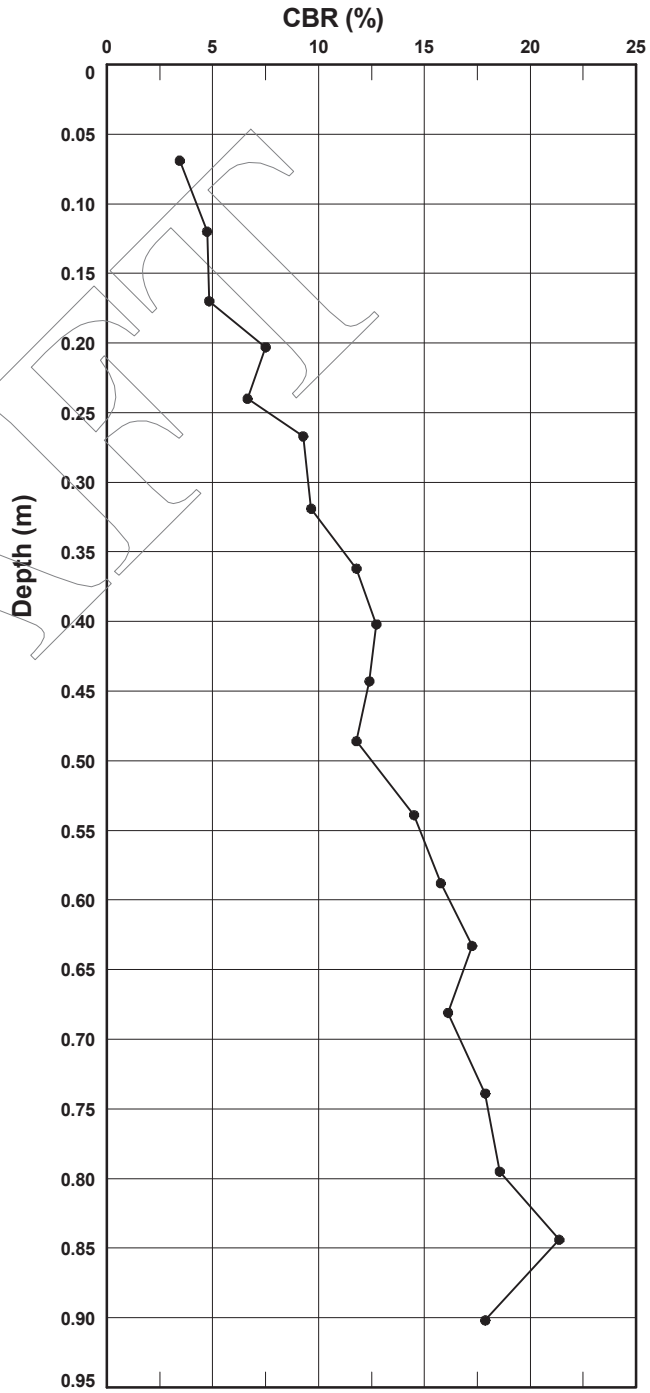
Easting 458101.8

Northing 220947.5

Ground level 65.45mOD

Initial scale reading (mm) 21 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 90 | 69 | 0.07 | 69 | 3.4 |
| 1 | 141 | 51 | 0.12 | 51 | 4.7 |
| 1 | 191 | 50 | 0.17 | 50 | 4.8 |
| 1 | 224 | 33 | 0.20 | 33 | 7.5 |
| 1 | 261 | 37 | 0.24 | 37 | 6.6 |
| 1 | 288 | 27 | 0.27 | 27 | 9.3 |
| 2 | 340 | 52 | 0.32 | 26 | 9.7 |
| 2 | 383 | 43 | 0.36 | 22 | 11.8 |
| 2 | 423 | 40 | 0.40 | 20 | 12.7 |
| 2 | 464 | 41 | 0.44 | 21 | 12.4 |
| 2 | 507 | 43 | 0.49 | 22 | 11.8 |
| 3 | 560 | 53 | 0.54 | 18 | 14.5 |
| 3 | 609 | 49 | 0.59 | 16 | 15.8 |
| 3 | 654 | 45 | 0.63 | 15 | 17.3 |
| 3 | 702 | 48 | 0.68 | 16 | 16.1 |
| 4 | 760 | 58 | 0.74 | 15 | 17.9 |
| 4 | 816 | 56 | 0.80 | 14 | 18.6 |
| 4 | 865 | 49 | 0.84 | 12 | 21.4 |
| 4 | 923 | 58 | 0.90 | 15 | 17.9 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP515

DATE 6 March 2015

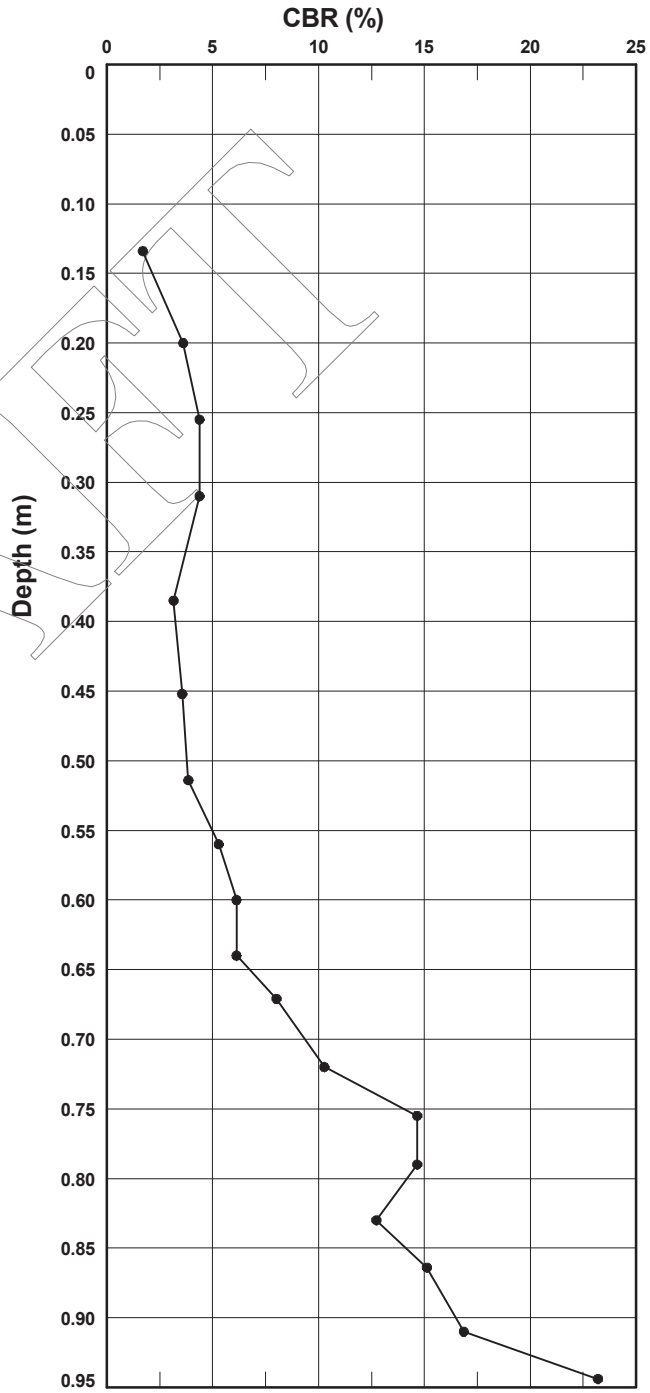
Easting 458472.6

Northing 220735.7

Ground level 74.00mOD

Initial scale reading (mm) 10 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 144 | 134 | 0.13 | 134 | 1.7 |
| 1 | 210 | 66 | 0.20 | 66 | 3.6 |
| 1 | 265 | 55 | 0.26 | 55 | 4.4 |
| 1 | 320 | 55 | 0.31 | 55 | 4.4 |
| 1 | 395 | 75 | 0.39 | 75 | 3.2 |
| 1 | 462 | 67 | 0.45 | 67 | 3.6 |
| 1 | 524 | 62 | 0.51 | 62 | 3.9 |
| 1 | 570 | 46 | 0.56 | 46 | 5.3 |
| 1 | 610 | 40 | 0.60 | 40 | 6.1 |
| 1 | 650 | 40 | 0.64 | 40 | 6.1 |
| 1 | 681 | 31 | 0.67 | 31 | 8.0 |
| 2 | 730 | 49 | 0.72 | 25 | 10.3 |
| 2 | 765 | 35 | 0.76 | 18 | 14.7 |
| 2 | 800 | 35 | 0.79 | 18 | 14.7 |
| 2 | 840 | 40 | 0.83 | 20 | 12.7 |
| 2 | 874 | 34 | 0.86 | 17 | 15.1 |
| 3 | 920 | 46 | 0.91 | 15 | 16.9 |
| 3 | 954 | 34 | 0.94 | 11 | 23.2 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP518

DATE 2 March 2015

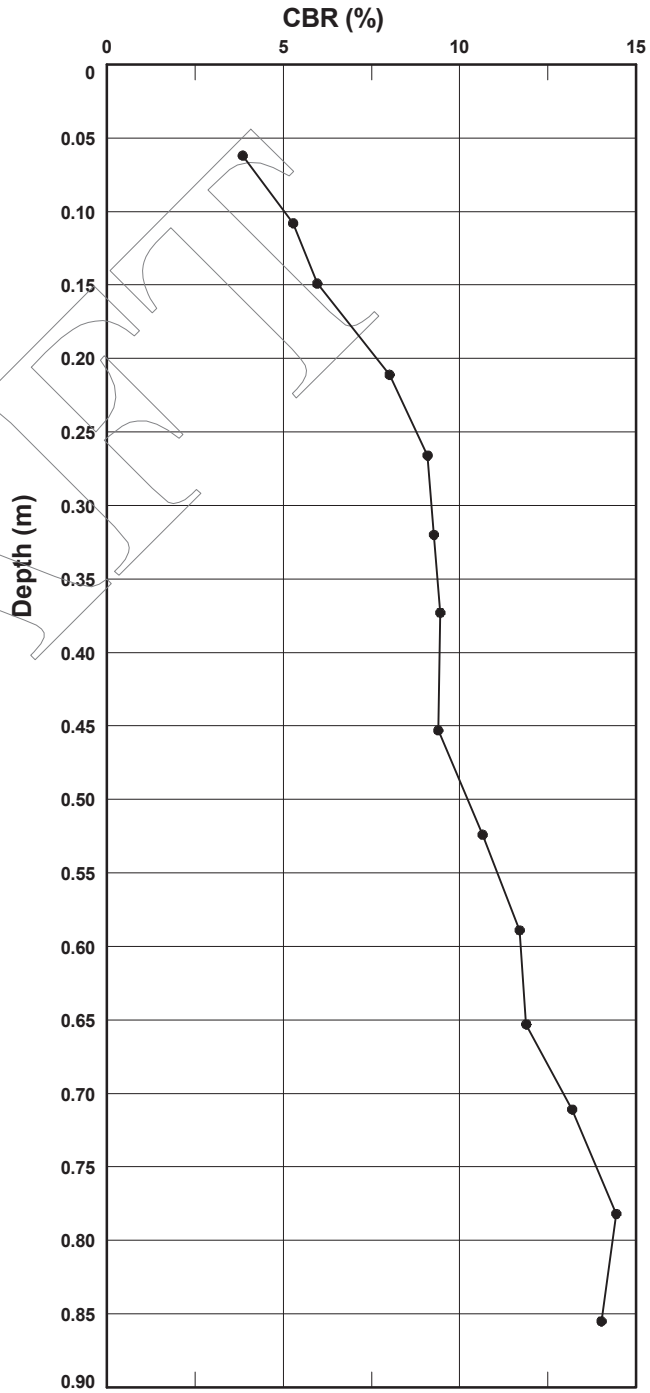
Easting 458463.3

Northing 220550.5

Ground level 78.45mOD

Initial scale reading (mm) 25 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 87 | 62 | 0.06 | 62 | 3.9 |
| 1 | 133 | 46 | 0.11 | 46 | 5.3 |
| 1 | 174 | 41 | 0.15 | 41 | 6.0 |
| 2 | 236 | 62 | 0.21 | 31 | 8.0 |
| 2 | 291 | 55 | 0.27 | 28 | 9.1 |
| 2 | 345 | 54 | 0.32 | 27 | 9.3 |
| 2 | 398 | 53 | 0.37 | 27 | 9.5 |
| 3 | 478 | 80 | 0.45 | 27 | 9.4 |
| 3 | 549 | 71 | 0.52 | 24 | 10.7 |
| 3 | 614 | 65 | 0.59 | 22 | 11.7 |
| 3 | 678 | 64 | 0.65 | 21 | 11.9 |
| 3 | 736 | 58 | 0.71 | 19 | 13.2 |
| 4 | 807 | 71 | 0.78 | 18 | 14.4 |
| 4 | 880 | 73 | 0.86 | 18 | 14.0 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP519

DATE 2 March 2015

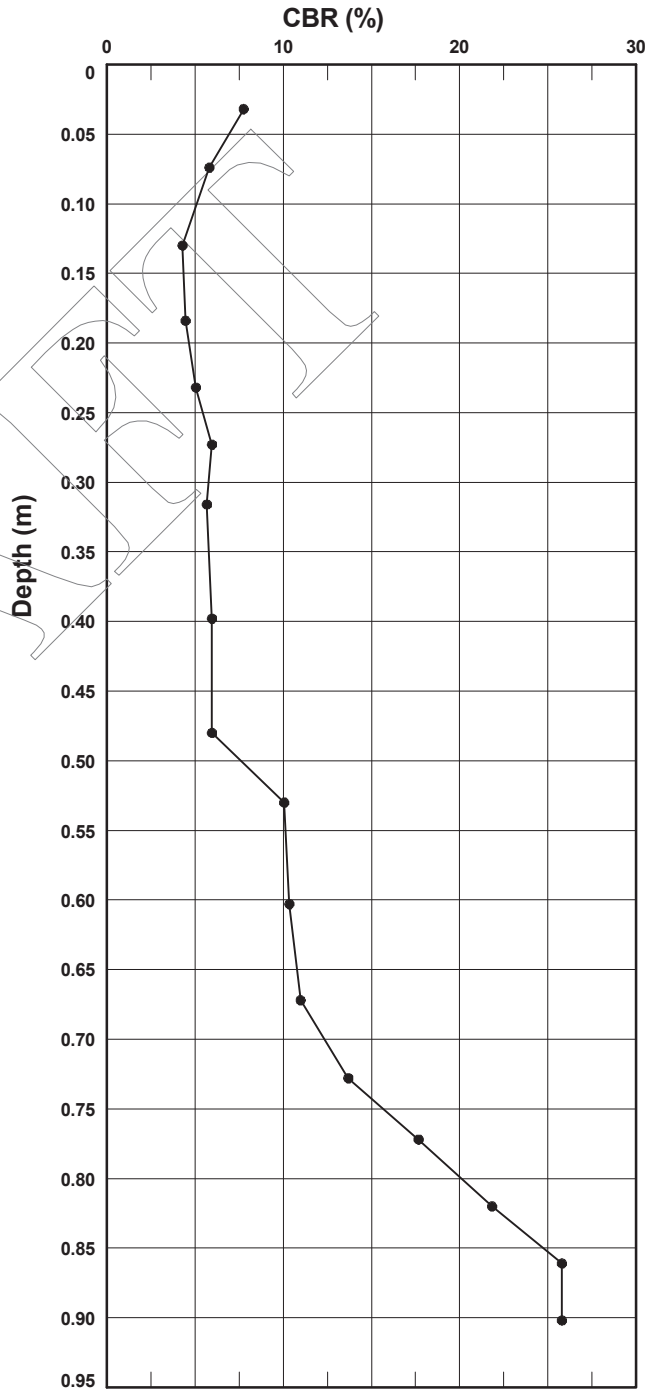
Easting 458536.3

Northing 220536.3

Ground level 83.00mOD

Initial scale reading (mm) 4 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 36 | 32 | 0.03 | 32 | 7.8 |
| 1 | 78 | 42 | 0.07 | 42 | 5.8 |
| 1 | 134 | 56 | 0.13 | 56 | 4.3 |
| 1 | 188 | 54 | 0.18 | 54 | 4.5 |
| 1 | 236 | 48 | 0.23 | 48 | 5.1 |
| 1 | 277 | 41 | 0.27 | 41 | 6.0 |
| 1 | 320 | 43 | 0.32 | 43 | 5.7 |
| 2 | 402 | 82 | 0.40 | 41 | 6.0 |
| 2 | 484 | 82 | 0.48 | 41 | 6.0 |
| 2 | 534 | 50 | 0.53 | 25 | 10.1 |
| 3 | 607 | 73 | 0.60 | 24 | 10.4 |
| 3 | 676 | 69 | 0.67 | 23 | 11.0 |
| 3 | 732 | 56 | 0.73 | 19 | 13.7 |
| 3 | 776 | 44 | 0.77 | 15 | 17.7 |
| 4 | 824 | 48 | 0.82 | 12 | 21.8 |
| 4 | 865 | 41 | 0.86 | 10 | 25.8 |
| 4 | 906 | 41 | 0.90 | 10 | 25.8 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP520

DATE 2 March 2015

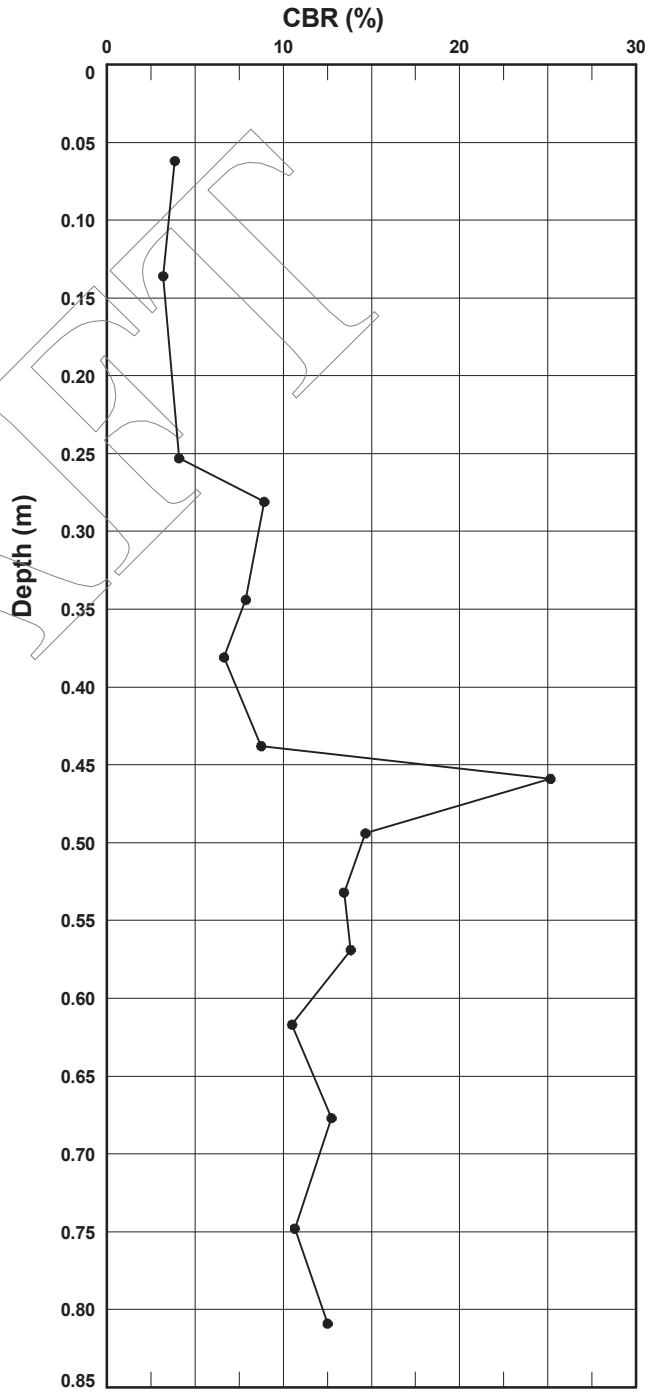
Easting 458526.9

Northing 220607.7

Ground level 78.65mOD

Initial scale reading (mm) 12 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 74 | 62 | 0.06 | 62 | 3.9 |
| 1 | 148 | 74 | 0.14 | 74 | 3.2 |
| 2 | 265 | 117 | 0.25 | 59 | 4.1 |
| 1 | 293 | 28 | 0.28 | 28 | 8.9 |
| 2 | 356 | 63 | 0.34 | 32 | 7.9 |
| 1 | 393 | 37 | 0.38 | 37 | 6.6 |
| 2 | 450 | 57 | 0.44 | 29 | 8.8 |
| 2 | 471 | 21 | 0.46 | 11 | 25.2 |
| 2 | 506 | 35 | 0.49 | 18 | 14.7 |
| 2 | 544 | 38 | 0.53 | 19 | 13.4 |
| 2 | 581 | 37 | 0.57 | 19 | 13.8 |
| 2 | 629 | 48 | 0.62 | 24 | 10.5 |
| 3 | 689 | 60 | 0.68 | 20 | 12.7 |
| 3 | 760 | 71 | 0.75 | 24 | 10.7 |
| 3 | 821 | 61 | 0.81 | 20 | 12.5 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP521

DATE 3 March 2015

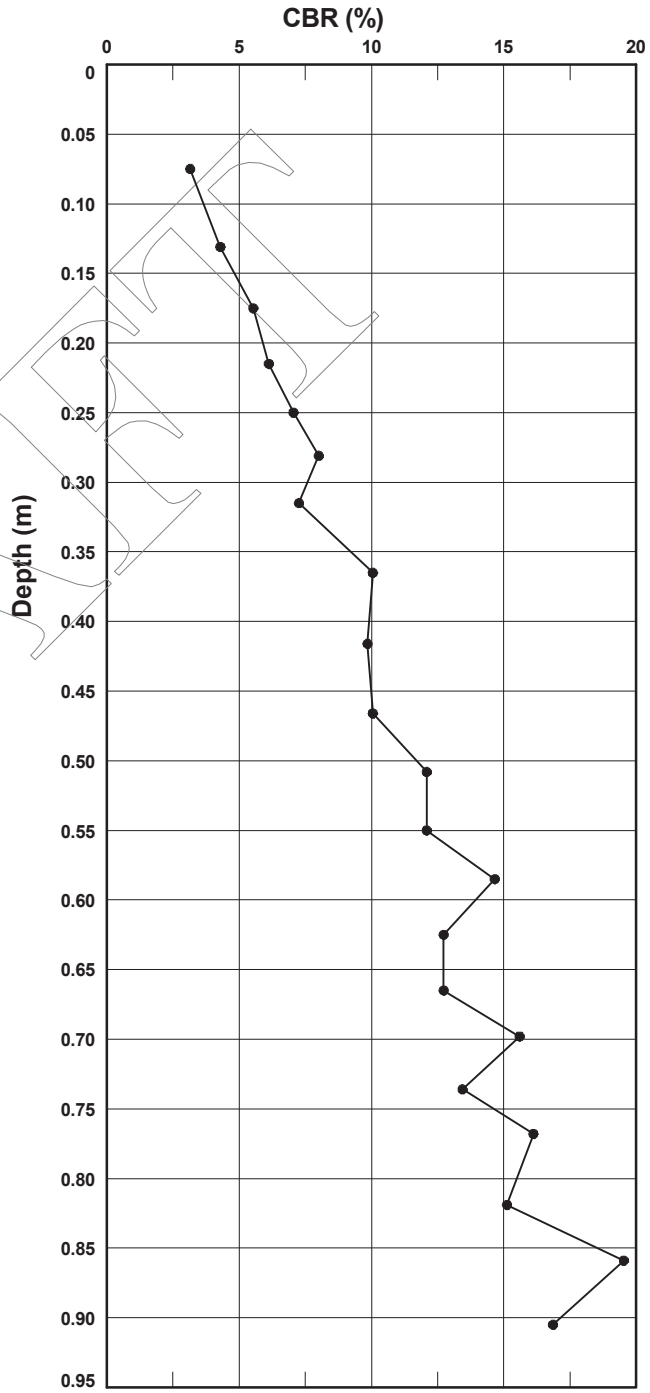
Easting 458622.7

Northing 220598.5

Ground level 83.45mOD

Initial scale reading (mm) 15 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 90 | 75 | 0.08 | 75 | 3.2 |
| 1 | 146 | 56 | 0.13 | 56 | 4.3 |
| 1 | 190 | 44 | 0.18 | 44 | 5.5 |
| 1 | 230 | 40 | 0.22 | 40 | 6.1 |
| 1 | 265 | 35 | 0.25 | 35 | 7.1 |
| 1 | 296 | 31 | 0.28 | 31 | 8.0 |
| 1 | 330 | 34 | 0.32 | 34 | 7.3 |
| 2 | 380 | 50 | 0.37 | 25 | 10.1 |
| 2 | 431 | 51 | 0.42 | 26 | 9.9 |
| 2 | 481 | 50 | 0.47 | 25 | 10.1 |
| 2 | 523 | 42 | 0.51 | 21 | 12.1 |
| 2 | 565 | 42 | 0.55 | 21 | 12.1 |
| 2 | 600 | 35 | 0.59 | 18 | 14.7 |
| 2 | 640 | 40 | 0.63 | 20 | 12.7 |
| 2 | 680 | 40 | 0.67 | 20 | 12.7 |
| 2 | 713 | 33 | 0.70 | 17 | 15.6 |
| 2 | 751 | 38 | 0.74 | 19 | 13.4 |
| 2 | 783 | 32 | 0.77 | 16 | 16.1 |
| 3 | 834 | 51 | 0.82 | 17 | 15.1 |
| 3 | 874 | 40 | 0.86 | 13 | 19.5 |
| 3 | 920 | 46 | 0.91 | 15 | 16.9 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP522

DATE 3 March 2015

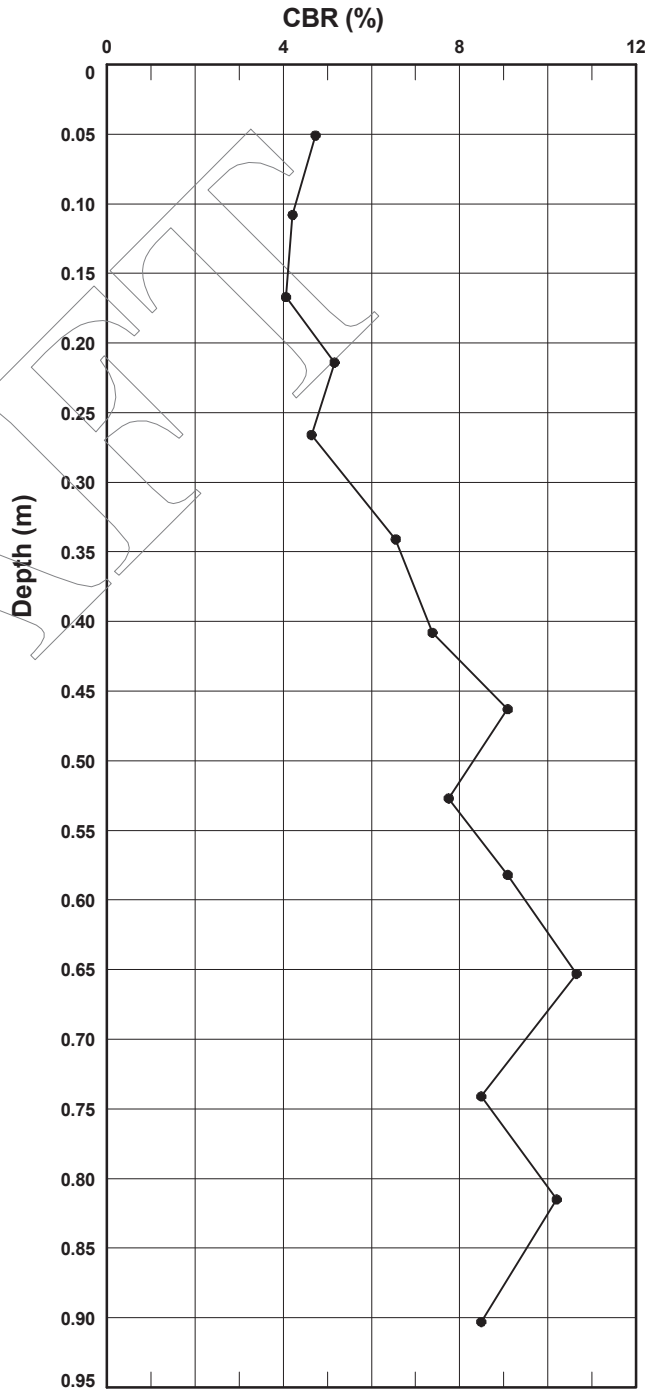
Easting 458561.5

Northing 220634.2

Ground level 78.60mOD

Initial scale reading (mm) 17 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 68 | 51 | 0.05 | 51 | 4.7 |
| 1 | 125 | 57 | 0.11 | 57 | 4.2 |
| 1 | 184 | 59 | 0.17 | 59 | 4.1 |
| 1 | 231 | 47 | 0.21 | 47 | 5.2 |
| 1 | 283 | 52 | 0.27 | 52 | 4.6 |
| 2 | 358 | 75 | 0.34 | 38 | 6.6 |
| 2 | 425 | 67 | 0.41 | 34 | 7.4 |
| 2 | 480 | 55 | 0.46 | 28 | 9.1 |
| 2 | 544 | 64 | 0.53 | 32 | 7.8 |
| 2 | 599 | 55 | 0.58 | 28 | 9.1 |
| 3 | 670 | 71 | 0.65 | 24 | 10.7 |
| 3 | 758 | 88 | 0.74 | 29 | 8.5 |
| 3 | 832 | 74 | 0.82 | 25 | 10.2 |
| 3 | 920 | 88 | 0.90 | 29 | 8.5 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP523

DATE 9 March 2014

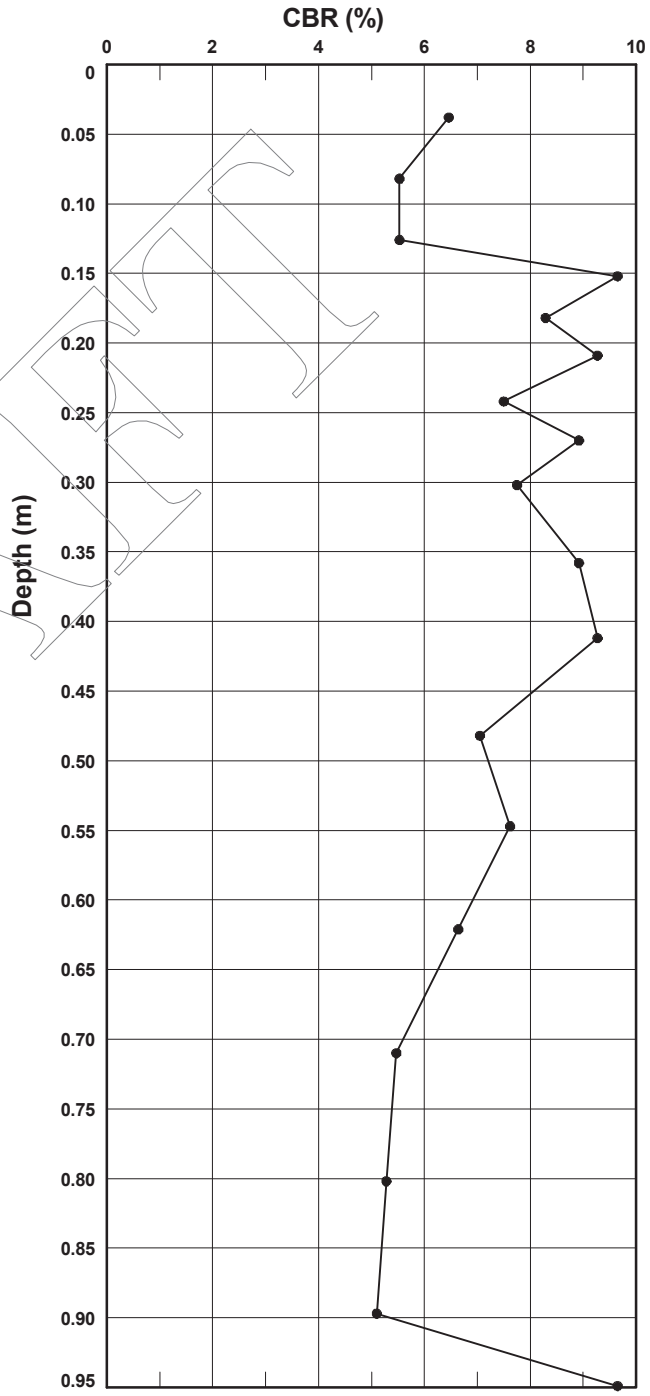
Easting 458563.4

Northing 220692.4

Ground level 76.10mOD

Initial scale reading (mm) 13 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 51 | 38 | 0.04 | 38 | 6.5 |
| 1 | 95 | 44 | 0.08 | 44 | 5.5 |
| 1 | 139 | 44 | 0.13 | 44 | 5.5 |
| 1 | 165 | 26 | 0.15 | 26 | 9.7 |
| 1 | 195 | 30 | 0.18 | 30 | 8.3 |
| 1 | 222 | 27 | 0.21 | 27 | 9.3 |
| 1 | 255 | 33 | 0.24 | 33 | 7.5 |
| 1 | 283 | 28 | 0.27 | 28 | 8.9 |
| 1 | 315 | 32 | 0.30 | 32 | 7.8 |
| 2 | 371 | 56 | 0.36 | 28 | 8.9 |
| 2 | 425 | 54 | 0.41 | 27 | 9.3 |
| 2 | 495 | 70 | 0.48 | 35 | 7.1 |
| 2 | 560 | 65 | 0.55 | 33 | 7.6 |
| 2 | 634 | 74 | 0.62 | 37 | 6.6 |
| 2 | 723 | 89 | 0.71 | 45 | 5.5 |
| 2 | 815 | 92 | 0.80 | 46 | 5.3 |
| 2 | 910 | 95 | 0.90 | 48 | 5.1 |
| 2 | 962 | 52 | 0.95 | 26 | 9.7 |

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Remarks:

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP524

DATE 3 March 2015

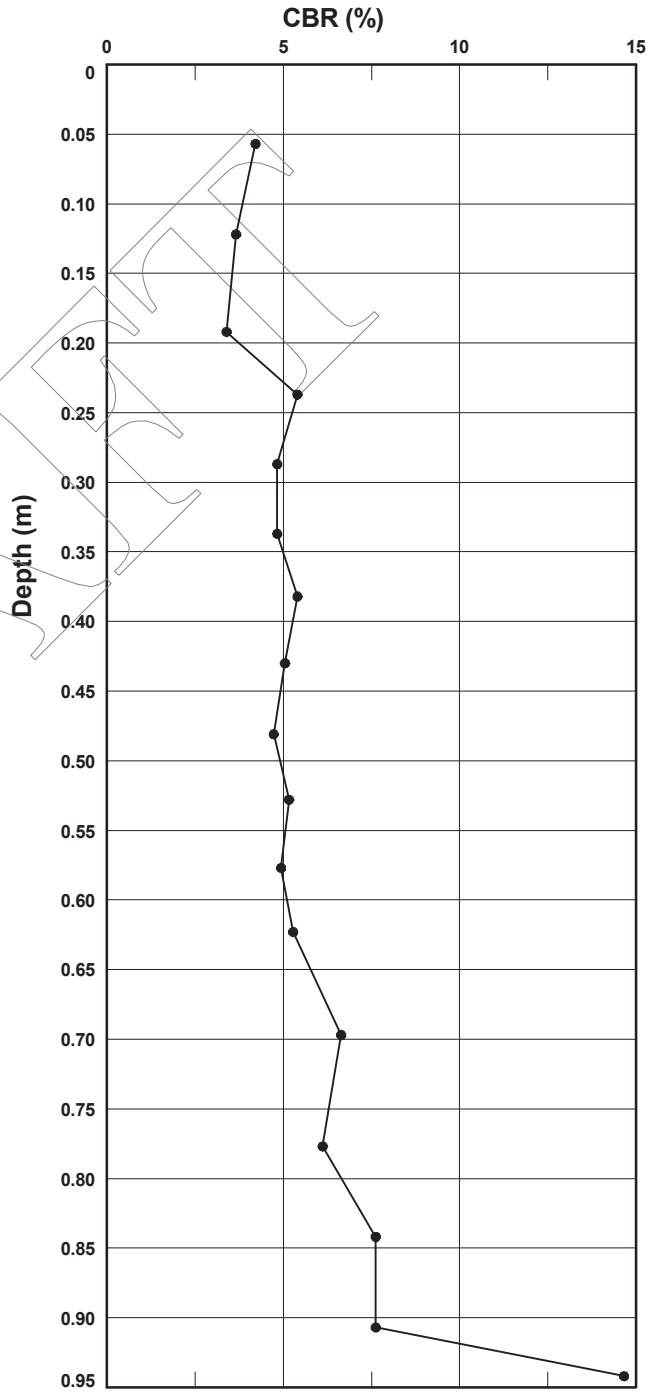
Easting 458626.1

Northing 220677.7

Ground level 77.85mOD

Initial scale reading (mm) 13 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 70 | 57 | 0.06 | 57 | 4.2 |
| 1 | 135 | 65 | 0.12 | 65 | 3.7 |
| 1 | 205 | 70 | 0.19 | 70 | 3.4 |
| 1 | 250 | 45 | 0.24 | 45 | 5.4 |
| 1 | 300 | 50 | 0.29 | 50 | 4.8 |
| 1 | 350 | 50 | 0.34 | 50 | 4.8 |
| 1 | 395 | 45 | 0.38 | 45 | 5.4 |
| 1 | 443 | 48 | 0.43 | 48 | 5.1 |
| 1 | 494 | 51 | 0.48 | 51 | 4.7 |
| 1 | 541 | 47 | 0.53 | 47 | 5.2 |
| 1 | 590 | 49 | 0.58 | 49 | 4.9 |
| 1 | 636 | 46 | 0.62 | 46 | 5.3 |
| 2 | 710 | 74 | 0.70 | 37 | 6.6 |
| 2 | 790 | 80 | 0.78 | 40 | 6.1 |
| 2 | 855 | 65 | 0.84 | 33 | 7.6 |
| 2 | 920 | 65 | 0.91 | 33 | 7.6 |
| 2 | 955 | 35 | 0.94 | 18 | 14.7 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP526

DATE 10 March 2015

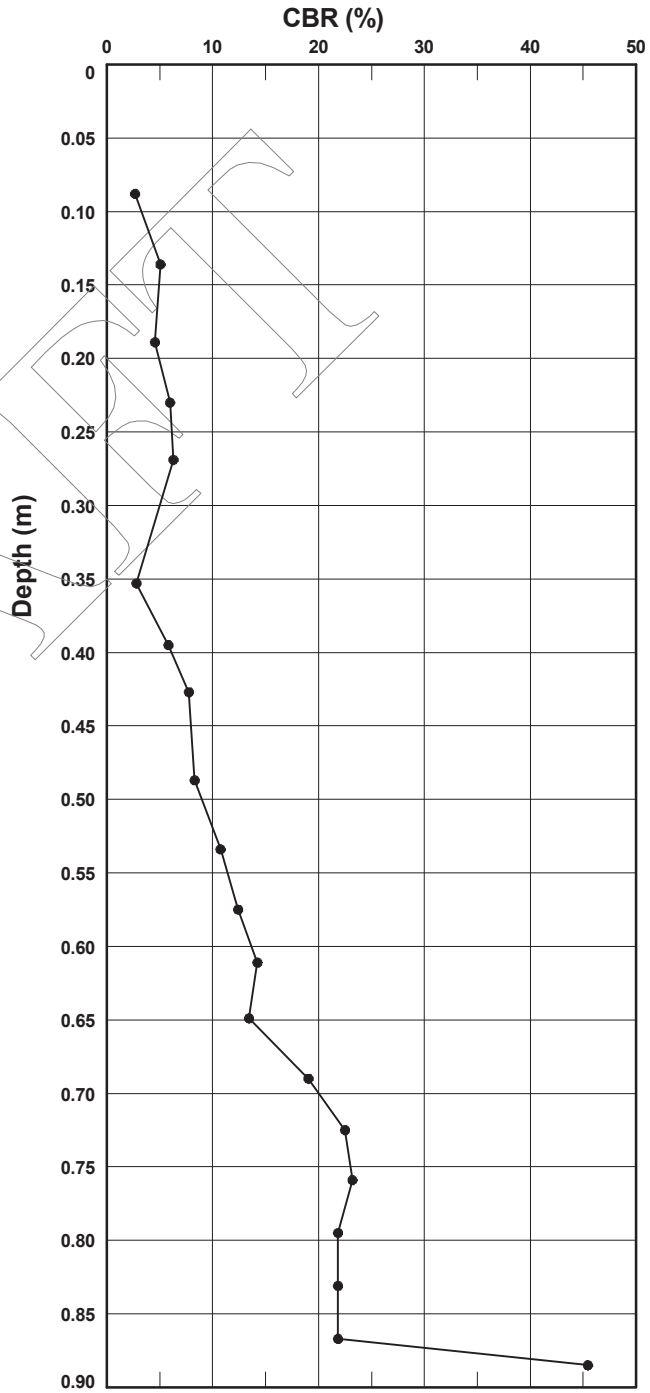
Easting 458541.2

Northing 220902.3

Ground level 71.10mOD

Initial scale reading (mm) 32 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 120 | 88 | 0.09 | 88 | 2.7 |
| 1 | 168 | 48 | 0.14 | 48 | 5.1 |
| 1 | 221 | 53 | 0.19 | 53 | 4.5 |
| 1 | 262 | 41 | 0.23 | 41 | 6.0 |
| 1 | 301 | 39 | 0.27 | 39 | 6.3 |
| 1 | 385 | 84 | 0.35 | 84 | 2.8 |
| 1 | 427 | 42 | 0.40 | 42 | 5.8 |
| 1 | 459 | 32 | 0.43 | 32 | 7.8 |
| 2 | 519 | 60 | 0.49 | 30 | 8.3 |
| 2 | 566 | 47 | 0.53 | 24 | 10.7 |
| 2 | 607 | 41 | 0.58 | 21 | 12.4 |
| 2 | 643 | 36 | 0.61 | 18 | 14.2 |
| 2 | 681 | 38 | 0.65 | 19 | 13.4 |
| 3 | 722 | 41 | 0.69 | 14 | 19.0 |
| 3 | 757 | 35 | 0.73 | 12 | 22.5 |
| 3 | 791 | 34 | 0.76 | 11 | 23.2 |
| 3 | 827 | 36 | 0.80 | 12 | 21.8 |
| 3 | 863 | 36 | 0.83 | 12 | 21.8 |
| 3 | 899 | 36 | 0.87 | 12 | 21.8 |
| 3 | 917 | 18 | 0.89 | 6 | 45.5 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP527

DATE 10 March 2015

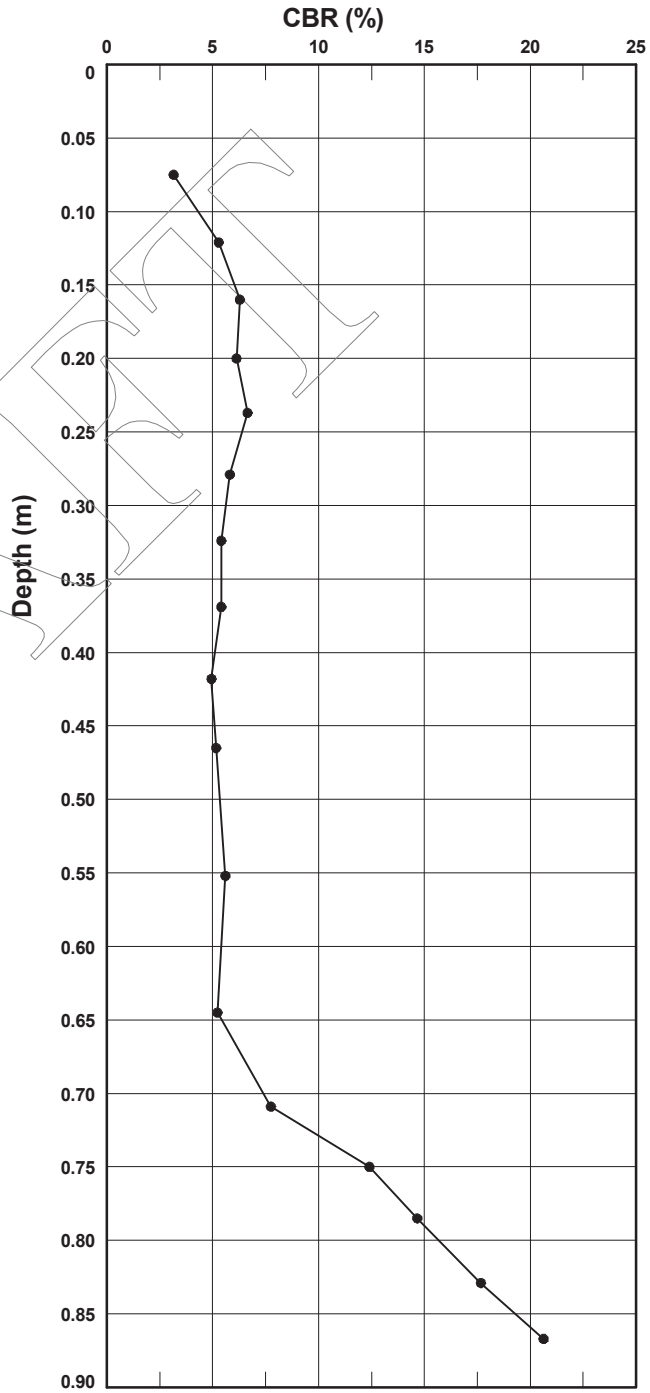
Easting 458592.0

Northing 220896.6

Ground level 71.80mOD

Initial scale reading (mm) 55 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 130 | 75 | 0.08 | 75 | 3.2 |
| 1 | 176 | 46 | 0.12 | 46 | 5.3 |
| 1 | 215 | 39 | 0.16 | 39 | 6.3 |
| 1 | 255 | 40 | 0.20 | 40 | 6.1 |
| 1 | 292 | 37 | 0.24 | 37 | 6.6 |
| 1 | 334 | 42 | 0.28 | 42 | 5.8 |
| 1 | 379 | 45 | 0.32 | 45 | 5.4 |
| 1 | 424 | 45 | 0.37 | 45 | 5.4 |
| 1 | 473 | 49 | 0.42 | 49 | 4.9 |
| 1 | 520 | 47 | 0.47 | 47 | 5.2 |
| 2 | 607 | 87 | 0.55 | 44 | 5.6 |
| 2 | 700 | 93 | 0.65 | 47 | 5.2 |
| 2 | 764 | 64 | 0.71 | 32 | 7.8 |
| 2 | 805 | 41 | 0.75 | 21 | 12.4 |
| 2 | 840 | 35 | 0.79 | 18 | 14.7 |
| 3 | 884 | 44 | 0.83 | 15 | 17.7 |
| 3 | 922 | 38 | 0.87 | 13 | 20.6 |

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Remarks:

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP529

DATE 10 March 2015

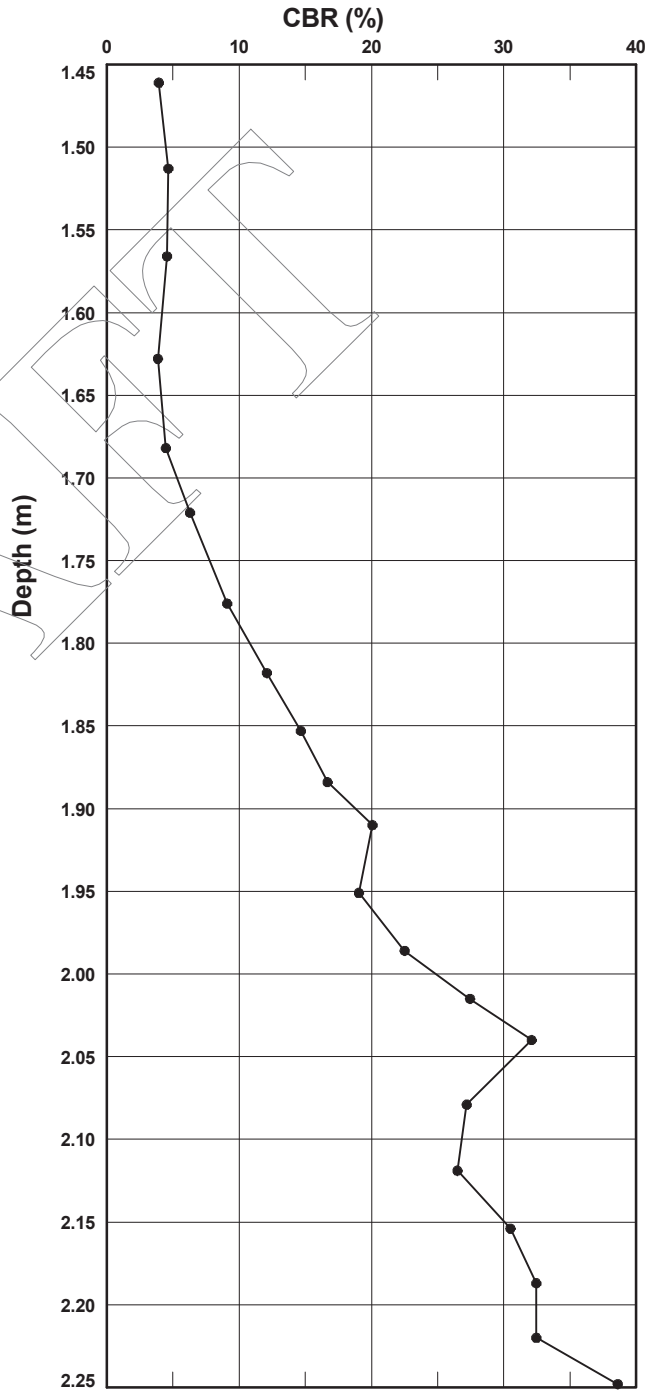
Easting 458641.3

Northing 220797.0

Ground level 74.60mOD

Initial scale reading (mm) 9 Datum bgl (mm) 1400

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 70 | 61 | 1.46 | 61 | 3.9 |
| 1 | 122 | 52 | 1.51 | 52 | 4.6 |
| 1 | 175 | 53 | 1.57 | 53 | 4.5 |
| 1 | 237 | 62 | 1.63 | 62 | 3.9 |
| 1 | 291 | 54 | 1.68 | 54 | 4.5 |
| 1 | 330 | 39 | 1.72 | 39 | 6.3 |
| 2 | 385 | 55 | 1.78 | 28 | 9.1 |
| 2 | 427 | 42 | 1.82 | 21 | 12.1 |
| 2 | 462 | 35 | 1.85 | 18 | 14.7 |
| 2 | 493 | 31 | 1.88 | 16 | 16.7 |
| 2 | 519 | 26 | 1.91 | 13 | 20.1 |
| 3 | 560 | 41 | 1.95 | 14 | 19.0 |
| 3 | 595 | 35 | 1.99 | 12 | 22.5 |
| 3 | 624 | 29 | 2.02 | 10 | 27.5 |
| 3 | 649 | 25 | 2.04 | 8 | 32.1 |
| 4 | 688 | 39 | 2.08 | 10 | 27.2 |
| 4 | 728 | 40 | 2.12 | 10 | 26.5 |
| 4 | 763 | 35 | 2.15 | 9 | 30.5 |
| 4 | 796 | 33 | 2.19 | 8 | 32.5 |
| 4 | 829 | 33 | 2.22 | 8 | 32.5 |
| 4 | 857 | 28 | 2.25 | 7 | 38.6 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP530

DATE 9 March 2015

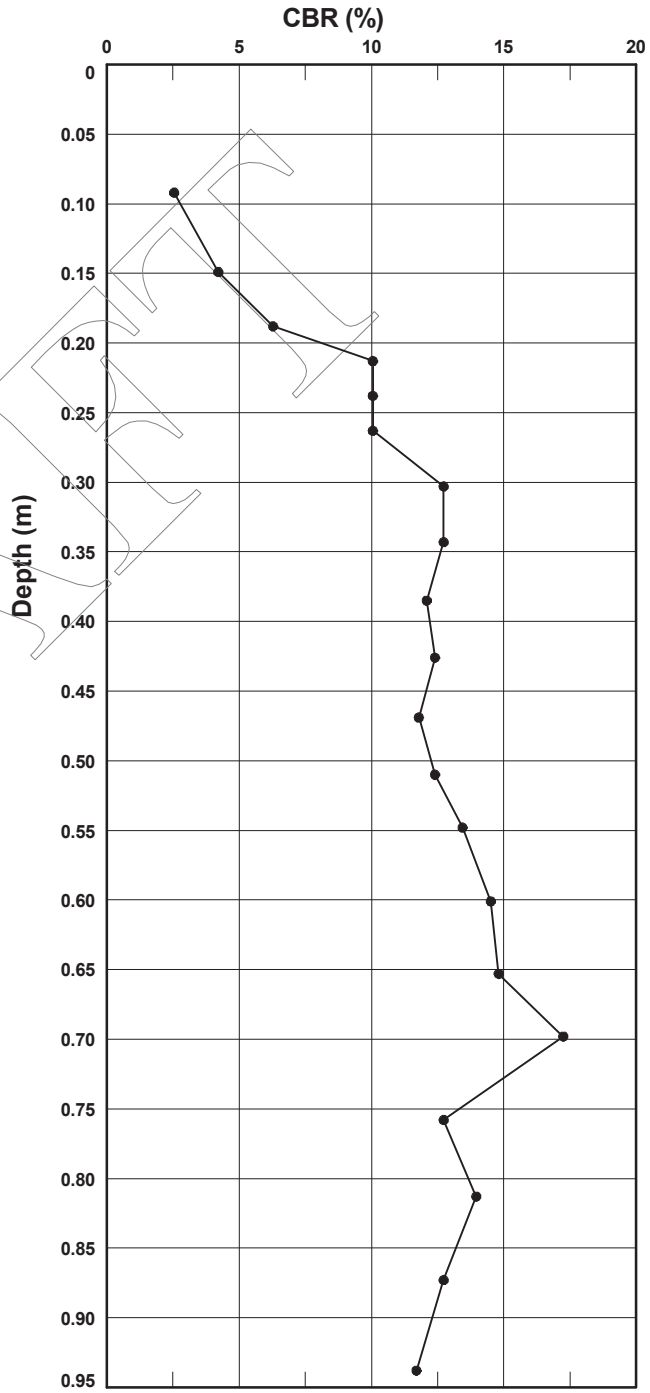
Easting 458670.7

Northing 220836.3

Ground level 73.65mOD

Initial scale reading (mm) 2 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 94 | 92 | 0.09 | 92 | 2.5 |
| 1 | 151 | 57 | 0.15 | 57 | 4.2 |
| 1 | 190 | 39 | 0.19 | 39 | 6.3 |
| 1 | 215 | 25 | 0.21 | 25 | 10.1 |
| 1 | 240 | 25 | 0.24 | 25 | 10.1 |
| 1 | 265 | 25 | 0.26 | 25 | 10.1 |
| 2 | 305 | 40 | 0.30 | 20 | 12.7 |
| 2 | 345 | 40 | 0.34 | 20 | 12.7 |
| 2 | 387 | 42 | 0.39 | 21 | 12.1 |
| 2 | 428 | 41 | 0.43 | 21 | 12.4 |
| 2 | 471 | 43 | 0.47 | 22 | 11.8 |
| 2 | 512 | 41 | 0.51 | 21 | 12.4 |
| 2 | 550 | 38 | 0.55 | 19 | 13.4 |
| 3 | 603 | 53 | 0.60 | 18 | 14.5 |
| 3 | 655 | 52 | 0.65 | 17 | 14.8 |
| 3 | 700 | 45 | 0.70 | 15 | 17.3 |
| 3 | 760 | 60 | 0.76 | 20 | 12.7 |
| 3 | 815 | 55 | 0.81 | 18 | 14.0 |
| 3 | 875 | 60 | 0.87 | 20 | 12.7 |
| 3 | 940 | 65 | 0.94 | 22 | 11.7 |

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Remarks:

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

**TP534**

DATE 3 March 2015

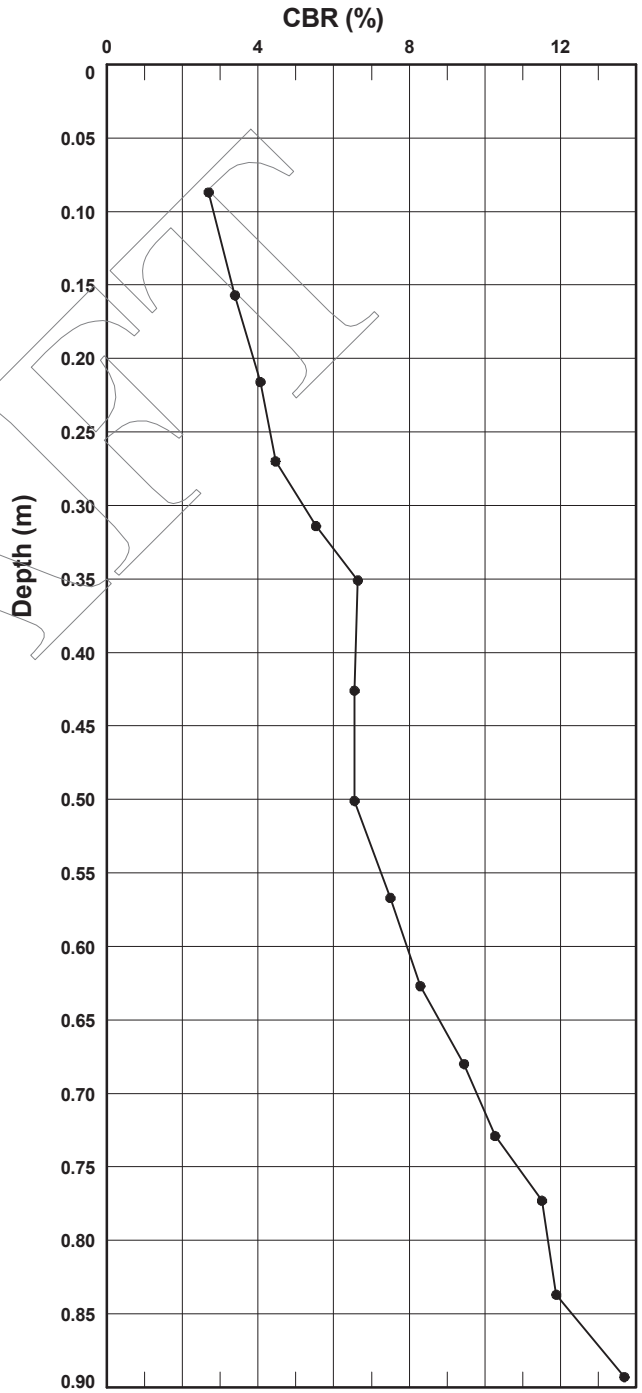
Easting 458853.6

Northing 220732.3

Ground level 77.80mOD

Initial scale reading (mm) 36 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 123 | 87 | 0.09 | 87 | 2.7 |
| 1 | 193 | 70 | 0.16 | 70 | 3.4 |
| 1 | 252 | 59 | 0.22 | 59 | 4.1 |
| 1 | 306 | 54 | 0.27 | 54 | 4.5 |
| 1 | 350 | 44 | 0.31 | 44 | 5.5 |
| 1 | 387 | 37 | 0.35 | 37 | 6.6 |
| 2 | 462 | 75 | 0.43 | 38 | 6.6 |
| 2 | 537 | 75 | 0.50 | 38 | 6.6 |
| 2 | 603 | 66 | 0.57 | 33 | 7.5 |
| 2 | 663 | 60 | 0.63 | 30 | 8.3 |
| 2 | 716 | 53 | 0.68 | 27 | 9.5 |
| 2 | 765 | 49 | 0.73 | 25 | 10.3 |
| 2 | 809 | 44 | 0.77 | 22 | 11.5 |
| 3 | 873 | 64 | 0.84 | 21 | 11.9 |
| 3 | 929 | 56 | 0.89 | 19 | 13.7 |

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Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP535

DATE 4 March 2015

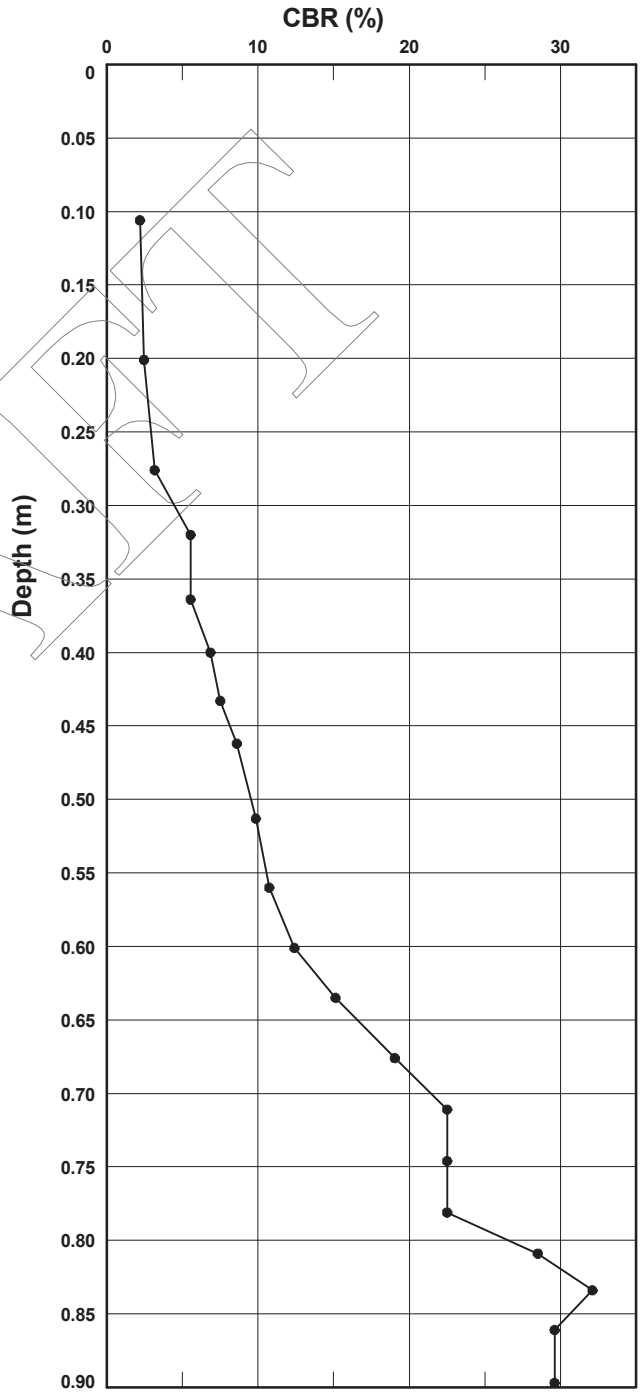
Easting 458907.8

Northing 220694.6

Ground level 79.65mOD

Initial scale reading (mm) 30 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 136 | 106 | 0.11 | 106 | 2.2 |
| 1 | 231 | 95 | 0.20 | 95 | 2.5 |
| 1 | 306 | 75 | 0.28 | 75 | 3.2 |
| 1 | 350 | 44 | 0.32 | 44 | 5.5 |
| 1 | 394 | 44 | 0.36 | 44 | 5.5 |
| 1 | 430 | 36 | 0.40 | 36 | 6.8 |
| 1 | 463 | 33 | 0.43 | 33 | 7.5 |
| 1 | 492 | 29 | 0.46 | 29 | 8.6 |
| 2 | 543 | 51 | 0.51 | 26 | 9.9 |
| 2 | 590 | 47 | 0.56 | 24 | 10.7 |
| 2 | 631 | 41 | 0.60 | 21 | 12.4 |
| 2 | 665 | 34 | 0.64 | 17 | 15.1 |
| 3 | 706 | 41 | 0.68 | 14 | 19.0 |
| 3 | 741 | 35 | 0.71 | 12 | 22.5 |
| 3 | 776 | 35 | 0.75 | 12 | 22.5 |
| 3 | 811 | 35 | 0.78 | 12 | 22.5 |
| 3 | 839 | 28 | 0.81 | 9 | 28.5 |
| 3 | 864 | 25 | 0.83 | 8 | 32.1 |
| 3 | 891 | 27 | 0.86 | 9 | 29.6 |
| 4 | 927 | 36 | 0.90 | 9 | 29.6 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP536

DATE 5 March 2015

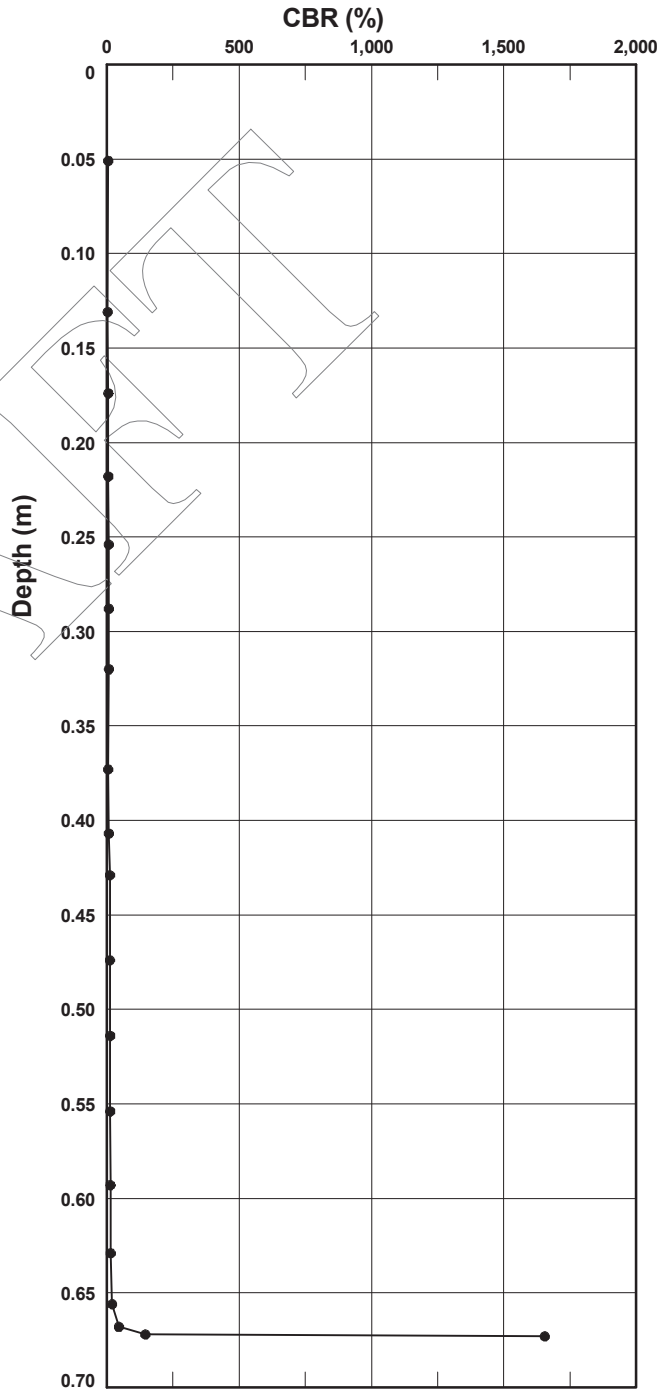
Easting 458798.6

Northing 220863.2

Ground level 74.25mOD

Initial scale reading (mm) 10 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 61 | 51 | 0.05 | 51 | 4.7 |
| 1 | 141 | 80 | 0.13 | 80 | 2.9 |
| 1 | 184 | 43 | 0.17 | 43 | 5.7 |
| 1 | 228 | 44 | 0.22 | 44 | 5.5 |
| 1 | 264 | 36 | 0.25 | 36 | 6.8 |
| 1 | 298 | 34 | 0.29 | 34 | 7.3 |
| 1 | 330 | 32 | 0.32 | 32 | 7.8 |
| 1 | 383 | 53 | 0.37 | 53 | 4.5 |
| 1 | 417 | 34 | 0.41 | 34 | 7.3 |
| 1 | 439 | 22 | 0.43 | 22 | 11.5 |
| 2 | 484 | 45 | 0.47 | 23 | 11.2 |
| 2 | 524 | 40 | 0.51 | 20 | 12.7 |
| 2 | 564 | 40 | 0.55 | 20 | 12.7 |
| 2 | 603 | 39 | 0.59 | 20 | 13.1 |
| 2 | 639 | 36 | 0.63 | 18 | 14.2 |
| 2 | 666 | 27 | 0.66 | 14 | 19.3 |
| 2 | 678 | 12 | 0.67 | 6 | 45.5 |
| 2 | 682 | 4 | 0.67 | 2 | 145.2 |
| 5 | 683 | 1 | 0.67 | 0 | 1655.1 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP539

DATE 6 March 2015

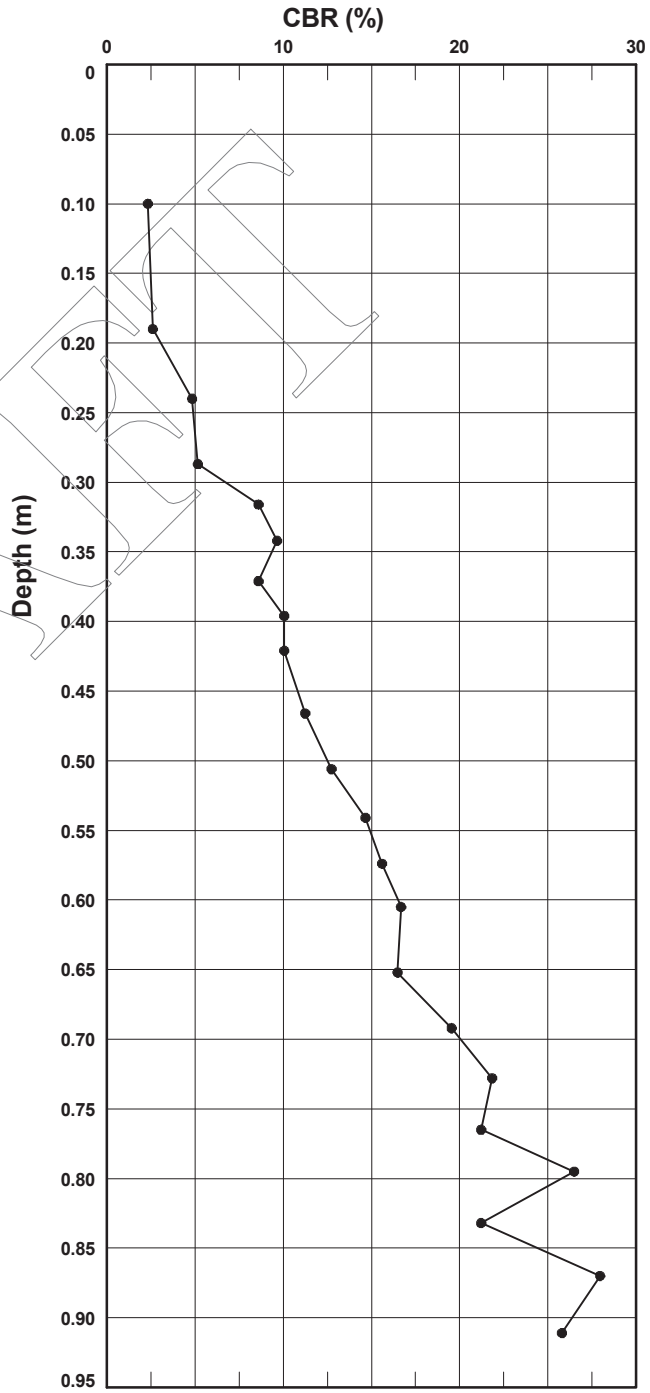
Easting 458924.0

Northing 220791.2

Ground level 75.50mOD

Initial scale reading (mm) 20 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 120 | 100 | 0.10 | 100 | 2.3 |
| 1 | 210 | 90 | 0.19 | 90 | 2.6 |
| 1 | 260 | 50 | 0.24 | 50 | 4.8 |
| 1 | 307 | 47 | 0.29 | 47 | 5.2 |
| 1 | 336 | 29 | 0.32 | 29 | 8.6 |
| 1 | 362 | 26 | 0.34 | 26 | 9.7 |
| 1 | 391 | 29 | 0.37 | 29 | 8.6 |
| 1 | 416 | 25 | 0.40 | 25 | 10.1 |
| 1 | 441 | 25 | 0.42 | 25 | 10.1 |
| 2 | 486 | 45 | 0.47 | 23 | 11.2 |
| 2 | 526 | 40 | 0.51 | 20 | 12.7 |
| 2 | 561 | 35 | 0.54 | 18 | 14.7 |
| 2 | 594 | 33 | 0.57 | 17 | 15.6 |
| 2 | 625 | 31 | 0.61 | 16 | 16.7 |
| 3 | 672 | 47 | 0.65 | 16 | 16.5 |
| 3 | 712 | 40 | 0.69 | 13 | 19.5 |
| 3 | 748 | 36 | 0.73 | 12 | 21.8 |
| 3 | 785 | 37 | 0.77 | 12 | 21.2 |
| 3 | 815 | 30 | 0.80 | 10 | 26.5 |
| 3 | 852 | 37 | 0.83 | 12 | 21.2 |
| 4 | 890 | 38 | 0.87 | 10 | 28.0 |
| 4 | 931 | 41 | 0.91 | 10 | 25.8 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP540A

DATE 4 March 2015

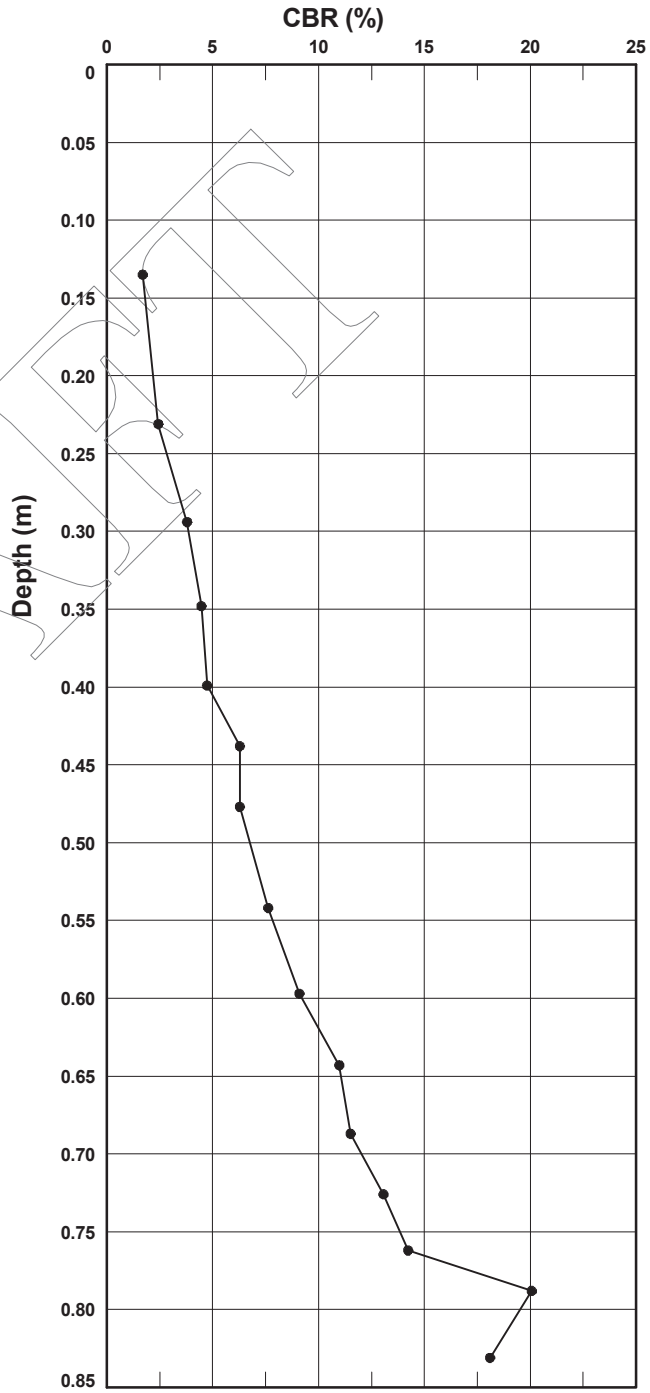
Easting 458985.8

Northing 220724.6

Ground level 77.60mOD

Initial scale reading (mm) 95 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 230 | 135 | 0.14 | 135 | 1.7 |
| 1 | 326 | 96 | 0.23 | 96 | 2.4 |
| 1 | 389 | 63 | 0.29 | 63 | 3.8 |
| 1 | 443 | 54 | 0.35 | 54 | 4.5 |
| 1 | 494 | 51 | 0.40 | 51 | 4.7 |
| 1 | 533 | 39 | 0.44 | 39 | 6.3 |
| 1 | 572 | 39 | 0.48 | 39 | 6.3 |
| 2 | 637 | 65 | 0.54 | 33 | 7.6 |
| 2 | 692 | 55 | 0.60 | 28 | 9.1 |
| 2 | 738 | 46 | 0.64 | 23 | 11.0 |
| 2 | 782 | 44 | 0.69 | 22 | 11.5 |
| 2 | 821 | 39 | 0.73 | 20 | 13.1 |
| 2 | 857 | 36 | 0.76 | 18 | 14.2 |
| 2 | 883 | 26 | 0.79 | 13 | 20.1 |
| 3 | 926 | 43 | 0.83 | 14 | 18.1 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP544

DATE 12 March 2015

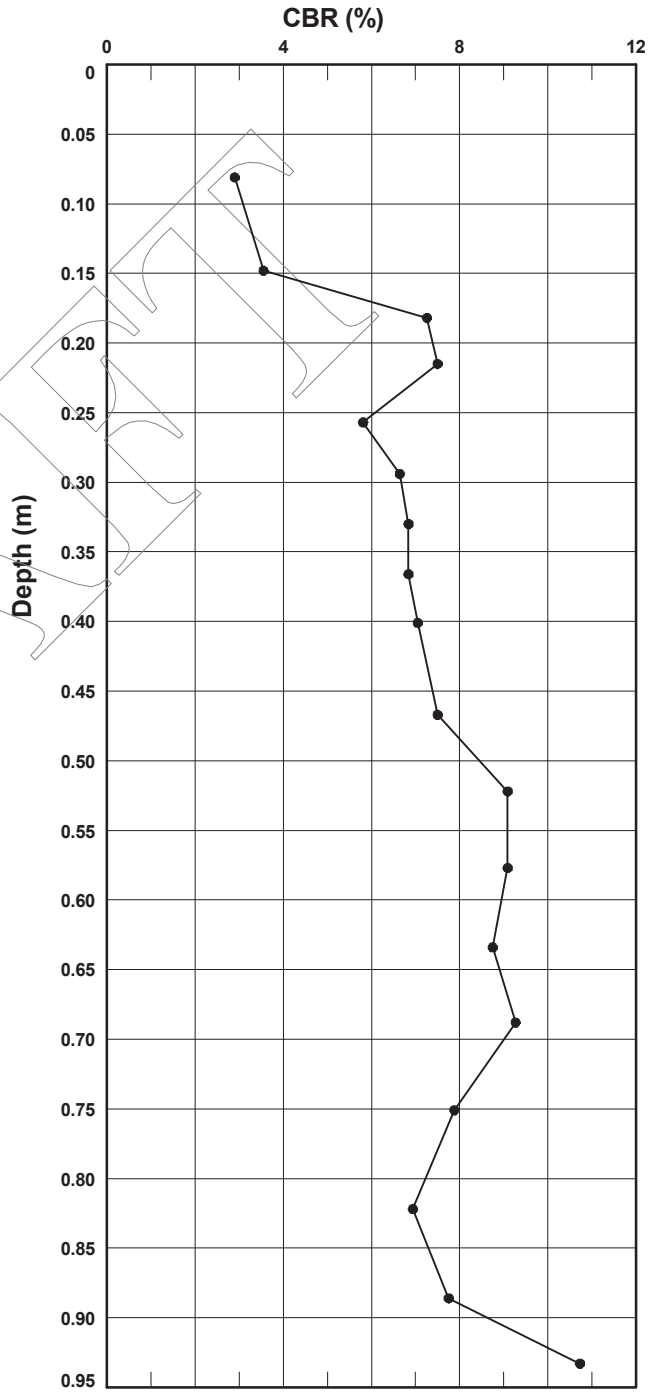
Easting 458870.9

Northing 221083.9

Ground level 69.35mOD

Initial scale reading (mm) 19 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 100 | 81 | 0.08 | 81 | 2.9 |
| 1 | 167 | 67 | 0.15 | 67 | 3.6 |
| 1 | 201 | 34 | 0.18 | 34 | 7.3 |
| 1 | 234 | 33 | 0.22 | 33 | 7.5 |
| 1 | 276 | 42 | 0.26 | 42 | 5.8 |
| 1 | 313 | 37 | 0.29 | 37 | 6.6 |
| 1 | 349 | 36 | 0.33 | 36 | 6.8 |
| 1 | 385 | 36 | 0.37 | 36 | 6.8 |
| 1 | 420 | 35 | 0.40 | 35 | 7.1 |
| 2 | 486 | 66 | 0.47 | 33 | 7.5 |
| 2 | 541 | 55 | 0.52 | 28 | 9.1 |
| 2 | 596 | 55 | 0.58 | 28 | 9.1 |
| 2 | 653 | 57 | 0.63 | 29 | 8.8 |
| 2 | 707 | 54 | 0.69 | 27 | 9.3 |
| 2 | 770 | 63 | 0.75 | 32 | 7.9 |
| 2 | 841 | 71 | 0.82 | 36 | 6.9 |
| 2 | 905 | 64 | 0.89 | 32 | 7.8 |
| 2 | 952 | 47 | 0.93 | 24 | 10.7 |




DRAFT

Remarks:

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP550

DATE 16 March 2015

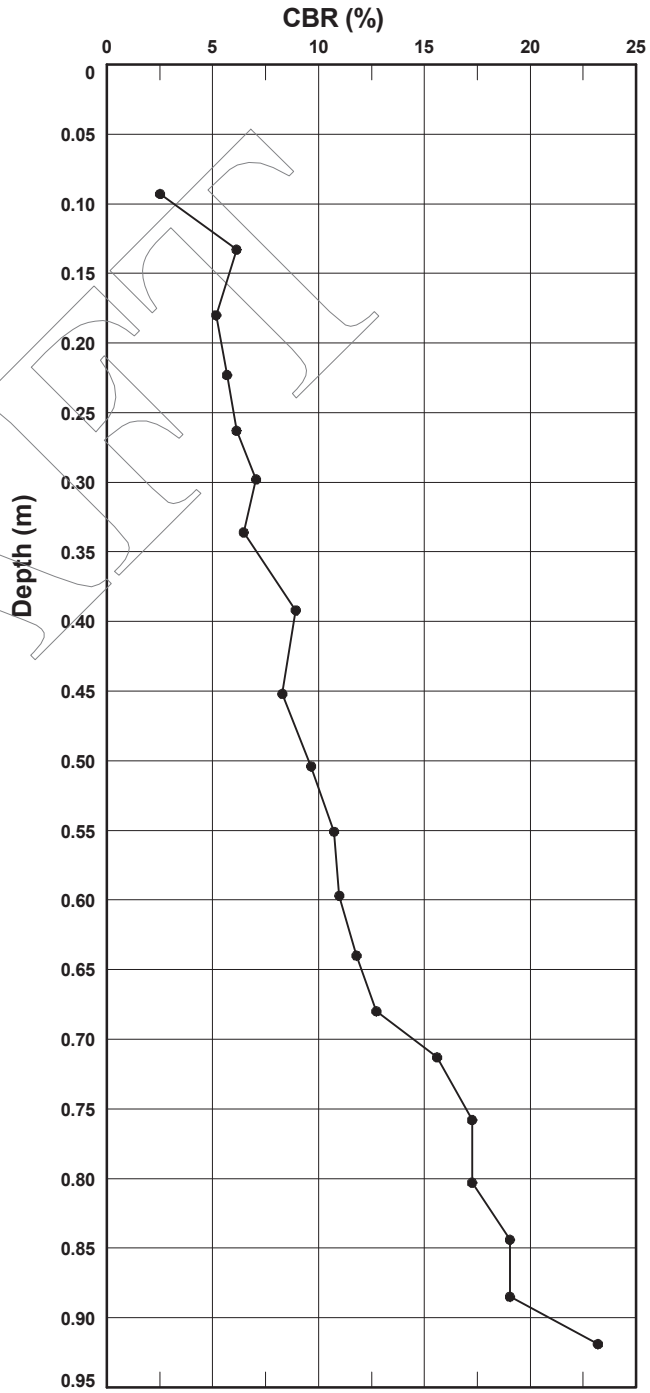
Easting 459168.4

Northing 221027.7

Ground level 70.70mOD

Initial scale reading (mm) 10 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 103 | 93 | 0.09 | 93 | 2.5 |
| 1 | 143 | 40 | 0.13 | 40 | 6.1 |
| 1 | 190 | 47 | 0.18 | 47 | 5.2 |
| 1 | 233 | 43 | 0.22 | 43 | 5.7 |
| 1 | 273 | 40 | 0.26 | 40 | 6.1 |
| 1 | 308 | 35 | 0.30 | 35 | 7.1 |
| 1 | 346 | 38 | 0.34 | 38 | 6.5 |
| 2 | 402 | 56 | 0.39 | 28 | 8.9 |
| 2 | 462 | 60 | 0.45 | 30 | 8.3 |
| 2 | 514 | 52 | 0.50 | 26 | 9.7 |
| 2 | 561 | 47 | 0.55 | 24 | 10.7 |
| 2 | 607 | 46 | 0.60 | 23 | 11.0 |
| 2 | 650 | 43 | 0.64 | 22 | 11.8 |
| 2 | 690 | 40 | 0.68 | 20 | 12.7 |
| 2 | 723 | 33 | 0.71 | 17 | 15.6 |
| 3 | 768 | 45 | 0.76 | 15 | 17.3 |
| 3 | 813 | 45 | 0.80 | 15 | 17.3 |
| 3 | 854 | 41 | 0.84 | 14 | 19.0 |
| 3 | 895 | 41 | 0.89 | 14 | 19.0 |
| 3 | 929 | 34 | 0.92 | 11 | 23.2 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# DYNAMIC CONE PENETROMETER TESTING

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

## TP551

DATE 16 March 2015

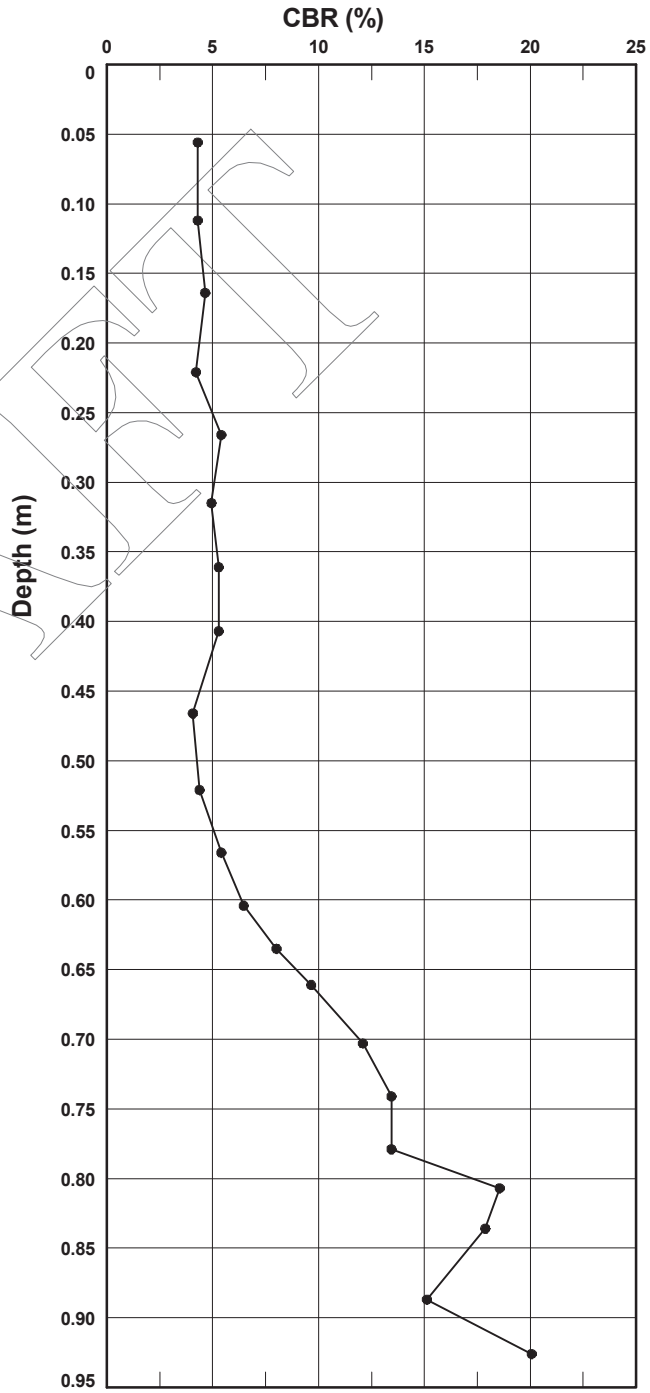
Easting 459183.0

Northing 220972.4

Ground level 70.90mOD

Initial scale reading (mm) 19 Datum bgl (mm) 0

| no. of blows | scale reading (mm) | penetration increment (mm) | depth bgl (m) | DCP (mm/blow) | CBR (%) |
|---|---|---|---|---|---|
| 1 | 75 | 56 | 0.06 | 56 | 4.3 |
| 1 | 131 | 56 | 0.11 | 56 | 4.3 |
| 1 | 183 | 52 | 0.16 | 52 | 4.6 |
| 1 | 240 | 57 | 0.22 | 57 | 4.2 |
| 1 | 285 | 45 | 0.27 | 45 | 5.4 |
| 1 | 334 | 49 | 0.32 | 49 | 4.9 |
| 1 | 380 | 46 | 0.36 | 46 | 5.3 |
| 1 | 426 | 46 | 0.41 | 46 | 5.3 |
| 1 | 485 | 59 | 0.47 | 59 | 4.1 |
| 1 | 540 | 55 | 0.52 | 55 | 4.4 |
| 1 | 585 | 45 | 0.57 | 45 | 5.4 |
| 1 | 623 | 38 | 0.60 | 38 | 6.5 |
| 1 | 654 | 31 | 0.64 | 31 | 8.0 |
| 1 | 680 | 26 | 0.66 | 26 | 9.7 |
| 2 | 722 | 42 | 0.70 | 21 | 12.1 |
| 2 | 760 | 38 | 0.74 | 19 | 13.4 |
| 2 | 798 | 38 | 0.78 | 19 | 13.4 |
| 2 | 826 | 28 | 0.81 | 14 | 18.6 |
| 2 | 855 | 29 | 0.84 | 15 | 17.9 |
| 3 | 906 | 51 | 0.89 | 17 | 15.1 |
| 3 | 945 | 39 | 0.93 | 13 | 20.1 |




DRAFT

Remarks:

Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship Log10 (CBR) = 2.48 - 1.057 * Log10 (mm/blow) developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT508

SITE GRAVEN HILL, BICESTER — Depth (m) 0.50

Date 12 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0 | 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **0.00** | **0.00** |
| 0.5 | 0.5 | 10 | 39 | 2.63 | 2.50 | 1.81 | 2.31 | 2.31 | | |
| 1.0 | 1.0 | 10 | 39 | 2.85 | 2.72 | 1.97 | 2.51 | 2.51 | | |
| 1.5 | 1.5 | 10 | 39 | 2.94 | 2.81 | 2.04 | 2.60 | 2.60 | | |
| 2.0 | 2.0 | 10 | 39 | 3.02 | 2.89 | 2.10 | 2.67 | 2.67 | | |
| 2.5 | 2.5 | 10 | 39 | 3.05 | 2.93 | 2.12 | 2.70 | 2.70 | | |
| 3.0 | 3.0 | 10 | 39 | 3.09 | 2.96 | 2.15 | 2.73 | 2.73 | | |
| 3.5 | 3.5 | 10 | 39 | 3.12 | 2.99 | 2.17 | 2.76 | 2.76 | | |
| 4.0 | 4.0 | 10 | 39 | 3.14 | 3.02 | 2.18 | 2.78 | 2.78 | | |
| 4.5 | 4.5 | 10 | 39 | 3.16 | 3.04 | 2.20 | 2.80 | 2.80 | | |
| 5.0 | 5.0 | 10 | 39 | 3.25 | 3.13 | 2.28 | 2.89 | 2.89 | | |
| 5.5 | 5.5 | 10 | 39 | 3.28 | 3.16 | 2.31 | 2.92 | 2.92 | | |
| 6.0 | 6.0 | 10 | 39 | 3.29 | 3.17 | 2.32 | 2.93 | 2.93 | | |
| 6.5 | 6.5 | 10 | 39 | 3.30 | 3.19 | 2.32 | 2.94 | 2.94 | | |
| 7.0 | 7.0 | 10 | 39 | 3.30 | 3.19 | 2.32 | 2.94 | 2.94 | | |
| 7.5 | 7.5 | 10 | 39 | 3.30 | 3.19 | 2.33 | 2.94 | 2.94 | | |
| 8.0 | 8.0 | 10 | 39 | 3.31 | 3.20 | 2.33 | 2.95 | 2.95 | | |
| 8.5 | 8.5 | 10 | 39 | 3.32 | 3.21 | 2.33 | 2.95 | 2.95 | | |
| 9.0 | 9.0 | 10 | 39 | 3.32 | 3.21 | 2.34 | 2.96 | 2.96 | | |
| 9.5 | 9.5 | 10 | 39 | 3.32 | 3.21 | 2.35 | 2.96 | 2.96 | | |
| 10.0 | 10.0 | 10 | 39 | 3.32 | 3.22 | 2.35 | 2.96 | 2.96 | | |
| 10.5 | 10.5 | 10 | 39 | 3.32 | 3.22 | 2.35 | 2.96 | 2.96 | **2.96** | **2.96** |
| 11.0 | 0.5 | 21 | 78 | 3.77 | 3.67 | 2.72 | 3.39 | 3.39 | | |
| 11.5 | 1.0 | 21 | 78 | 5.97 | 5.95 | 4.65 | 5.52 | 5.52 | | |
| 12.0 | 1.5 | 21 | 78 | 6.50 | 6.51 | 5.16 | 6.06 | 6.06 | | |
| 12.5 | 2.0 | 21 | 78 | 6.76 | 6.79 | 5.44 | 6.33 | 6.33 | | |
| 13.0 | 2.5 | 21 | 78 | 6.94 | 7.00 | 5.65 | 6.53 | 6.53 | | |
| 13.5 | 3.0 | 21 | 78 | 7.14 | 7.21 | 5.87 | 6.74 | 6.74 | | |
| 14.0 | 3.5 | 21 | 78 | 7.24 | 7.33 | 5.98 | 6.85 | 6.85 | | |
| 14.5 | 4.0 | 21 | 78 | 7.35 | 7.43 | 6.09 | 6.96 | 6.96 | | |
| 15.0 | 4.5 | 21 | 78 | 7.40 | 7.50 | 6.16 | 7.02 | 7.02 | | |
| 15.5 | 5.0 | 21 | 78 | 7.46 | 7.57 | 6.23 | 7.09 | 7.09 | | |
| 16.0 | 5.5 | 21 | 78 | 7.51 | 7.62 | 6.29 | 7.14 | 7.14 | | |
| 16.5 | 6.0 | 21 | 78 | 7.60 | 7.71 | 6.38 | 7.23 | 7.23 | | |
| 17.0 | 6.5 | 21 | 78 | 7.65 | 7.76 | 6.43 | 7.28 | 7.28 | | |
| 17.5 | 7.0 | 21 | 78 | 7.68 | 7.78 | 6.46 | 7.31 | 7.31 | | |
| 18.0 | 7.5 | 21 | 78 | 7.69 | 7.80 | 6.48 | 7.32 | 7.32 | | |
| 18.5 | 8.0 | 21 | 78 | 7.69 | 7.82 | 6.49 | 7.33 | 7.33 | | |
| 19.0 | 8.5 | 21 | 78 | 7.70 | 7.82 | 6.49 | 7.34 | 7.34 | | |
| 19.5 | 9.0 | 21 | 78 | 7.71 | 7.84 | 6.51 | 7.35 | 7.35 | | |
| 20.0 | 9.5 | 21 | 78 | 7.73 | 7.84 | 6.51 | 7.36 | 7.36 | | |
| 20.5 | 10.0 | 21 | 78 | 7.73 | 7.85 | 6.52 | 7.37 | 7.37 | | |
| 21.0 | 10.5 | 21 | 78 | 7.73 | 7.85 | 6.53 | 7.37 | 7.37 | | |
| 21.5 | 11.0 | 21 | 78 | 7.74 | 7.86 | 6.54 | 7.38 | 7.38 | | |
| 22.0 | 11.5 | 21 | 78 | 7.74 | 7.87 | 6.54 | 7.38 | 7.38 | | |
| 22.5 | 12.0 | 21 | 78 | 7.74 | 7.87 | 6.54 | 7.38 | 7.38 | | |
| 23.0 | 12.5 | 21 | 78 | 7.75 | 7.88 | 6.54 | 7.39 | 7.39 | | |
| 23.5 | 13.0 | 21 | 78 | 7.76 | 7.89 | 6.55 | 7.40 | 7.40 | | |
| 24.0 | 13.5 | 21 | 78 | 7.76 | 7.89 | 6.56 | 7.40 | 7.40 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT508

SITE GRAVEN HILL, BICESTER — Depth (m) 0.50

Date 12 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 24.5 | 14.0 | 21 | 78 | 7.76 | 7.89 | 6.56 | 7.40 | 7.40 | **4.44** | **7.40** |
| 25.0 | 0.5 | 31 | 113 | 10.75 | 11.16 | 9.94 | 10.62 | 10.62 | | |
| 25.5 | 1.0 | 31 | 113 | 12.27 | 12.76 | 11.55 | 12.19 | 12.19 | | |
| 26.0 | 1.5 | 31 | 113 | 13.11 | 13.65 | 12.47 | 13.08 | 13.08 | | |
| 26.5 | 2.0 | 31 | 113 | 13.74 | 14.31 | 13.14 | 13.73 | 13.73 | | |
| 27.0 | 2.5 | 31 | 113 | 14.20 | 14.79 | 13.64 | 14.21 | 14.21 | | |
| 27.5 | 3.0 | 31 | 113 | 14.58 | 15.19 | 14.05 | 14.61 | 14.61 | | |
| 28.0 | 3.5 | 31 | 113 | 14.91 | 15.54 | 14.41 | 14.95 | 14.95 | | |
| 28.5 | 4.0 | 31 | 113 | 15.20 | 15.85 | 14.72 | 15.26 | 15.26 | | |
| 29.0 | 4.5 | 31 | 113 | 15.43 | 16.08 | 14.97 | 15.49 | 15.49 | | |
| 29.5 | 5.0 | 31 | 113 | 15.63 | 16.29 | 15.18 | 15.70 | 15.70 | | |
| 30.0 | 5.5 | 31 | 113 | 15.82 | 16.50 | 15.39 | 15.90 | 15.90 | | |
| 30.5 | 6.0 | 31 | 113 | 16.02 | 16.71 | 15.61 | 16.11 | 16.11 | | |
| 31.0 | 6.5 | 31 | 113 | 16.20 | 16.90 | 15.79 | 16.30 | 16.30 | | |
| 31.5 | 7.0 | 31 | 113 | 16.40 | 17.10 | 16.00 | 16.50 | 16.50 | | |
| 32.0 | 7.5 | 31 | 113 | 16.47 | 17.18 | 16.07 | 16.57 | 16.57 | | |
| 32.5 | 8.0 | 31 | 113 | 16.51 | 17.22 | 16.11 | 16.61 | 16.61 | | |
| 33.0 | 8.5 | 31 | 113 | 16.54 | 17.25 | 16.14 | 16.64 | 16.64 | | |
| 33.5 | 9.0 | 31 | 113 | 16.57 | 17.28 | 16.17 | 16.67 | 16.67 | | |
| 34.0 | 9.5 | 31 | 113 | 16.59 | 17.29 | 16.18 | 16.69 | 16.69 | | |
| 34.5 | 10.0 | 31 | 113 | 16.60 | 17.31 | 16.20 | 16.70 | 16.70 | | |
| 35.0 | 10.5 | 31 | 113 | 16.62 | 17.33 | 16.21 | 16.72 | 16.72 | | |
| 35.5 | 11.0 | 31 | 113 | 16.64 | 17.34 | 16.23 | 16.74 | 16.74 | | |
| 36.0 | 11.5 | 31 | 113 | 16.64 | 17.35 | 16.24 | 16.74 | 16.74 | | |
| 36.5 | 12.0 | 31 | 113 | 16.65 | 17.36 | 16.24 | 16.75 | 16.75 | | |
| 37.0 | 12.5 | 31 | 113 | 16.67 | 17.38 | 16.26 | 16.77 | 16.77 | | |
| 37.5 | 13.0 | 31 | 113 | 16.67 | 17.38 | 16.27 | 16.77 | 16.77 | | |
| 38.0 | 13.5 | 31 | 113 | 16.68 | 17.39 | 16.28 | 16.78 | 16.78 | | |
| 38.5 | 14.0 | 31 | 113 | 16.70 | 17.40 | 16.28 | 16.79 | 16.79 | | |
| 39.0 | 14.5 | 31 | 113 | 16.71 | 17.41 | 16.29 | 16.80 | 16.80 | | |
| 39.5 | 15.0 | 31 | 113 | 16.71 | 17.42 | 16.31 | 16.81 | 16.81 | | |
| 40.0 | 15.5 | 31 | 113 | 16.71 | 17.42 | 16.31 | 16.81 | 16.81 | | |
| 40.5 | 16.0 | 31 | 113 | 16.72 | 17.43 | 16.31 | 16.82 | 16.82 | | |
| 41.0 | 16.5 | 31 | 113 | 16.72 | 17.43 | 16.32 | 16.82 | 16.82 | | |
| 41.5 | 17.0 | 31 | 113 | 16.74 | 17.45 | 16.33 | 16.84 | 16.84 | | |
| 42.0 | 17.5 | 31 | 113 | 16.74 | 17.45 | 16.33 | 16.84 | 16.84 | | |
| 42.5 | 18.0 | 31 | 113 | 16.74 | 17.45 | 16.34 | 16.84 | 16.84 | | |
| 43.0 | 18.5 | 31 | 113 | 16.75 | 17.46 | 16.34 | 16.85 | 16.85 | | |
| 43.5 | 19.0 | 31 | 113 | 16.75 | 17.47 | 16.35 | 16.86 | 16.86 | | |
| 44.0 | 19.5 | 31 | 113 | 16.76 | 17.47 | 16.36 | 16.86 | 16.86 | | |
| 44.5 | 20.0 | 31 | 113 | 16.77 | 17.48 | 16.36 | 16.87 | 16.87 | | |
| 45.0 | 20.5 | 31 | 113 | 16.77 | 17.48 | 16.37 | 16.87 | 16.87 | | |
| 45.5 | 21.0 | 31 | 113 | 16.77 | 17.48 | 16.38 | 16.88 | 16.88 | **9.48** | **16.88** |
| 46.0 | 0.5 | 36 | 131 | 16.91 | 17.65 | 16.54 | 17.03 | 17.03 | | |
| 46.5 | 1.0 | 36 | 131 | 17.87 | 18.70 | 17.65 | 18.07 | 18.07 | | |
| 47.0 | 1.5 | 36 | 131 | 19.13 | 20.01 | 18.98 | 19.37 | 19.37 | | |
| 47.5 | 2.0 | 36 | 131 | 20.13 | 21.05 | 20.04 | 20.41 | 20.41 | | |
| 48.0 | 2.5 | 36 | 131 | 21.01 | 21.96 | 20.96 | 21.31 | 21.31 | | |
| 48.5 | 3.0 | 36 | 131 | 21.70 | 22.64 | 21.64 | 21.99 | 21.99 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

CONTRACT **30378**

CHECKED **NP**

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT508

SITE GRAVEN HILL, BICESTER — Depth (m) 0.50

Date 12 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 49.0 | 3.5 | 36 | 131 | 22.30 | 23.21 | 22.22 | 22.58 | 22.58 | | |
| 49.5 | 4.0 | 36 | 131 | 22.69 | 23.59 | 22.60 | 22.96 | 22.96 | | |
| 50.0 | 4.5 | 36 | 131 | 23.06 | 23.97 | 22.99 | 23.34 | 23.34 | | |
| 50.5 | 5.0 | 36 | 131 | 23.41 | 24.32 | 23.34 | 23.69 | 23.69 | | |
| 51.0 | 5.5 | 36 | 131 | 23.77 | 24.69 | 23.72 | 24.06 | 24.06 | | |
| 51.5 | 6.0 | 36 | 131 | 24.06 | 24.97 | 24.01 | 24.35 | 24.35 | | |
| 52.0 | 6.5 | 36 | 131 | 24.35 | 25.28 | 24.32 | 24.65 | 24.65 | | |
| 52.5 | 7.0 | 36 | 131 | 24.49 | 25.42 | 24.45 | 24.79 | 24.79 | | |
| 53.0 | 7.5 | 36 | 131 | 24.58 | 25.51 | 24.54 | 24.88 | 24.88 | | |
| 53.5 | 8.0 | 36 | 131 | 24.70 | 25.63 | 24.66 | 25.00 | 25.00 | | |
| 54.0 | 8.5 | 36 | 131 | 24.84 | 25.78 | 24.82 | 25.15 | 25.15 | | |
| 54.5 | 9.0 | 36 | 131 | 25.06 | 26.02 | 25.05 | 25.38 | 25.38 | | |
| 55.0 | 9.5 | 36 | 131 | 25.16 | 26.11 | 25.14 | 25.47 | 25.47 | | |
| 55.5 | 10.0 | 36 | 131 | 25.21 | 26.16 | 25.19 | 25.52 | 25.52 | | |
| 56.0 | 10.5 | 36 | 131 | 25.25 | 26.20 | 25.22 | 25.56 | 25.56 | | |
| 56.5 | 11.0 | 36 | 131 | 25.28 | 26.23 | 25.25 | 25.59 | 25.59 | | |
| 57.0 | 11.5 | 36 | 131 | 25.30 | 26.26 | 25.27 | 25.61 | 25.61 | | |
| 57.5 | 12.0 | 36 | 131 | 25.32 | 26.28 | 25.30 | 25.63 | 25.63 | | |
| 58.0 | 12.5 | 36 | 131 | 25.34 | 26.30 | 25.31 | 25.65 | 25.65 | | |
| 58.5 | 13.0 | 36 | 131 | 25.35 | 26.31 | 25.32 | 25.66 | 25.66 | | |
| 59.0 | 13.5 | 36 | 131 | 25.37 | 26.33 | 25.34 | 25.68 | 25.68 | | |
| 59.5 | 14.0 | 36 | 131 | 25.39 | 26.34 | 25.35 | 25.69 | 25.69 | | |
| 60.0 | 14.5 | 36 | 131 | 25.40 | 26.36 | 25.37 | 25.71 | 25.71 | | |
| 60.5 | 15.0 | 36 | 131 | 25.41 | 26.37 | 25.37 | 25.72 | 25.72 | | |
| 61.0 | 15.5 | 36 | 131 | 25.42 | 26.38 | 25.38 | 25.73 | 25.73 | | |
| 61.5 | 16.0 | 36 | 131 | 25.42 | 26.38 | 25.39 | 25.73 | 25.73 | | |
| 62.0 | 16.5 | 36 | 131 | 25.44 | 26.39 | 25.40 | 25.74 | 25.74 | | |
| 62.5 | 17.0 | 36 | 131 | 25.45 | 26.41 | 25.40 | 25.75 | 25.75 | | |
| 63.0 | 17.5 | 36 | 131 | 25.45 | 26.41 | 25.41 | 25.76 | 25.76 | | |
| 63.5 | 18.0 | 36 | 131 | 25.47 | 26.42 | 25.42 | 25.77 | 25.77 | | |
| 64.0 | 18.5 | 36 | 131 | 25.47 | 26.43 | 25.43 | 25.78 | 25.78 | | |
| 64.5 | 19.0 | 36 | 131 | 25.49 | 26.44 | 25.43 | 25.79 | 25.79 | | |
| 65.0 | 19.5 | 36 | 131 | 25.49 | 26.44 | 25.44 | 25.79 | 25.79 | | |
| 65.5 | 20.0 | 36 | 131 | 25.49 | 26.44 | 25.44 | 25.79 | 25.79 | | |
| 66.0 | 20.5 | 36 | 131 | 25.50 | 26.46 | 25.45 | 25.80 | 25.80 | | |
| 66.5 | 21.0 | 36 | 131 | 25.50 | 26.46 | 25.45 | 25.80 | 25.80 | | |
| 67.0 | 21.5 | 36 | 131 | 25.52 | 26.48 | 25.47 | 25.82 | 25.82 | | |
| 67.5 | 22.0 | 36 | 131 | 25.52 | 26.48 | 25.47 | 25.82 | 25.82 | | |
| 68.0 | 22.5 | 36 | 131 | 25.52 | 26.48 | 25.47 | 25.82 | 25.82 | | |
| 68.5 | 23.0 | 36 | 131 | 25.53 | 26.48 | 25.48 | 25.83 | 25.83 | **8.95** | **25.83** |
| 69.0 | 0.5 | 18 | 67 | 25.52 | 26.47 | 25.46 | 25.82 | 25.82 | | |
| 69.5 | 1.0 | 18 | 67 | 24.84 | 25.72 | 24.69 | 25.08 | 25.08 | | |
| 70.0 | 1.5 | 18 | 67 | 24.83 | 25.71 | 24.67 | 25.07 | 25.07 | | |
| 70.5 | 2.0 | 18 | 67 | 24.82 | 25.71 | 24.68 | 25.07 | 25.07 | | |
| 71.0 | 2.5 | 18 | 67 | 24.83 | 25.71 | 24.68 | 25.07 | 25.07 | | |
| 71.5 | 3.0 | 18 | 67 | 24.76 | 25.64 | 24.60 | 25.00 | 25.00 | | |
| 72.0 | 3.5 | 18 | 67 | 24.73 | 25.61 | 24.58 | 24.97 | 24.97 | | |
| 72.5 | 4.0 | 18 | 67 | 24.73 | 25.61 | 24.58 | 24.97 | 24.97 | | |
| 73.0 | 4.5 | 18 | 67 | 24.73 | 25.61 | 24.58 | 24.97 | 24.97 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT508

SITE GRAVEN HILL, BICESTER — Depth (m) 0.50

Date 12 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 73.5 | 5.0 | 18 | 67 | 24.73 | 25.61 | 24.58 | 24.97 | 24.97 | | |
| 74.0 | 5.5 | 18 | 67 | 24.74 | 25.61 | 24.59 | 24.98 | 24.98 | | |
| 74.5 | 6.0 | 18 | 67 | 24.75 | 25.62 | 24.60 | 24.99 | 24.99 | | |
| 75.0 | 6.5 | 18 | 67 | 24.75 | 25.62 | 24.60 | 24.99 | 24.99 | | |
| 75.5 | 7.0 | 18 | 67 | 24.76 | 25.62 | 24.60 | 24.99 | 24.99 | | |
| 76.0 | 7.5 | 18 | 67 | 24.76 | 25.62 | 24.60 | 24.99 | 24.99 | | |
| 76.5 | 8.0 | 18 | 67 | 24.75 | 25.62 | 24.60 | 24.99 | 24.99 | | |
| 77.0 | 8.5 | 18 | 67 | 24.74 | 25.62 | 24.60 | 24.99 | 24.99 | | |
| 77.5 | 9.0 | 18 | 67 | 24.75 | 25.62 | 24.60 | 24.99 | 24.99 | | |
| 78.0 | 9.5 | 18 | 67 | 24.75 | 25.62 | 24.60 | 24.99 | 24.99 | | |
| 78.5 | 10.0 | 18 | 67 | 24.76 | 25.62 | 24.60 | 24.99 | 24.99 | | |
| 79.0 | 10.5 | 18 | 67 | 24.75 | 25.62 | 24.60 | 24.99 | 24.99 | **-0.84** | **24.99** |
| 79.5 | 0.5 | 0 | 4 | 20.65 | 21.66 | 20.50 | 20.94 | 20.94 | | |
| 80.0 | 1.0 | 0 | 4 | 20.39 | 21.40 | 20.24 | 20.68 | 20.68 | | |
| 80.5 | 1.5 | 0 | 4 | 20.24 | 21.25 | 20.09 | 20.53 | 20.53 | | |
| 81.0 | 2.0 | 0 | 4 | 20.14 | 21.15 | 19.99 | 20.43 | 20.43 | | |
| 81.5 | 2.5 | 0 | 4 | 20.06 | 21.08 | 19.91 | 20.35 | 20.35 | | |
| 82.0 | 3.0 | 0 | 4 | 20.00 | 21.02 | 19.85 | 20.29 | 20.29 | | |
| 82.5 | 3.5 | 0 | 4 | 19.96 | 20.97 | 19.80 | 20.24 | 20.24 | | |
| 83.0 | 4.0 | 0 | 4 | 19.91 | 20.92 | 19.76 | 20.20 | 20.20 | | |
| 83.5 | 4.5 | 0 | 4 | 19.88 | 20.89 | 19.72 | 20.16 | 20.16 | | |
| 84.0 | 5.0 | 0 | 4 | 19.84 | 20.86 | 19.68 | 20.13 | 20.13 | | |
| 84.5 | 5.5 | 0 | 4 | 19.81 | 20.83 | 19.66 | 20.10 | 20.10 | | |
| 85.0 | 6.0 | 0 | 4 | 19.78 | 20.80 | 19.63 | 20.07 | 20.07 | | |
| 85.5 | 6.5 | 0 | 4 | 19.76 | 20.78 | 19.60 | 20.05 | 20.05 | | |
| 86.0 | 7.0 | 0 | 4 | 19.74 | 20.76 | 19.58 | 20.03 | 20.03 | | |
| 86.5 | 7.5 | 0 | 4 | 19.72 | 20.74 | 19.56 | 20.01 | 20.01 | | |
| 87.0 | 8.0 | 0 | 4 | 19.70 | 20.72 | 19.54 | 19.99 | 19.99 | | |
| 87.5 | 8.5 | 0 | 4 | 19.68 | 20.70 | 19.52 | 19.97 | 19.97 | | |
| 88.0 | 9.0 | 0 | 4 | 19.66 | 20.69 | 19.50 | 19.95 | 19.95 | | |
| 88.5 | 9.5 | 0 | 4 | 19.64 | 20.67 | 19.49 | 19.93 | 19.93 | | |
| 89.0 | 10.0 | 0 | 4 | 19.63 | 20.66 | 19.47 | 19.92 | 19.92 | | |
| 89.5 | 10.5 | 0 | 4 | 19.61 | 20.64 | 19.46 | 19.90 | 19.90 | | |
| 90.0 | 11.0 | 0 | 4 | 19.60 | 20.64 | 19.45 | 19.90 | 19.90 | | |
| 90.5 | 11.5 | 0 | 4 | 19.58 | 20.62 | 19.43 | 19.88 | 19.88 | | |
| 91.0 | 12.0 | 0 | 4 | 19.58 | 20.60 | 19.42 | 19.87 | 19.87 | | |
| 91.5 | 12.5 | 0 | 4 | 19.56 | 20.60 | 19.41 | 19.86 | 19.86 | | |
| 92.0 | 13.0 | 0 | 4 | 19.55 | 20.58 | 19.40 | 19.84 | 19.84 | | |
| 92.5 | 13.5 | 0 | 4 | 19.54 | 20.57 | 19.39 | 19.83 | 19.83 | | |
| 93.0 | 14.0 | 0 | 4 | 19.53 | 20.56 | 19.38 | 19.82 | 19.82 | | |
| 93.5 | 14.5 | 0 | 4 | 19.52 | 20.55 | 19.37 | 19.81 | 19.81 | | |
| 94.0 | 15.0 | 0 | 4 | 19.51 | 20.54 | 19.36 | 19.80 | 19.80 | | |
| 94.5 | 15.5 | 0 | 4 | 19.50 | 20.54 | 19.35 | 19.80 | 19.80 | | |
| 95.0 | 16.0 | 0 | 4 | 19.49 | 20.52 | 19.34 | 19.78 | 19.78 | | |
| 95.5 | 16.5 | 0 | 4 | 19.48 | 20.52 | 19.33 | 19.78 | 19.78 | | |
| 96.0 | 17.0 | 0 | 4 | 19.48 | 20.50 | 19.33 | 19.77 | 19.77 | | |
| 96.5 | 17.5 | 0 | 4 | 19.46 | 20.50 | 19.31 | 19.76 | 19.76 | | |
| 97.0 | 18.0 | 0 | 4 | 19.45 | 20.49 | 19.31 | 19.75 | 19.75 | | |
| 97.5 | 18.5 | 0 | 4 | 19.45 | 20.48 | 19.30 | 19.74 | 19.74 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

CONTRACT **30378**

CHECKED **NP**

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 12 March 2015

Test No. PBT508

Depth (m) 0.50

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 98.0 | 19.0 | 0 | 4 | 19.44 | 20.47 | 19.30 | 19.74 | 19.74 | | |
| 98.5 | 19.5 | 0 | 4 | 19.43 | 20.47 | 19.29 | 19.73 | 19.73 | | |
| 99.0 | 20.0 | 0 | 4 | 19.42 | 20.45 | 19.28 | 19.72 | 19.72 | | |
| 99.5 | 20.5 | 0 | 4 | 19.41 | 20.44 | 19.26 | 19.70 | 19.70 | | |
| 100.0 | 21.0 | 0 | 4 | 19.41 | 20.44 | 19.26 | 19.70 | 19.70 | | |
| 100.5 | 21.5 | 0 | 4 | 19.40 | 20.44 | 19.26 | 19.70 | 19.70 | | |
| 101.0 | 22.0 | 0 | 4 | 19.40 | 20.42 | 19.25 | 19.69 | 19.69 | | |
| 101.5 | 22.5 | 0 | 4 | 19.39 | 20.42 | 19.25 | 19.69 | 19.69 | | |
| 102.0 | 23.0 | 0 | 4 | 19.38 | 20.41 | 19.25 | 19.68 | 19.68 | | |
| 102.5 | 23.5 | 0 | 4 | 19.38 | 20.40 | 19.23 | 19.67 | 19.67 | | |
| 103.0 | 24.0 | 0 | 4 | 19.37 | 20.40 | 19.23 | 19.67 | 19.67 | | |
| 103.5 | 24.5 | 0 | 4 | 19.36 | 20.39 | 19.23 | 19.66 | 19.66 | | |
| 104.0 | 25.0 | 0 | 4 | 19.35 | 20.38 | 19.21 | 19.65 | 19.65 | | |
| 104.5 | 25.5 | 0 | 4 | 19.35 | 20.37 | 19.21 | 19.64 | 19.64 | | |
| 105.0 | 26.0 | 0 | 4 | 19.35 | 20.37 | 19.20 | 19.64 | 19.64 | | |
| 105.5 | 26.5 | 0 | 4 | 19.34 | 20.37 | 19.20 | 19.64 | 19.64 | | |
| 106.0 | 27.0 | 0 | 4 | 19.34 | 20.36 | 19.20 | 19.63 | 19.63 | | |
| 106.5 | 27.5 | 0 | 4 | 19.33 | 20.35 | 19.20 | 19.63 | 19.63 | | |
| 107.0 | 28.0 | 0 | 4 | 19.33 | 20.35 | 19.19 | 19.62 | 19.62 | **-5.37** | **19.62** |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

CONTRACT **30378**

CHECKED **NP**

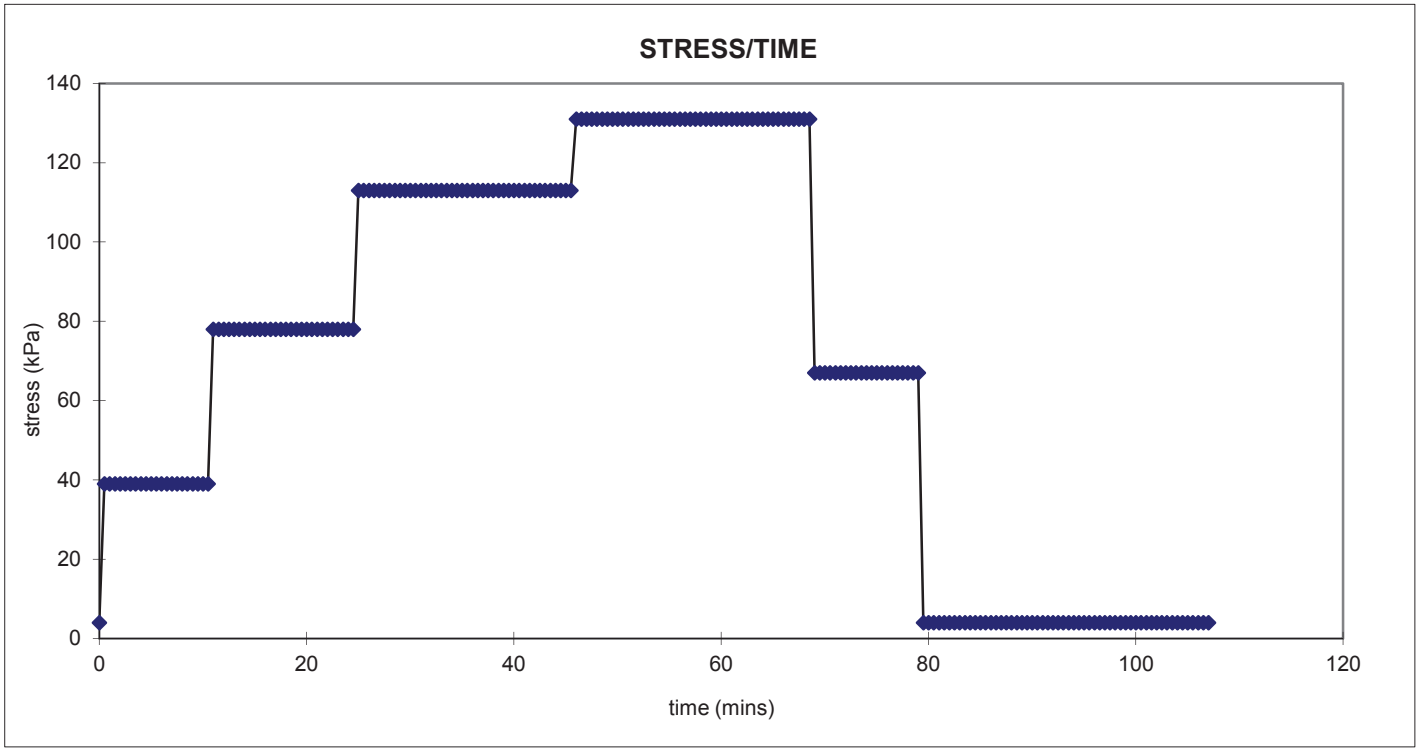
rev09 02/04/14 JH/SC

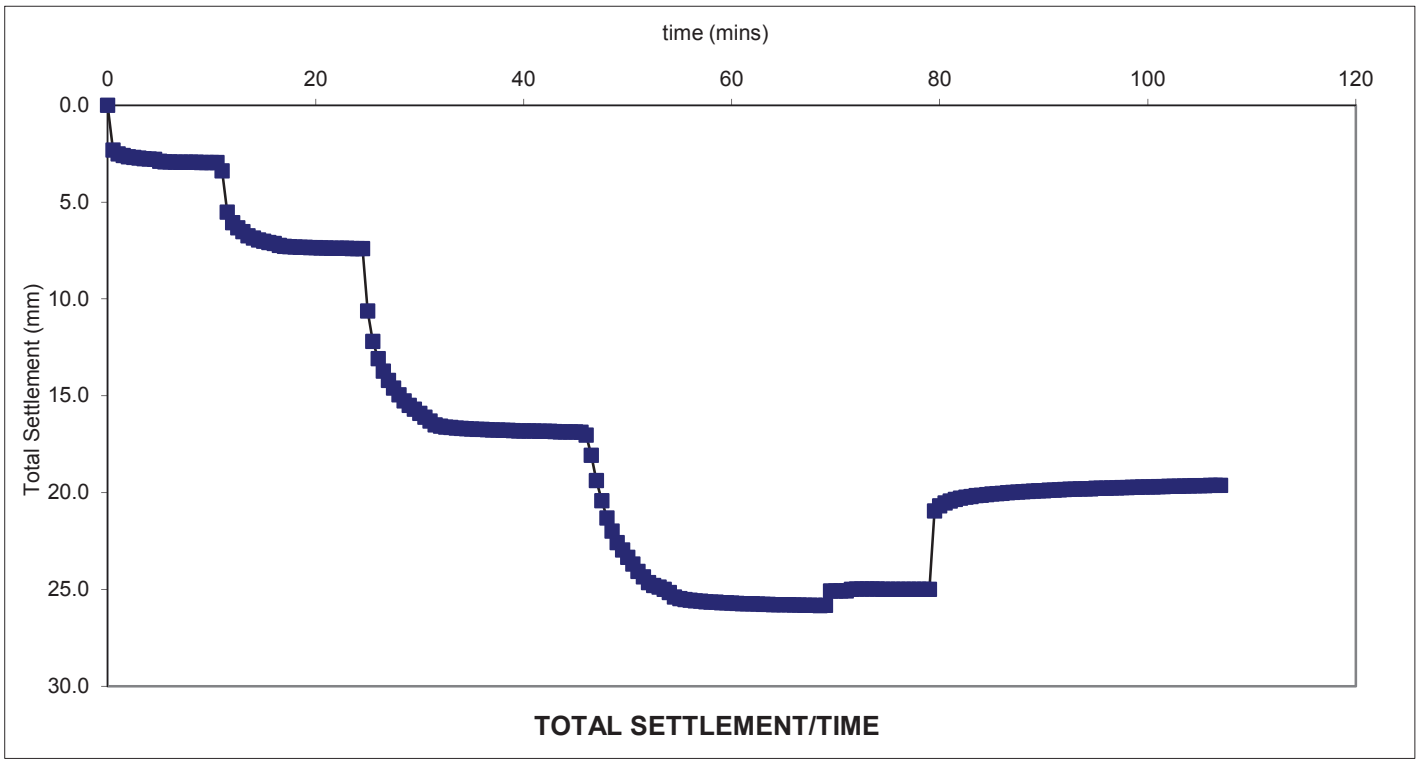
Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT508 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.50 |
| Date | 12 March 2015 | Plate (mm) | 600 |




| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

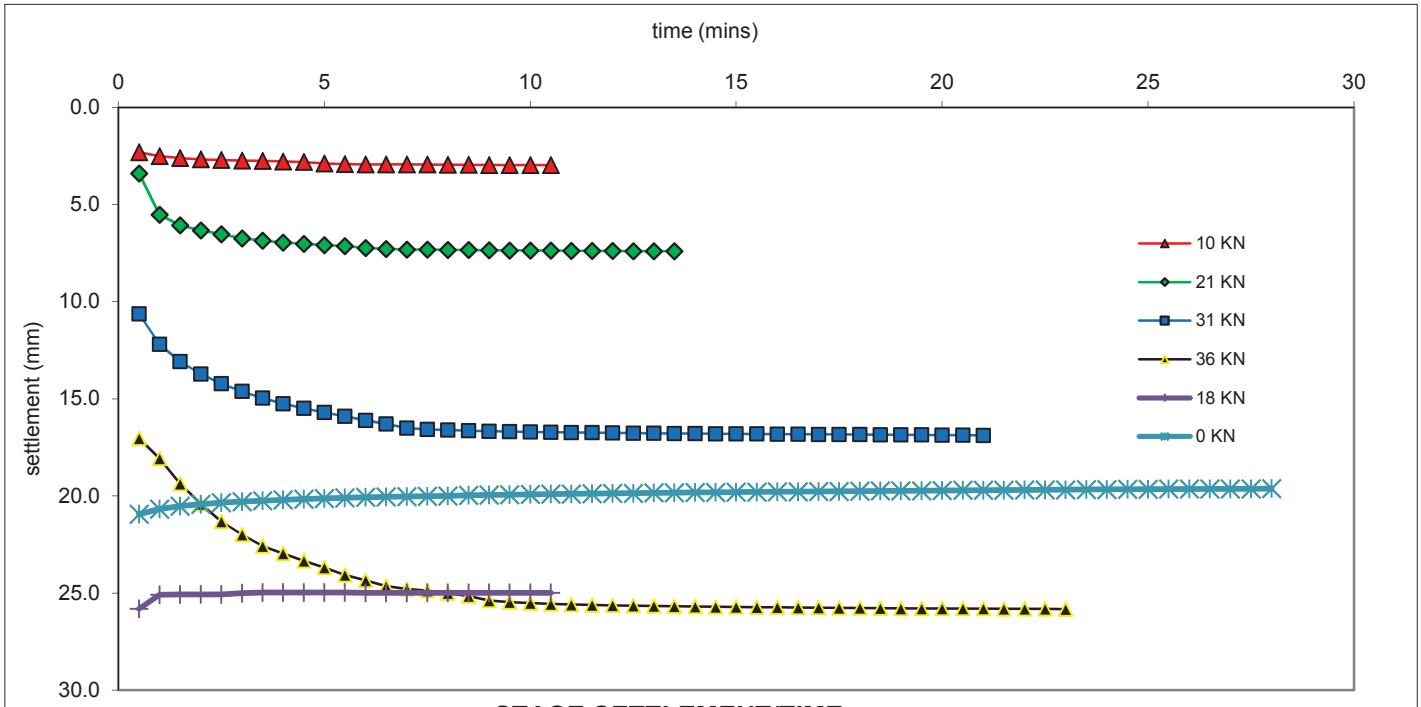
rev09 02/04/14 JH/SC

Geotechnical Engineering Limited

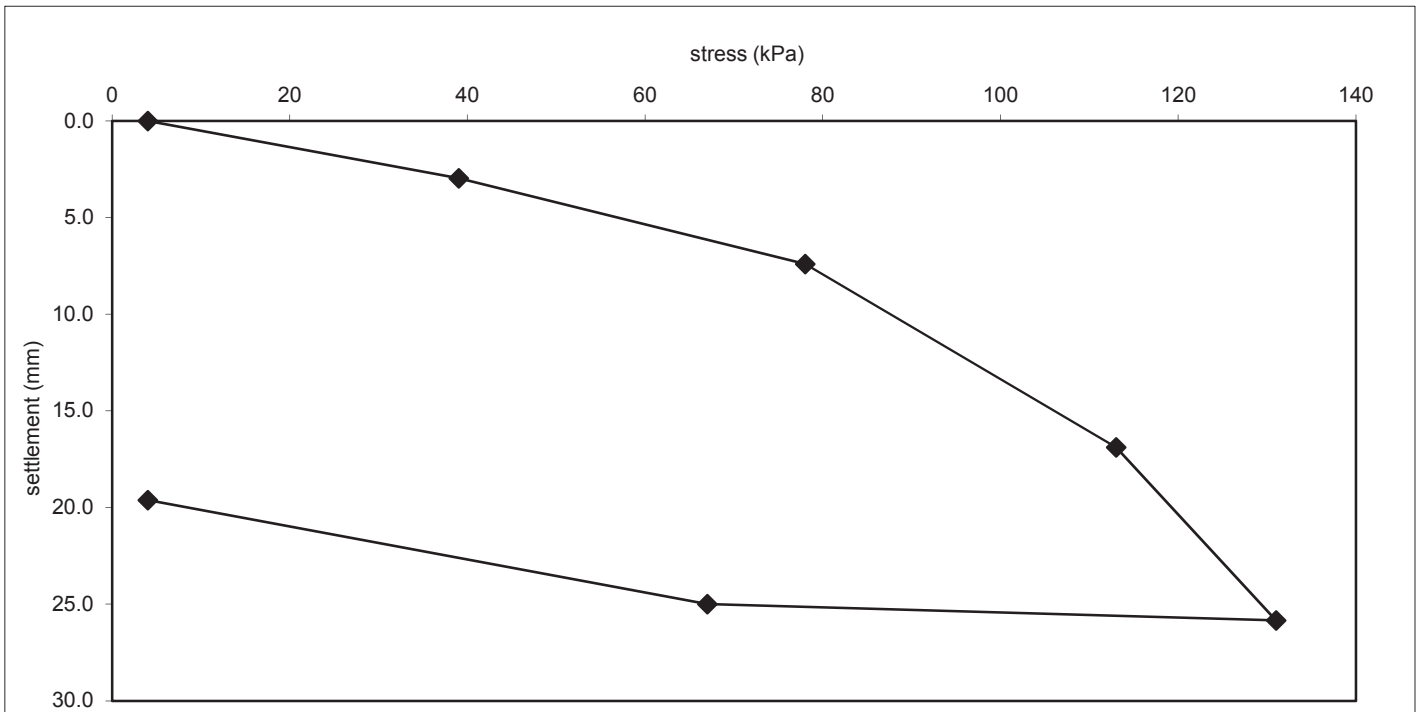
# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT508 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.50 |
| Date | 12 March 2015 | Plate (mm) | 600 |




**STAGE SETTLEMENT/TIME**




**SETTLEMENT/STRESS**

| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

rev09 02/04/14 JH/SC

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT514

SITE GRAVEN HILL, BICESTER — Depth (m) 0.90

Date 10 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0 | 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **0.00** | **0.00** |
| 0.5 | 0.5 | 21 | 81 | 5.63 | 5.34 | 5.24 | 5.40 | 5.40 | | |
| 1.0 | 1.0 | 21 | 81 | 5.90 | 5.60 | 5.46 | 5.65 | 5.65 | | |
| 1.5 | 1.5 | 21 | 81 | 6.00 | 5.69 | 5.55 | 5.75 | 5.75 | | |
| 2.0 | 2.0 | 21 | 81 | 6.12 | 5.81 | 5.66 | 5.86 | 5.86 | | |
| 2.5 | 2.5 | 21 | 81 | 6.17 | 5.86 | 5.71 | 5.91 | 5.91 | | |
| 3.0 | 3.0 | 21 | 81 | 6.24 | 5.92 | 5.77 | 5.98 | 5.98 | | |
| 3.5 | 3.5 | 21 | 81 | 6.31 | 5.97 | 5.82 | 6.03 | 6.03 | | |
| 4.0 | 4.0 | 21 | 81 | 6.33 | 6.00 | 5.85 | 6.06 | 6.06 | | |
| 4.5 | 4.5 | 21 | 81 | 6.36 | 6.01 | 5.86 | 6.08 | 6.08 | | |
| 5.0 | 5.0 | 21 | 81 | 6.36 | 6.02 | 5.87 | 6.08 | 6.08 | | |
| 5.5 | 5.5 | 21 | 81 | 6.44 | 6.09 | 5.94 | 6.16 | 6.16 | | |
| 6.0 | 6.0 | 21 | 81 | 6.45 | 6.11 | 5.96 | 6.17 | 6.17 | | |
| 6.5 | 6.5 | 21 | 81 | 6.46 | 6.12 | 5.96 | 6.18 | 6.18 | | |
| 7.0 | 7.0 | 21 | 81 | 6.47 | 6.12 | 5.97 | 6.19 | 6.19 | | |
| 7.5 | 7.5 | 21 | 81 | 6.47 | 6.13 | 5.97 | 6.19 | 6.19 | | |
| 8.0 | 8.0 | 21 | 81 | 6.47 | 6.14 | 5.97 | 6.19 | 6.19 | | |
| 8.5 | 8.5 | 21 | 81 | 6.47 | 6.14 | 5.97 | 6.19 | 6.19 | | |
| 9.0 | 9.0 | 21 | 81 | 6.48 | 6.14 | 5.98 | 6.20 | 6.20 | | |
| 9.5 | 9.5 | 21 | 81 | 6.49 | 6.14 | 5.98 | 6.20 | 6.20 | | |
| 10.0 | 10.0 | 21 | 81 | 6.49 | 6.14 | 5.99 | 6.21 | 6.21 | | |
| 10.5 | 10.5 | 21 | 81 | 6.49 | 6.14 | 5.99 | 6.21 | 6.21 | | |
| 11.0 | 11.0 | 21 | 81 | 6.49 | 6.14 | 5.99 | 6.21 | 6.21 | **6.21** | **6.21** |
| 11.5 | 0.5 | 42 | 156 | 8.58 | 8.21 | 7.92 | 8.24 | 8.24 | | |
| 12.0 | 1.0 | 42 | 156 | 13.59 | 13.05 | 12.38 | 13.01 | 13.01 | | |
| 12.5 | 1.5 | 42 | 156 | 14.79 | 14.28 | 13.51 | 14.19 | 14.19 | | |
| 13.0 | 2.0 | 42 | 156 | 15.45 | 14.98 | 14.14 | 14.86 | 14.86 | | |
| 13.5 | 2.5 | 42 | 156 | 15.57 | 15.13 | 14.27 | 14.99 | 14.99 | | |
| 14.0 | 3.0 | 42 | 156 | 16.23 | 15.79 | 14.90 | 15.64 | 15.64 | | |
| 14.5 | 3.5 | 42 | 156 | 16.39 | 15.97 | 15.06 | 15.81 | 15.81 | | |
| 15.0 | 4.0 | 42 | 156 | 16.67 | 16.24 | 15.33 | 16.08 | 16.08 | | |
| 15.5 | 4.5 | 42 | 156 | 16.90 | 16.48 | 15.56 | 16.31 | 16.31 | | |
| 16.0 | 5.0 | 42 | 156 | 17.07 | 16.65 | 15.72 | 16.48 | 16.48 | | |
| 16.5 | 5.5 | 42 | 156 | 17.16 | 16.75 | 15.82 | 16.58 | 16.58 | | |
| 17.0 | 6.0 | 42 | 156 | 17.32 | 16.92 | 15.98 | 16.74 | 16.74 | | |
| 17.5 | 6.5 | 42 | 156 | 17.50 | 17.09 | 16.15 | 16.91 | 16.91 | | |
| 18.0 | 7.0 | 42 | 156 | 17.66 | 17.25 | 16.31 | 17.07 | 17.07 | | |
| 18.5 | 7.5 | 42 | 156 | 17.75 | 17.35 | 16.40 | 17.17 | 17.17 | | |
| 19.0 | 8.0 | 42 | 156 | 17.84 | 17.44 | 16.50 | 17.26 | 17.26 | | |
| 19.5 | 8.5 | 42 | 156 | 17.98 | 17.57 | 16.63 | 17.39 | 17.39 | | |
| 20.0 | 9.0 | 42 | 156 | 18.09 | 17.69 | 16.75 | 17.51 | 17.51 | | |
| 20.5 | 9.5 | 42 | 156 | 18.24 | 17.83 | 16.89 | 17.65 | 17.65 | | |
| 21.0 | 10.0 | 42 | 156 | 18.28 | 17.87 | 16.93 | 17.69 | 17.69 | | |
| 21.5 | 10.5 | 42 | 156 | 18.31 | 17.90 | 16.95 | 17.72 | 17.72 | | |
| 22.0 | 11.0 | 42 | 156 | 18.33 | 17.93 | 16.98 | 17.75 | 17.75 | | |
| 22.5 | 11.5 | 42 | 156 | 18.35 | 17.94 | 16.99 | 17.76 | 17.76 | | |
| 23.0 | 12.0 | 42 | 156 | 18.56 | 18.16 | 17.22 | 17.98 | 17.98 | | |
| 23.5 | 12.5 | 42 | 156 | 18.75 | 18.34 | 17.40 | 18.16 | 18.16 | | |
| 24.0 | 13.0 | 42 | 156 | 18.79 | 18.38 | 17.44 | 18.20 | 18.20 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT514

SITE GRAVEN HILL, BICESTER — Depth (m) 0.90

Date 10 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 24.5 | 13.5 | 42 | 156 | 18.81 | 18.41 | 17.46 | 18.23 | 18.23 | | |
| 25.0 | 14.0 | 42 | 156 | 18.83 | 18.43 | 17.48 | 18.25 | 18.25 | | |
| 25.5 | 14.5 | 42 | 156 | 18.84 | 18.45 | 17.49 | 18.26 | 18.26 | | |
| 26.0 | 15.0 | 42 | 156 | 18.87 | 18.45 | 17.51 | 18.28 | 18.28 | | |
| 26.5 | 15.5 | 42 | 156 | 18.87 | 18.47 | 17.52 | 18.29 | 18.29 | | |
| 27.0 | 16.0 | 42 | 156 | 18.88 | 18.49 | 17.53 | 18.30 | 18.30 | | |
| 27.5 | 16.5 | 42 | 156 | 18.89 | 18.49 | 17.54 | 18.31 | 18.31 | | |
| 28.0 | 17.0 | 42 | 156 | 18.90 | 18.50 | 17.55 | 18.32 | 18.32 | | |
| 28.5 | 17.5 | 42 | 156 | 18.90 | 18.51 | 17.55 | 18.32 | 18.32 | | |
| 29.0 | 18.0 | 42 | 156 | 18.92 | 18.52 | 17.56 | 18.33 | 18.33 | | |
| 29.5 | 18.5 | 42 | 156 | 18.92 | 18.52 | 17.57 | 18.34 | 18.34 | | |
| 30.0 | 19.0 | 42 | 156 | 18.93 | 18.53 | 17.58 | 18.35 | 18.35 | | |
| 30.5 | 19.5 | 42 | 156 | 18.93 | 18.54 | 17.58 | 18.35 | 18.35 | | |
| 31.0 | 20.0 | 42 | 156 | 18.94 | 18.56 | 17.59 | 18.36 | 18.36 | | |
| 31.5 | 20.5 | 42 | 156 | 18.95 | 18.56 | 17.60 | 18.37 | 18.37 | | |
| 32.0 | 21.0 | 42 | 156 | 18.95 | 18.56 | 17.60 | 18.37 | 18.37 | | |
| 32.5 | 21.5 | 42 | 156 | 18.97 | 18.56 | 17.61 | 18.38 | 18.38 | | |
| 33.0 | 22.0 | 42 | 156 | 18.97 | 18.57 | 17.62 | 18.39 | 18.39 | | |
| 33.5 | 22.5 | 42 | 156 | 18.97 | 18.57 | 17.62 | 18.39 | 18.39 | | |
| 34.0 | 23.0 | 42 | 156 | 18.98 | 18.58 | 17.62 | 18.39 | 18.39 | | |
| 34.5 | 23.5 | 42 | 156 | 18.98 | 18.59 | 17.63 | 18.40 | 18.40 | **12.19** | **18.40** |
| 35.0 | 0.5 | 52 | 191 | 19.02 | 18.63 | 17.68 | 18.44 | 18.44 | | |
| 35.5 | 1.0 | 52 | 191 | 23.62 | 23.31 | 22.30 | 23.08 | 23.08 | | |
| 36.0 | 1.5 | 52 | 191 | 30.10 | 27.02 | 28.79 | 28.64 | 28.64 | | |
| 36.5 | 2.0 | 52 | 191 | 33.75 | 27.02 | 32.99 | 31.25 | 31.25 | | |
| 37.0 | 2.5 | 52 | 191 | 34.41 | 27.02 | 37.48 | 32.97 | 32.97 | | |
| 37.5 | 3.0 | 52 | 191 | 34.41 | 27.02 | 38.09 | 33.17 | 33.17 | | |
| 38.0 | 3.5 | 52 | 191 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 38.5 | 4.0 | 52 | 191 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 39.0 | 4.5 | 52 | 191 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 39.5 | 5.0 | 52 | 191 | 34.42 | 27.03 | 38.11 | 33.19 | 33.19 | | |
| 40.0 | 5.5 | 52 | 191 | 34.42 | 27.03 | 38.11 | 33.19 | 33.19 | **14.79** | **33.19** |
| | | **STAGE CURTAILED AS SETTLEMENT EXCEEDED PROBE CAPACITY** | | | | | | | | |
| 40.5 | 0.5 | 26 | 99 | 34.42 | 27.03 | 38.11 | 33.19 | 33.19 | | |
| 41.0 | 1.0 | 26 | 99 | 34.42 | 27.03 | 38.11 | 33.19 | 33.19 | | |
| 41.5 | 1.5 | 26 | 99 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 42.0 | 2.0 | 26 | 99 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 42.5 | 2.5 | 26 | 99 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 43.0 | 3.0 | 26 | 99 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 43.5 | 3.5 | 26 | 99 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 44.0 | 4.0 | 26 | 99 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 44.5 | 4.5 | 26 | 99 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 45.0 | 5.0 | 26 | 99 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 45.5 | 5.5 | 26 | 99 | 34.42 | 27.03 | 38.10 | 33.18 | 33.18 | | |
| 46.0 | 6.0 | 26 | 99 | 34.42 | 27.03 | 37.52 | 32.99 | 32.99 | | |
| 46.5 | 6.5 | 26 | 99 | 34.42 | 27.03 | 36.94 | 32.80 | 32.80 | | |
| 47.0 | 7.0 | 26 | 99 | 34.42 | 27.03 | 36.70 | 32.72 | 32.72 | | |
| 47.5 | 7.5 | 26 | 99 | 34.42 | 27.03 | 36.54 | 32.66 | 32.66 | | |
| 48.0 | 8.0 | 26 | 99 | 34.42 | 27.03 | 36.43 | 32.63 | 32.63 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT514

SITE GRAVEN HILL, BICESTER — Depth (m) 0.90

Date 10 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 48.5 | 8.5 | 26 | 99 | 34.42 | 27.03 | 36.34 | 32.60 | 32.60 | | |
| 49.0 | 9.0 | 26 | 99 | 34.42 | 27.03 | 36.26 | 32.57 | 32.57 | | |
| 49.5 | 9.5 | 26 | 99 | 34.42 | 27.04 | 36.20 | 32.55 | 32.55 | | |
| 50.0 | 10.0 | 26 | 99 | 34.42 | 27.03 | 36.14 | 32.53 | 32.53 | **-0.66** | **32.53** |
| 50.5 | 0.5 | 0 | 7 | 34.42 | 27.03 | 36.09 | 32.51 | 32.51 | | |
| 51.0 | 1.0 | 0 | 7 | 34.42 | 27.03 | 36.04 | 32.50 | 32.50 | | |
| 51.5 | 1.5 | 0 | 7 | 34.42 | 27.04 | 35.99 | 32.48 | 32.48 | | |
| 52.0 | 2.0 | 0 | 7 | 34.42 | 27.04 | 35.96 | 32.47 | 32.47 | | |
| 52.5 | 2.5 | 0 | 7 | 34.42 | 27.03 | 35.92 | 32.46 | 32.46 | | |
| 53.0 | 3.0 | 0 | 7 | 34.42 | 27.03 | 35.89 | 32.45 | 32.45 | | |
| 53.5 | 3.5 | 0 | 7 | 34.42 | 27.03 | 35.86 | 32.44 | 32.44 | | |
| 54.0 | 4.0 | 0 | 7 | 34.42 | 27.03 | 35.83 | 32.43 | 32.43 | | |
| 54.5 | 4.5 | 0 | 7 | 34.42 | 27.03 | 35.80 | 32.42 | 32.42 | | |
| 55.0 | 5.0 | 0 | 7 | 34.42 | 27.03 | 35.78 | 32.41 | 32.41 | | |
| 55.5 | 5.5 | 0 | 7 | 34.42 | 27.03 | 35.75 | 32.40 | 32.40 | | |
| 56.0 | 6.0 | 0 | 7 | 34.42 | 27.03 | 35.73 | 32.39 | 32.39 | | |
| 56.5 | 6.5 | 0 | 7 | 34.42 | 27.03 | 35.71 | 32.39 | 32.39 | | |
| 57.0 | 7.0 | 0 | 7 | 34.42 | 27.03 | 35.68 | 32.38 | 32.38 | | |
| 57.5 | 7.5 | 0 | 7 | 34.42 | 27.03 | 35.66 | 32.37 | 32.37 | | |
| 58.0 | 8.0 | 0 | 7 | 34.42 | 27.03 | 35.64 | 32.36 | 32.36 | | |
| 58.5 | 8.5 | 0 | 7 | 34.42 | 27.04 | 35.63 | 32.36 | 32.36 | | |
| 59.0 | 9.0 | 0 | 7 | 34.42 | 27.03 | 35.61 | 32.35 | 32.35 | | |
| 59.5 | 9.5 | 0 | 7 | 34.42 | 27.04 | 35.59 | 32.35 | 32.35 | | |
| 60.0 | 10.0 | 0 | 7 | 34.42 | 27.04 | 35.57 | 32.34 | 32.34 | | |
| 60.5 | 10.5 | 0 | 7 | 34.42 | 27.03 | 35.56 | 32.34 | 32.34 | | |
| 61.0 | 11.0 | 0 | 7 | 34.42 | 27.04 | 35.54 | 32.33 | 32.33 | | |
| 61.5 | 11.5 | 0 | 7 | 34.42 | 27.04 | 35.53 | 32.33 | 32.33 | | |
| 62.0 | 12.0 | 0 | 7 | 34.42 | 27.04 | 35.51 | 32.32 | 32.32 | | |
| 62.5 | 12.5 | 0 | 7 | 34.42 | 27.04 | 35.50 | 32.32 | 32.32 | | |
| 63.0 | 13.0 | 0 | 7 | 34.42 | 27.04 | 35.48 | 32.31 | 32.31 | **-0.22** | **32.31** |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

CONTRACT **30378**

CHECKED **NP**

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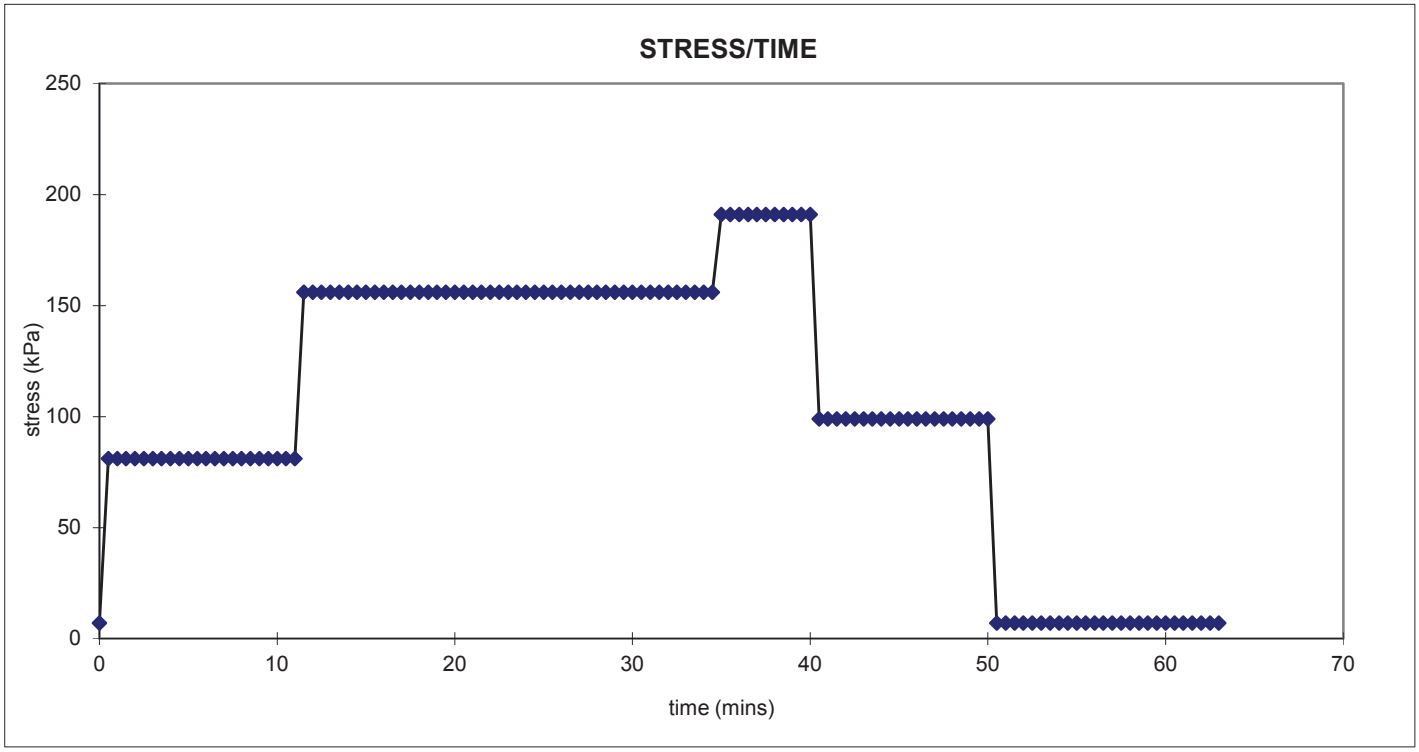
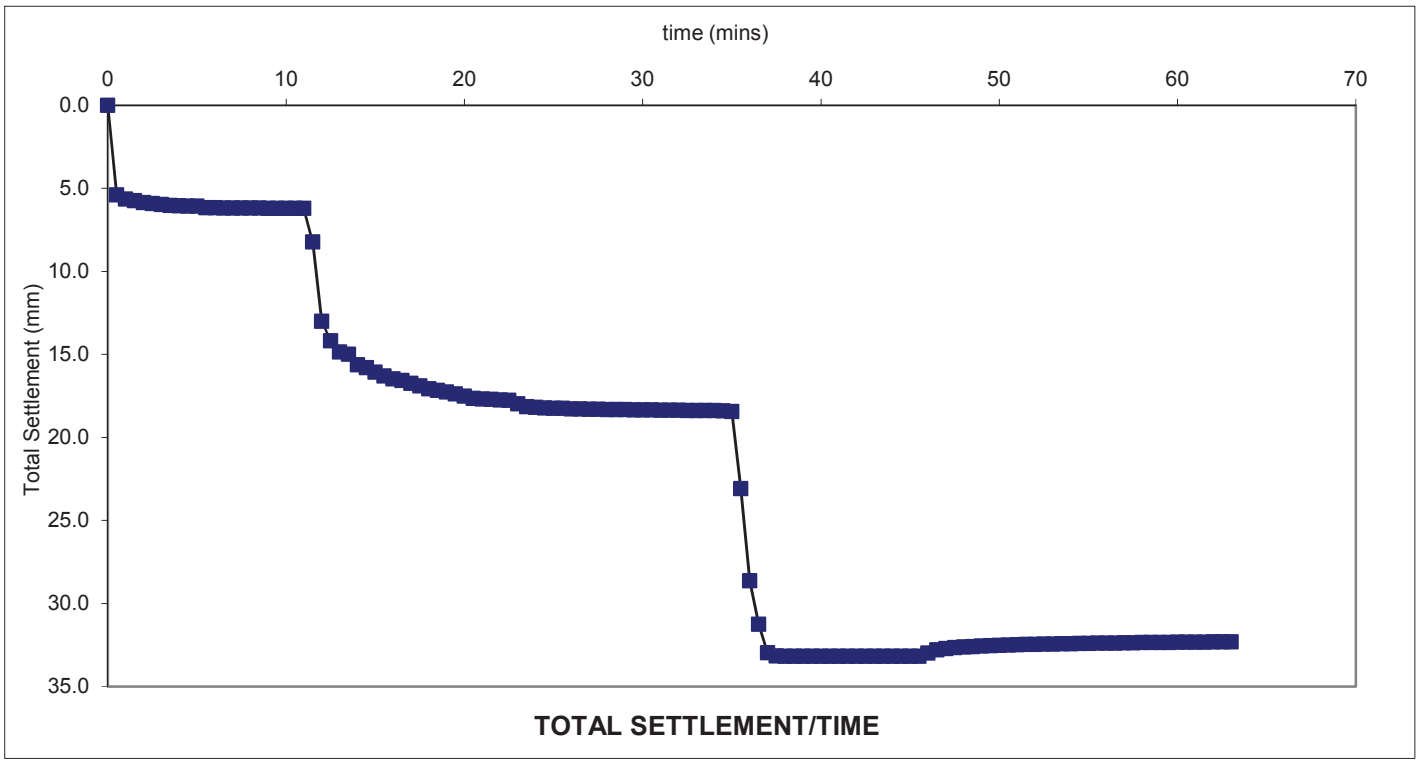
Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT514 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.90 |
| Date | 10 March 2015 | Plate (mm) | 600 |



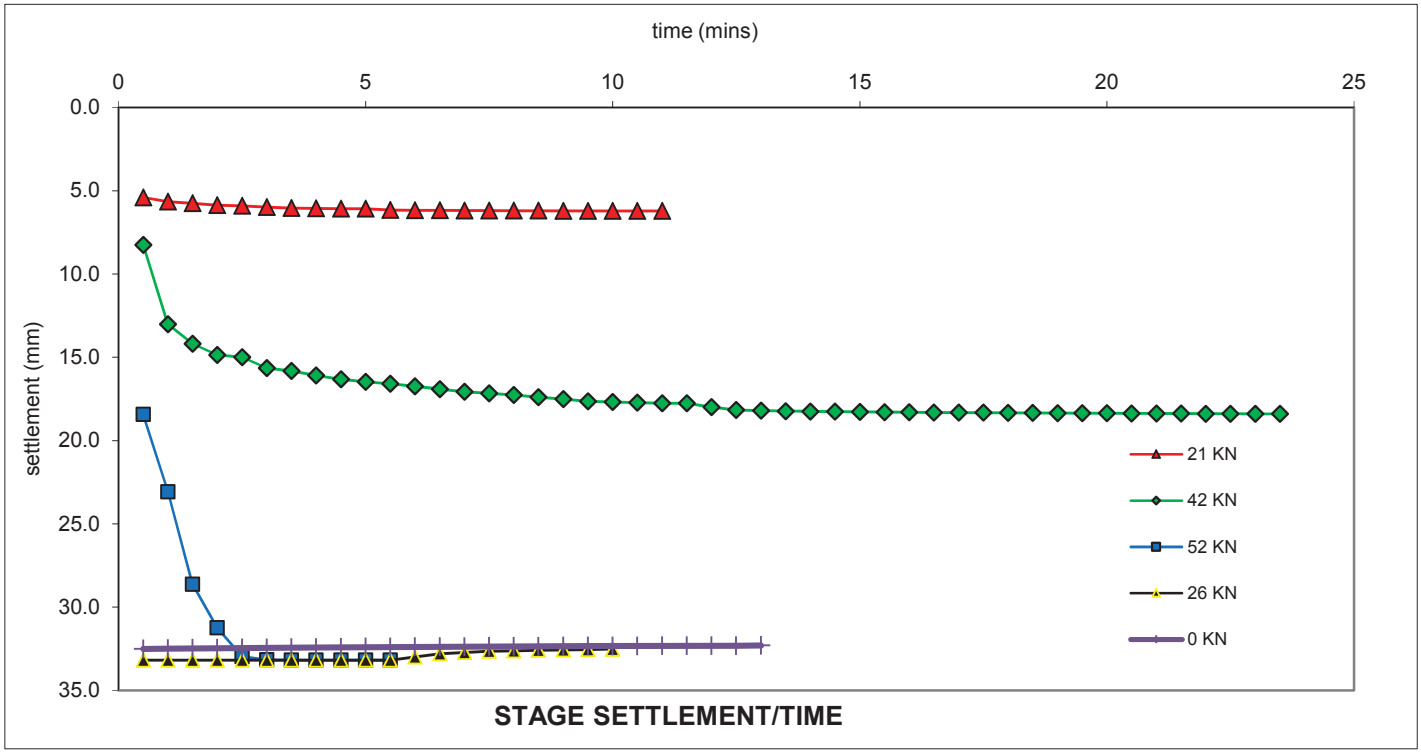

| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

Geotechnical Engineering Limited

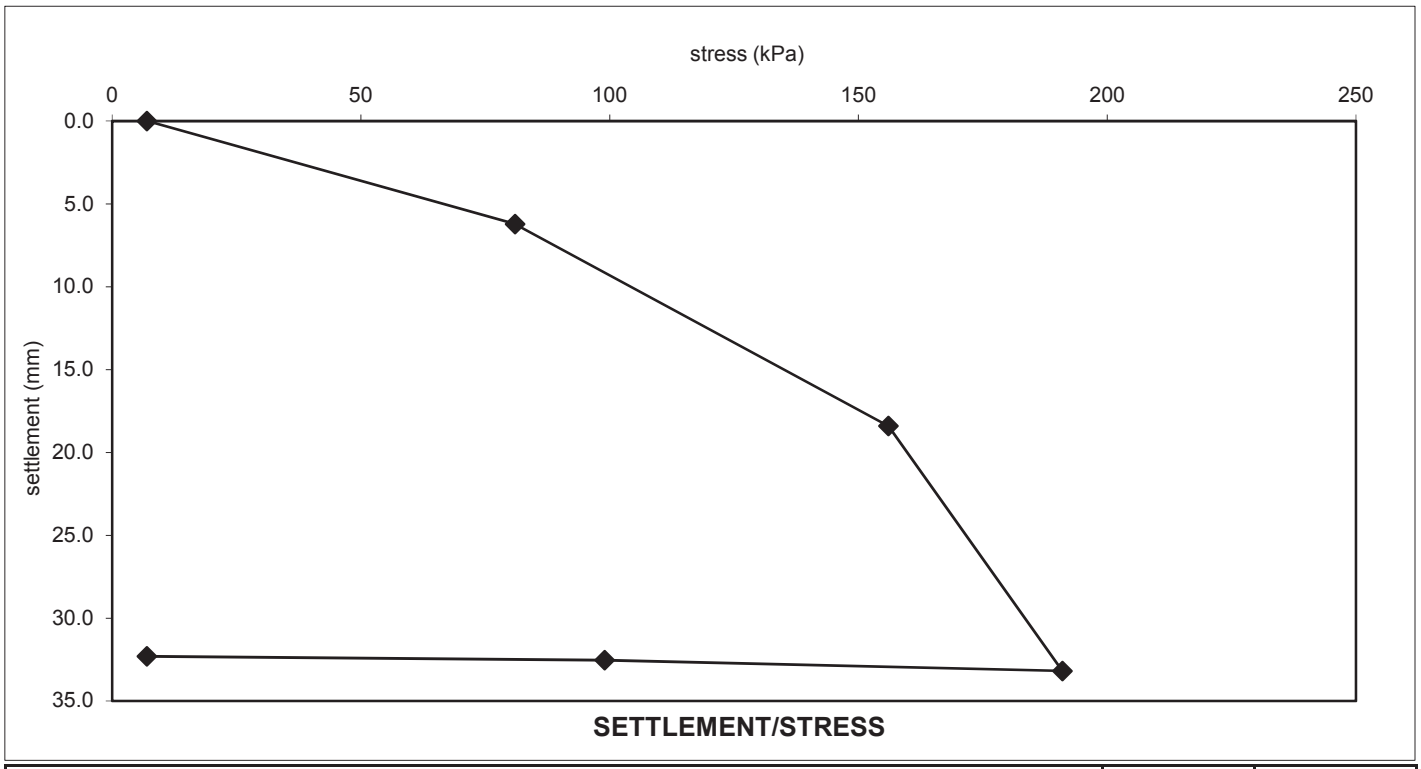
# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT514 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.90 |
| Date | 10 March 2015 | Plate (mm) | 600 |




**STAGE SETTLEMENT/TIME**




**SETTLEMENT/STRESS**

| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

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Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT525

SITE GRAVEN HILL, BICESTER — Depth (m) 0.50

Date 10 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0 | 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **0.00** | **0.00** |
| 0.5 | 0.5 | 10 | 40 | 0.95 | 1.05 | 1.07 | 1.02 | 1.02 | | |
| 1.0 | 1.0 | 10 | 40 | 1.80 | 1.89 | 1.95 | 1.88 | 1.88 | | |
| 1.5 | 1.5 | 10 | 40 | 1.85 | 1.94 | 2.00 | 1.93 | 1.93 | | |
| 2.0 | 2.0 | 10 | 40 | 1.93 | 2.02 | 2.09 | 2.01 | 2.01 | | |
| 2.5 | 2.5 | 10 | 40 | 1.95 | 2.04 | 2.11 | 2.03 | 2.03 | | |
| 3.0 | 3.0 | 10 | 40 | 1.96 | 2.05 | 2.12 | 2.04 | 2.04 | | |
| 3.5 | 3.5 | 10 | 40 | 1.96 | 2.06 | 2.13 | 2.05 | 2.05 | | |
| 4.0 | 4.0 | 10 | 40 | 1.99 | 2.09 | 2.16 | 2.08 | 2.08 | | |
| 4.5 | 4.5 | 10 | 40 | 2.00 | 2.10 | 2.17 | 2.09 | 2.09 | | |
| 5.0 | 5.0 | 10 | 40 | 2.01 | 2.10 | 2.18 | 2.10 | 2.10 | | |
| 5.5 | 5.5 | 10 | 40 | 2.01 | 2.11 | 2.18 | 2.10 | 2.10 | | |
| 6.0 | 6.0 | 10 | 40 | 2.02 | 2.12 | 2.19 | 2.11 | 2.11 | | |
| 6.5 | 6.5 | 10 | 40 | 2.03 | 2.13 | 2.21 | 2.12 | 2.12 | | |
| 7.0 | 7.0 | 10 | 40 | 2.05 | 2.13 | 2.22 | 2.13 | 2.13 | | |
| 7.5 | 7.5 | 10 | 40 | 2.05 | 2.13 | 2.22 | 2.13 | 2.13 | | |
| 8.0 | 8.0 | 10 | 40 | 2.05 | 2.15 | 2.23 | 2.14 | 2.14 | | |
| 8.5 | 8.5 | 10 | 40 | 2.06 | 2.15 | 2.23 | 2.15 | 2.15 | | |
| 9.0 | 9.0 | 10 | 40 | 2.07 | 2.16 | 2.24 | 2.16 | 2.16 | | |
| 9.5 | 9.5 | 10 | 40 | 2.08 | 2.16 | 2.25 | 2.16 | 2.16 | | |
| 10.0 | 10.0 | 10 | 40 | 2.08 | 2.17 | 2.26 | 2.17 | 2.17 | | |
| 10.5 | 10.5 | 10 | 40 | 2.08 | 2.18 | 2.27 | 2.18 | 2.18 | | |
| 11.0 | 11.0 | 10 | 40 | 2.09 | 2.18 | 2.27 | 2.18 | 2.18 | | |
| 11.5 | 11.5 | 10 | 40 | 2.10 | 2.18 | 2.27 | 2.18 | 2.18 | | |
| 12.0 | 12.0 | 10 | 40 | 2.10 | 2.18 | 2.27 | 2.18 | 2.18 | | |
| 12.5 | 12.5 | 10 | 40 | 2.10 | 2.19 | 2.28 | 2.19 | 2.19 | | |
| 13.0 | 13.0 | 10 | 40 | 2.10 | 2.20 | 2.28 | 2.19 | 2.19 | | |
| 13.5 | 13.5 | 10 | 40 | 2.10 | 2.20 | 2.28 | 2.19 | 2.19 | **2.19** | **2.19** |
| 14.0 | 0.5 | 21 | 79 | 2.98 | 3.10 | 3.24 | 3.11 | 3.11 | | |
| 14.5 | 1.0 | 21 | 79 | 3.73 | 3.86 | 4.07 | 3.89 | 3.89 | | |
| 15.0 | 1.5 | 21 | 79 | 3.85 | 3.98 | 4.18 | 4.00 | 4.00 | | |
| 15.5 | 2.0 | 21 | 79 | 3.99 | 4.11 | 4.31 | 4.14 | 4.14 | | |
| 16.0 | 2.5 | 21 | 79 | 4.04 | 4.16 | 4.38 | 4.19 | 4.19 | | |
| 16.5 | 3.0 | 21 | 79 | 4.09 | 4.21 | 4.43 | 4.24 | 4.24 | | |
| 17.0 | 3.5 | 21 | 79 | 4.11 | 4.23 | 4.45 | 4.26 | 4.26 | | |
| 17.5 | 4.0 | 21 | 79 | 4.13 | 4.25 | 4.46 | 4.28 | 4.28 | | |
| 18.0 | 4.5 | 21 | 79 | 4.20 | 4.33 | 4.54 | 4.36 | 4.36 | | |
| 18.5 | 5.0 | 21 | 79 | 4.25 | 4.38 | 4.59 | 4.41 | 4.41 | | |
| 19.0 | 5.5 | 21 | 79 | 4.26 | 4.40 | 4.61 | 4.42 | 4.42 | | |
| 19.5 | 6.0 | 21 | 79 | 4.28 | 4.41 | 4.62 | 4.44 | 4.44 | | |
| 20.0 | 6.5 | 21 | 79 | 4.29 | 4.42 | 4.65 | 4.45 | 4.45 | | |
| 20.5 | 7.0 | 21 | 79 | 4.31 | 4.45 | 4.67 | 4.48 | 4.48 | | |
| 21.0 | 7.5 | 21 | 79 | 4.33 | 4.45 | 4.68 | 4.49 | 4.49 | | |
| 21.5 | 8.0 | 21 | 79 | 4.33 | 4.45 | 4.70 | 4.49 | 4.49 | | |
| 22.0 | 8.5 | 21 | 79 | 4.34 | 4.46 | 4.72 | 4.51 | 4.51 | | |
| 22.5 | 9.0 | 21 | 79 | 4.36 | 4.49 | 4.74 | 4.53 | 4.53 | | |
| 23.0 | 9.5 | 21 | 79 | 4.39 | 4.51 | 4.77 | 4.56 | 4.56 | | |
| 23.5 | 10.0 | 21 | 79 | 4.39 | 4.51 | 4.78 | 4.56 | 4.56 | | |
| 24.0 | 10.5 | 21 | 79 | 4.41 | 4.52 | 4.80 | 4.58 | 4.58 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT525

SITE GRAVEN HILL, BICESTER — Depth (m) 0.50

Date 10 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 24.5 | 11.0 | 21 | 79 | 4.41 | 4.53 | 4.81 | 4.58 | 4.58 | | |
| 25.0 | 11.5 | 21 | 79 | 4.41 | 4.53 | 4.82 | 4.59 | 4.59 | | |
| 25.5 | 12.0 | 21 | 79 | 4.41 | 4.53 | 4.83 | 4.59 | 4.59 | | |
| 26.0 | 12.5 | 21 | 79 | 4.42 | 4.54 | 4.83 | 4.60 | 4.60 | | |
| 26.5 | 13.0 | 21 | 79 | 4.42 | 4.55 | 4.83 | 4.60 | 4.60 | | |
| 27.0 | 13.5 | 21 | 79 | 4.42 | 4.55 | 4.84 | 4.60 | 4.60 | | |
| 27.5 | 14.0 | 21 | 79 | 4.42 | 4.55 | 4.85 | 4.61 | 4.61 | **2.42** | **4.61** |
| 28.0 | 0.5 | 31 | 114 | 5.77 | 5.88 | 6.20 | 5.95 | 5.95 | | |
| 28.5 | 1.0 | 31 | 114 | 5.80 | 5.90 | 6.22 | 5.97 | 5.97 | | |
| 29.0 | 1.5 | 31 | 114 | 5.81 | 5.93 | 6.24 | 5.99 | 5.99 | | |
| 29.5 | 2.0 | 31 | 114 | 5.97 | 6.08 | 6.42 | 6.16 | 6.16 | | |
| 30.0 | 2.5 | 31 | 114 | 6.09 | 6.20 | 6.55 | 6.28 | 6.28 | | |
| 30.5 | 3.0 | 31 | 114 | 6.20 | 6.31 | 6.67 | 6.39 | 6.39 | | |
| 31.0 | 3.5 | 31 | 114 | 6.30 | 6.40 | 6.77 | 6.49 | 6.49 | | |
| 31.5 | 4.0 | 31 | 114 | 6.37 | 6.47 | 6.84 | 6.56 | 6.56 | | |
| 32.0 | 4.5 | 31 | 114 | 6.48 | 6.59 | 6.96 | 6.68 | 6.68 | | |
| 32.5 | 5.0 | 31 | 114 | 6.58 | 6.68 | 7.07 | 6.77 | 6.77 | | |
| 33.0 | 5.5 | 31 | 114 | 6.61 | 6.72 | 7.10 | 6.81 | 6.81 | | |
| 33.5 | 6.0 | 31 | 114 | 6.63 | 6.75 | 7.13 | 6.84 | 6.84 | | |
| 34.0 | 6.5 | 31 | 114 | 6.64 | 6.76 | 7.14 | 6.85 | 6.85 | | |
| 34.5 | 7.0 | 31 | 114 | 6.65 | 6.78 | 7.16 | 6.86 | 6.86 | | |
| 35.0 | 7.5 | 31 | 114 | 6.66 | 6.78 | 7.16 | 6.87 | 6.87 | | |
| 35.5 | 8.0 | 31 | 114 | 6.67 | 6.80 | 7.18 | 6.88 | 6.88 | | |
| 36.0 | 8.5 | 31 | 114 | 6.69 | 6.80 | 7.19 | 6.89 | 6.89 | | |
| 36.5 | 9.0 | 31 | 114 | 6.69 | 6.81 | 7.20 | 6.90 | 6.90 | | |
| 37.0 | 9.5 | 31 | 114 | 6.70 | 6.82 | 7.21 | 6.91 | 6.91 | | |
| 37.5 | 10.0 | 31 | 114 | 6.70 | 6.83 | 7.22 | 6.92 | 6.92 | | |
| 38.0 | 10.5 | 31 | 114 | 6.70 | 6.83 | 7.22 | 6.92 | 6.92 | | |
| 38.5 | 11.0 | 31 | 114 | 6.72 | 6.83 | 7.23 | 6.93 | 6.93 | | |
| 39.0 | 11.5 | 31 | 114 | 6.72 | 6.84 | 7.23 | 6.93 | 6.93 | | |
| 39.5 | 12.0 | 31 | 114 | 6.72 | 6.85 | 7.23 | 6.93 | 6.93 | | |
| 40.0 | 12.5 | 31 | 114 | 6.72 | 6.85 | 7.24 | 6.94 | 6.94 | | |
| 40.5 | 13.0 | 31 | 114 | 6.74 | 6.85 | 7.25 | 6.95 | 6.95 | | |
| 41.0 | 13.5 | 31 | 114 | 6.74 | 6.86 | 7.25 | 6.95 | 6.95 | | |
| 41.5 | 14.0 | 31 | 114 | 6.74 | 6.86 | 7.26 | 6.95 | 6.95 | **2.34** | **6.95** |
| 42.0 | 0.5 | 42 | 153 | 8.37 | 8.44 | 8.88 | 8.56 | 8.56 | | |
| 42.5 | 1.0 | 42 | 153 | 8.70 | 8.78 | 9.23 | 8.90 | 8.90 | | |
| 43.0 | 1.5 | 42 | 153 | 9.00 | 9.06 | 9.53 | 9.20 | 9.20 | | |
| 43.5 | 2.0 | 42 | 153 | 9.05 | 9.12 | 9.60 | 9.26 | 9.26 | | |
| 44.0 | 2.5 | 42 | 153 | 9.09 | 9.15 | 9.64 | 9.29 | 9.29 | | |
| 44.5 | 3.0 | 42 | 153 | 9.11 | 9.18 | 9.67 | 9.32 | 9.32 | | |
| 45.0 | 3.5 | 42 | 153 | 9.33 | 9.38 | 9.89 | 9.53 | 9.53 | | |
| 45.5 | 4.0 | 42 | 153 | 9.54 | 9.59 | 10.12 | 9.75 | 9.75 | | |
| 46.0 | 4.5 | 42 | 153 | 9.66 | 9.70 | 10.23 | 9.86 | 9.86 | | |
| 46.5 | 5.0 | 42 | 153 | 9.71 | 9.76 | 10.30 | 9.92 | 9.92 | | |
| 47.0 | 5.5 | 42 | 153 | 9.80 | 9.84 | 10.39 | 10.01 | 10.01 | | |
| 47.5 | 6.0 | 42 | 153 | 9.88 | 9.91 | 10.48 | 10.09 | 10.09 | | |
| 48.0 | 6.5 | 42 | 153 | 9.92 | 9.95 | 10.51 | 10.13 | 10.13 | | |
| 48.5 | 7.0 | 42 | 153 | 9.94 | 9.97 | 10.54 | 10.15 | 10.15 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

rev09 02/04/14 JH/SC

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT525

SITE GRAVEN HILL, BICESTER — Depth (m) 0.50

Date 10 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 49.0 | 7.5 | 42 | 153 | 9.96 | 9.99 | 10.56 | 10.17 | 10.17 | | |
| 49.5 | 8.0 | 42 | 153 | 9.99 | 10.03 | 10.60 | 10.21 | 10.21 | | |
| 50.0 | 8.5 | 42 | 153 | 10.09 | 10.12 | 10.70 | 10.30 | 10.30 | | |
| 50.5 | 9.0 | 42 | 153 | 10.12 | 10.16 | 10.73 | 10.34 | 10.34 | | |
| 51.0 | 9.5 | 42 | 153 | 10.13 | 10.18 | 10.75 | 10.35 | 10.35 | | |
| 51.5 | 10.0 | 42 | 153 | 10.15 | 10.20 | 10.77 | 10.37 | 10.37 | | |
| 52.0 | 10.5 | 42 | 153 | 10.16 | 10.22 | 10.79 | 10.39 | 10.39 | | |
| 52.5 | 11.0 | 42 | 153 | 10.18 | 10.23 | 10.81 | 10.41 | 10.41 | | |
| 53.0 | 11.5 | 42 | 153 | 10.19 | 10.25 | 10.82 | 10.42 | 10.42 | | |
| 53.5 | 12.0 | 42 | 153 | 10.19 | 10.25 | 10.83 | 10.42 | 10.42 | | |
| 54.0 | 12.5 | 42 | 153 | 10.20 | 10.27 | 10.84 | 10.44 | 10.44 | | |
| 54.5 | 13.0 | 42 | 153 | 10.21 | 10.28 | 10.86 | 10.45 | 10.45 | | |
| 55.0 | 13.5 | 42 | 153 | 10.22 | 10.29 | 10.86 | 10.46 | 10.46 | | |
| 55.5 | 14.0 | 42 | 153 | 10.22 | 10.30 | 10.87 | 10.46 | 10.46 | | |
| 56.0 | 14.5 | 42 | 153 | 10.23 | 10.32 | 10.89 | 10.48 | 10.48 | | |
| 56.5 | 15.0 | 42 | 153 | 10.24 | 10.32 | 10.89 | 10.48 | 10.48 | | |
| 57.0 | 15.5 | 42 | 153 | 10.25 | 10.34 | 10.90 | 10.50 | 10.50 | | |
| 57.5 | 16.0 | 42 | 153 | 10.25 | 10.35 | 10.91 | 10.50 | 10.50 | | |
| 58.0 | 16.5 | 42 | 153 | 10.26 | 10.35 | 10.92 | 10.51 | 10.51 | | |
| 58.5 | 17.0 | 42 | 153 | 10.27 | 10.36 | 10.93 | 10.52 | 10.52 | | |
| 59.0 | 17.5 | 42 | 153 | 10.28 | 10.38 | 10.94 | 10.53 | 10.53 | | |
| 59.5 | 18.0 | 42 | 153 | 10.28 | 10.39 | 10.94 | 10.54 | 10.54 | | |
| 60.0 | 18.5 | 42 | 153 | 10.28 | 10.39 | 10.96 | 10.54 | 10.54 | | |
| 60.5 | 19.0 | 42 | 153 | 10.28 | 10.39 | 10.96 | 10.54 | 10.54 | | |
| 61.0 | 19.5 | 42 | 153 | 10.29 | 10.40 | 10.96 | 10.55 | 10.55 | | |
| 61.5 | 20.0 | 42 | 153 | 10.30 | 10.41 | 10.96 | 10.56 | 10.56 | | |
| 62.0 | 20.5 | 42 | 153 | 10.30 | 10.42 | 10.96 | 10.56 | 10.56 | | |
| 62.5 | 21.0 | 42 | 153 | 10.32 | 10.42 | 10.97 | 10.57 | 10.57 | | |
| 63.0 | 21.5 | 42 | 153 | 10.32 | 10.42 | 10.98 | 10.57 | 10.57 | | |
| 63.5 | 22.0 | 42 | 153 | 10.32 | 10.44 | 10.99 | 10.58 | 10.58 | | |
| 64.0 | 22.5 | 42 | 153 | 10.33 | 10.44 | 10.99 | 10.59 | 10.59 | **3.64** | **10.59** |
| 64.5 | 0.5 | 21 | 79 | 9.65 | 9.86 | 10.33 | 9.95 | 9.95 | | |
| 65.0 | 1.0 | 21 | 79 | 9.58 | 9.78 | 10.27 | 9.88 | 9.88 | | |
| 65.5 | 1.5 | 21 | 79 | 9.47 | 9.67 | 10.17 | 9.77 | 9.77 | | |
| 66.0 | 2.0 | 21 | 79 | 9.43 | 9.63 | 10.13 | 9.73 | 9.73 | | |
| 66.5 | 2.5 | 21 | 79 | 9.37 | 9.57 | 10.07 | 9.67 | 9.67 | | |
| 67.0 | 3.0 | 21 | 79 | 9.36 | 9.56 | 10.06 | 9.66 | 9.66 | | |
| 67.5 | 3.5 | 21 | 79 | 9.36 | 9.55 | 10.05 | 9.65 | 9.65 | | |
| 68.0 | 4.0 | 21 | 79 | 9.35 | 9.55 | 10.05 | 9.65 | 9.65 | | |
| 68.5 | 4.5 | 21 | 79 | 9.34 | 9.55 | 10.05 | 9.65 | 9.65 | | |
| 69.0 | 5.0 | 21 | 79 | 9.34 | 9.55 | 10.05 | 9.65 | 9.65 | | |
| 69.5 | 5.5 | 21 | 79 | 9.34 | 9.55 | 10.04 | 9.64 | 9.64 | | |
| 70.0 | 6.0 | 21 | 79 | 9.34 | 9.55 | 10.04 | 9.64 | 9.64 | | |
| 70.5 | 6.5 | 21 | 79 | 9.34 | 9.55 | 10.04 | 9.64 | 9.64 | | |
| 71.0 | 7.0 | 21 | 79 | 9.34 | 9.55 | 10.04 | 9.64 | 9.64 | | |
| 71.5 | 7.5 | 21 | 79 | 9.33 | 9.55 | 10.04 | 9.64 | 9.64 | | |
| 72.0 | 8.0 | 21 | 79 | 9.33 | 9.54 | 10.04 | 9.64 | 9.64 | | |
| 72.5 | 8.5 | 21 | 79 | 9.33 | 9.54 | 10.04 | 9.64 | 9.64 | | |
| 73.0 | 9.0 | 21 | 79 | 9.33 | 9.54 | 10.04 | 9.64 | 9.64 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 10 March 2015

Test No. PBT525

Depth (m) 0.50

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 73.5 | 9.5 | 21 | 79 | 9.33 | 9.54 | 10.03 | 9.63 | 9.63 | | |
| 74.0 | 10.0 | 21 | 79 | 9.33 | 9.54 | 10.03 | 9.63 | 9.63 | **-0.96** | **9.63** |
| 74.5 | 3.0 | 0 | 5 | 6.27 | 6.49 | 6.11 | 6.29 | 6.29 | | |
| 75.0 | 3.5 | 0 | 5 | 6.20 | 6.42 | 6.04 | 6.22 | 6.22 | | |
| 75.5 | 4.0 | 0 | 5 | 6.15 | 6.36 | 5.97 | 6.16 | 6.16 | | |
| 76.0 | 4.5 | 0 | 5 | 6.09 | 6.31 | 5.92 | 6.11 | 6.11 | | |
| 76.5 | 5.0 | 0 | 5 | 6.05 | 6.27 | 5.87 | 6.06 | 6.06 | | |
| 77.0 | 5.5 | 0 | 5 | 6.01 | 6.23 | 5.83 | 6.02 | 6.02 | | |
| 77.5 | 6.0 | 0 | 5 | 5.97 | 6.19 | 5.80 | 5.99 | 5.99 | | |
| 78.0 | 6.5 | 0 | 5 | 5.94 | 6.16 | 5.76 | 5.95 | 5.95 | | |
| 78.5 | 7.0 | 0 | 5 | 5.91 | 6.13 | 5.73 | 5.92 | 5.92 | | |
| 79.0 | 7.5 | 0 | 5 | 5.89 | 6.10 | 5.70 | 5.90 | 5.90 | | |
| 79.5 | 8.0 | 0 | 5 | 5.86 | 6.08 | 5.67 | 5.87 | 5.87 | | |
| 80.0 | 8.5 | 0 | 5 | 5.84 | 6.06 | 5.65 | 5.85 | 5.85 | | |
| 80.5 | 9.0 | 0 | 5 | 5.82 | 6.04 | 5.62 | 5.83 | 5.83 | | |
| 81.0 | 9.5 | 0 | 5 | 5.80 | 6.02 | 5.60 | 5.81 | 5.81 | | |
| 81.5 | 10.0 | 0 | 5 | 5.79 | 6.00 | 5.58 | 5.79 | 5.79 | | |
| 82.0 | 10.5 | 0 | 5 | 5.77 | 5.99 | 5.56 | 5.77 | 5.77 | | |
| 82.5 | 11.0 | 0 | 5 | 5.75 | 5.97 | 5.55 | 5.76 | 5.76 | | |
| 83.0 | 11.5 | 0 | 5 | 5.74 | 5.96 | 5.53 | 5.74 | 5.74 | | |
| 83.5 | 12.0 | 0 | 5 | 5.73 | 5.94 | 5.51 | 5.73 | 5.73 | | |
| 84.0 | 12.5 | 0 | 5 | 5.71 | 5.93 | 5.50 | 5.71 | 5.71 | | |
| 84.5 | 13.0 | 0 | 5 | 5.70 | 5.92 | 5.49 | 5.70 | 5.70 | | |
| 85.0 | 13.5 | 0 | 5 | 5.69 | 5.91 | 5.47 | 5.69 | 5.69 | | |
| 85.5 | 14.0 | 0 | 5 | 5.68 | 5.89 | 5.46 | 5.68 | 5.68 | | |
| 86.0 | 14.5 | 0 | 5 | 5.66 | 5.89 | 5.45 | 5.67 | 5.67 | | |
| 86.5 | 15.0 | 0 | 5 | 5.66 | 5.87 | 5.44 | 5.66 | 5.66 | | |
| 87.0 | 15.5 | 0 | 5 | 5.64 | 5.86 | 5.42 | 5.64 | 5.64 | | |
| 87.5 | 16.0 | 0 | 5 | 5.63 | 5.86 | 5.42 | 5.64 | 5.64 | | |
| 88.0 | 16.5 | 0 | 5 | 5.63 | 5.85 | 5.40 | 5.63 | 5.63 | | |
| 88.5 | 17.0 | 0 | 5 | 5.62 | 5.84 | 5.39 | 5.61 | 5.61 | | |
| 89.0 | 17.5 | 0 | 5 | 5.61 | 5.82 | 5.39 | 5.61 | 5.61 | | |
| 89.5 | 18.0 | 0 | 5 | 5.60 | 5.82 | 5.38 | 5.60 | 5.60 | | |
| 90.0 | 18.5 | 0 | 5 | 5.60 | 5.81 | 5.37 | 5.59 | 5.59 | | |
| 90.5 | 19.0 | 0 | 5 | 5.58 | 5.80 | 5.35 | 5.58 | 5.58 | | |
| 91.0 | 19.5 | 0 | 5 | 5.57 | 5.79 | 5.35 | 5.57 | 5.57 | | |
| 91.5 | 20.0 | 0 | 5 | 5.56 | 5.79 | 5.34 | 5.56 | 5.56 | | |
| 92.0 | 20.5 | 0 | 5 | 5.56 | 5.78 | 5.34 | 5.56 | 5.56 | | |
| 92.5 | 21.0 | 0 | 5 | 5.55 | 5.77 | 5.32 | 5.55 | 5.55 | | |
| 93.0 | 21.5 | 0 | 5 | 5.55 | 5.76 | 5.32 | 5.54 | 5.54 | | |
| 93.5 | 22.0 | 0 | 5 | 5.53 | 5.76 | 5.31 | 5.53 | 5.53 | | |
| 94.0 | 22.5 | 0 | 5 | 5.53 | 5.75 | 5.30 | 5.53 | 5.53 | | |
| 94.5 | 23.0 | 0 | 5 | 5.53 | 5.74 | 5.30 | 5.52 | 5.52 | | |
| 95.0 | 23.5 | 0 | 5 | 5.51 | 5.73 | 5.29 | 5.51 | 5.51 | | |
| 95.5 | 24.0 | 0 | 5 | 5.51 | 5.72 | 5.29 | 5.51 | 5.51 | | |
| 96.0 | 24.5 | 0 | 5 | 5.50 | 5.72 | 5.28 | 5.50 | 5.50 | | |
| 96.5 | 25.0 | 0 | 5 | 5.50 | 5.71 | 5.27 | 5.49 | 5.49 | | |
| 97.0 | 25.5 | 0 | 5 | 5.50 | 5.71 | 5.27 | 5.49 | 5.49 | | |
| 97.5 | 26.0 | 0 | 5 | 5.49 | 5.70 | 5.26 | 5.48 | 5.48 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 10 March 2015

Test No. PBT525

Depth (m) 0.50

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 98.0 | 26.5 | 0 | 5 | 5.48 | 5.69 | 5.25 | 5.47 | 5.47 | | |
| 98.5 | 27.0 | 0 | 5 | 5.48 | 5.69 | 5.25 | 5.47 | 5.47 | **-4.16** | **5.47** |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

CONTRACT **30378**

CHECKED **NP**

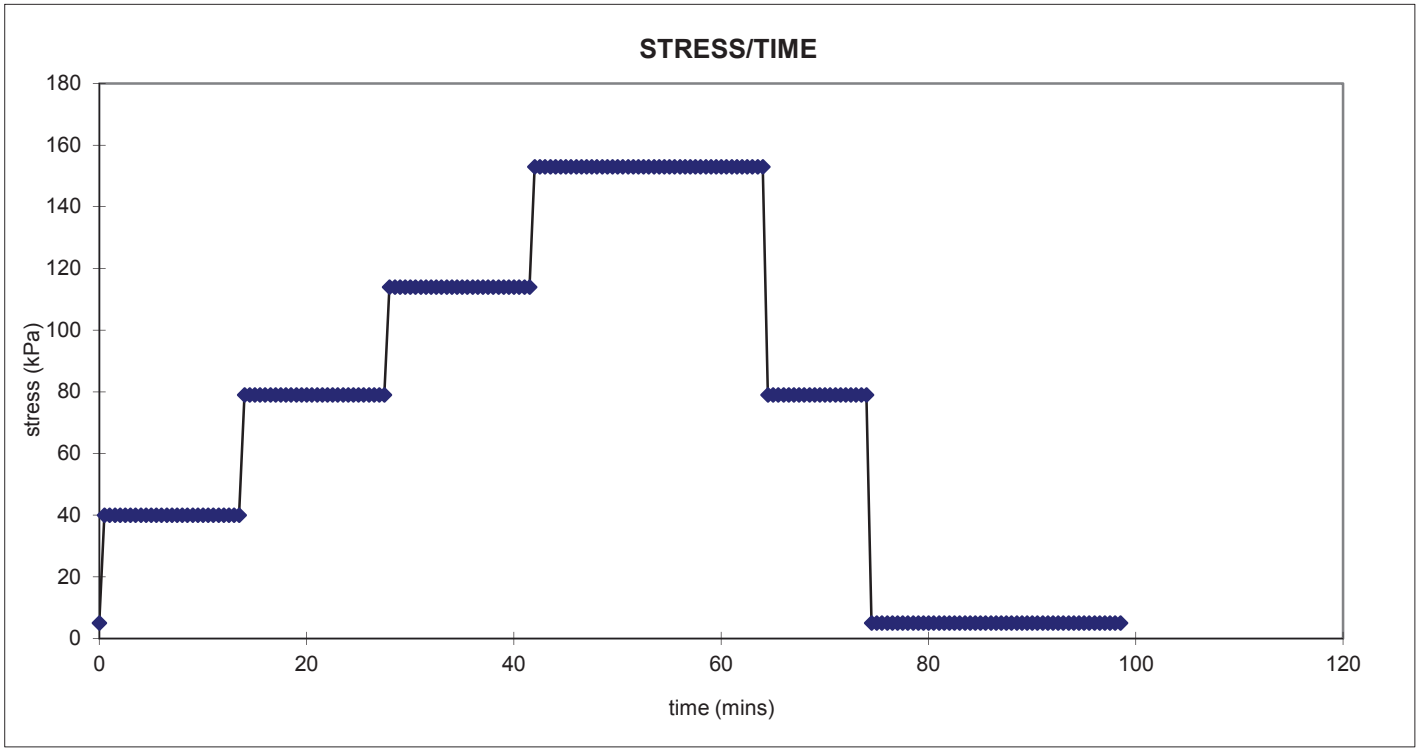
rev09 02/04/14 JH/SC

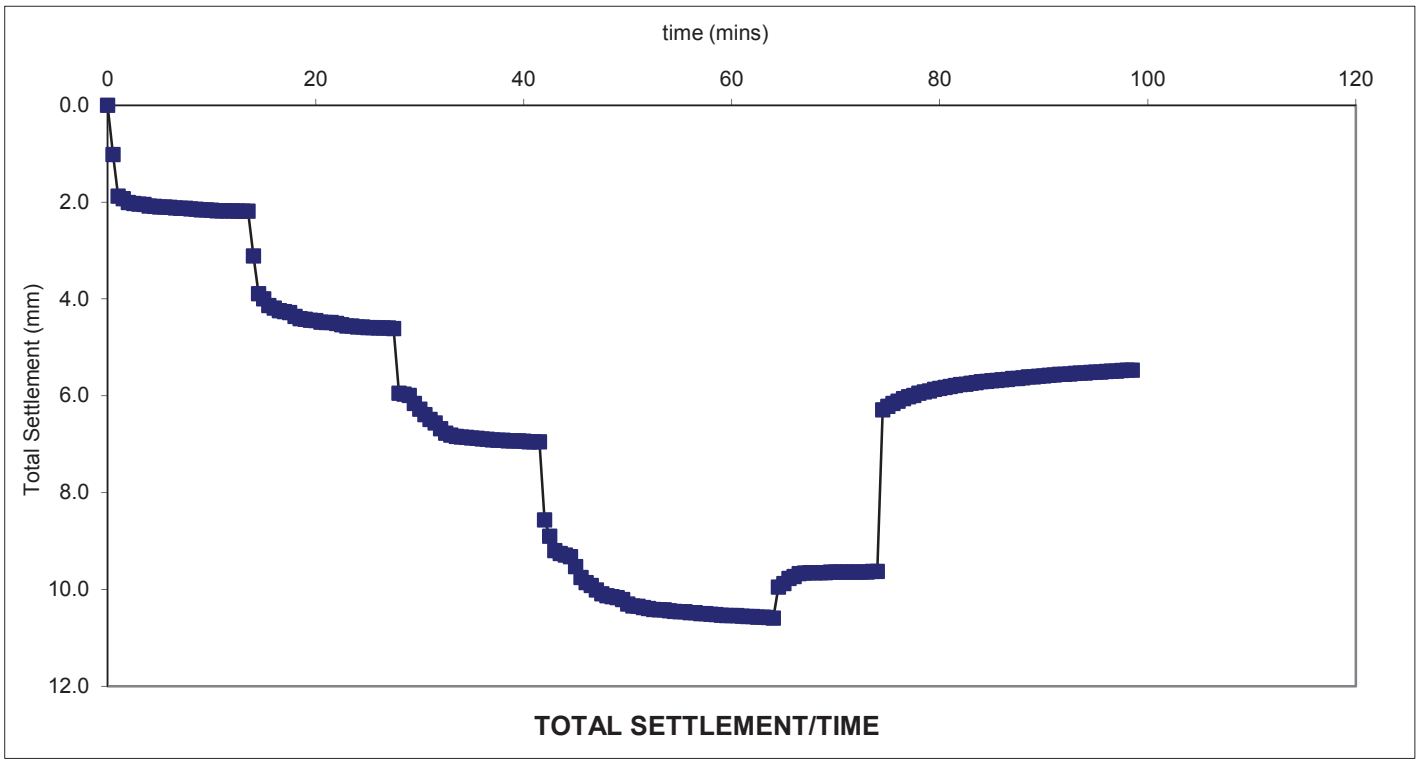
Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT525 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.50 |
| Date | 10 March 2015 | Plate (mm) | 600 |




| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

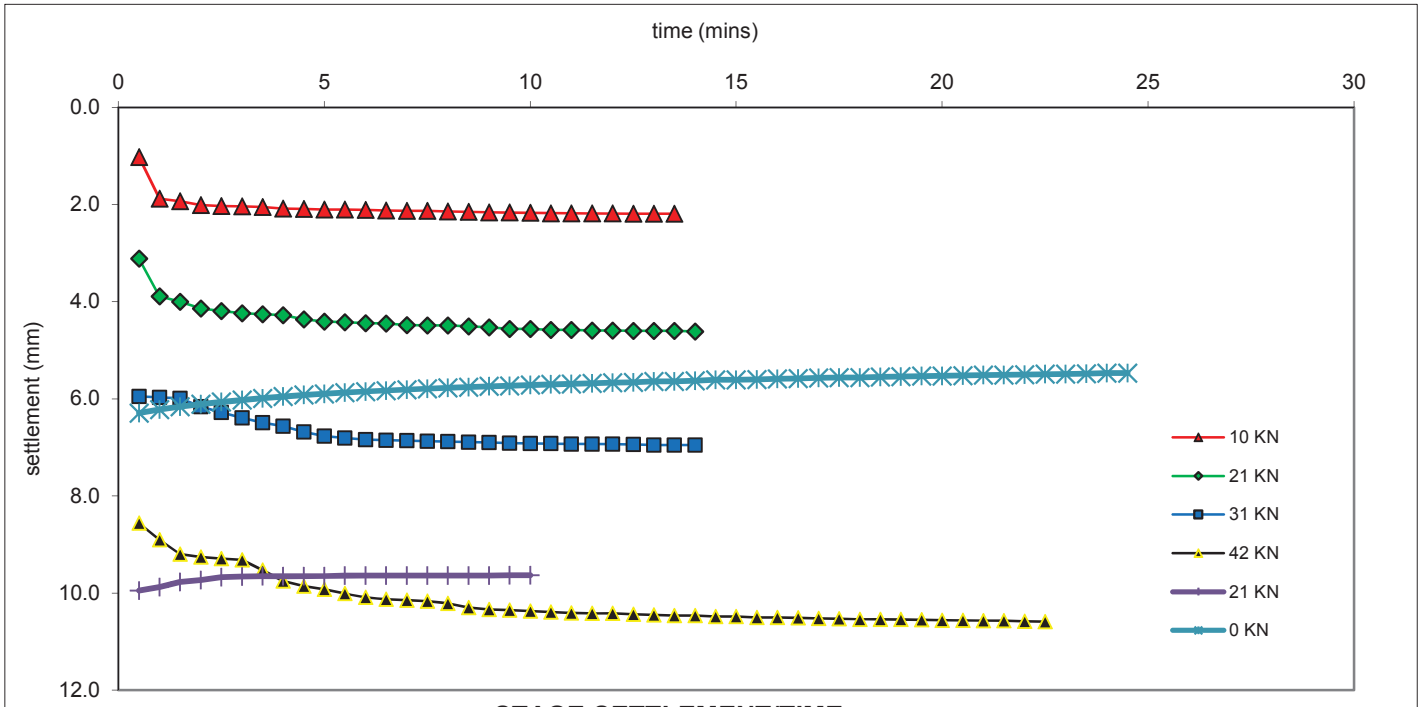
rev09 02/04/14 JH/SC

Geotechnical Engineering Limited

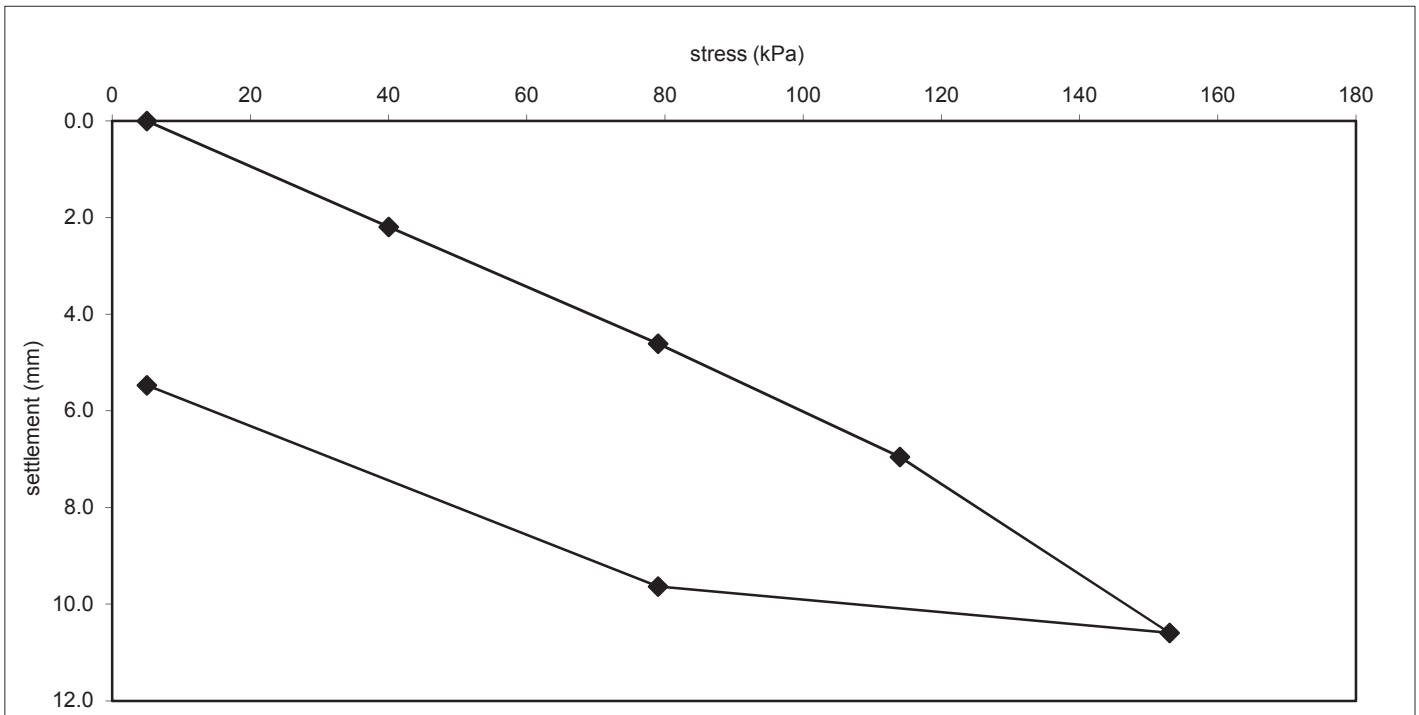
# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT525 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.50 |
| Date | 10 March 2015 | Plate (mm) | 600 |




**STAGE SETTLEMENT/TIME**




**SETTLEMENT/STRESS**

| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

rev09 02/04/14 JH/SC

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT533

Depth (m) 0.65

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0 | 4 | 0 | 0 | 0 | 0.00 | 0.00 | **0.00** | **0.00** |
| 0.5 | 0.5 | 10 | 40 | 2.10 | 2.05 | 2.47 | 2.21 | 2.21 | | |
| 1.0 | 1.0 | 10 | 40 | 2.25 | 2.14 | 2.59 | 2.33 | 2.33 | | |
| 1.5 | 1.5 | 10 | 40 | 2.34 | 2.21 | 2.68 | 2.41 | 2.41 | | |
| 2.0 | 2.0 | 10 | 40 | 2.43 | 2.31 | 2.78 | 2.51 | 2.51 | | |
| 2.5 | 2.5 | 10 | 40 | 2.48 | 2.36 | 2.84 | 2.56 | 2.56 | | |
| 3.0 | 3.0 | 10 | 40 | 2.50 | 2.38 | 2.86 | 2.58 | 2.58 | | |
| 3.5 | 3.5 | 10 | 40 | 2.53 | 2.42 | 2.89 | 2.61 | 2.61 | | |
| 4.0 | 4.0 | 10 | 40 | 2.56 | 2.44 | 2.92 | 2.64 | 2.64 | | |
| 4.5 | 4.5 | 10 | 40 | 2.56 | 2.45 | 2.94 | 2.65 | 2.65 | | |
| 5.0 | 5.0 | 10 | 40 | 2.58 | 2.47 | 2.94 | 2.66 | 2.66 | | |
| 5.5 | 5.5 | 10 | 40 | 2.59 | 2.47 | 2.95 | 2.67 | 2.67 | | |
| 6.0 | 6.0 | 10 | 40 | 2.59 | 2.48 | 2.96 | 2.68 | 2.68 | | |
| 6.5 | 6.5 | 10 | 40 | 2.62 | 2.51 | 2.99 | 2.71 | 2.71 | | |
| 7.0 | 7.0 | 10 | 40 | 2.64 | 2.53 | 3.01 | 2.73 | 2.73 | | |
| 7.5 | 7.5 | 10 | 40 | 2.65 | 2.54 | 3.02 | 2.74 | 2.74 | | |
| 8.0 | 8.0 | 10 | 40 | 2.66 | 2.57 | 3.03 | 2.75 | 2.75 | | |
| 8.5 | 8.5 | 10 | 40 | 2.66 | 2.57 | 3.04 | 2.76 | 2.76 | | |
| 9.0 | 9.0 | 10 | 40 | 2.67 | 2.58 | 3.04 | 2.76 | 2.76 | | |
| 9.5 | 9.5 | 10 | 40 | 2.67 | 2.58 | 3.05 | 2.77 | 2.77 | | |
| 10.0 | 10.0 | 10 | 40 | 2.68 | 2.59 | 3.05 | 2.77 | 2.77 | | |
| 10.5 | 10.5 | 10 | 40 | 2.69 | 2.60 | 3.06 | 2.78 | 2.78 | | |
| 11.0 | 11.0 | 10 | 40 | 2.69 | 2.60 | 3.07 | 2.79 | 2.79 | | |
| 11.5 | 11.5 | 10 | 40 | 2.70 | 2.61 | 3.07 | 2.79 | 2.79 | | |
| 12.0 | 12.0 | 10 | 40 | 2.71 | 2.60 | 3.08 | 2.80 | 2.80 | | |
| 12.5 | 12.5 | 10 | 40 | 2.71 | 2.62 | 3.09 | 2.81 | 2.81 | | |
| 13.0 | 13.0 | 10 | 40 | 2.72 | 2.62 | 3.09 | 2.81 | 2.81 | | |
| 13.5 | 13.5 | 10 | 40 | 2.72 | 2.63 | 3.10 | 2.82 | 2.82 | | |
| 14.0 | 14.0 | 10 | 40 | 2.72 | 2.63 | 3.10 | 2.82 | 2.82 | | |
| 14.5 | 14.5 | 10 | 40 | 2.72 | 2.63 | 3.11 | 2.82 | 2.82 | **2.82** | **2.82** |
| 15.0 | 0.5 | 21 | 79 | 4.16 | 4.25 | 4.63 | 4.35 | 4.35 | | |
| 15.5 | 1.0 | 21 | 79 | 4.52 | 4.61 | 5.00 | 4.71 | 4.71 | | |
| 16.0 | 1.5 | 21 | 79 | 4.60 | 4.70 | 5.08 | 4.79 | 4.79 | | |
| 16.5 | 2.0 | 21 | 79 | 4.66 | 4.76 | 5.14 | 4.85 | 4.85 | | |
| 17.0 | 2.5 | 21 | 79 | 4.72 | 4.83 | 5.21 | 4.92 | 4.92 | | |
| 17.5 | 3.0 | 21 | 79 | 4.82 | 4.92 | 5.30 | 5.01 | 5.01 | | |
| 18.0 | 3.5 | 21 | 79 | 4.86 | 4.96 | 5.34 | 5.05 | 5.05 | | |
| 18.5 | 4.0 | 21 | 79 | 4.89 | 4.99 | 5.38 | 5.09 | 5.09 | | |
| 19.0 | 4.5 | 21 | 79 | 4.91 | 5.01 | 5.39 | 5.10 | 5.10 | | |
| 19.5 | 5.0 | 21 | 79 | 4.92 | 5.03 | 5.40 | 5.12 | 5.12 | | |
| 20.0 | 5.5 | 21 | 79 | 4.96 | 5.06 | 5.44 | 5.15 | 5.15 | | |
| 20.5 | 6.0 | 21 | 79 | 5.00 | 5.10 | 5.48 | 5.19 | 5.19 | | |
| 21.0 | 6.5 | 21 | 79 | 5.01 | 5.11 | 5.49 | 5.20 | 5.20 | | |
| 21.5 | 7.0 | 21 | 79 | 5.02 | 5.12 | 5.49 | 5.21 | 5.21 | | |
| 22.0 | 7.5 | 21 | 79 | 5.03 | 5.13 | 5.50 | 5.22 | 5.22 | | |
| 22.5 | 8.0 | 21 | 79 | 5.04 | 5.13 | 5.51 | 5.23 | 5.23 | | |
| 23.0 | 8.5 | 21 | 79 | 5.04 | 5.15 | 5.52 | 5.24 | 5.24 | | |
| 23.5 | 9.0 | 21 | 79 | 5.05 | 5.15 | 5.52 | 5.24 | 5.24 | | |
| 24.0 | 9.5 | 21 | 79 | 5.06 | 5.16 | 5.53 | 5.25 | 5.25 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT533

SITE GRAVEN HILL, BICESTER — Depth (m) 0.65

Date 11 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 24.5 | 10.0 | 21 | 79 | 5.07 | 5.17 | 5.54 | 5.26 | 5.26 | | |
| 25.0 | 10.5 | 21 | 79 | 5.07 | 5.17 | 5.54 | 5.26 | 5.26 | | |
| 25.5 | 11.0 | 21 | 79 | 5.08 | 5.19 | 5.55 | 5.27 | 5.27 | | |
| 26.0 | 11.5 | 21 | 79 | 5.08 | 5.19 | 5.55 | 5.27 | 5.27 | | |
| 26.5 | 12.0 | 21 | 79 | 5.09 | 5.19 | 5.55 | 5.28 | 5.28 | | |
| 27.0 | 12.5 | 21 | 79 | 5.10 | 5.19 | 5.56 | 5.28 | 5.28 | | |
| 27.5 | 13.0 | 21 | 79 | 5.10 | 5.20 | 5.57 | 5.29 | 5.29 | | |
| 28.0 | 13.5 | 21 | 79 | 5.10 | 5.20 | 5.57 | 5.29 | 5.29 | | |
| 28.5 | 14.0 | 21 | 79 | 5.12 | 5.22 | 5.59 | 5.31 | 5.31 | | |
| 29.0 | 14.5 | 21 | 79 | 5.12 | 5.22 | 5.59 | 5.31 | 5.31 | | |
| 29.5 | 15.0 | 21 | 79 | 5.12 | 5.23 | 5.60 | 5.32 | 5.32 | **2.50** | **5.32** |
| 30.0 | 0.5 | 31 | 114 | 6.79 | 6.94 | 7.41 | 7.05 | 7.05 | | |
| 30.5 | 1.0 | 31 | 114 | 6.96 | 7.11 | 7.58 | 7.22 | 7.22 | | |
| 31.0 | 1.5 | 31 | 114 | 7.01 | 7.16 | 7.63 | 7.27 | 7.27 | | |
| 31.5 | 2.0 | 31 | 114 | 7.23 | 7.38 | 7.86 | 7.49 | 7.49 | | |
| 32.0 | 2.5 | 31 | 114 | 7.34 | 7.49 | 7.97 | 7.60 | 7.60 | | |
| 32.5 | 3.0 | 31 | 114 | 7.42 | 7.57 | 8.05 | 7.68 | 7.68 | | |
| 33.0 | 3.5 | 31 | 114 | 7.52 | 7.67 | 8.14 | 7.78 | 7.78 | | |
| 33.5 | 4.0 | 31 | 114 | 7.60 | 7.76 | 8.22 | 7.86 | 7.86 | | |
| 34.0 | 4.5 | 31 | 114 | 7.68 | 7.84 | 8.31 | 7.94 | 7.94 | | |
| 34.5 | 5.0 | 31 | 114 | 7.72 | 7.88 | 8.34 | 7.98 | 7.98 | | |
| 35.0 | 5.5 | 31 | 114 | 7.78 | 7.94 | 8.40 | 8.04 | 8.04 | | |
| 35.5 | 6.0 | 31 | 114 | 7.93 | 8.10 | 8.56 | 8.20 | 8.20 | | |
| 36.0 | 6.5 | 31 | 114 | 7.99 | 8.16 | 8.61 | 8.25 | 8.25 | | |
| 36.5 | 7.0 | 31 | 114 | 8.01 | 8.18 | 8.63 | 8.27 | 8.27 | | |
| 37.0 | 7.5 | 31 | 114 | 8.03 | 8.20 | 8.65 | 8.29 | 8.29 | | |
| 37.5 | 8.0 | 31 | 114 | 8.05 | 8.22 | 8.67 | 8.31 | 8.31 | | |
| 38.0 | 8.5 | 31 | 114 | 8.06 | 8.23 | 8.68 | 8.32 | 8.32 | | |
| 38.5 | 9.0 | 31 | 114 | 8.07 | 8.24 | 8.68 | 8.33 | 8.33 | | |
| 39.0 | 9.5 | 31 | 114 | 8.08 | 8.25 | 8.69 | 8.34 | 8.34 | | |
| 39.5 | 10.0 | 31 | 114 | 8.09 | 8.26 | 8.71 | 8.35 | 8.35 | | |
| 40.0 | 10.5 | 31 | 114 | 8.10 | 8.27 | 8.71 | 8.36 | 8.36 | | |
| 40.5 | 11.0 | 31 | 114 | 8.10 | 8.27 | 8.71 | 8.36 | 8.36 | | |
| 41.0 | 11.5 | 31 | 114 | 8.11 | 8.27 | 8.71 | 8.36 | 8.36 | | |
| 41.5 | 12.0 | 31 | 114 | 8.12 | 8.29 | 8.73 | 8.38 | 8.38 | | |
| 42.0 | 12.5 | 31 | 114 | 8.12 | 8.29 | 8.73 | 8.38 | 8.38 | | |
| 42.5 | 13.0 | 31 | 114 | 8.14 | 8.29 | 8.74 | 8.39 | 8.39 | | |
| 43.0 | 13.5 | 31 | 114 | 8.14 | 8.30 | 8.74 | 8.39 | 8.39 | | |
| 43.5 | 14.0 | 31 | 114 | 8.14 | 8.31 | 8.74 | 8.40 | 8.40 | | |
| 44.0 | 14.5 | 31 | 114 | 8.14 | 8.31 | 8.74 | 8.40 | 8.40 | | |
| 44.5 | 15.0 | 31 | 114 | 8.16 | 8.31 | 8.75 | 8.41 | 8.41 | **3.09** | **8.41** |
| 45.0 | 0.5 | 42 | 153 | 10.10 | 10.38 | 10.75 | 10.41 | 10.41 | | |
| 45.5 | 1.0 | 42 | 153 | 10.20 | 10.44 | 10.90 | 10.51 | 10.51 | | |
| 46.0 | 1.5 | 42 | 153 | 10.60 | 10.81 | 11.29 | 10.90 | 10.90 | | |
| 46.5 | 2.0 | 42 | 153 | 11.05 | 11.28 | 11.77 | 11.37 | 11.37 | | |
| 47.0 | 2.5 | 42 | 153 | 11.27 | 11.52 | 12.00 | 11.60 | 11.60 | | |
| 47.5 | 3.0 | 42 | 153 | 11.59 | 11.84 | 12.32 | 11.92 | 11.92 | | |
| 48.0 | 3.5 | 42 | 153 | 11.79 | 12.04 | 12.52 | 12.12 | 12.12 | | |
| 48.5 | 4.0 | 42 | 153 | 11.92 | 12.17 | 12.64 | 12.24 | 12.24 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT533

SITE GRAVEN HILL, BICESTER — Depth (m) 0.65

Date 11 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 49.0 | 4.5 | 42 | 153 | 12.15 | 12.40 | 12.87 | 12.47 | 12.47 | | |
| 49.5 | 5.0 | 42 | 153 | 12.25 | 12.51 | 12.97 | 12.58 | 12.58 | | |
| 50.0 | 5.5 | 42 | 153 | 12.35 | 12.60 | 13.06 | 12.67 | 12.67 | | |
| 50.5 | 6.0 | 42 | 153 | 12.45 | 12.71 | 13.16 | 12.77 | 12.77 | | |
| 51.0 | 6.5 | 42 | 153 | 12.52 | 12.78 | 13.23 | 12.84 | 12.84 | | |
| 51.5 | 7.0 | 42 | 153 | 12.68 | 12.94 | 13.39 | 13.00 | 13.00 | | |
| 52.0 | 7.5 | 42 | 153 | 12.81 | 13.07 | 13.51 | 13.13 | 13.13 | | |
| 52.5 | 8.0 | 42 | 153 | 12.98 | 13.24 | 13.67 | 13.30 | 13.30 | | |
| 53.0 | 8.5 | 42 | 153 | 13.02 | 13.29 | 13.72 | 13.34 | 13.34 | | |
| 53.5 | 9.0 | 42 | 153 | 13.05 | 13.32 | 13.75 | 13.37 | 13.37 | | |
| 54.0 | 9.5 | 42 | 153 | 13.08 | 13.34 | 13.77 | 13.40 | 13.40 | | |
| 54.5 | 10.0 | 42 | 153 | 13.10 | 13.37 | 13.79 | 13.42 | 13.42 | | |
| 55.0 | 10.5 | 42 | 153 | 13.12 | 13.38 | 13.80 | 13.43 | 13.43 | | |
| 55.5 | 11.0 | 42 | 153 | 13.12 | 13.40 | 13.81 | 13.44 | 13.44 | | |
| 56.0 | 11.5 | 42 | 153 | 13.14 | 13.41 | 13.83 | 13.46 | 13.46 | | |
| 56.5 | 12.0 | 42 | 153 | 13.16 | 13.42 | 13.84 | 13.47 | 13.47 | | |
| 57.0 | 12.5 | 42 | 153 | 13.17 | 13.44 | 13.85 | 13.49 | 13.49 | | |
| 57.5 | 13.0 | 42 | 153 | 13.18 | 13.45 | 13.86 | 13.50 | 13.50 | | |
| 58.0 | 13.5 | 42 | 153 | 13.19 | 13.46 | 13.87 | 13.51 | 13.51 | | |
| 58.5 | 14.0 | 42 | 153 | 13.19 | 13.47 | 13.88 | 13.51 | 13.51 | | |
| 59.0 | 14.5 | 42 | 153 | 13.20 | 13.47 | 13.88 | 13.52 | 13.52 | | |
| 59.5 | 15.0 | 42 | 153 | 13.21 | 13.48 | 13.89 | 13.53 | 13.53 | | |
| 60.0 | 15.5 | 42 | 153 | 13.22 | 13.49 | 13.90 | 13.54 | 13.54 | | |
| 60.5 | 16.0 | 42 | 153 | 13.22 | 13.50 | 13.91 | 13.54 | 13.54 | | |
| 61.0 | 16.5 | 42 | 153 | 13.24 | 13.51 | 13.91 | 13.55 | 13.55 | | |
| 61.5 | 17.0 | 42 | 153 | 13.24 | 13.52 | 13.91 | 13.56 | 13.56 | | |
| 62.0 | 17.5 | 42 | 153 | 13.26 | 13.52 | 13.93 | 13.57 | 13.57 | | |
| 62.5 | 18.0 | 42 | 153 | 13.26 | 13.53 | 13.93 | 13.57 | 13.57 | | |
| 63.0 | 18.5 | 42 | 153 | 13.26 | 13.54 | 13.94 | 13.58 | 13.58 | | |
| 63.5 | 19.0 | 42 | 153 | 13.27 | 13.55 | 13.94 | 13.59 | 13.59 | | |
| 64.0 | 19.5 | 42 | 153 | 13.27 | 13.56 | 13.95 | 13.59 | 13.59 | | |
| 64.5 | 20.0 | 42 | 153 | 13.29 | 13.56 | 13.96 | 13.60 | 13.60 | | |
| 65.0 | 20.5 | 42 | 153 | 13.29 | 13.57 | 13.96 | 13.61 | 13.61 | | |
| 65.5 | 21.0 | 42 | 153 | 13.29 | 13.57 | 13.97 | 13.61 | 13.61 | | |
| 66.0 | 21.5 | 42 | 153 | 13.30 | 13.57 | 13.98 | 13.62 | 13.62 | | |
| 66.5 | 22.0 | 42 | 153 | 13.31 | 13.58 | 13.98 | 13.62 | 13.62 | | |
| 67.0 | 22.5 | 42 | 153 | 13.31 | 13.59 | 13.98 | 13.63 | 13.63 | | |
| 67.5 | 23.0 | 42 | 153 | 13.32 | 13.59 | 13.98 | 13.63 | 13.63 | | |
| 68.0 | 23.5 | 42 | 153 | 13.31 | 13.59 | 13.99 | 13.63 | 13.63 | | |
| 68.5 | 24.0 | 42 | 153 | 13.31 | 13.59 | 13.98 | 13.63 | 13.63 | | |
| 69.0 | 24.5 | 42 | 153 | 13.31 | 13.59 | 13.99 | 13.63 | 13.63 | **5.22** | **13.63** |
| 69.5 | 0.5 | 21 | 79 | 12.77 | 13.14 | 13.44 | 13.12 | 13.12 | | |
| 70.0 | 1.0 | 21 | 79 | 12.57 | 12.96 | 13.25 | 12.93 | 12.93 | | |
| 70.5 | 1.5 | 21 | 79 | 12.39 | 12.78 | 13.07 | 12.75 | 12.75 | | |
| 71.0 | 2.0 | 21 | 79 | 12.37 | 12.77 | 13.04 | 12.73 | 12.73 | | |
| 71.5 | 2.5 | 21 | 79 | 12.36 | 12.75 | 13.04 | 12.72 | 12.72 | | |
| 72.0 | 3.0 | 21 | 79 | 12.36 | 12.75 | 13.04 | 12.72 | 12.72 | | |
| 72.5 | 3.5 | 21 | 79 | 12.36 | 12.75 | 13.04 | 12.72 | 12.72 | | |
| 73.0 | 4.0 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT533

Depth (m) 0.65

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 73.5 | 4.5 | 21 | 79 | 12.35 | 12.74 | 13.04 | 12.71 | 12.71 | | |
| 74.0 | 5.0 | 21 | 79 | 12.35 | 12.74 | 13.04 | 12.71 | 12.71 | | |
| 74.5 | 5.5 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | | |
| 75.0 | 6.0 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | | |
| 75.5 | 6.5 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | | |
| 76.0 | 7.0 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | | |
| 76.5 | 7.5 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | | |
| 77.0 | 8.0 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | | |
| 77.5 | 8.5 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | | |
| 78.0 | 9.0 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | | |
| 78.5 | 9.5 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | | |
| 79.0 | 10.0 | 21 | 79 | 12.35 | 12.74 | 13.03 | 12.71 | 12.71 | **-0.92** | **12.71** |
| 79.5 | 0.5 | 0 | 4 | 9.03 | 9.96 | 9.89 | 9.63 | 9.63 | | |
| 80.0 | 1.0 | 0 | 4 | 8.91 | 9.86 | 9.77 | 9.51 | 9.51 | | |
| 80.5 | 1.5 | 0 | 4 | 8.81 | 9.76 | 9.67 | 9.41 | 9.41 | | |
| 81.0 | 2.0 | 0 | 4 | 8.72 | 9.68 | 9.59 | 9.33 | 9.33 | | |
| 81.5 | 2.5 | 0 | 4 | 8.65 | 9.61 | 9.51 | 9.26 | 9.26 | | |
| 82.0 | 3.0 | 0 | 4 | 8.59 | 9.55 | 9.45 | 9.20 | 9.20 | | |
| 82.5 | 3.5 | 0 | 4 | 8.53 | 9.50 | 9.39 | 9.14 | 9.14 | | |
| 83.0 | 4.0 | 0 | 4 | 8.49 | 9.45 | 9.34 | 9.09 | 9.09 | | |
| 83.5 | 4.5 | 0 | 4 | 8.45 | 9.42 | 9.30 | 9.06 | 9.06 | | |
| 84.0 | 5.0 | 0 | 4 | 8.40 | 9.38 | 9.26 | 9.01 | 9.01 | | |
| 84.5 | 5.5 | 0 | 4 | 8.36 | 9.35 | 9.22 | 8.98 | 8.98 | | |
| 85.0 | 6.0 | 0 | 4 | 8.33 | 9.32 | 9.19 | 8.95 | 8.95 | | |
| 85.5 | 6.5 | 0 | 4 | 8.30 | 9.29 | 9.16 | 8.92 | 8.92 | | |
| 86.0 | 7.0 | 0 | 4 | 8.28 | 9.26 | 9.13 | 8.89 | 8.89 | | |
| 86.5 | 7.5 | 0 | 4 | 8.25 | 9.24 | 9.10 | 8.86 | 8.86 | | |
| 87.0 | 8.0 | 0 | 4 | 8.22 | 9.21 | 9.08 | 8.84 | 8.84 | | |
| 87.5 | 8.5 | 0 | 4 | 8.20 | 9.19 | 9.05 | 8.81 | 8.81 | | |
| 88.0 | 9.0 | 0 | 4 | 8.18 | 9.18 | 9.03 | 8.80 | 8.80 | | |
| 88.5 | 9.5 | 0 | 4 | 8.16 | 9.15 | 9.01 | 8.77 | 8.77 | | |
| 89.0 | 10.0 | 0 | 4 | 8.14 | 9.14 | 8.99 | 8.76 | 8.76 | | |
| 89.5 | 10.5 | 0 | 4 | 8.12 | 9.12 | 8.97 | 8.74 | 8.74 | | |
| 90.0 | 11.0 | 0 | 4 | 8.12 | 9.10 | 8.95 | 8.72 | 8.72 | | |
| 90.5 | 11.5 | 0 | 4 | 8.11 | 9.08 | 8.94 | 8.71 | 8.71 | | |
| 91.0 | 12.0 | 0 | 4 | 8.10 | 9.07 | 8.92 | 8.70 | 8.70 | | |
| 91.5 | 12.5 | 0 | 4 | 8.09 | 9.06 | 8.91 | 8.69 | 8.69 | | |
| 92.0 | 13.0 | 0 | 4 | 8.07 | 9.04 | 8.89 | 8.67 | 8.67 | | |
| 92.5 | 13.5 | 0 | 4 | 8.06 | 9.03 | 8.88 | 8.66 | 8.66 | | |
| 93.0 | 14.0 | 0 | 4 | 8.04 | 9.03 | 8.87 | 8.65 | 8.65 | | |
| 93.5 | 14.5 | 0 | 4 | 8.03 | 9.01 | 8.85 | 8.63 | 8.63 | | |
| 94.0 | 15.0 | 0 | 4 | 8.02 | 9.00 | 8.84 | 8.62 | 8.62 | | |
| 94.5 | 15.5 | 0 | 4 | 8.01 | 8.99 | 8.83 | 8.61 | 8.61 | | |
| 95.0 | 16.0 | 0 | 4 | 8.00 | 8.98 | 8.82 | 8.60 | 8.60 | | |
| 95.5 | 16.5 | 0 | 4 | 7.99 | 8.97 | 8.81 | 8.59 | 8.59 | | |
| 96.0 | 17.0 | 0 | 4 | 7.97 | 8.96 | 8.80 | 8.58 | 8.58 | | |
| 96.5 | 17.5 | 0 | 4 | 7.96 | 8.94 | 8.79 | 8.56 | 8.56 | | |
| 97.0 | 18.0 | 0 | 4 | 7.96 | 8.94 | 8.77 | 8.56 | 8.56 | | |
| 97.5 | 18.5 | 0 | 4 | 7.94 | 8.93 | 8.77 | 8.55 | 8.55 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT533

SITE GRAVEN HILL, BICESTER — Depth (m) 0.65

Date 11 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 98.0 | 19.0 | 0 | 4 | 7.94 | 8.93 | 8.76 | 8.54 | 8.54 | | |
| 98.5 | 19.5 | 0 | 4 | 7.92 | 8.91 | 8.75 | 8.53 | 8.53 | | |
| 99.0 | 20.0 | 0 | 4 | 7.91 | 8.91 | 8.74 | 8.52 | 8.52 | | |
| 99.5 | 20.5 | 0 | 4 | 7.91 | 8.90 | 8.74 | 8.52 | 8.52 | | |
| 100.0 | 21.0 | 0 | 4 | 7.90 | 8.89 | 8.73 | 8.51 | 8.51 | | |
| 100.5 | 21.5 | 0 | 4 | 7.89 | 8.89 | 8.72 | 8.50 | 8.50 | | |
| 101.0 | 22.0 | 0 | 4 | 7.89 | 8.88 | 8.71 | 8.49 | 8.49 | | |
| 101.5 | 22.5 | 0 | 4 | 7.88 | 8.88 | 8.71 | 8.49 | 8.49 | | |
| 102.0 | 23.0 | 0 | 4 | 7.87 | 8.87 | 8.70 | 8.48 | 8.48 | | |
| 102.5 | 23.5 | 0 | 4 | 7.86 | 8.86 | 8.69 | 8.47 | 8.47 | | |
| 103.0 | 24.0 | 0 | 4 | 7.85 | 8.86 | 8.68 | 8.46 | 8.46 | | |
| 103.5 | 24.5 | 0 | 4 | 7.84 | 8.84 | 8.68 | 8.45 | 8.45 | | |
| 104.0 | 25.0 | 0 | 4 | 7.84 | 8.84 | 8.67 | 8.45 | 8.45 | | |
| 104.5 | 25.5 | 0 | 4 | 7.83 | 8.83 | 8.66 | 8.44 | 8.44 | | |
| 105.0 | 26.0 | 0 | 4 | 7.82 | 8.83 | 8.65 | 8.43 | 8.43 | | |
| 105.5 | 26.5 | 0 | 4 | 7.82 | 8.82 | 8.64 | 8.43 | 8.43 | | |
| 106.0 | 27.0 | 0 | 4 | 7.81 | 8.81 | 8.64 | 8.42 | 8.42 | | |
| 106.5 | 27.5 | 0 | 4 | 7.81 | 8.81 | 8.63 | 8.42 | 8.42 | | |
| 107.0 | 28.0 | 0 | 4 | 7.80 | 8.80 | 8.62 | 8.41 | 8.41 | | |
| 107.5 | 28.5 | 0 | 4 | 7.79 | 8.79 | 8.61 | 8.40 | 8.40 | | |
| 108.0 | 29.0 | 0 | 4 | 7.79 | 8.79 | 8.61 | 8.40 | 8.40 | | |
| 108.5 | 29.5 | 0 | 4 | 7.78 | 8.78 | 8.61 | 8.39 | 8.39 | | |
| 109.0 | 30.0 | 0 | 4 | 7.78 | 8.77 | 8.60 | 8.38 | 8.38 | | |
| 109.5 | 30.5 | 0 | 4 | 7.77 | 8.77 | 8.59 | 8.38 | 8.38 | **-4.33** | **8.38** |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

CONTRACT **30378**

CHECKED **NP**

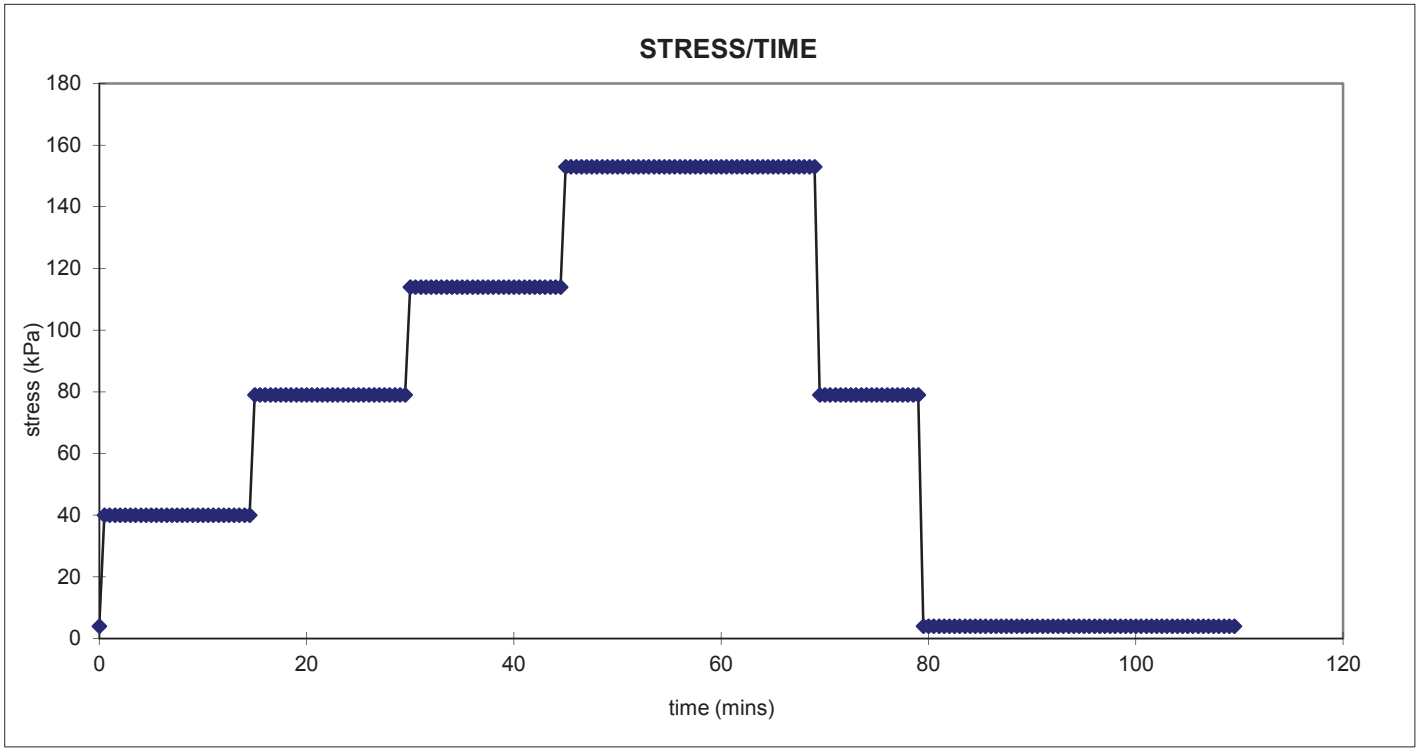
rev09 02/04/14 JH/SC

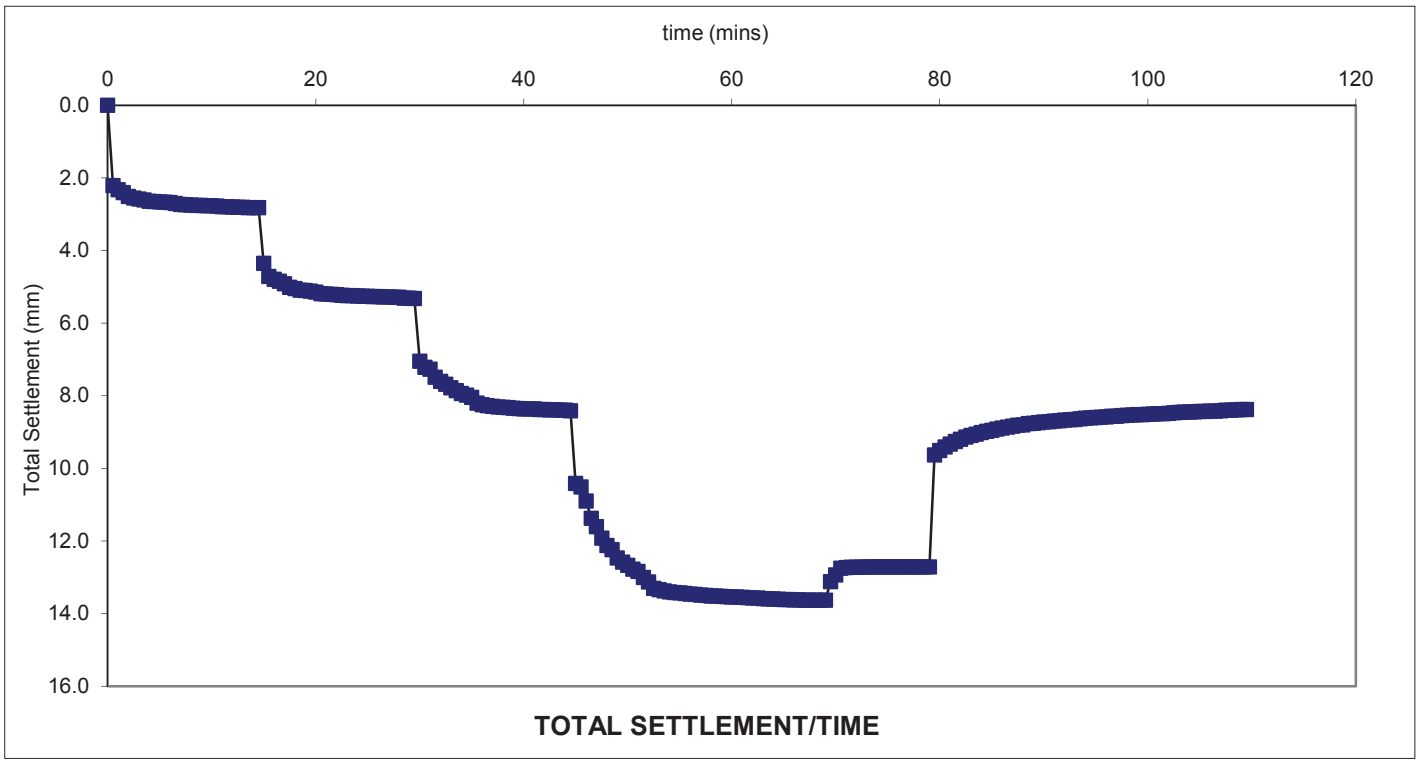
Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT533 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.65 |
| Date | 11 March 2015 | Plate (mm) | 600 |




| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

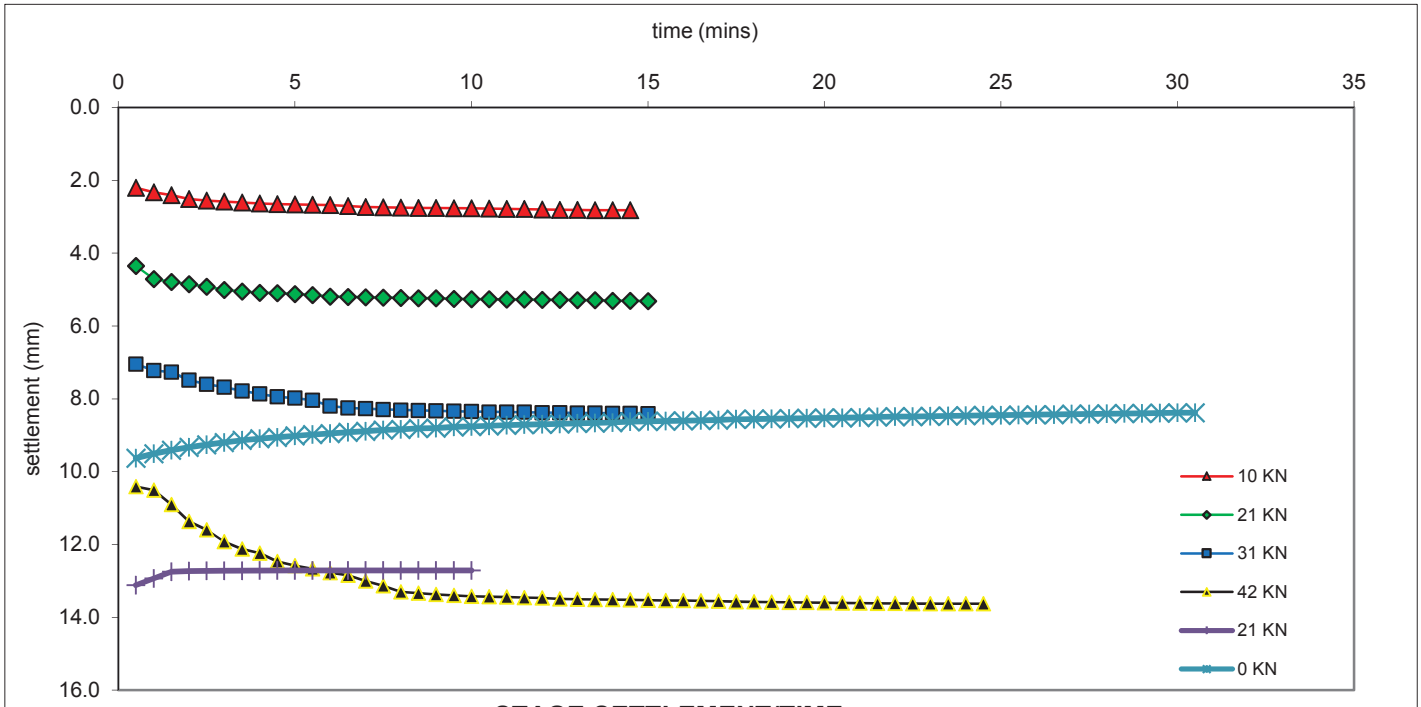
rev09 02/04/14 JH/SC

Geotechnical Engineering Limited

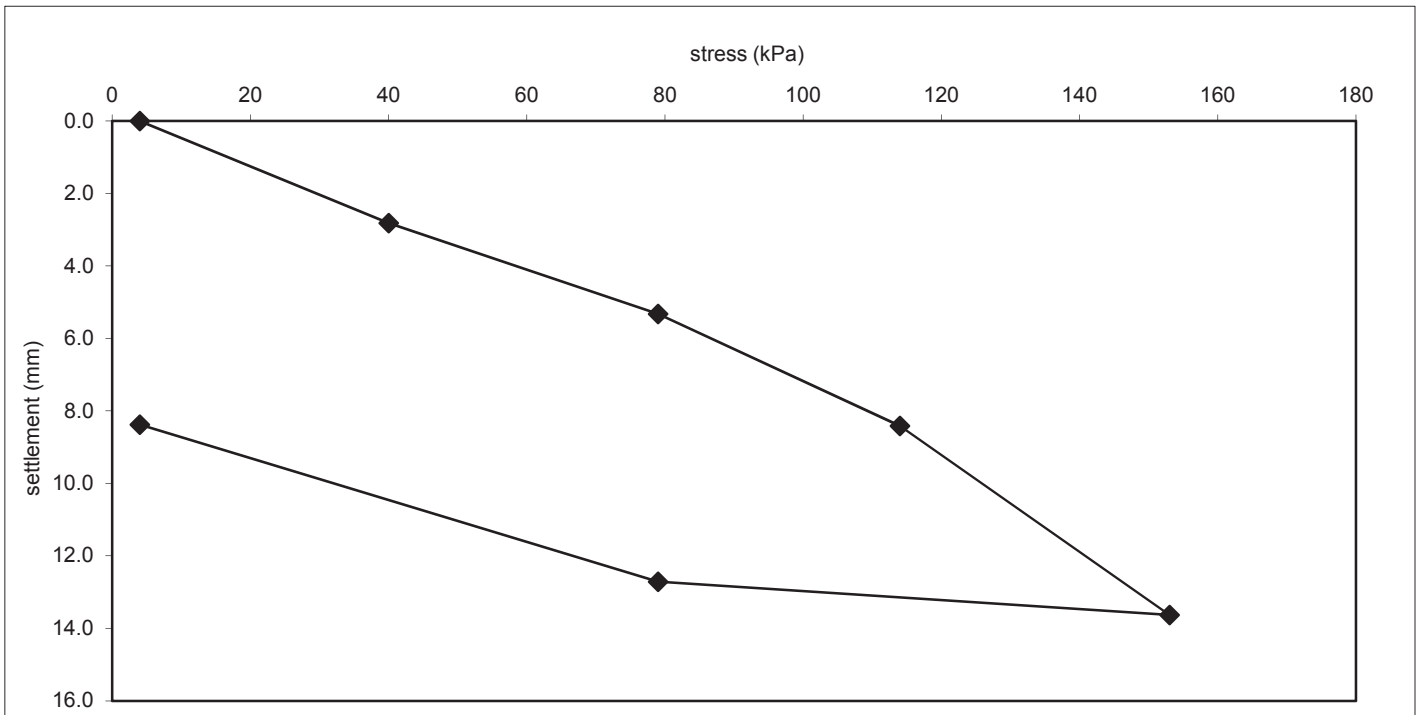
# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT533 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.65 |
| Date | 11 March 2015 | Plate (mm) | 600 |




**STAGE SETTLEMENT/TIME**




**SETTLEMENT/STRESS**

| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

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Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT538

Depth (m) 0.75

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0 | 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **0.00** | **0.00** |
| 0.5 | 0.5 | 10 | 40 | 1.04 | 0.91 | 0.82 | 0.92 | 0.92 | | |
| 1.0 | 1.0 | 10 | 40 | 1.48 | 1.29 | 1.17 | 1.31 | 1.31 | | |
| 1.5 | 1.5 | 10 | 40 | 1.59 | 1.39 | 1.28 | 1.42 | 1.42 | | |
| 2.0 | 2.0 | 10 | 40 | 1.63 | 1.43 | 1.32 | 1.46 | 1.46 | | |
| 2.5 | 2.5 | 10 | 40 | 1.64 | 1.44 | 1.34 | 1.47 | 1.47 | | |
| 3.0 | 3.0 | 10 | 40 | 1.65 | 1.45 | 1.34 | 1.48 | 1.48 | | |
| 3.5 | 3.5 | 10 | 40 | 1.66 | 1.46 | 1.36 | 1.49 | 1.49 | | |
| 4.0 | 4.0 | 10 | 40 | 1.69 | 1.48 | 1.37 | 1.51 | 1.51 | | |
| 4.5 | 4.5 | 10 | 40 | 1.70 | 1.50 | 1.39 | 1.53 | 1.53 | | |
| 5.0 | 5.0 | 10 | 40 | 1.70 | 1.51 | 1.40 | 1.54 | 1.54 | | |
| 5.5 | 5.5 | 10 | 40 | 1.79 | 1.58 | 1.48 | 1.62 | 1.62 | | |
| 6.0 | 6.0 | 10 | 40 | 1.83 | 1.61 | 1.52 | 1.65 | 1.65 | | |
| 6.5 | 6.5 | 10 | 40 | 1.83 | 1.63 | 1.53 | 1.66 | 1.66 | | |
| 7.0 | 7.0 | 10 | 40 | 1.85 | 1.63 | 1.54 | 1.67 | 1.67 | | |
| 7.5 | 7.5 | 10 | 40 | 1.86 | 1.64 | 1.55 | 1.68 | 1.68 | | |
| 8.0 | 8.0 | 10 | 40 | 1.87 | 1.66 | 1.56 | 1.70 | 1.70 | | |
| 8.5 | 8.5 | 10 | 40 | 1.87 | 1.66 | 1.58 | 1.70 | 1.70 | | |
| 9.0 | 9.0 | 10 | 40 | 1.88 | 1.67 | 1.58 | 1.71 | 1.71 | | |
| 9.5 | 9.5 | 10 | 40 | 1.90 | 1.68 | 1.59 | 1.72 | 1.72 | | |
| 10.0 | 10.0 | 10 | 40 | 1.90 | 1.69 | 1.59 | 1.73 | 1.73 | | |
| 10.5 | 10.5 | 10 | 40 | 1.90 | 1.70 | 1.61 | 1.74 | 1.74 | | |
| 11.0 | 11.0 | 10 | 40 | 1.92 | 1.70 | 1.61 | 1.74 | 1.74 | | |
| 11.5 | 11.5 | 10 | 40 | 1.92 | 1.71 | 1.62 | 1.75 | 1.75 | | |
| 12.0 | 12.0 | 10 | 40 | 1.93 | 1.71 | 1.63 | 1.76 | 1.76 | | |
| 12.5 | 12.5 | 10 | 40 | 1.93 | 1.73 | 1.63 | 1.76 | 1.76 | | |
| 13.0 | 13.0 | 10 | 40 | 1.94 | 1.73 | 1.65 | 1.77 | 1.77 | | |
| 13.5 | 13.5 | 10 | 40 | 1.95 | 1.73 | 1.65 | 1.78 | 1.78 | | |
| 14.0 | 14.0 | 10 | 40 | 1.95 | 1.74 | 1.65 | 1.78 | 1.78 | | |
| 14.5 | 14.5 | 10 | 40 | 1.96 | 1.74 | 1.66 | 1.79 | 1.79 | | |
| 15.0 | 15.0 | 10 | 40 | 1.96 | 1.75 | 1.66 | 1.79 | 1.79 | | |
| 15.5 | 15.5 | 10 | 40 | 1.96 | 1.76 | 1.67 | 1.80 | 1.80 | | |
| 16.0 | 16.0 | 10 | 40 | 1.98 | 1.76 | 1.68 | 1.81 | 1.81 | | |
| 16.5 | 16.5 | 10 | 40 | 1.98 | 1.77 | 1.68 | 1.81 | 1.81 | | |
| 17.0 | 17.0 | 10 | 40 | 1.99 | 1.78 | 1.70 | 1.82 | 1.82 | | |
| 17.5 | 17.5 | 10 | 40 | 2.00 | 1.78 | 1.70 | 1.83 | 1.83 | | |
| 18.0 | 18.0 | 10 | 40 | 2.00 | 1.79 | 1.71 | 1.83 | 1.83 | | |
| 18.5 | 18.5 | 10 | 40 | 2.01 | 1.79 | 1.71 | 1.84 | 1.84 | | |
| 19.0 | 19.0 | 10 | 40 | 2.01 | 1.80 | 1.71 | 1.84 | 1.84 | | |
| 19.5 | 19.5 | 10 | 40 | 2.02 | 1.81 | 1.73 | 1.85 | 1.85 | | |
| 20.0 | 20.0 | 10 | 40 | 2.03 | 1.81 | 1.73 | 1.86 | 1.86 | | |
| 20.5 | 20.5 | 10 | 40 | 2.03 | 1.83 | 1.74 | 1.87 | 1.87 | | |
| 21.0 | 21.0 | 10 | 40 | 2.05 | 1.83 | 1.75 | 1.88 | 1.88 | | |
| 21.5 | 21.5 | 10 | 40 | 2.05 | 1.83 | 1.75 | 1.88 | 1.88 | | |
| 22.0 | 22.0 | 10 | 40 | 2.05 | 1.84 | 1.76 | 1.88 | 1.88 | | |
| 22.5 | 22.5 | 10 | 40 | 2.06 | 1.85 | 1.76 | 1.89 | 1.89 | | |
| 23.0 | 23.0 | 10 | 40 | 2.06 | 1.85 | 1.78 | 1.90 | 1.90 | | |
| 23.5 | 23.5 | 10 | 40 | 2.07 | 1.86 | 1.78 | 1.90 | 1.90 | | |
| 24.0 | 24.0 | 10 | 40 | 2.08 | 1.86 | 1.78 | 1.91 | 1.91 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator
Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT538

Depth (m) 0.75

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 24.5 | 24.5 | 10 | 40 | 2.08 | 1.87 | 1.79 | 1.91 | 1.91 | | |
| 25.0 | 25.0 | 10 | 40 | 2.08 | 1.86 | 1.78 | 1.91 | 1.91 | | |
| 25.5 | 25.5 | 10 | 40 | 2.08 | 1.87 | 1.79 | 1.91 | 1.91 | **1.91** | **1.91** |
| 26.0 | 0.5 | 21 | 79 | 3.60 | 3.21 | 3.33 | 3.38 | 3.38 | | |
| 26.5 | 1.0 | 21 | 79 | 3.73 | 3.34 | 3.42 | 3.50 | 3.50 | | |
| 27.0 | 1.5 | 21 | 79 | 3.84 | 3.44 | 3.53 | 3.60 | 3.60 | | |
| 27.5 | 2.0 | 21 | 79 | 3.92 | 3.52 | 3.61 | 3.68 | 3.68 | | |
| 28.0 | 2.5 | 21 | 79 | 3.99 | 3.59 | 3.67 | 3.75 | 3.75 | | |
| 28.5 | 3.0 | 21 | 79 | 4.04 | 3.64 | 3.72 | 3.80 | 3.80 | | |
| 29.0 | 3.5 | 21 | 79 | 4.09 | 3.68 | 3.77 | 3.85 | 3.85 | | |
| 29.5 | 4.0 | 21 | 79 | 4.12 | 3.71 | 3.80 | 3.88 | 3.88 | | |
| 30.0 | 4.5 | 21 | 79 | 4.20 | 3.78 | 3.86 | 3.95 | 3.95 | | |
| 30.5 | 5.0 | 21 | 79 | 4.20 | 3.80 | 3.88 | 3.96 | 3.96 | | |
| 31.0 | 5.5 | 21 | 79 | 4.22 | 3.81 | 3.89 | 3.97 | 3.97 | | |
| 31.5 | 6.0 | 21 | 79 | 4.23 | 3.82 | 3.90 | 3.98 | 3.98 | | |
| 32.0 | 6.5 | 21 | 79 | 4.25 | 3.84 | 3.91 | 4.00 | 4.00 | | |
| 32.5 | 7.0 | 21 | 79 | 4.25 | 3.84 | 3.93 | 4.01 | 4.01 | | |
| 33.0 | 7.5 | 21 | 79 | 4.26 | 3.86 | 3.93 | 4.02 | 4.02 | | |
| 33.5 | 8.0 | 21 | 79 | 4.28 | 3.86 | 3.94 | 4.03 | 4.03 | | |
| 34.0 | 8.5 | 21 | 79 | 4.28 | 3.87 | 3.95 | 4.03 | 4.03 | | |
| 34.5 | 9.0 | 21 | 79 | 4.28 | 3.88 | 3.96 | 4.04 | 4.04 | | |
| 35.0 | 9.5 | 21 | 79 | 4.29 | 3.88 | 3.96 | 4.04 | 4.04 | | |
| 35.5 | 10.0 | 21 | 79 | 4.30 | 3.89 | 3.97 | 4.05 | 4.05 | | |
| 36.0 | 10.5 | 21 | 79 | 4.31 | 3.90 | 3.98 | 4.06 | 4.06 | | |
| 36.5 | 11.0 | 21 | 79 | 4.31 | 3.91 | 3.98 | 4.07 | 4.07 | | |
| 37.0 | 11.5 | 21 | 79 | 4.31 | 3.91 | 3.99 | 4.07 | 4.07 | | |
| 37.5 | 12.0 | 21 | 79 | 4.33 | 3.91 | 4.00 | 4.08 | 4.08 | | |
| 38.0 | 12.5 | 21 | 79 | 4.35 | 3.92 | 4.00 | 4.09 | 4.09 | | |
| 38.5 | 13.0 | 21 | 79 | 4.36 | 3.93 | 4.01 | 4.10 | 4.10 | | |
| 39.0 | 13.5 | 21 | 79 | 4.36 | 3.93 | 4.01 | 4.10 | 4.10 | | |
| 39.5 | 14.0 | 21 | 79 | 4.37 | 3.94 | 4.02 | 4.11 | 4.11 | | |
| 40.0 | 14.5 | 21 | 79 | 4.38 | 3.94 | 4.03 | 4.12 | 4.12 | | |
| 40.5 | 15.0 | 21 | 79 | 4.38 | 3.94 | 4.03 | 4.12 | 4.12 | **2.21** | **4.12** |
| 41.0 | 0.5 | 31 | 114 | 5.84 | 5.40 | 5.62 | 5.62 | 5.62 | | |
| 41.5 | 1.0 | 31 | 114 | 6.11 | 5.68 | 5.83 | 5.87 | 5.87 | | |
| 42.0 | 1.5 | 31 | 114 | 6.53 | 6.10 | 6.25 | 6.29 | 6.29 | | |
| 42.5 | 2.0 | 31 | 114 | 6.74 | 6.32 | 6.47 | 6.51 | 6.51 | | |
| 43.0 | 2.5 | 31 | 114 | 6.86 | 6.44 | 6.59 | 6.63 | 6.63 | | |
| 43.5 | 3.0 | 31 | 114 | 6.96 | 6.54 | 6.69 | 6.73 | 6.73 | | |
| 44.0 | 3.5 | 31 | 114 | 7.10 | 6.68 | 6.84 | 6.87 | 6.87 | | |
| 44.5 | 4.0 | 31 | 114 | 7.14 | 6.72 | 6.88 | 6.91 | 6.91 | | |
| 45.0 | 4.5 | 31 | 114 | 7.22 | 6.80 | 6.96 | 6.99 | 6.99 | | |
| 45.5 | 5.0 | 31 | 114 | 7.26 | 6.86 | 7.01 | 7.04 | 7.04 | | |
| 46.0 | 5.5 | 31 | 114 | 7.29 | 6.87 | 7.03 | 7.06 | 7.06 | | |
| 46.5 | 6.0 | 31 | 114 | 7.30 | 6.89 | 7.05 | 7.08 | 7.08 | | |
| 47.0 | 6.5 | 31 | 114 | 7.32 | 6.90 | 7.07 | 7.10 | 7.10 | | |
| 47.5 | 7.0 | 31 | 114 | 7.33 | 6.92 | 7.08 | 7.11 | 7.11 | | |
| 48.0 | 7.5 | 31 | 114 | 7.34 | 6.93 | 7.09 | 7.12 | 7.12 | | |
| 48.5 | 8.0 | 31 | 114 | 7.35 | 6.94 | 7.10 | 7.13 | 7.13 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT538

Depth (m) 0.75

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 49.0 | 8.5 | 31 | 114 | 7.36 | 6.95 | 7.12 | 7.14 | 7.14 | | |
| 49.5 | 9.0 | 31 | 114 | 7.36 | 6.96 | 7.12 | 7.15 | 7.15 | | |
| 50.0 | 9.5 | 31 | 114 | 7.38 | 6.96 | 7.13 | 7.16 | 7.16 | | |
| 50.5 | 10.0 | 31 | 114 | 7.38 | 6.98 | 7.14 | 7.17 | 7.17 | | |
| 51.0 | 10.5 | 31 | 114 | 7.39 | 6.99 | 7.15 | 7.18 | 7.18 | | |
| 51.5 | 11.0 | 31 | 114 | 7.40 | 7.00 | 7.15 | 7.18 | 7.18 | | |
| 52.0 | 11.5 | 31 | 114 | 7.41 | 7.00 | 7.17 | 7.19 | 7.19 | | |
| 52.5 | 12.0 | 31 | 114 | 7.41 | 7.01 | 7.17 | 7.20 | 7.20 | | |
| 53.0 | 12.5 | 31 | 114 | 7.41 | 7.02 | 7.18 | 7.20 | 7.20 | | |
| 53.5 | 13.0 | 31 | 114 | 7.42 | 7.02 | 7.18 | 7.21 | 7.21 | | |
| 54.0 | 13.5 | 31 | 114 | 7.43 | 7.03 | 7.19 | 7.22 | 7.22 | | |
| 54.5 | 14.0 | 31 | 114 | 7.43 | 7.03 | 7.20 | 7.22 | 7.22 | | |
| 55.0 | 14.5 | 31 | 114 | 7.45 | 7.04 | 7.20 | 7.23 | 7.23 | | |
| 55.5 | 15.0 | 31 | 114 | 7.45 | 7.05 | 7.21 | 7.24 | 7.24 | | |
| 56.0 | 15.5 | 31 | 114 | 7.45 | 7.05 | 7.22 | 7.24 | 7.24 | | |
| 56.5 | 16.0 | 31 | 114 | 7.45 | 7.06 | 7.22 | 7.24 | 7.24 | | |
| 57.0 | 16.5 | 31 | 114 | 7.46 | 7.06 | 7.22 | 7.25 | 7.25 | **3.13** | **7.25** |
| 57.5 | 0.5 | 42 | 153 | 9.99 | 9.67 | 9.95 | 9.87 | 9.87 | | |
| 58.0 | 1.0 | 42 | 153 | 10.37 | 10.04 | 10.30 | 10.24 | 10.24 | | |
| 58.5 | 1.5 | 42 | 153 | 10.91 | 10.59 | 10.86 | 10.79 | 10.79 | | |
| 59.0 | 2.0 | 42 | 153 | 11.31 | 10.99 | 11.27 | 11.19 | 11.19 | | |
| 59.5 | 2.5 | 42 | 153 | 11.61 | 11.30 | 11.58 | 11.50 | 11.50 | | |
| 60.0 | 3.0 | 42 | 153 | 11.85 | 11.53 | 11.82 | 11.73 | 11.73 | | |
| 60.5 | 3.5 | 42 | 153 | 12.00 | 11.70 | 11.98 | 11.89 | 11.89 | | |
| 61.0 | 4.0 | 42 | 153 | 12.16 | 11.87 | 12.16 | 12.06 | 12.06 | | |
| 61.5 | 4.5 | 42 | 153 | 12.29 | 12.01 | 12.30 | 12.20 | 12.20 | | |
| 62.0 | 5.0 | 42 | 153 | 12.50 | 12.23 | 12.51 | 12.41 | 12.41 | | |
| 62.5 | 5.5 | 42 | 153 | 12.65 | 12.39 | 12.66 | 12.57 | 12.57 | | |
| 63.0 | 6.0 | 42 | 153 | 12.85 | 12.60 | 12.88 | 12.78 | 12.78 | | |
| 63.5 | 6.5 | 42 | 153 | 13.01 | 12.77 | 13.04 | 12.94 | 12.94 | | |
| 64.0 | 7.0 | 42 | 153 | 13.13 | 12.89 | 13.17 | 13.06 | 13.06 | | |
| 64.5 | 7.5 | 42 | 153 | 13.24 | 13.00 | 13.28 | 13.17 | 13.17 | | |
| 65.0 | 8.0 | 42 | 153 | 13.28 | 13.05 | 13.32 | 13.22 | 13.22 | | |
| 65.5 | 8.5 | 42 | 153 | 13.31 | 13.08 | 13.35 | 13.25 | 13.25 | | |
| 66.0 | 9.0 | 42 | 153 | 13.32 | 13.10 | 13.37 | 13.26 | 13.26 | | |
| 66.5 | 9.5 | 42 | 153 | 13.34 | 13.12 | 13.39 | 13.28 | 13.28 | | |
| 67.0 | 10.0 | 42 | 153 | 13.35 | 13.14 | 13.39 | 13.29 | 13.29 | | |
| 67.5 | 10.5 | 42 | 153 | 13.37 | 13.14 | 13.41 | 13.31 | 13.31 | | |
| 68.0 | 11.0 | 42 | 153 | 13.38 | 13.16 | 13.42 | 13.32 | 13.32 | | |
| 68.5 | 11.5 | 42 | 153 | 13.39 | 13.17 | 13.43 | 13.33 | 13.33 | | |
| 69.0 | 12.0 | 42 | 153 | 13.40 | 13.17 | 13.44 | 13.34 | 13.34 | | |
| 69.5 | 12.5 | 42 | 153 | 13.40 | 13.19 | 13.45 | 13.35 | 13.35 | | |
| 70.0 | 13.0 | 42 | 153 | 13.42 | 13.20 | 13.46 | 13.36 | 13.36 | | |
| 70.5 | 13.5 | 42 | 153 | 13.42 | 13.20 | 13.47 | 13.36 | 13.36 | | |
| 71.0 | 14.0 | 42 | 153 | 13.43 | 13.21 | 13.47 | 13.37 | 13.37 | | |
| 71.5 | 14.5 | 42 | 153 | 13.44 | 13.22 | 13.49 | 13.38 | 13.38 | | |
| 72.0 | 15.0 | 42 | 153 | 13.45 | 13.23 | 13.49 | 13.39 | 13.39 | | |
| 72.5 | 15.5 | 42 | 153 | 13.45 | 13.24 | 13.50 | 13.40 | 13.40 | | |
| 73.0 | 16.0 | 42 | 153 | 13.45 | 13.24 | 13.51 | 13.40 | 13.40 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT538

Depth (m) 0.75

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 73.5 | 16.5 | 42 | 153 | 13.47 | 13.26 | 13.51 | 13.41 | 13.41 | | |
| 74.0 | 17.0 | 42 | 153 | 13.47 | 13.26 | 13.52 | 13.42 | 13.42 | | |
| 74.5 | 17.5 | 42 | 153 | 13.48 | 13.27 | 13.52 | 13.42 | 13.42 | | |
| 75.0 | 18.0 | 42 | 153 | 13.49 | 13.27 | 13.53 | 13.43 | 13.43 | | |
| 75.5 | 18.5 | 42 | 153 | 13.49 | 13.27 | 13.54 | 13.43 | 13.43 | | |
| 76.0 | 19.0 | 42 | 153 | 13.49 | 13.27 | 13.54 | 13.43 | 13.43 | **6.18** | **13.43** |
| 76.5 | 0.5 | 21 | 79 | 12.88 | 12.73 | 12.88 | 12.83 | 12.83 | | |
| 77.0 | 1.0 | 21 | 79 | 12.62 | 12.50 | 12.62 | 12.58 | 12.58 | | |
| 77.5 | 1.5 | 21 | 79 | 12.50 | 12.38 | 12.49 | 12.46 | 12.46 | | |
| 78.0 | 2.0 | 21 | 79 | 12.46 | 12.35 | 12.45 | 12.42 | 12.42 | | |
| 78.5 | 2.5 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 79.0 | 3.0 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 79.5 | 3.5 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 80.0 | 4.0 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 80.5 | 4.5 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 81.0 | 5.0 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 81.5 | 5.5 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 82.0 | 6.0 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 82.5 | 6.5 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 83.0 | 7.0 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 83.5 | 7.5 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 84.0 | 8.0 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 84.5 | 8.5 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 85.0 | 9.0 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 85.5 | 9.5 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | | |
| 86.0 | 10.0 | 21 | 79 | 12.46 | 12.33 | 12.45 | 12.41 | 12.41 | **-1.02** | **12.41** |
| 86.5 | 0.5 | 0 | 5 | 8.61 | 8.36 | 8.55 | 8.51 | 8.51 | | |
| 87.0 | 1.0 | 0 | 5 | 8.56 | 8.31 | 8.50 | 8.46 | 8.46 | | |
| 87.5 | 1.5 | 0 | 5 | 8.51 | 8.26 | 8.45 | 8.41 | 8.41 | | |
| 88.0 | 2.0 | 0 | 5 | 8.47 | 8.22 | 8.41 | 8.37 | 8.37 | | |
| 88.5 | 2.5 | 0 | 5 | 8.43 | 8.19 | 8.37 | 8.33 | 8.33 | | |
| 89.0 | 3.0 | 0 | 5 | 8.39 | 8.16 | 8.33 | 8.29 | 8.29 | | |
| 89.5 | 3.5 | 0 | 5 | 8.36 | 8.12 | 8.30 | 8.26 | 8.26 | | |
| 90.0 | 4.0 | 0 | 5 | 8.33 | 8.10 | 8.27 | 8.23 | 8.23 | | |
| 90.5 | 4.5 | 0 | 5 | 8.30 | 8.07 | 8.25 | 8.21 | 8.21 | | |
| 91.0 | 5.0 | 0 | 5 | 8.28 | 8.05 | 8.22 | 8.18 | 8.18 | | |
| 91.5 | 5.5 | 0 | 5 | 8.25 | 8.03 | 8.20 | 8.16 | 8.16 | | |
| 92.0 | 6.0 | 0 | 5 | 8.23 | 8.01 | 8.18 | 8.14 | 8.14 | | |
| 92.5 | 6.5 | 0 | 5 | 8.21 | 7.99 | 8.15 | 8.12 | 8.12 | | |
| 93.0 | 7.0 | 0 | 5 | 8.19 | 7.97 | 8.14 | 8.10 | 8.10 | | |
| 93.5 | 7.5 | 0 | 5 | 8.17 | 7.96 | 8.12 | 8.08 | 8.08 | | |
| 94.0 | 8.0 | 0 | 5 | 8.15 | 7.94 | 8.10 | 8.06 | 8.06 | | |
| 94.5 | 8.5 | 0 | 5 | 8.14 | 7.93 | 8.08 | 8.05 | 8.05 | | |
| 95.0 | 9.0 | 0 | 5 | 8.12 | 7.91 | 8.07 | 8.03 | 8.03 | | |
| 95.5 | 9.5 | 0 | 5 | 8.10 | 7.90 | 8.05 | 8.02 | 8.02 | | |
| 96.0 | 10.0 | 0 | 5 | 8.09 | 7.88 | 8.04 | 8.00 | 8.00 | | |
| 96.5 | 10.5 | 0 | 5 | 8.08 | 7.87 | 8.02 | 7.99 | 7.99 | | |
| 97.0 | 11.0 | 0 | 5 | 8.07 | 7.86 | 8.02 | 7.98 | 7.98 | | |
| 97.5 | 11.5 | 0 | 5 | 8.05 | 7.84 | 8.00 | 7.96 | 7.96 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT538

Depth (m) 0.75

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 98.0 | 12.0 | 0 | 5 | 8.04 | 7.83 | 7.99 | 7.95 | 7.95 | | |
| 98.5 | 12.5 | 0 | 5 | 8.03 | 7.82 | 7.98 | 7.94 | 7.94 | | |
| 99.0 | 13.0 | 0 | 5 | 8.02 | 7.81 | 7.97 | 7.93 | 7.93 | | |
| 99.5 | 13.5 | 0 | 5 | 8.01 | 7.80 | 7.95 | 7.92 | 7.92 | | |
| 100.0 | 14.0 | 0 | 5 | 7.99 | 7.79 | 7.95 | 7.91 | 7.91 | | |
| 100.5 | 14.5 | 0 | 5 | 7.98 | 7.79 | 7.94 | 7.90 | 7.90 | | |
| 101.0 | 15.0 | 0 | 5 | 7.97 | 7.77 | 7.93 | 7.89 | 7.89 | | |
| 101.5 | 15.5 | 0 | 5 | 7.97 | 7.77 | 7.92 | 7.89 | 7.89 | | |
| 102.0 | 16.0 | 0 | 5 | 7.96 | 7.75 | 7.91 | 7.87 | 7.87 | | |
| 102.5 | 16.5 | 0 | 5 | 7.94 | 7.75 | 7.90 | 7.86 | 7.86 | | |
| 103.0 | 17.0 | 0 | 5 | 7.94 | 7.74 | 7.89 | 7.86 | 7.86 | | |
| 103.5 | 17.5 | 0 | 5 | 7.93 | 7.74 | 7.89 | 7.85 | 7.85 | | |
| 104.0 | 18.0 | 0 | 5 | 7.92 | 7.72 | 7.88 | 7.84 | 7.84 | | |
| 104.5 | 18.5 | 0 | 5 | 7.91 | 7.72 | 7.87 | 7.83 | 7.83 | | |
| 105.0 | 19.0 | 0 | 5 | 7.91 | 7.70 | 7.86 | 7.82 | 7.82 | | |
| 105.5 | 19.5 | 0 | 5 | 7.89 | 7.70 | 7.85 | 7.81 | 7.81 | | |
| 106.0 | 20.0 | 0 | 5 | 7.89 | 7.70 | 7.85 | 7.81 | 7.81 | | |
| 106.5 | 20.5 | 0 | 5 | 7.87 | 7.69 | 7.84 | 7.80 | 7.80 | | |
| 107.0 | 21.0 | 0 | 5 | 7.87 | 7.68 | 7.83 | 7.79 | 7.79 | | |
| 107.5 | 21.5 | 0 | 5 | 7.86 | 7.67 | 7.82 | 7.78 | 7.78 | | |
| 108.0 | 22.0 | 0 | 5 | 7.86 | 7.67 | 7.82 | 7.78 | 7.78 | | |
| 108.5 | 22.5 | 0 | 5 | 7.85 | 7.67 | 7.81 | 7.78 | 7.78 | | |
| 109.0 | 23.0 | 0 | 5 | 7.84 | 7.65 | 7.80 | 7.76 | 7.76 | | |
| 109.5 | 23.5 | 0 | 5 | 7.84 | 7.65 | 7.80 | 7.76 | 7.76 | | |
| 110.0 | 24.0 | 0 | 5 | 7.83 | 7.64 | 7.79 | 7.75 | 7.75 | | |
| 110.5 | 24.5 | 0 | 5 | 7.83 | 7.63 | 7.79 | 7.75 | 7.75 | | |
| 111.0 | 25.0 | 0 | 5 | 7.82 | 7.63 | 7.79 | 7.75 | 7.75 | | |
| 111.5 | 25.5 | 0 | 5 | 7.81 | 7.63 | 7.77 | 7.74 | 7.74 | | |
| 112.0 | 26.0 | 0 | 5 | 7.81 | 7.62 | 7.77 | 7.73 | 7.73 | | |
| 112.5 | 26.5 | 0 | 5 | 7.81 | 7.62 | 7.76 | 7.73 | 7.73 | **-4.68** | **7.73** |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

CONTRACT **30378**

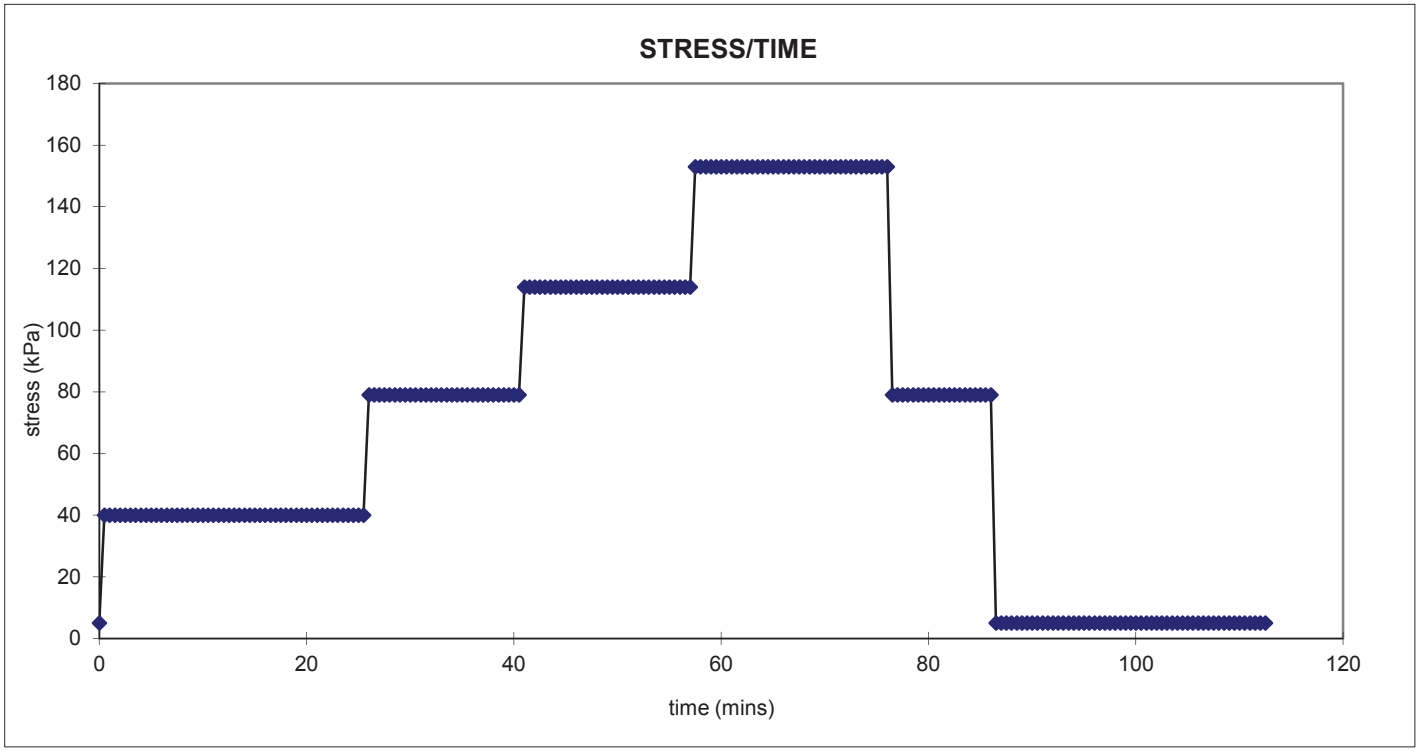
CHECKED **NP**

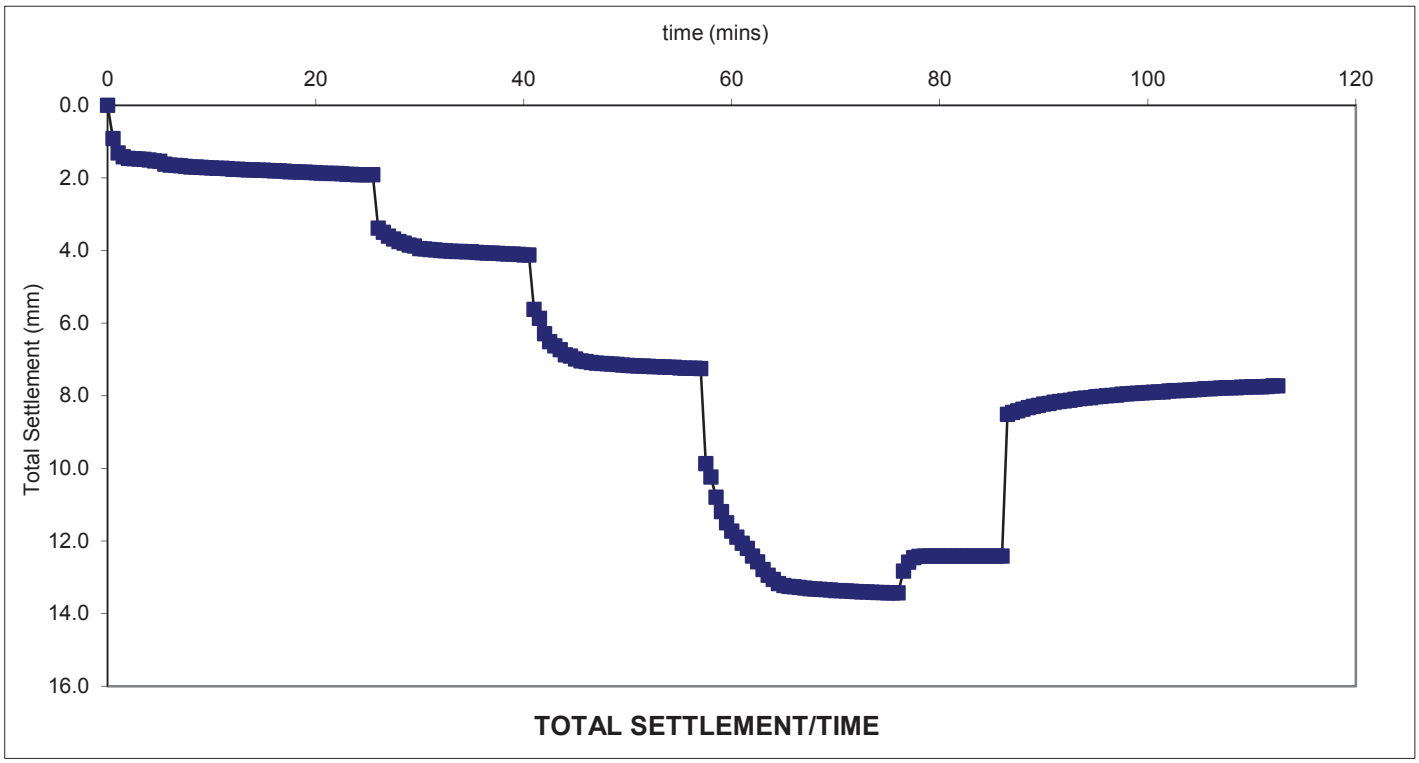
Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT538 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.75 |
| Date | 11 March 2015 | Plate (mm) | 600 |




| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

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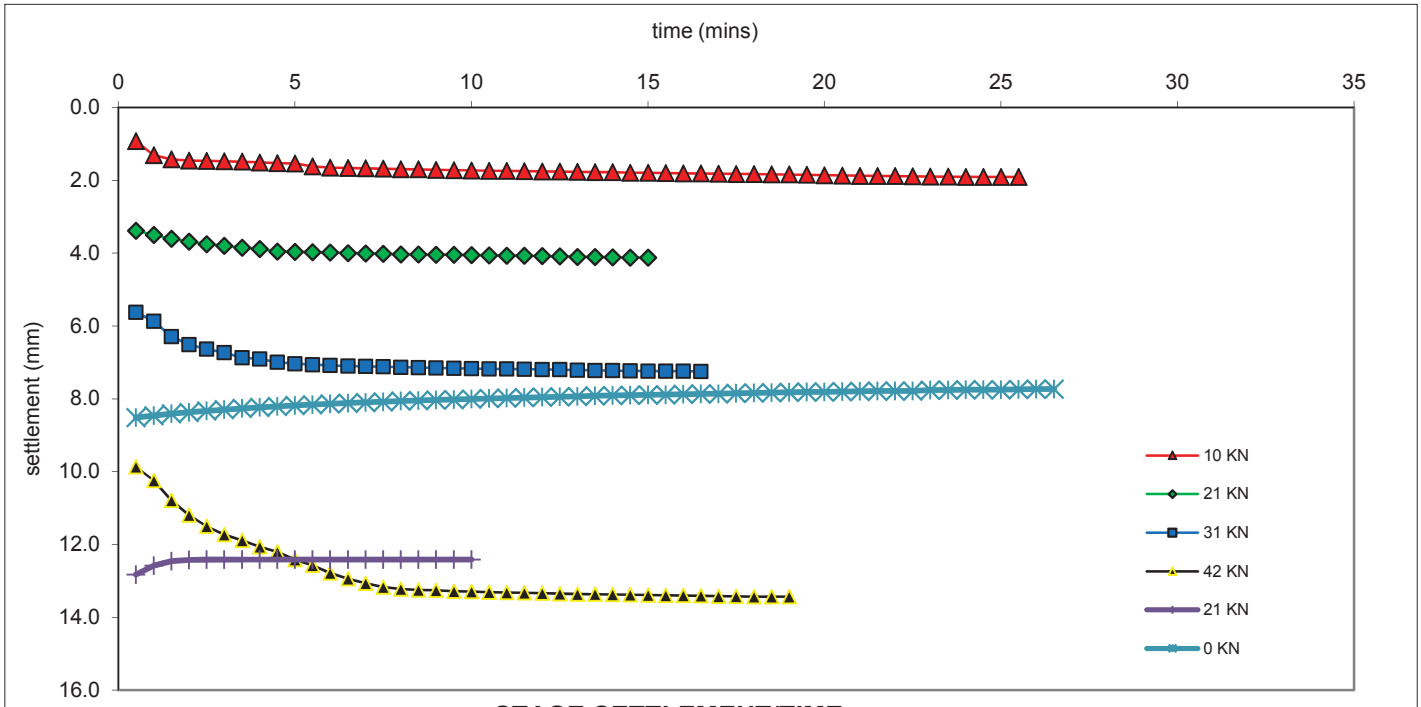
Geotechnical Engineering Limited

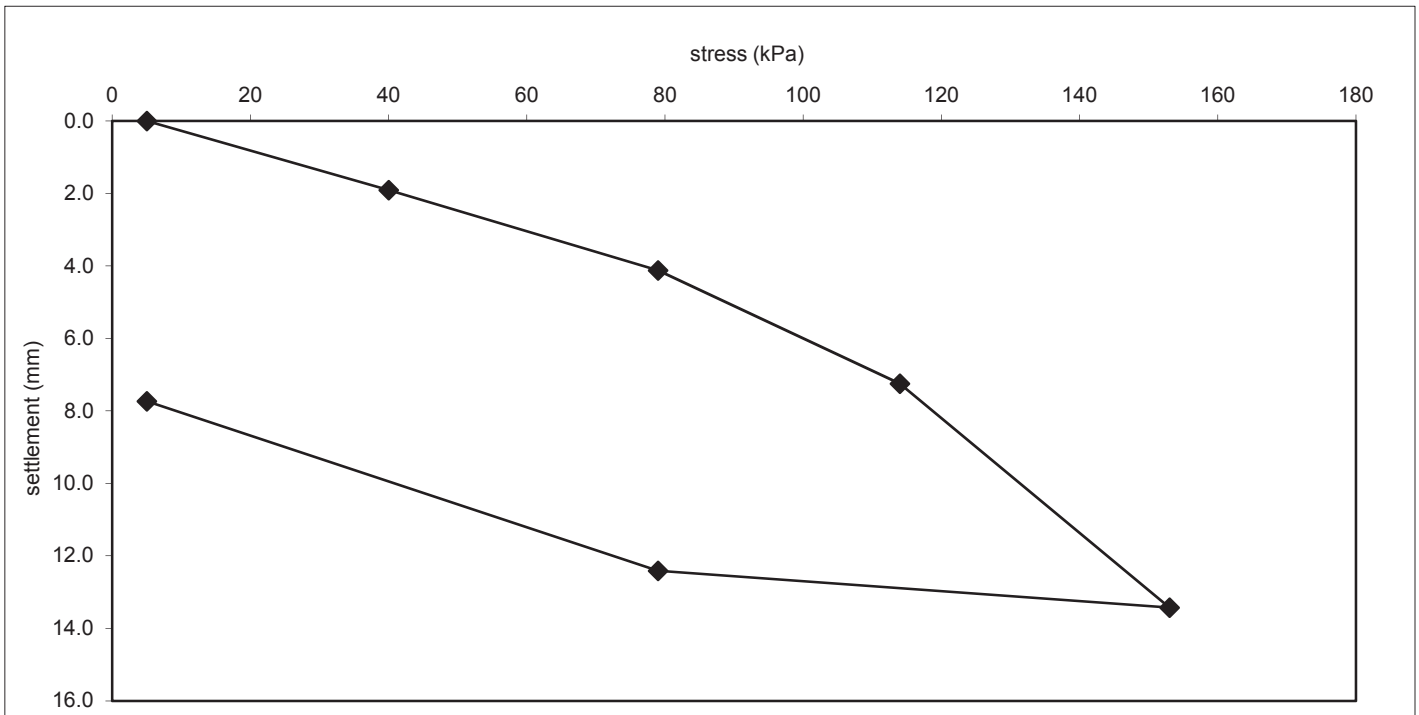
# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT538 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.75 |
| Date | 11 March 2015 | Plate (mm) | 600 |




**STAGE SETTLEMENT/TIME**




**SETTLEMENT/STRESS**

| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

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Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT546

Depth (m) 0.50

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0 | 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **0.00** | **0.00** |
| 0.5 | 0.5 | 10 | 40 | 2.74 | 2.90 | 1.66 | 2.43 | 2.43 | | |
| 1.0 | 1.0 | 10 | 40 | 2.86 | 3.01 | 1.88 | 2.58 | 2.58 | | |
| 1.5 | 1.5 | 10 | 40 | 2.99 | 3.15 | 2.02 | 2.72 | 2.72 | | |
| 2.0 | 2.0 | 10 | 40 | 3.04 | 3.21 | 2.08 | 2.78 | 2.78 | | |
| 2.5 | 2.5 | 10 | 40 | 3.06 | 3.24 | 2.11 | 2.80 | 2.80 | | |
| 3.0 | 3.0 | 10 | 40 | 3.15 | 3.33 | 2.19 | 2.89 | 2.89 | | |
| 3.5 | 3.5 | 10 | 40 | 3.19 | 3.37 | 2.24 | 2.93 | 2.93 | | |
| 4.0 | 4.0 | 10 | 40 | 3.21 | 3.40 | 2.27 | 2.96 | 2.96 | | |
| 4.5 | 4.5 | 10 | 40 | 3.24 | 3.42 | 2.29 | 2.98 | 2.98 | | |
| 5.0 | 5.0 | 10 | 40 | 3.26 | 3.44 | 2.31 | 3.00 | 3.00 | | |
| 5.5 | 5.5 | 10 | 40 | 3.27 | 3.45 | 2.34 | 3.02 | 3.02 | | |
| 6.0 | 6.0 | 10 | 40 | 3.32 | 3.48 | 2.38 | 3.06 | 3.06 | | |
| 6.5 | 6.5 | 10 | 40 | 3.35 | 3.52 | 2.41 | 3.09 | 3.09 | | |
| 7.0 | 7.0 | 10 | 40 | 3.37 | 3.53 | 2.43 | 3.11 | 3.11 | | |
| 7.5 | 7.5 | 10 | 40 | 3.38 | 3.55 | 2.45 | 3.13 | 3.13 | | |
| 8.0 | 8.0 | 10 | 40 | 3.40 | 3.59 | 2.47 | 3.15 | 3.15 | | |
| 8.5 | 8.5 | 10 | 40 | 3.42 | 3.60 | 2.49 | 3.17 | 3.17 | | |
| 9.0 | 9.0 | 10 | 40 | 3.44 | 3.62 | 2.50 | 3.19 | 3.19 | | |
| 9.5 | 9.5 | 10 | 40 | 3.45 | 3.64 | 2.51 | 3.20 | 3.20 | | |
| 10.0 | 10.0 | 10 | 40 | 3.47 | 3.65 | 2.53 | 3.22 | 3.22 | | |
| 10.5 | 0.0 | 10 | 40 | 3.48 | 3.66 | 2.55 | 3.23 | 3.23 | | |
| 11.0 | 0.5 | 10 | 40 | 3.50 | 3.68 | 2.57 | 3.25 | 3.25 | | |
| 11.5 | 1.0 | 10 | 40 | 3.51 | 3.69 | 2.58 | 3.26 | 3.26 | | |
| 12.0 | 1.5 | 10 | 40 | 3.53 | 3.69 | 2.59 | 3.27 | 3.27 | | |
| 12.5 | 2.0 | 10 | 40 | 3.54 | 3.71 | 2.60 | 3.28 | 3.28 | | |
| 13.0 | 2.5 | 10 | 40 | 3.55 | 3.72 | 2.62 | 3.30 | 3.30 | | |
| 13.5 | 3.0 | 10 | 40 | 3.57 | 3.73 | 2.63 | 3.31 | 3.31 | | |
| 14.0 | 3.5 | 10 | 40 | 3.58 | 3.74 | 2.64 | 3.32 | 3.32 | | |
| 14.5 | 4.0 | 10 | 40 | 3.59 | 3.76 | 2.65 | 3.33 | 3.33 | | |
| 15.0 | 4.5 | 10 | 40 | 3.60 | 3.77 | 2.67 | 3.35 | 3.35 | | |
| 15.5 | 5.0 | 10 | 40 | 3.61 | 3.79 | 2.67 | 3.36 | 3.36 | | |
| 16.0 | 5.5 | 10 | 40 | 3.62 | 3.79 | 2.69 | 3.37 | 3.37 | | |
| 16.5 | 6.0 | 10 | 40 | 3.64 | 3.80 | 2.70 | 3.38 | 3.38 | | |
| 17.0 | 6.5 | 10 | 40 | 3.65 | 3.81 | 2.70 | 3.39 | 3.39 | | |
| 17.5 | 7.0 | 10 | 40 | 3.65 | 3.83 | 2.71 | 3.40 | 3.40 | | |
| 18.0 | 7.5 | 10 | 40 | 3.67 | 3.83 | 2.72 | 3.41 | 3.41 | | |
| 18.5 | 8.0 | 10 | 40 | 3.68 | 3.85 | 2.74 | 3.42 | 3.42 | | |
| 19.0 | 8.5 | 10 | 40 | 3.69 | 3.86 | 2.74 | 3.43 | 3.43 | | |
| 19.5 | 9.0 | 10 | 40 | 3.70 | 3.87 | 2.75 | 3.44 | 3.44 | | |
| 20.0 | 9.5 | 10 | 40 | 3.71 | 3.88 | 2.76 | 3.45 | 3.45 | | |
| 20.5 | 10.0 | 10 | 40 | 3.71 | 3.89 | 2.77 | 3.46 | 3.46 | | |
| 21.0 | 10.5 | 10 | 40 | 3.73 | 3.90 | 2.78 | 3.47 | 3.47 | | |
| 21.5 | 11.0 | 10 | 40 | 3.74 | 3.92 | 2.79 | 3.48 | 3.48 | | |
| 22.0 | 11.5 | 10 | 40 | 3.75 | 3.93 | 2.80 | 3.49 | 3.49 | | |
| 22.5 | 12.0 | 10 | 40 | 3.75 | 3.94 | 2.80 | 3.50 | 3.50 | | |
| 23.0 | 12.5 | 10 | 40 | 3.76 | 3.96 | 2.81 | 3.51 | 3.51 | | |
| 23.5 | 13.0 | 10 | 40 | 3.78 | 3.97 | 2.82 | 3.52 | 3.52 | | |
| 24.0 | 13.5 | 10 | 40 | 3.78 | 3.99 | 2.82 | 3.53 | 3.53 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator
Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT546

Depth (m) 0.50

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 24.5 | 14.0 | 10 | 40 | 3.79 | 3.99 | 2.84 | 3.54 | 3.54 | | |
| 25.0 | 14.5 | 10 | 40 | 3.80 | 4.00 | 2.84 | 3.55 | 3.55 | | |
| 25.5 | 15.0 | 10 | 40 | 3.81 | 4.01 | 2.85 | 3.56 | 3.56 | | |
| 26.0 | 15.5 | 10 | 40 | 3.81 | 4.03 | 2.85 | 3.56 | 3.56 | | |
| 26.5 | 16.0 | 10 | 40 | 3.83 | 4.03 | 2.87 | 3.58 | 3.58 | | |
| 27.0 | 16.5 | 10 | 40 | 3.83 | 4.04 | 2.87 | 3.58 | 3.58 | | |
| 27.5 | 17.0 | 10 | 40 | 3.85 | 4.05 | 2.88 | 3.59 | 3.59 | | |
| 28.0 | 17.5 | 10 | 40 | 3.85 | 4.06 | 2.89 | 3.60 | 3.60 | | |
| 28.5 | 18.0 | 10 | 40 | 3.86 | 4.07 | 2.89 | 3.61 | 3.61 | | |
| 29.0 | 18.5 | 10 | 40 | 3.86 | 4.08 | 2.90 | 3.61 | 3.61 | | |
| 29.5 | 19.0 | 10 | 40 | 3.88 | 4.09 | 2.90 | 3.62 | 3.62 | | |
| 30.0 | 19.5 | 10 | 40 | 3.88 | 4.09 | 2.91 | 3.63 | 3.63 | | |
| 30.5 | 20.0 | 10 | 40 | 3.89 | 4.11 | 2.92 | 3.64 | 3.64 | | |
| 31.0 | 20.5 | 10 | 40 | 3.90 | 4.12 | 2.93 | 3.65 | 3.65 | | |
| 31.5 | 21.0 | 10 | 40 | 3.91 | 4.13 | 2.94 | 3.66 | 3.66 | | |
| 32.0 | 21.5 | 10 | 40 | 3.92 | 4.13 | 2.94 | 3.66 | 3.66 | | |
| 32.5 | 22.0 | 10 | 40 | 3.93 | 4.16 | 2.88 | 3.66 | 3.66 | | |
| 33.0 | 22.5 | 10 | 40 | 3.93 | 4.14 | 2.87 | 3.65 | 3.65 | | |
| 33.5 | 23.0 | 10 | 40 | 3.94 | 4.14 | 2.87 | 3.65 | 3.65 | **3.65** | **3.65** |
| 34.0 | 0.5 | 21 | 79 | 5.38 | 5.56 | 4.02 | 4.99 | 4.99 | | |
| 34.5 | 1.0 | 21 | 79 | 5.48 | 5.79 | 4.18 | 5.15 | 5.15 | | |
| 35.0 | 1.5 | 21 | 79 | 5.65 | 5.95 | 4.37 | 5.32 | 5.32 | | |
| 35.5 | 2.0 | 21 | 79 | 5.80 | 6.08 | 4.53 | 5.47 | 5.47 | | |
| 36.0 | 2.5 | 21 | 79 | 5.87 | 6.17 | 4.61 | 5.55 | 5.55 | | |
| 36.5 | 3.0 | 21 | 79 | 5.93 | 6.24 | 4.68 | 5.62 | 5.62 | | |
| 37.0 | 3.5 | 21 | 79 | 6.01 | 6.30 | 4.76 | 5.69 | 5.69 | | |
| 37.5 | 4.0 | 21 | 79 | 6.03 | 6.31 | 4.79 | 5.71 | 5.71 | | |
| 38.0 | 4.5 | 21 | 79 | 6.05 | 6.34 | 4.81 | 5.73 | 5.73 | | |
| 38.5 | 5.0 | 21 | 79 | 6.06 | 6.35 | 4.82 | 5.74 | 5.74 | | |
| 39.0 | 5.5 | 21 | 79 | 6.08 | 6.35 | 4.84 | 5.76 | 5.76 | | |
| 39.5 | 6.0 | 21 | 79 | 6.09 | 6.36 | 4.85 | 5.77 | 5.77 | | |
| 40.0 | 6.5 | 21 | 79 | 6.09 | 6.39 | 4.85 | 5.78 | 5.78 | | |
| 40.5 | 7.0 | 21 | 79 | 6.11 | 6.38 | 4.87 | 5.79 | 5.79 | | |
| 41.0 | 7.5 | 21 | 79 | 6.11 | 6.40 | 4.88 | 5.80 | 5.80 | | |
| 41.5 | 8.0 | 21 | 79 | 6.12 | 6.40 | 4.88 | 5.80 | 5.80 | | |
| 42.0 | 8.5 | 21 | 79 | 6.13 | 6.42 | 4.89 | 5.81 | 5.81 | | |
| 42.5 | 9.0 | 21 | 79 | 6.14 | 6.44 | 4.90 | 5.83 | 5.83 | | |
| 43.0 | 9.5 | 21 | 79 | 6.15 | 6.44 | 4.90 | 5.83 | 5.83 | | |
| 43.5 | 10.0 | 21 | 79 | 6.16 | 6.45 | 4.92 | 5.84 | 5.84 | | |
| 44.0 | 10.5 | 21 | 79 | 6.16 | 6.46 | 4.92 | 5.85 | 5.85 | | |
| 44.5 | 11.0 | 21 | 79 | 6.17 | 6.47 | 4.92 | 5.85 | 5.85 | | |
| 45.0 | 11.5 | 21 | 79 | 6.18 | 6.48 | 4.93 | 5.86 | 5.86 | | |
| 45.5 | 12.0 | 21 | 79 | 6.19 | 6.48 | 4.93 | 5.87 | 5.87 | | |
| 46.0 | 12.5 | 21 | 79 | 6.19 | 6.49 | 4.95 | 5.88 | 5.88 | | |
| 46.5 | 13.0 | 21 | 79 | 6.19 | 6.49 | 4.95 | 5.88 | 5.88 | | |
| 47.0 | 13.5 | 21 | 79 | 6.21 | 6.51 | 4.95 | 5.89 | 5.89 | | |
| 47.5 | 14.0 | 21 | 79 | 6.21 | 6.51 | 4.96 | 5.89 | 5.89 | | |
| 48.0 | 14.5 | 21 | 79 | 6.22 | 6.51 | 4.97 | 5.90 | 5.90 | | |
| 48.5 | 15.0 | 21 | 79 | 6.22 | 6.53 | 4.97 | 5.91 | 5.91 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY — Test No. PBT546

SITE GRAVEN HILL, BICESTER — Depth (m) 0.50

Date 11 March 2015 — Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 49.0 | 15.5 | 21 | 79 | 6.22 | 6.53 | 4.98 | 5.91 | 5.91 | | |
| 49.5 | 16.0 | 21 | 79 | 6.23 | 6.53 | 4.98 | 5.91 | 5.91 | **2.26** | **5.91** |
| 50.0 | 0.5 | 31 | 114 | 8.06 | 8.37 | 6.81 | 7.75 | 7.75 | | |
| 50.5 | 1.0 | 31 | 114 | 8.26 | 8.52 | 7.02 | 7.93 | 7.93 | | |
| 51.0 | 1.5 | 31 | 114 | 8.55 | 8.78 | 7.35 | 8.23 | 8.23 | | |
| 51.5 | 2.0 | 31 | 114 | 8.63 | 8.86 | 7.46 | 8.32 | 8.32 | | |
| 52.0 | 2.5 | 31 | 114 | 8.76 | 8.99 | 7.61 | 8.45 | 8.45 | | |
| 52.5 | 3.0 | 31 | 114 | 8.80 | 9.03 | 7.66 | 8.50 | 8.50 | | |
| 53.0 | 3.5 | 31 | 114 | 8.87 | 9.09 | 7.72 | 8.56 | 8.56 | | |
| 53.5 | 4.0 | 31 | 114 | 8.92 | 9.14 | 7.76 | 8.61 | 8.61 | | |
| 54.0 | 4.5 | 31 | 114 | 8.94 | 9.16 | 7.79 | 8.63 | 8.63 | | |
| 54.5 | 5.0 | 31 | 114 | 8.99 | 9.21 | 7.84 | 8.68 | 8.68 | | |
| 55.0 | 5.5 | 31 | 114 | 9.02 | 9.24 | 7.88 | 8.71 | 8.71 | | |
| 55.5 | 6.0 | 31 | 114 | 9.04 | 9.26 | 7.90 | 8.73 | 8.73 | | |
| 56.0 | 6.5 | 31 | 114 | 9.06 | 9.28 | 7.91 | 8.75 | 8.75 | | |
| 56.5 | 7.0 | 31 | 114 | 9.07 | 9.29 | 7.93 | 8.76 | 8.76 | | |
| 57.0 | 7.5 | 31 | 114 | 9.09 | 9.30 | 7.94 | 8.78 | 8.78 | | |
| 57.5 | 8.0 | 31 | 114 | 9.10 | 9.31 | 7.95 | 8.79 | 8.79 | | |
| 58.0 | 8.5 | 31 | 114 | 9.11 | 9.33 | 7.96 | 8.80 | 8.80 | | |
| 58.5 | 9.0 | 31 | 114 | 9.12 | 9.33 | 7.97 | 8.81 | 8.81 | | |
| 59.0 | 9.5 | 31 | 114 | 9.13 | 9.34 | 7.98 | 8.82 | 8.82 | | |
| 59.5 | 10.0 | 31 | 114 | 9.13 | 9.35 | 7.99 | 8.82 | 8.82 | | |
| 60.0 | 10.5 | 31 | 114 | 9.14 | 9.36 | 7.99 | 8.83 | 8.83 | | |
| 60.5 | 11.0 | 31 | 114 | 9.15 | 9.36 | 8.00 | 8.84 | 8.84 | | |
| 61.0 | 11.5 | 31 | 114 | 9.16 | 9.38 | 8.00 | 8.85 | 8.85 | | |
| 61.5 | 12.0 | 31 | 114 | 9.16 | 9.38 | 8.00 | 8.85 | 8.85 | | |
| 62.0 | 12.5 | 31 | 114 | 9.17 | 9.40 | 8.02 | 8.86 | 8.86 | | |
| 62.5 | 13.0 | 31 | 114 | 9.18 | 9.40 | 8.02 | 8.87 | 8.87 | | |
| 63.0 | 13.5 | 31 | 114 | 9.19 | 9.40 | 8.03 | 8.87 | 8.87 | | |
| 63.5 | 14.0 | 31 | 114 | 9.20 | 9.41 | 8.04 | 8.88 | 8.88 | | |
| 64.0 | 14.5 | 31 | 114 | 9.20 | 9.41 | 8.04 | 8.88 | 8.88 | | |
| 64.5 | 15.0 | 31 | 114 | 9.20 | 9.43 | 8.04 | 8.89 | 8.89 | | |
| 65.0 | 15.5 | 31 | 114 | 9.21 | 9.43 | 8.05 | 8.90 | 8.90 | | |
| 65.5 | 16.0 | 31 | 114 | 9.21 | 9.43 | 8.05 | 8.90 | 8.90 | **2.99** | **8.90** |
| 66.0 | 0.5 | 42 | 153 | 11.36 | 11.42 | 10.13 | 10.97 | 10.97 | | |
| 66.5 | 1.0 | 42 | 153 | 11.44 | 11.67 | 10.46 | 11.19 | 11.19 | | |
| 67.0 | 1.5 | 42 | 153 | 11.73 | 11.96 | 10.79 | 11.49 | 11.49 | | |
| 67.5 | 2.0 | 42 | 153 | 11.97 | 12.20 | 11.06 | 11.74 | 11.74 | | |
| 68.0 | 2.5 | 42 | 153 | 12.13 | 12.35 | 11.24 | 11.91 | 11.91 | | |
| 68.5 | 3.0 | 42 | 153 | 12.29 | 12.52 | 11.42 | 12.08 | 12.08 | | |
| 69.0 | 3.5 | 42 | 153 | 12.46 | 12.68 | 11.61 | 12.25 | 12.25 | | |
| 69.5 | 4.0 | 42 | 153 | 12.56 | 12.78 | 11.71 | 12.35 | 12.35 | | |
| 70.0 | 4.5 | 42 | 153 | 12.65 | 12.87 | 11.81 | 12.44 | 12.44 | | |
| 70.5 | 5.0 | 42 | 153 | 12.71 | 12.93 | 11.87 | 12.50 | 12.50 | | |
| 71.0 | 5.5 | 42 | 153 | 12.78 | 13.00 | 11.95 | 12.58 | 12.58 | | |
| 71.5 | 6.0 | 42 | 153 | 12.83 | 13.06 | 12.01 | 12.63 | 12.63 | | |
| 72.0 | 6.5 | 42 | 153 | 12.86 | 13.08 | 12.04 | 12.66 | 12.66 | | |
| 72.5 | 7.0 | 42 | 153 | 12.97 | 13.19 | 12.16 | 12.77 | 12.77 | | |
| 73.0 | 7.5 | 42 | 153 | 13.08 | 13.30 | 12.28 | 12.89 | 12.89 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT546

Depth (m) 0.50

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 73.5 | 8.0 | 42 | 153 | 13.14 | 13.36 | 12.34 | 12.95 | 12.95 | | |
| 74.0 | 8.5 | 42 | 153 | 13.17 | 13.39 | 12.37 | 12.98 | 12.98 | | |
| 74.5 | 9.0 | 42 | 153 | 13.19 | 13.41 | 12.40 | 13.00 | 13.00 | | |
| 75.0 | 9.5 | 42 | 153 | 13.21 | 13.43 | 12.43 | 13.02 | 13.02 | | |
| 75.5 | 10.0 | 42 | 153 | 13.23 | 13.44 | 12.43 | 13.03 | 13.03 | | |
| 76.0 | 10.5 | 42 | 153 | 13.25 | 13.44 | 12.46 | 13.05 | 13.05 | | |
| 76.5 | 11.0 | 42 | 153 | 13.26 | 13.45 | 12.47 | 13.06 | 13.06 | | |
| 77.0 | 11.5 | 42 | 153 | 13.27 | 13.46 | 12.47 | 13.07 | 13.07 | | |
| 77.5 | 12.0 | 42 | 153 | 13.29 | 13.48 | 12.48 | 13.08 | 13.08 | | |
| 78.0 | 12.5 | 42 | 153 | 13.30 | 13.49 | 12.50 | 13.10 | 13.10 | | |
| 78.5 | 13.0 | 42 | 153 | 13.31 | 13.51 | 12.50 | 13.11 | 13.11 | | |
| 79.0 | 13.5 | 42 | 153 | 13.32 | 13.52 | 12.52 | 13.12 | 13.12 | | |
| 79.5 | 14.0 | 42 | 153 | 13.33 | 13.53 | 12.52 | 13.13 | 13.13 | | |
| 80.0 | 14.5 | 42 | 153 | 13.34 | 13.54 | 12.53 | 13.14 | 13.14 | | |
| 80.5 | 15.0 | 42 | 153 | 13.35 | 13.55 | 12.54 | 13.15 | 13.15 | | |
| 81.0 | 15.5 | 42 | 153 | 13.35 | 13.56 | 12.55 | 13.15 | 13.15 | | |
| 81.5 | 16.0 | 42 | 153 | 13.36 | 13.56 | 12.57 | 13.16 | 13.16 | | |
| 82.0 | 16.5 | 42 | 153 | 13.37 | 13.57 | 12.57 | 13.17 | 13.17 | | |
| 82.5 | 17.0 | 42 | 153 | 13.38 | 13.59 | 12.57 | 13.18 | 13.18 | | |
| 83.0 | 17.5 | 42 | 153 | 13.39 | 13.59 | 12.57 | 13.18 | 13.18 | | |
| 83.5 | 18.0 | 42 | 153 | 13.39 | 13.59 | 12.58 | 13.19 | 13.19 | | |
| 84.0 | 18.5 | 42 | 153 | 13.40 | 13.61 | 12.59 | 13.20 | 13.20 | | |
| 84.5 | 19.0 | 42 | 153 | 13.41 | 13.61 | 12.60 | 13.21 | 13.21 | | |
| 85.0 | 19.5 | 42 | 153 | 13.42 | 13.62 | 12.60 | 13.21 | 13.21 | | |
| 85.5 | 20.0 | 42 | 153 | 13.42 | 13.62 | 12.60 | 13.21 | 13.21 | | |
| 86.0 | 20.5 | 42 | 153 | 13.42 | 13.63 | 12.61 | 13.22 | 13.22 | | |
| 86.5 | 21.0 | 42 | 153 | 13.43 | 13.64 | 12.62 | 13.23 | 13.23 | | |
| 87.0 | 21.5 | 42 | 153 | 13.44 | 13.65 | 12.62 | 13.24 | 13.24 | | |
| 87.5 | 22.0 | 42 | 153 | 13.44 | 13.66 | 12.63 | 13.24 | 13.24 | | |
| 88.0 | 22.5 | 42 | 153 | 13.45 | 13.66 | 12.63 | 13.25 | 13.25 | | |
| 88.5 | 23.0 | 42 | 153 | 13.45 | 13.67 | 12.63 | 13.25 | 13.25 | **4.35** | **13.25** |
| 89.0 | 0.5 | 21 | 79 | 12.79 | 12.90 | 11.88 | 12.52 | 12.52 | | |
| 89.5 | 1.0 | 21 | 79 | 12.70 | 12.97 | 11.81 | 12.49 | 12.49 | | |
| 90.0 | 1.5 | 21 | 79 | 12.68 | 12.95 | 11.79 | 12.47 | 12.47 | | |
| 90.5 | 2.0 | 21 | 79 | 12.68 | 12.95 | 11.78 | 12.47 | 12.47 | | |
| 91.0 | 2.5 | 21 | 79 | 12.64 | 12.92 | 11.75 | 12.44 | 12.44 | | |
| 91.5 | 3.0 | 21 | 79 | 12.55 | 12.83 | 11.65 | 12.34 | 12.34 | | |
| 92.0 | 3.5 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 92.5 | 4.0 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 93.0 | 4.5 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 93.5 | 5.0 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 94.0 | 5.5 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 94.5 | 6.0 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 95.0 | 6.5 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 95.5 | 7.0 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 96.0 | 7.5 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 96.5 | 8.0 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 97.0 | 8.5 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |
| 97.5 | 9.0 | 21 | 79 | 12.53 | 12.82 | 11.64 | 12.33 | 12.33 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT546

Depth (m) 0.50

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 98.0 | 9.5 | 21 | 79 | 12.53 | 12.82 | 11.63 | 12.33 | 12.33 | | |
| 98.5 | 10.0 | 21 | 79 | 12.52 | 12.82 | 11.63 | 12.32 | 12.32 | **-0.93** | **12.32** |
| 99.0 | 0.5 | 0 | 5 | 8.83 | 8.91 | 7.81 | 8.52 | 8.52 | | |
| 99.5 | 1.0 | 0 | 5 | 8.76 | 8.85 | 7.72 | 8.44 | 8.44 | | |
| 100.0 | 1.5 | 0 | 5 | 8.70 | 8.79 | 7.63 | 8.37 | 8.37 | | |
| 100.5 | 2.0 | 0 | 5 | 8.65 | 8.75 | 7.56 | 8.32 | 8.32 | | |
| 101.0 | 2.5 | 0 | 5 | 8.59 | 8.71 | 7.49 | 8.26 | 8.26 | | |
| 101.5 | 3.0 | 0 | 5 | 8.55 | 8.67 | 7.43 | 8.22 | 8.22 | | |
| 102.0 | 3.5 | 0 | 5 | 8.51 | 8.63 | 7.37 | 8.17 | 8.17 | | |
| 102.5 | 4.0 | 0 | 5 | 8.47 | 8.60 | 7.31 | 8.13 | 8.13 | | |
| 103.0 | 4.5 | 0 | 5 | 8.43 | 8.57 | 7.25 | 8.08 | 8.08 | | |
| 103.5 | 5.0 | 0 | 5 | 8.39 | 8.54 | 7.20 | 8.04 | 8.04 | | |
| 104.0 | 5.5 | 0 | 5 | 8.35 | 8.51 | 7.15 | 8.00 | 8.00 | | |
| 104.5 | 6.0 | 0 | 5 | 8.32 | 8.48 | 7.10 | 7.97 | 7.97 | | |
| 105.0 | 6.5 | 0 | 5 | 8.29 | 8.46 | 7.05 | 7.93 | 7.93 | | |
| 105.5 | 7.0 | 0 | 5 | 8.26 | 8.44 | 7.01 | 7.90 | 7.90 | | |
| 106.0 | 7.5 | 0 | 5 | 8.23 | 8.42 | 6.96 | 7.87 | 7.87 | | |
| 106.5 | 8.0 | 0 | 5 | 8.20 | 8.40 | 6.92 | 7.84 | 7.84 | | |
| 107.0 | 8.5 | 0 | 5 | 8.18 | 8.38 | 6.88 | 7.81 | 7.81 | | |
| 107.5 | 9.0 | 0 | 5 | 8.15 | 8.36 | 6.84 | 7.78 | 7.78 | | |
| 108.0 | 9.5 | 0 | 5 | 8.13 | 8.34 | 6.80 | 7.76 | 7.76 | | |
| 108.5 | 10.0 | 0 | 5 | 8.10 | 8.32 | 6.77 | 7.73 | 7.73 | | |
| 109.0 | 10.5 | 0 | 5 | 8.08 | 8.31 | 6.73 | 7.71 | 7.71 | | |
| 109.5 | 11.0 | 0 | 5 | 8.06 | 8.29 | 6.70 | 7.68 | 7.68 | | |
| 110.0 | 11.5 | 0 | 5 | 8.03 | 8.28 | 6.66 | 7.66 | 7.66 | | |
| 110.5 | 12.0 | 0 | 5 | 8.01 | 8.26 | 6.63 | 7.63 | 7.63 | | |
| 111.0 | 12.5 | 0 | 5 | 7.99 | 8.25 | 6.60 | 7.61 | 7.61 | | |
| 111.5 | 13.0 | 0 | 5 | 7.97 | 8.23 | 6.57 | 7.59 | 7.59 | | |
| 112.0 | 13.5 | 0 | 5 | 7.95 | 8.22 | 6.53 | 7.57 | 7.57 | | |
| 112.5 | 14.0 | 0 | 5 | 7.93 | 8.20 | 6.50 | 7.54 | 7.54 | | |
| 113.0 | 14.5 | 0 | 5 | 7.91 | 8.19 | 6.47 | 7.52 | 7.52 | | |
| 113.5 | 15.0 | 0 | 5 | 7.89 | 8.18 | 6.45 | 7.51 | 7.51 | | |
| 114.0 | 15.5 | 0 | 5 | 7.87 | 8.16 | 6.42 | 7.48 | 7.48 | | |
| 114.5 | 16.0 | 0 | 5 | 7.85 | 8.15 | 6.39 | 7.46 | 7.46 | | |
| 115.0 | 16.5 | 0 | 5 | 7.84 | 8.14 | 6.37 | 7.45 | 7.45 | | |
| 115.5 | 17.0 | 0 | 5 | 7.82 | 8.13 | 6.34 | 7.43 | 7.43 | | |
| 116.0 | 17.5 | 0 | 5 | 7.81 | 8.11 | 6.32 | 7.41 | 7.41 | | |
| 116.5 | 18.0 | 0 | 5 | 7.78 | 8.10 | 6.29 | 7.39 | 7.39 | | |
| 117.0 | 18.5 | 0 | 5 | 7.77 | 8.09 | 6.26 | 7.37 | 7.37 | | |
| 117.5 | 19.0 | 0 | 5 | 7.75 | 8.09 | 6.24 | 7.36 | 7.36 | | |
| 118.0 | 19.5 | 0 | 5 | 7.74 | 8.07 | 6.22 | 7.34 | 7.34 | | |
| 118.5 | 20.0 | 0 | 5 | 7.72 | 8.06 | 6.19 | 7.32 | 7.32 | | |
| 119.0 | 20.5 | 0 | 5 | 7.71 | 8.05 | 6.17 | 7.31 | 7.31 | | |
| 119.5 | 21.0 | 0 | 5 | 7.69 | 8.04 | 6.15 | 7.29 | 7.29 | | |
| 120.0 | 21.5 | 0 | 5 | 7.68 | 8.03 | 6.13 | 7.28 | 7.28 | | |
| 120.5 | 22.0 | 0 | 5 | 7.66 | 8.02 | 6.11 | 7.26 | 7.26 | | |
| 121.0 | 22.5 | 0 | 5 | 7.65 | 8.01 | 6.09 | 7.25 | 7.25 | | |
| 121.5 | 23.0 | 0 | 5 | 7.64 | 8.00 | 6.07 | 7.24 | 7.24 | | |
| 122.0 | 23.5 | 0 | 5 | 7.62 | 7.99 | 6.05 | 7.22 | 7.22 | | |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL, BICESTER

Date 11 March 2015

Test No. PBT546

Depth (m) 0.50

Plate (mm) 600

| total time (mins) | stage time (mins) | load (kN) | stress (kPa) | probe 1 (mm) | probe 2 (mm) | probe 3 (mm) | average probe (mm) | total settlement (mm) | stage settlement (mm) | total settlement (mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 122.5 | 24.0 | 0 | 5 | 7.61 | 7.99 | 6.03 | 7.21 | 7.21 | | |
| 123.0 | 24.5 | 0 | 5 | 7.60 | 7.97 | 6.01 | 7.19 | 7.19 | | |
| 123.5 | 25.0 | 0 | 5 | 7.58 | 7.96 | 5.99 | 7.18 | 7.18 | | |
| 124.0 | 25.5 | 0 | 5 | 7.57 | 7.95 | 5.97 | 7.16 | 7.16 | | |
| 124.5 | 26.0 | 0 | 5 | 7.56 | 7.95 | 5.95 | 7.15 | 7.15 | | |
| 125.0 | 26.5 | 0 | 5 | 7.54 | 7.94 | 5.93 | 7.14 | 7.14 | | |
| 125.5 | 27.0 | 0 | 5 | 7.53 | 7.93 | 5.92 | 7.13 | 7.13 | | |
| 126.0 | 27.5 | 0 | 5 | 7.52 | 7.92 | 5.90 | 7.11 | 7.11 | | |
| 126.5 | 28.0 | 0 | 5 | 7.51 | 7.90 | 5.89 | 7.10 | 7.10 | | |
| 127.0 | 28.5 | 0 | 5 | 7.50 | 7.90 | 5.86 | 7.09 | 7.09 | | |
| 127.5 | 29.0 | 0 | 5 | 7.48 | 7.89 | 5.85 | 7.07 | 7.07 | | |
| 128.0 | 29.5 | 0 | 5 | 7.48 | 7.89 | 5.83 | 7.07 | 7.07 | | |
| 128.5 | 30.0 | 0 | 5 | 7.46 | 7.87 | 5.82 | 7.05 | 7.05 | | |
| 129.0 | 30.5 | 0 | 5 | 7.45 | 7.87 | 5.80 | 7.04 | 7.04 | | |
| 129.5 | 31.0 | 0 | 5 | 7.44 | 7.86 | 5.79 | 7.03 | 7.03 | | |
| 130.0 | 31.5 | 0 | 5 | 7.43 | 7.85 | 5.77 | 7.02 | 7.02 | | |
| 130.5 | 32.0 | 0 | 5 | 7.41 | 7.85 | 5.76 | 7.01 | 7.01 | | |
| 131.0 | 32.5 | 0 | 5 | 7.41 | 7.84 | 5.74 | 7.00 | 7.00 | | |
| 131.5 | 33.0 | 0 | 5 | 7.40 | 7.83 | 5.72 | 6.98 | 6.98 | | |
| 132.0 | 33.5 | 0 | 5 | 7.38 | 7.82 | 5.71 | 6.97 | 6.97 | | |
| 132.5 | 34.0 | 0 | 5 | 7.38 | 7.82 | 5.69 | 6.96 | 6.96 | | |
| 133.0 | 34.5 | 0 | 5 | 7.36 | 7.81 | 5.68 | 6.95 | 6.95 | | |
| 133.5 | 35.0 | 0 | 5 | 7.35 | 7.80 | 5.66 | 6.94 | 6.94 | | |
| 134.0 | 35.5 | 0 | 5 | 7.35 | 7.79 | 5.65 | 6.93 | 6.93 | | |
| 134.5 | 36.0 | 0 | 5 | 7.34 | 7.79 | 5.64 | 6.92 | 6.92 | | |
| 135.0 | 36.5 | 0 | 5 | 7.33 | 7.78 | 5.62 | 6.91 | 6.91 | | |
| 135.5 | 37.0 | 0 | 5 | 7.31 | 7.77 | 5.61 | 6.90 | 6.90 | | |
| 136.0 | 37.5 | 0 | 5 | 7.31 | 7.77 | 5.60 | 6.89 | 6.89 | | |
| 136.5 | 38.0 | 0 | 5 | 7.30 | 7.76 | 5.59 | 6.88 | 6.88 | | |
| 137.0 | 38.5 | 0 | 5 | 7.29 | 7.75 | 5.57 | 6.87 | 6.87 | | |
| 137.5 | 39.0 | 0 | 5 | 7.28 | 7.75 | 5.56 | 6.86 | 6.86 | | |
| 138.0 | 39.5 | 0 | 5 | 7.27 | 7.74 | 5.55 | 6.85 | 6.85 | | |
| 138.5 | 40.0 | 0 | 5 | 7.26 | 7.74 | 5.53 | 6.84 | 6.84 | | |
| 139.0 | 40.5 | 0 | 5 | 7.25 | 7.73 | 5.52 | 6.83 | 6.83 | | |
| 139.5 | 41.0 | 0 | 5 | 7.25 | 7.72 | 5.51 | 6.83 | 6.83 | | |
| 140.0 | 41.5 | 0 | 5 | 7.23 | 7.72 | 5.50 | 6.82 | 6.82 | | |
| 140.5 | 42.0 | 0 | 5 | 7.23 | 7.71 | 5.49 | 6.81 | 6.81 | | |
| 141.0 | 42.5 | 0 | 5 | 7.21 | 7.70 | 5.47 | 6.79 | 6.79 | | |
| 141.5 | 43.0 | 0 | 5 | 7.21 | 7.70 | 5.46 | 6.79 | 6.79 | | |
| 142.0 | 43.5 | 0 | 5 | 7.20 | 7.69 | 5.45 | 6.78 | 6.78 | **-5.54** | **6.78** |

REMARKS:

Kentledge = 14tonne 360 degree tracked excavator

Test carried out on CLAY

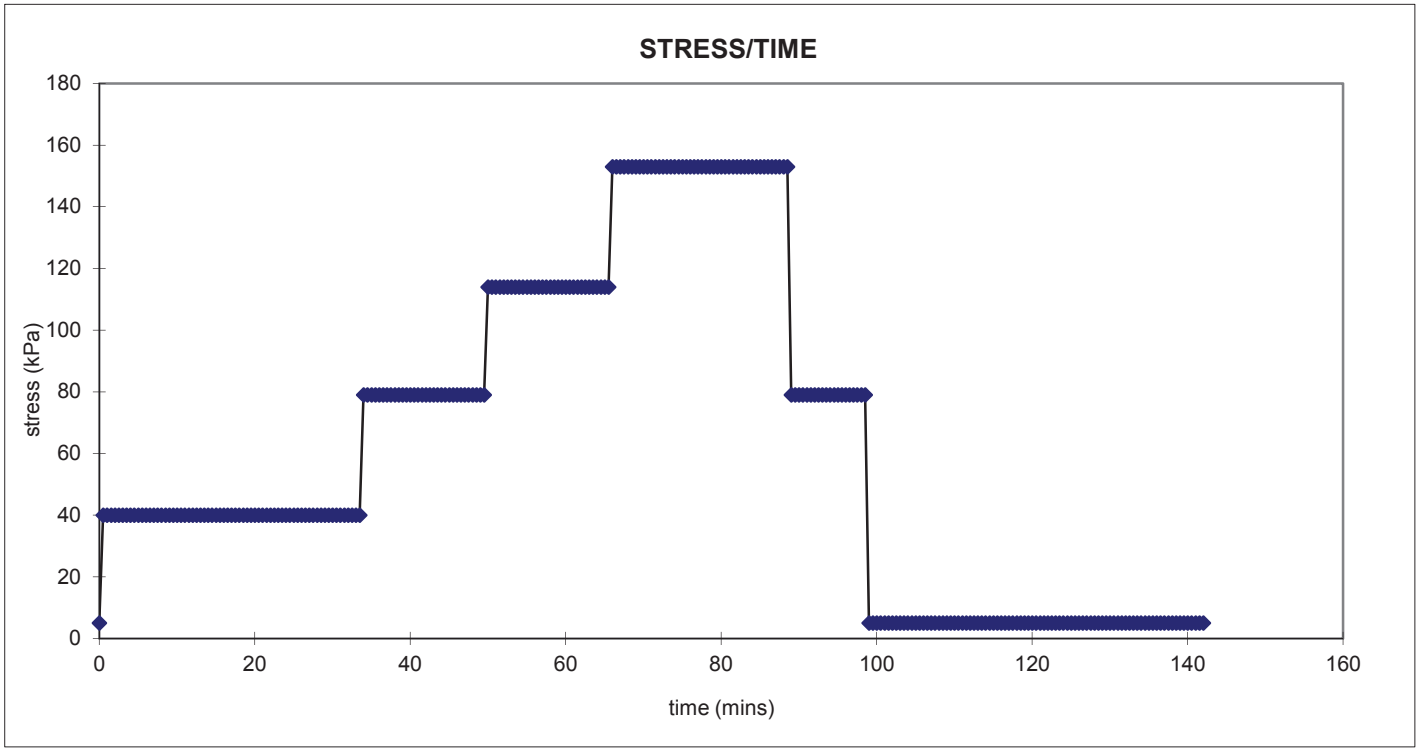
| CONTRACT | CHECKED |
|---|---|
| **30378** | **NP** |

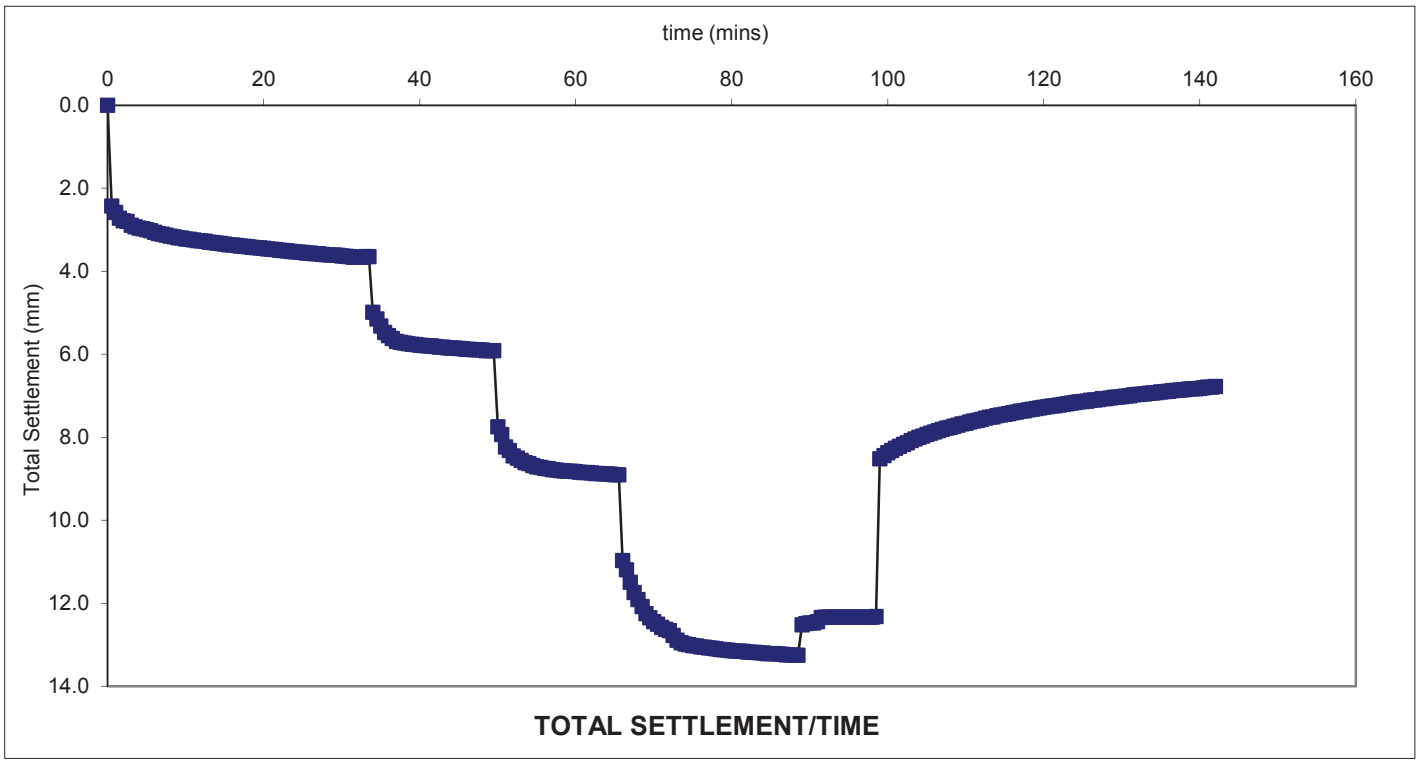
Geotechnical Engineering Limited

# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT546 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.50 |
| Date | 11 March 2015 | Plate (mm) | 600 |




| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

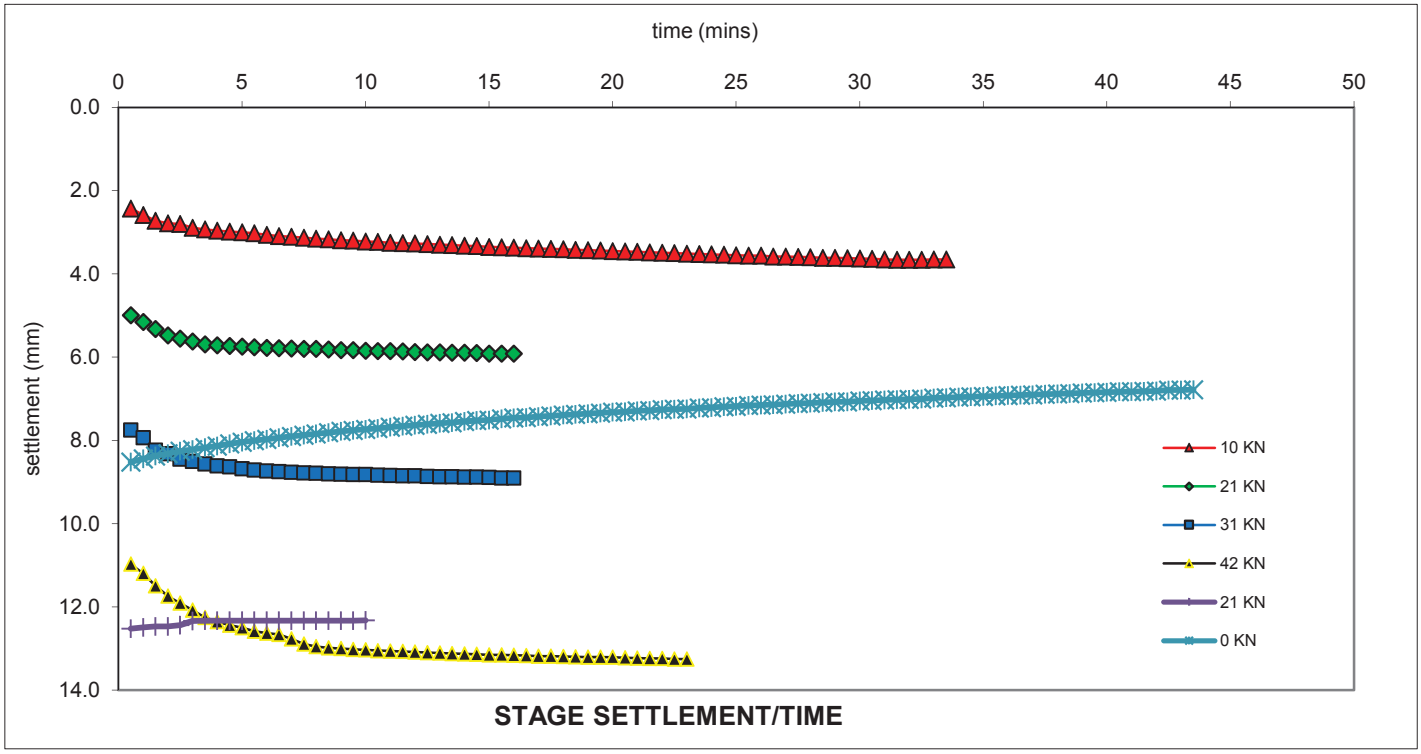
rev09 02/04/14 JH/SC

Geotechnical Engineering Limited

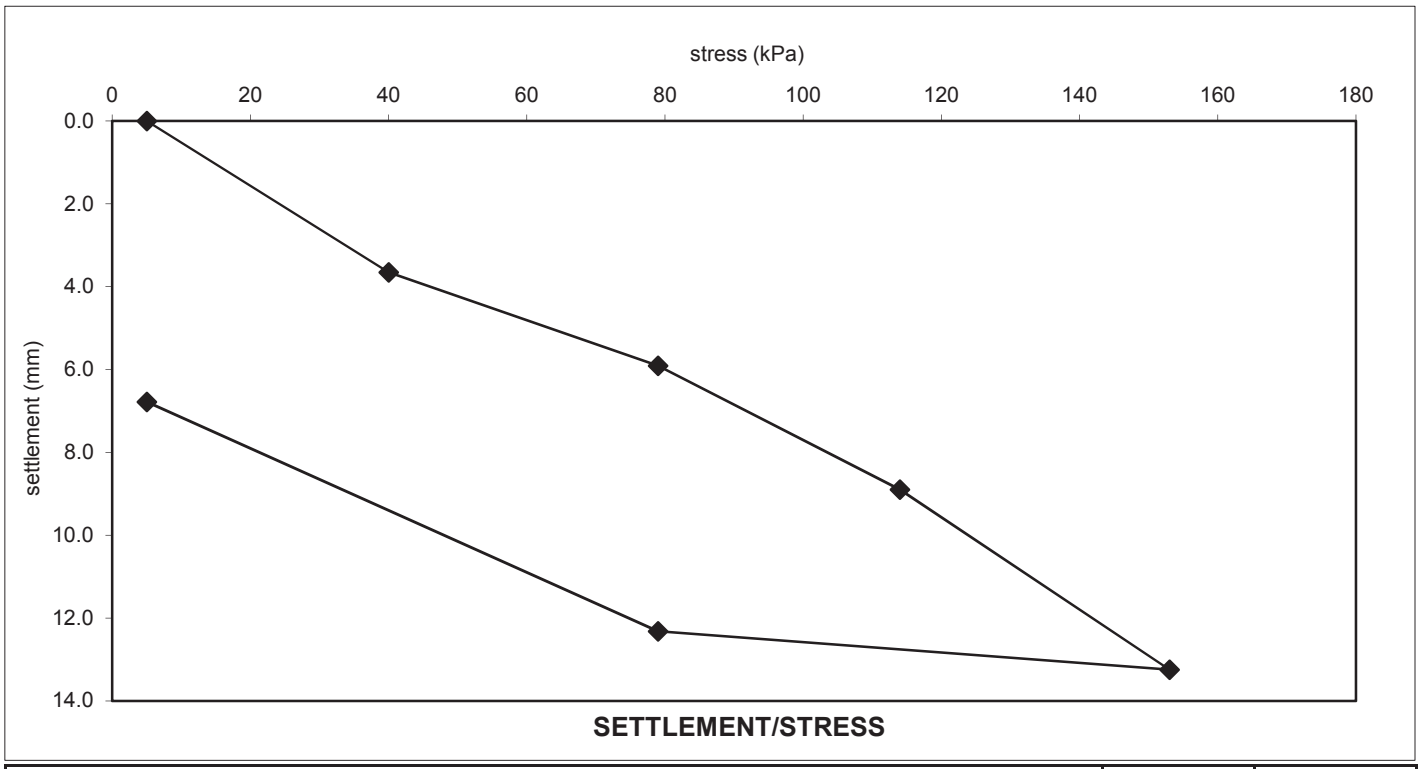
# PLATE BEARING TEST

**BS 1377:Part 9 1990 4.1**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | Test No. | PBT546 |
| SITE | GRAVEN HILL, BICESTER | Depth (m) | 0.50 |
| Date | 11 March 2015 | Plate (mm) | 600 |




**STAGE SETTLEMENT/TIME**




**SETTLEMENT/STRESS**

| REMARKS: | CONTRACT | CHECKED |
|---|---|---|
| Kentledge = 14tonne 360 degree tracked excavator<br>Test carried out on CLAY | **30378** | **NP** |

rev09 02/04/14 JH/SC

Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP101 | 15/04/15 17:00 | 1007 | | | | | | | 18 | |
| CP101 | 15/04/15 17:01 | | | | | | | -3.4 | | |
| CP101 | 15/04/15 17:02 | | | | | | | -3.1 | | |
| CP101 | 15/04/15 17:03 | | | | | | | -2.7 | | |
| CP101 | 15/04/15 17:04 | | | | | | | -2.4 | | |
| CP101 | 15/04/15 17:05 | | | | | | | -1.6 | | |
| CP101 | 15/04/15 17:06 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP101 | 15/04/15 17:07 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP101 | 15/04/15 17:08 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP101 | 15/04/15 17:09 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP101 | 15/04/15 17:10 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP101 | 15/04/15 17:11 | | | | | | | | | 0.51 |
| CP101 | 05/05/15 10:30 | 980 | | | | | | | 12 | |
| CP101 | 05/05/15 10:31 | | | | | | | 0.0 | | |
| CP101 | 05/05/15 10:32 | | | | | | | 0.0 | | |
| CP101 | 05/05/15 10:33 | | | | | | | 0.0 | | |
| CP101 | 05/05/15 10:34 | | | | | | | 0.0 | | |
| CP101 | 05/05/15 10:35 | | | | | | | 0.0 | | |
| CP101 | 05/05/15 10:36 | | 0.2 | 0.0 | 18.1 | 0.0 | 0.0 | | | |
| CP101 | 05/05/15 10:37 | | 0.1 | 0.0 | 18.8 | 0.0 | 0.0 | | | |
| CP101 | 05/05/15 10:38 | | 0.1 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP101 | 05/05/15 10:39 | | 0.1 | 0.0 | 19.4 | 0.0 | 0.0 | | | |
| CP101 | 05/05/15 10:40 | | 0.1 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| CP101 | 05/05/15 10:41 | | 0.0 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP101 | 05/05/15 10:42 | | 0.0 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP101 | 05/05/15 10:43 | | 0.0 | 0.0 | 19.6 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP101 | 05/05/15 10:44 | | 0.0 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP101 | 05/05/15 10:45 | | 0.0 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP101 | 05/05/15 10:46 | | | | | | | | | 0.80 |
| CP101 | 18/05/15 10:05 | 992 | | | | | | | 11 | |
| CP101 | 18/05/15 10:06 | | | | | | | 0.0 | | |
| CP101 | 18/05/15 10:07 | | | | | | | 0.0 | | |
| CP101 | 18/05/15 10:08 | | | | | | | 0.0 | | |
| CP101 | 18/05/15 10:09 | | | | | | | 0.0 | | |
| CP101 | 18/05/15 10:10 | | | | | | | 0.0 | | |
| CP101 | 18/05/15 10:11 | | 0.3 | 0.0 | 17.6 | 0.0 | 0.0 | | | |
| CP101 | 18/05/15 10:12 | | 0.3 | 0.0 | 17.9 | 0.0 | 0.0 | | | |
| CP101 | 18/05/15 10:13 | | 0.3 | 0.0 | 18.3 | 0.0 | 0.0 | | | |
| CP101 | 18/05/15 10:14 | | 0.2 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP101 | 18/05/15 10:15 | | 0.2 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP101 | 18/05/15 10:16 | | 0.2 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP101 | 18/05/15 10:17 | | 0.2 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| CP101 | 18/05/15 10:18 | | 0.2 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| CP101 | 18/05/15 10:19 | | 0.2 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| CP101 | 18/05/15 10:20 | | 0.2 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP101 | 18/05/15 10:21 | | | | | | | | | 0.86 |
| CP101 | 01/06/15 10:57 | 1005 | | | | | | | 14 | |
| CP101 | 01/06/15 10:58 | | | | | | | 0.0 | | |
| CP101 | 01/06/15 10:59 | | | | | | | 0.0 | | |
| CP101 | 01/06/15 11:00 | | | | | | | 0.0 | | |
| CP101 | 01/06/15 11:01 | | | | | | | 0.0 | | |
| CP101 | 01/06/15 11:02 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP101 | 01/06/15 11:03 | | 1.4 | 0.0 | 13.5 | 0.0 | 0.0 | | | |
| CP101 | 01/06/15 11:04 | | 1.5 | 0.0 | 13.3 | 0.0 | 0.0 | | | |
| CP101 | 01/06/15 11:05 | | 1.6 | 0.0 | 13.1 | 0.0 | 0.0 | | | |
| CP101 | 01/06/15 11:06 | | 1.6 | 0.0 | 13.0 | 0.0 | 0.0 | | | |
| CP101 | 01/06/15 11:07 | | 1.7 | 0.0 | 13.1 | 0.0 | 0.0 | | | |
| CP101 | 01/06/15 11:08 | | 1.8 | 0.0 | 13.4 | 0.0 | 0.0 | | | |
| CP101 | 01/06/15 11:09 | | 2.0 | 0.0 | 13.8 | 0.0 | 0.0 | | | |
| CP101 | 01/06/15 11:10 | | 2.1 | 0.0 | 14.8 | 0.0 | 0.0 | | | |
| CP101 | 01/06/15 11:11 | | 2.3 | 0.0 | 14.8 | 0.0 | 0.0 | | | |
| CP101 | 01/06/15 11:12 | | 2.4 | 0.0 | 15.0 | 0.0 | 0.0 | | | |
| CP101 | 01/06/15 11:13 | | | | | | | | | 0.89 |
| CP101 | 16/06/15 11:44 | 1017 | | | | | | | 20 | |
| CP101 | 16/06/15 11:45 | | | | | | | 0.0 | | |
| CP101 | 16/06/15 11:46 | | | | | | | 0.0 | | |
| CP101 | 16/06/15 11:47 | | | | | | | 0.0 | | |
| CP101 | 16/06/15 11:48 | | | | | | | 0.0 | | |
| CP101 | 16/06/15 11:49 | | | | | | | 0.0 | | |
| CP101 | 16/06/15 11:50 | | 0.4 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP101 | 16/06/15 11:51 | | 0.8 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP101 | 16/06/15 11:52 | | 1.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP101 | 16/06/15 11:53 | | 1.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP101 | 16/06/15 11:54 | | 1.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP101 | 16/06/15 11:55 | | 1.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP101 | 16/06/15 11:56 | | 1.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP101 | 16/06/15 11:57 | | | | | | | | | 1.00 |
| CP101 | 29/06/15 11:12 | 1012 | | | | | | | 22 | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP101 | 29/06/15 11:13 | | | | | | | 0.0 | | |
| CP101 | 29/06/15 11:14 | | | | | | | 0.0 | | |
| CP101 | 29/06/15 11:15 | | | | | | | 0.0 | | |
| CP101 | 29/06/15 11:16 | | | | | | | 0.0 | | |
| CP101 | 29/06/15 11:17 | | | | | | | 0.0 | | |
| CP101 | 29/06/15 11:18 | | 0.8 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP101 | 29/06/15 11:19 | | 0.9 | 0.0 | 19.1 | 0.0 | 0.0 | | | |
| CP101 | 29/06/15 11:20 | | 1.0 | 0.0 | 19.0 | 0.0 | 0.0 | | | |
| CP101 | 29/06/15 11:21 | | 1.2 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP101 | 29/06/15 11:22 | | 1.3 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| CP101 | 29/06/15 11:23 | | 1.4 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| CP101 | 29/06/15 11:24 | | 1.4 | 0.0 | 18.6 | 0.0 | 0.0 | | | |
| CP101 | 29/06/15 11:25 | | 1.4 | 0.0 | 18.6 | 0.0 | 0.0 | | | |
| CP101 | 29/06/15 11:26 | | 1.4 | 0.0 | 18.6 | 0.0 | 0.0 | | | |
| CP101 | 29/06/15 11:27 | | 1.4 | 0.0 | 18.6 | 0.0 | 0.0 | | | |
| CP101 | 29/06/15 11:28 | | | | | | | | | 1.06 |
| CP102 | 15/04/15 16:30 | 1006 | | | | | | | 18 | 0.21 |
| CP102 | 05/05/15 10:10 | 980 | | | | | | | 12 | 0.24 |
| CP102 | 01/06/15 10:54 | 1005 | | | | | | | 14 | 0.28 |
| CP102 | 16/06/15 11:25 | 1018 | | | | | | | 20 | |
| CP102 | 16/06/15 11:26 | | | | | | | 0.0 | | |
| CP102 | 16/06/15 11:27 | | | | | | | 0.0 | | |
| CP102 | 16/06/15 11:28 | | | | | | | 0.0 | | |
| CP102 | 16/06/15 11:29 | | | | | | | 0.0 | | |
| CP102 | 16/06/15 11:30 | | | | | | | 0.0 | | |
| CP102 | 16/06/15 11:31 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP102 | 16/06/15 11:32 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP102 | 16/06/15 11:33 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP102 | 16/06/15 11:34 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP102 | 16/06/15 11:35 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP102 | 16/06/15 11:36 | | | | | | | | | 0.62 |
| CP102 | 29/06/15 11:03 | 1012 | | | | | | | 21 | |
| CP102 | 29/06/15 11:04 | | | | | | | 0.0 | | |
| CP102 | 29/06/15 11:05 | | | | | | | 0.0 | | |
| CP102 | 29/06/15 11:06 | | | | | | | 0.0 | | |
| CP102 | 29/06/15 11:07 | | | | | | | 0.0 | | |
| CP102 | 29/06/15 11:08 | | | | | | | 0.0 | | |
| CP102 | 29/06/15 11:09 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP102 | 29/06/15 11:10 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP102 | 29/06/15 11:11 | | | | | | | | | 0.61 |
| CP103 | 15/04/15 16:00 | 1007 | | | | | | | 18 | |
| CP103 | 15/04/15 16:01 | | | | | | | 0.0 | | |
| CP103 | 15/04/15 16:02 | | | | | | | 0.0 | | |
| CP103 | 15/04/15 16:03 | | | | | | | 0.0 | | |
| CP103 | 15/04/15 16:04 | | | | | | | 0.0 | | |
| CP103 | 15/04/15 16:05 | | | | | | | 0.0 | | |
| CP103 | 15/04/15 16:06 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP103 | 15/04/15 16:07 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP103 | 15/04/15 16:08 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP103 | 15/04/15 16:09 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP103 | 15/04/15 16:10 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP103 | 15/04/15 16:11 | | | | | | | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP103 | 15/04/15 16:11 | | | | | | | | | 0.52 |
| CP103 | 15/04/15 16:12 | | | | | | | | | |
| CP103 | 15/04/15 16:13 | | | | | | | | | |
| CP103 | 15/04/15 16:14 | | | | | | | | | |
| CP103 | 05/05/15 10:11 | 980 | | | | | | | 12 | |
| CP103 | 05/05/15 10:12 | | | | | | | 0.0 | | |
| CP103 | 05/05/15 10:13 | | | | | | | 0.0 | | |
| CP103 | 05/05/15 10:14 | | | | | | | 0.0 | | |
| CP103 | 05/05/15 10:15 | | | | | | | 0.0 | | |
| CP103 | 05/05/15 10:16 | | | | | | | 0.0 | | |
| CP103 | 05/05/15 10:17 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP103 | 05/05/15 10:18 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP103 | 05/05/15 10:19 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP103 | 05/05/15 10:20 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP103 | 05/05/15 10:21 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP103 | 05/05/15 10:22 | | | | | | | | | 0.78 |
| CP103 | 18/05/15 09:46 | 992 | | | | | | | 11 | |
| CP103 | 18/05/15 09:47 | | | | | | | 0.0 | | |
| CP103 | 18/05/15 09:48 | | | | | | | 0.0 | | |
| CP103 | 18/05/15 09:49 | | | | | | | 0.0 | | |
| CP103 | 18/05/15 09:50 | | | | | | | 0.0 | | |
| CP103 | 18/05/15 09:51 | | | | | | | 0.0 | | |
| CP103 | 18/05/15 09:52 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP103 | 18/05/15 09:53 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP103 | 18/05/15 09:54 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP103 | 18/05/15 09:55 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP103 | 18/05/15 09:56 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP103 | 18/05/15 09:57 | | | | | | | | | 0.86 |
| CP103 | 01/06/15 10:38 | 1005 | | | | | | | 14 | |
| CP103 | 01/06/15 10:39 | | | | | | | 0.0 | | |
| CP103 | 01/06/15 10:40 | | | | | | | 0.0 | | |
| CP103 | 01/06/15 10:41 | | | | | | | 0.0 | | |
| CP103 | 01/06/15 10:42 | | | | | | | 0.0 | | |
| CP103 | 01/06/15 10:43 | | | | | | | 0.0 | | |
| CP103 | 01/06/15 10:44 | | 0.6 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP103 | 01/06/15 10:45 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP103 | 01/06/15 10:46 | | 0.8 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP103 | 01/06/15 10:47 | | 0.9 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP103 | 01/06/15 10:48 | | 1.0 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP103 | 01/06/15 10:49 | | 1.1 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP103 | 01/06/15 10:50 | | 1.2 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| CP103 | 01/06/15 10:51 | | 1.3 | 0.0 | 19.4 | 0.0 | 0.0 | | | |
| CP103 | 01/06/15 10:52 | | 1.2 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| CP103 | 01/06/15 10:53 | | 1.1 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP103 | 01/06/15 10:54 | | | | | | | | | 0.83 |
| CP103 | 16/06/15 11:06 | 1020 | | | | | | | 20 | |
| CP103 | 16/06/15 11:07 | | | | | | | 0.0 | | |
| CP103 | 16/06/15 11:08 | | | | | | | 0.0 | | |
| CP103 | 16/06/15 11:09 | | | | | | | 0.0 | | |
| CP103 | 16/06/15 11:10 | | | | | | | 0.0 | | |
| CP103 | 16/06/15 11:11 | | | | | | | 0.0 | | |
| CP103 | 16/06/15 11:12 | | 1.5 | 0.0 | 18.8 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP103 | 16/06/15 11:13 | | 1.5 | 0.0 | 18.8 | 0.0 | 0.0 | | | |
| CP103 | 16/06/15 11:14 | | 1.6 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| CP103 | 16/06/15 11:15 | | 1.6 | 0.0 | 18.6 | 0.0 | 0.0 | | | |
| CP103 | 16/06/15 11:16 | | 1.6 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP103 | 16/06/15 11:17 | | 1.7 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP103 | 16/06/15 11:18 | | 1.7 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP103 | 16/06/15 11:19 | | 1.7 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP103 | 16/06/15 11:20 | | 1.7 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP103 | 16/06/15 11:21 | | 1.8 | 0.0 | 18.3 | 0.0 | 0.0 | | | |
| CP103 | 16/06/15 11:22 | | | | | | | | | 0.93 |
| CP103 | 29/06/15 10:25 | 1017 | | | | | | | 21 | |
| CP103 | 29/06/15 10:26 | | | | | | | 0.0 | | |
| CP103 | 29/06/15 10:27 | | | | | | | 0.0 | | |
| CP103 | 29/06/15 10:28 | | | | | | | 0.0 | | |
| CP103 | 29/06/15 10:29 | | | | | | | 0.0 | | |
| CP103 | 29/06/15 10:30 | | | | | | | 0.0 | | |
| CP103 | 29/06/15 10:31 | | 1.4 | 0.0 | 19.1 | 0.0 | 0.0 | | | |
| CP103 | 29/06/15 10:32 | | 1.5 | 0.0 | 19.0 | 0.0 | 0.0 | | | |
| CP103 | 29/06/15 10:33 | | 1.6 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP103 | 29/06/15 10:34 | | 1.7 | 0.0 | 18.8 | 0.0 | 0.0 | | | |
| CP103 | 29/06/15 10:35 | | 1.7 | 0.0 | 18.8 | 0.0 | 0.0 | | | |
| CP103 | 29/06/15 10:36 | | 1.7 | 0.0 | 18.8 | 0.0 | 0.0 | | | |
| CP103 | 29/06/15 10:37 | | 1.7 | 0.0 | 18.8 | 0.0 | 0.0 | | | |
| CP103 | 29/06/15 10:38 | | 1.7 | 0.0 | 18.8 | 0.0 | 0.0 | | | |
| CP103 | 29/06/15 10:39 | | | | | | | | | 1.01 |
| CP104 | 15/04/15 14:50 | 1007 | | | | | | | 19 | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP104 | 15/04/15 14:51 | | | | | | | 0.0 | | |
| CP104 | 15/04/15 14:52 | | | | | | | 0.0 | | |
| CP104 | 15/04/15 14:53 | | | | | | | 0.0 | | |
| CP104 | 15/04/15 14:54 | | | | | | | 0.0 | | |
| CP104 | 15/04/15 14:55 | | | | | | | 0.0 | | |
| CP104 | 15/04/15 14:56 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| CP104 | 15/04/15 14:57 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| CP104 | 15/04/15 14:58 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| CP104 | 15/04/15 14:59 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| CP104 | 15/04/15 15:00 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| CP104 | 15/04/15 15:01 | | | | | | | | | 0.64 |
| CP104 | 05/05/15 09:57 | 980 | | | | | | | 12 | |
| CP104 | 05/05/15 09:58 | | | | | | | 0.0 | | |
| CP104 | 05/05/15 09:59 | | | | | | | 0.0 | | |
| CP104 | 05/05/15 10:00 | | | | | | | 0.0 | | |
| CP104 | 05/05/15 10:01 | | | | | | | 0.0 | | |
| CP104 | 05/05/15 10:02 | | | | | | | 0.0 | | |
| CP104 | 05/05/15 10:03 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP104 | 05/05/15 10:04 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP104 | 05/05/15 10:05 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP104 | 05/05/15 10:06 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP104 | 05/05/15 10:07 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP104 | 05/05/15 10:08 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP104 | 05/05/15 10:09 | | | | | | | | | 0.78 |
| CP104 | 18/05/15 09:27 | 992 | | | | | | | 11 | |
| CP104 | 18/05/15 09:27 | 992 | | | | | | | 11 | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP104 | 18/05/15 09:28 | | | | | | | 0.0 | | |
| CP104 | 18/05/15 09:28 | | | | | | | 0.0 | | |
| CP104 | 18/05/15 09:29 | | | | | | | 0.0 | | |
| CP104 | 18/05/15 09:29 | | | | | | | 0.0 | | |
| CP104 | 18/05/15 09:30 | | | | | | | 0.0 | | |
| CP104 | 18/05/15 09:30 | | | | | | | 0.0 | | |
| CP104 | 18/05/15 09:31 | | | | | | | 0.0 | | |
| CP104 | 18/05/15 09:31 | | | | | | | 0.0 | | |
| CP104 | 18/05/15 09:32 | | | | | | | 0.0 | | |
| CP104 | 18/05/15 09:32 | | | | | | | 0.0 | | |
| CP104 | 18/05/15 09:33 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP104 | 18/05/15 09:33 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP104 | 18/05/15 09:34 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP104 | 18/05/15 09:34 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP104 | 18/05/15 09:35 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP104 | 18/05/15 09:35 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP104 | 18/05/15 09:36 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP104 | 18/05/15 09:36 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP104 | 18/05/15 09:37 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP104 | 18/05/15 09:38 | | | | | | | | | 0.82 |
| CP104 | 01/06/15 10:22 | 1005 | | | | | | | 14 | |
| CP104 | 01/06/15 10:23 | | | | | | | 0.0 | | |
| CP104 | 01/06/15 10:24 | | | | | | | 0.0 | | |
| CP104 | 01/06/15 10:25 | | | | | | | 0.0 | | |
| CP104 | 01/06/15 10:26 | | | | | | | 0.0 | | |
| CP104 | 01/06/15 10:27 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP104 | 01/06/15 10:28 | | 0.1 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP104 | 01/06/15 10:29 | | 0.1 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP104 | 01/06/15 10:30 | | 0.1 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP104 | 01/06/15 10:31 | | 0.2 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP104 | 01/06/15 10:32 | | 0.2 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP104 | 01/06/15 10:33 | | 0.2 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP104 | 01/06/15 10:34 | | 0.2 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP104 | 01/06/15 10:35 | | 0.2 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP104 | 01/06/15 10:36 | | | | | | | | | 0.91 |
| CP104 | 16/06/15 10:53 | 1018 | | | | | | | 20 | |
| CP104 | 16/06/15 10:54 | | | | | | | 0.0 | | |
| CP104 | 16/06/15 10:55 | | | | | | | 0.0 | | |
| CP104 | 16/06/15 10:56 | | | | | | | 0.0 | | |
| CP104 | 16/06/15 10:57 | | | | | | | 0.0 | | |
| CP104 | 16/06/15 10:58 | | | | | | | 0.0 | | |
| CP104 | 16/06/15 10:59 | | 0.2 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP104 | 16/06/15 11:00 | | 0.6 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP104 | 16/06/15 11:01 | | 0.6 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP104 | 16/06/15 11:02 | | 0.7 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP104 | 16/06/15 11:03 | | 0.7 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP104 | 16/06/15 11:04 | | 0.7 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP104 | 16/06/15 11:05 | | 0.6 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP104 | 16/06/15 11:06 | | 0.7 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP104 | 16/06/15 11:07 | | 0.7 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP104 | 16/06/15 11:08 | | 0.7 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP104 | 16/06/15 11:09 | | | | | | | | | 0.93 |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP104 | 29/06/15 10:48 | 1012 | | | | | | | 21 | |
| CP104 | 29/06/15 10:49 | | | | | | | 0.0 | | |
| CP104 | 29/06/15 10:50 | | | | | | | 0.0 | | |
| CP104 | 29/06/15 10:51 | | | | | | | 0.0 | | |
| CP104 | 29/06/15 10:52 | | | | | | | 0.0 | | |
| CP104 | 29/06/15 10:53 | | | | | | | 0.0 | | |
| CP104 | 29/06/15 10:54 | | 0.7 | 0.0 | 19.4 | 0.0 | 0.0 | | | |
| CP104 | 29/06/15 10:55 | | 0.8 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP104 | 29/06/15 10:56 | | 0.9 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP104 | 29/06/15 10:57 | | 0.9 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP104 | 29/06/15 10:58 | | 0.9 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP104 | 29/06/15 10:59 | | 0.9 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP104 | 29/06/15 11:00 | | 0.9 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP104 | 29/06/15 11:01 | | | | | | | | | 1.19 |
| CP105 | 15/04/15 15:01 | | | | | | | 0.0 | | |
| CP105 | 15/04/15 15:02 | | | | | | | 0.0 | | |
| CP105 | 15/04/15 15:03 | | | | | | | 0.0 | | |
| CP105 | 15/04/15 15:04 | | | | | | | 0.0 | | |
| CP105 | 15/04/15 15:05 | | | | | | | 0.0 | | |
| CP105 | 15/04/15 15:06 | | 0.0 | 0.0 | 21.0 | 0.0 | 0.0 | | | |
| CP105 | 15/04/15 15:07 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP105 | 15/04/15 15:08 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP105 | 15/04/15 15:09 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP105 | 15/04/15 15:10 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP105 | 15/04/15 15:11 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP105 | 15/04/15 15:12 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP105 | 15/04/15 15:13 | | | | | | | | | 0.87 |
| CP105 | 05/05/15 09:25 | 978 | | | | | | | 12 | |
| CP105 | 05/05/15 09:26 | | | | | | | 0.0 | | |
| CP105 | 05/05/15 09:27 | | | | | | | 0.0 | | |
| CP105 | 05/05/15 09:28 | | | | | | | 0.0 | | |
| CP105 | 05/05/15 09:29 | | | | | | | 0.0 | | |
| CP105 | 05/05/15 09:30 | | | | | | | 0.0 | | |
| CP105 | 05/05/15 09:31 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP105 | 05/05/15 09:32 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP105 | 05/05/15 09:33 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP105 | 05/05/15 09:34 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP105 | 05/05/15 09:35 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP105 | 05/05/15 09:36 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP105 | 05/05/15 09:37 | | | | | | | | | 0.89 |
| CP105 | 18/05/15 08:51 | 994 | | | | | | | 11 | |
| CP105 | 18/05/15 08:52 | | | | | | | 0.0 | | |
| CP105 | 18/05/15 08:53 | | | | | | | 0.0 | | |
| CP105 | 18/05/15 08:54 | | | | | | | 0.0 | | |
| CP105 | 18/05/15 08:55 | | | | | | | 0.0 | | |
| CP105 | 18/05/15 08:56 | | | | | | | 0.0 | | |
| CP105 | 18/05/15 08:57 | | 0.2 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP105 | 18/05/15 08:58 | | 0.1 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP105 | 18/05/15 08:59 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP105 | 18/05/15 09:00 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP105 | 18/05/15 09:01 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP105 | 18/05/15 09:02 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP105 | 18/05/15 09:03 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP105 | 18/05/15 09:04 | | | | | | | | | 0.95 |
| CP105 | 01/06/15 09:45 | 1007 | | | | | | | 13 | |
| CP105 | 16/06/15 10:18 | 1018 | | | | | | | 19 | |
| CP105 | 16/06/15 10:19 | | | | | | | 0.0 | | |
| CP105 | 16/06/15 10:20 | | | | | | | 0.0 | | |
| CP105 | 16/06/15 10:21 | | | | | | | 0.0 | | |
| CP105 | 16/06/15 10:22 | | | | | | | 0.0 | | |
| CP105 | 16/06/15 10:23 | | | | | | | 0.0 | | |
| CP105 | 16/06/15 10:24 | | 1.7 | 0.0 | 17.9 | 0.0 | 0.0 | | | |
| CP105 | 16/06/15 10:25 | | 1.7 | 0.0 | 17.8 | 0.0 | 0.0 | | | |
| CP105 | 16/06/15 10:26 | | 1.9 | 0.0 | 17.7 | 0.0 | 0.0 | | | |
| CP105 | 16/06/15 10:27 | | 1.9 | 0.0 | 17.7 | 0.0 | 0.0 | | | |
| CP105 | 16/06/15 10:28 | | 1.9 | 0.0 | 17.7 | 0.0 | 0.0 | | | |
| CP105 | 16/06/15 10:29 | | 1.9 | 0.0 | 17.7 | 0.0 | 0.0 | | | |
| CP105 | 16/06/15 10:30 | | 2.0 | 0.0 | 17.3 | 0.0 | 0.0 | | | |
| CP105 | 16/06/15 10:31 | | 2.2 | 0.0 | 17.3 | 0.0 | 0.0 | | | |
| CP105 | 16/06/15 10:32 | | 2.2 | 0.0 | 17.1 | 0.0 | 0.0 | | | |
| CP105 | 16/06/15 10:33 | | 2.2 | 0.0 | 17.0 | 0.0 | 0.0 | | | |
| CP105 | 16/06/15 10:34 | | | | | | | | | 1.44 |
| CP105 | 29/06/15 09:50 | 1015 | | | | | | | 20 | |
| CP105 | 29/06/15 09:51 | | | | | | | 0.0 | | |
| CP105 | 29/06/15 09:52 | | | | | | | 0.0 | | |
| CP105 | 29/06/15 09:53 | | | | | | | 0.0 | | |
| CP105 | 29/06/15 09:54 | | | | | | | 0.0 | | |
| CP105 | 29/06/15 09:55 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP105 | 29/06/15 09:56 | | 2.4 | 0.0 | 17.0 | 0.0 | 0.0 | | | |
| CP105 | 29/06/15 09:57 | | 2.4 | 0.0 | 16.9 | 0.0 | 0.0 | | | |
| CP105 | 29/06/15 09:58 | | 2.5 | 0.0 | 16.9 | 0.0 | 0.0 | | | |
| CP105 | 29/06/15 09:59 | | 2.7 | 0.0 | 16.9 | 0.0 | 0.0 | | | |
| CP105 | 29/06/15 10:00 | | 3.0 | 0.0 | 16.9 | 0.0 | 0.0 | | | |
| CP105 | 29/06/15 10:01 | | 3.0 | 0.0 | 16.9 | 0.0 | 0.0 | | | |
| CP105 | 29/06/15 10:02 | | 3.0 | 0.0 | 17.0 | 0.0 | 0.0 | | | |
| CP105 | 29/06/15 10:03 | | 3.0 | 0.0 | 17.0 | 0.0 | 0.0 | | | |
| CP105 | 29/06/15 10:04 | | 3.0 | 0.0 | 17.0 | 0.0 | 0.0 | | | |
| CP105 | 29/06/15 10:05 | | 3.0 | 0.0 | 17.0 | 0.0 | 0.0 | | | |
| CP105 | 29/06/15 10:06 | | | | | | | | | 1.40 |
| CP106 | 15/04/15 15:30 | 1005 | | | | | | | 19 | |
| CP106 | 15/04/15 15:31 | | | | | | | 0.0 | | |
| CP106 | 15/04/15 15:32 | | | | | | | 0.0 | | |
| CP106 | 15/04/15 15:33 | | | | | | | 0.0 | | |
| CP106 | 15/04/15 15:34 | | | | | | | 0.0 | | |
| CP106 | 15/04/15 15:35 | | | | | | | 0.0 | | |
| CP106 | 15/04/15 15:36 | | 0.0 | 0.0 | 21.0 | 0.0 | 0.0 | | | |
| CP106 | 15/04/15 15:37 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP106 | 15/04/15 15:38 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP106 | 15/04/15 15:39 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP106 | 15/04/15 15:40 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP106 | 15/04/15 15:41 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| CP106 | 15/04/15 15:42 | | | | | | | | | 1.64 |
| CP106 | 05/05/15 09:37 | 978 | | | | | | | 12 | |
| CP106 | 05/05/15 09:38 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP106 | 05/05/15 09:39 | | | | | | | 0.0 | | |
| CP106 | 05/05/15 09:40 | | | | | | | 0.0 | | |
| CP106 | 05/05/15 09:41 | | | | | | | 0.0 | | |
| CP106 | 05/05/15 09:42 | | | | | | | 0.0 | | |
| CP106 | 05/05/15 09:43 | | 0.2 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP106 | 05/05/15 09:44 | | 0.2 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP106 | 05/05/15 09:45 | | 0.3 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP106 | 05/05/15 09:46 | | 0.3 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP106 | 05/05/15 09:47 | | 0.4 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP106 | 05/05/15 09:48 | | 0.5 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP106 | 05/05/15 09:49 | | 0.5 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP106 | 05/05/15 09:50 | | 0.5 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP106 | 05/05/15 09:51 | | 0.5 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP106 | 05/05/15 09:52 | | 0.5 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP106 | 05/05/15 09:53 | | | | | | | | | 1.78 |
| CP106 | 18/05/15 09:07 | 992 | | | | | | | 11 | |
| CP106 | 18/05/15 09:08 | | | | | | | 0.0 | | |
| CP106 | 18/05/15 09:09 | | | | | | | 0.0 | | |
| CP106 | 18/05/15 09:10 | | | | | | | 0.0 | | |
| CP106 | 18/05/15 09:11 | | | | | | | 0.0 | | |
| CP106 | 18/05/15 09:12 | | | | | | | 0.0 | | |
| CP106 | 18/05/15 09:13 | | 0.3 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP106 | 18/05/15 09:14 | | 0.3 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP106 | 18/05/15 09:15 | | 0.4 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP106 | 18/05/15 09:16 | | 0.4 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP106 | 18/05/15 09:17 | | 0.5 | 0.0 | 20.1 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP106 | 18/05/15 09:18 | | 0.6 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP106 | 18/05/15 09:19 | | 0.6 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP106 | 18/05/15 09:20 | | 0.6 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP106 | 18/05/15 09:21 | | 0.6 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP106 | 18/05/15 09:22 | | 0.6 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP106 | 18/05/15 09:23 | | | | | | | | | 1.79 |
| CP106 | 01/06/15 10:03 | 1006 | | | | | | | 13 | |
| CP106 | 01/06/15 10:04 | | | | | | | 0.0 | | |
| CP106 | 01/06/15 10:05 | | | | | | | 0.0 | | |
| CP106 | 01/06/15 10:06 | | | | | | | 0.0 | | |
| CP106 | 01/06/15 10:07 | | | | | | | 0.0 | | |
| CP106 | 01/06/15 10:08 | | | | | | | 0.0 | | |
| CP106 | 01/06/15 10:09 | | 0.5 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP106 | 01/06/15 10:10 | | 0.5 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP106 | 01/06/15 10:11 | | 0.6 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP106 | 01/06/15 10:12 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP106 | 01/06/15 10:13 | | 0.7 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP106 | 01/06/15 10:14 | | 0.8 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP106 | 01/06/15 10:15 | | 0.8 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP106 | 01/06/15 10:16 | | 0.8 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP106 | 01/06/15 10:17 | | 0.9 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP106 | 01/06/15 10:18 | | 0.8 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP106 | 01/06/15 10:19 | | | | | | | | | 1.85 |
| CP106 | 16/06/15 10:35 | 1021 | | | | | | | 19 | |
| CP106 | 16/06/15 10:36 | | | | | | | 0.0 | | |
| CP106 | 16/06/15 10:37 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP106 | 16/06/15 10:38 | | | | | | | 0.0 | | |
| CP106 | 16/06/15 10:39 | | | | | | | 0.0 | | |
| CP106 | 16/06/15 10:40 | | | | | | | 0.0 | | |
| CP106 | 16/06/15 10:41 | | 0.8 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP106 | 16/06/15 10:42 | | 0.8 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP106 | 16/06/15 10:43 | | 0.8 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP106 | 16/06/15 10:44 | | 0.8 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP106 | 16/06/15 10:45 | | 0.8 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP106 | 16/06/15 10:46 | | | | | | | | | 1.90 |
| CP106 | 29/06/15 10:09 | 1017 | | | | | | | 20 | |
| CP106 | 29/06/15 10:10 | | | | | | | 0.0 | | |
| CP106 | 29/06/15 10:11 | | | | | | | 0.0 | | |
| CP106 | 29/06/15 10:12 | | | | | | | 0.0 | | |
| CP106 | 29/06/15 10:13 | | | | | | | 0.0 | | |
| CP106 | 29/06/15 10:14 | | | | | | | 0.0 | | |
| CP106 | 29/06/15 10:15 | | 0.8 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP106 | 29/06/15 10:16 | | 0.8 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP106 | 29/06/15 10:17 | | 0.9 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP106 | 29/06/15 10:18 | | 0.9 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP106 | 29/06/15 10:19 | | 0.9 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP106 | 29/06/15 10:20 | | 0.9 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP106 | 29/06/15 10:21 | | 0.9 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP106 | 29/06/15 10:22 | | | | | | | | | 1.94 |
| CP107 | 15/04/15 09:30 | 1009 | | | | | | | 15 | |
| CP107 | 15/04/15 09:31 | | | | | | | 0.0 | | |
| CP107 | 15/04/15 09:32 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP107 | 15/04/15 09:33 | | | | | | | 0.0 | | |
| CP107 | 15/04/15 09:34 | | | | | | | 0.0 | | |
| CP107 | 15/04/15 09:35 | | | | | | | 0.0 | | |
| CP107 | 15/04/15 09:36 | | 2.2 | 0.0 | 18.2 | 0.0 | 0.0 | | | |
| CP107 | 15/04/15 09:37 | | 2.2 | 0.0 | 18.2 | 0.0 | 0.0 | | | |
| CP107 | 15/04/15 09:38 | | 2.2 | 0.0 | 18.2 | 0.0 | 0.0 | | | |
| CP107 | 15/04/15 09:39 | | 2.2 | 0.0 | 18.2 | 0.0 | 0.0 | | | |
| CP107 | 15/04/15 09:40 | | 2.2 | 0.0 | 18.2 | 0.0 | 0.0 | | | |
| CP107 | 15/04/15 09:41 | | | | | | | | | 2.97 |
| CP107 | 05/05/15 13:25 | 985 | | | | | | | 13 | |
| CP107 | 05/05/15 13:26 | | | | | | | 0.0 | | |
| CP107 | 05/05/15 13:27 | | | | | | | 0.0 | | |
| CP107 | 05/05/15 13:28 | | | | | | | 0.0 | | |
| CP107 | 05/05/15 13:29 | | | | | | | 0.0 | | |
| CP107 | 05/05/15 13:30 | | | | | | | 0.0 | | |
| CP107 | 05/05/15 13:31 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP107 | 05/05/15 13:32 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP107 | 05/05/15 13:33 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP107 | 05/05/15 13:34 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP107 | 05/05/15 13:35 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP107 | 05/05/15 13:36 | | | | | | | | | 1.72 |
| CP107 | 01/06/15 13:12 | 1001 | | | | | | | 15 | |
| CP107 | 01/06/15 13:13 | | | | | | | 0.0 | | |
| CP107 | 01/06/15 13:14 | | | | | | | 0.0 | | |
| CP107 | 01/06/15 13:15 | | | | | | | 0.0 | | |
| CP107 | 01/06/15 13:16 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP107 | 01/06/15 13:17 | | | | | | | 0.0 | | |
| CP107 | 01/06/15 13:18 | | 0.4 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP107 | 01/06/15 13:19 | | 0.5 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP107 | 01/06/15 13:20 | | 0.5 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP107 | 01/06/15 13:21 | | 0.5 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP107 | 01/06/15 13:22 | | 0.5 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP107 | 01/06/15 13:23 | | 0.5 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP107 | 01/06/15 13:24 | | | | | | | | | 1.02 |
| CP107 | 16/06/15 14:42 | 1014 | | | | | | | 22 | |
| CP107 | 16/06/15 14:43 | | | | | | | 0.0 | | |
| CP107 | 16/06/15 14:44 | | | | | | | 0.0 | | |
| CP107 | 16/06/15 14:45 | | | | | | | 0.0 | | |
| CP107 | 16/06/15 14:46 | | | | | | | 0.0 | | |
| CP107 | 16/06/15 14:47 | | | | | | | 0.0 | | |
| CP107 | 16/06/15 14:48 | | 0.4 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP107 | 16/06/15 14:49 | | 0.3 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP107 | 16/06/15 14:50 | | 0.1 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP107 | 16/06/15 14:51 | | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP107 | 16/06/15 14:52 | | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP107 | 16/06/15 14:53 | | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP107 | 16/06/15 14:54 | | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP107 | 16/06/15 14:55 | | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP107 | 16/06/15 14:56 | | | | | | | | | 1.05 |
| CP107 | 29/06/15 14:00 | 1010 | | | | | | | 20 | |
| CP107 | 29/06/15 14:01 | | | | | | | 0.0 | | |
| CP107 | 29/06/15 14:02 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP107 | 29/06/15 14:03 | | | | | | | 0.0 | | |
| CP107 | 29/06/15 14:04 | | | | | | | 0.0 | | |
| CP107 | 29/06/15 14:05 | | | | | | | 0.0 | | |
| CP107 | 29/06/15 14:06 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP107 | 29/06/15 14:07 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP107 | 29/06/15 14:08 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP107 | 29/06/15 14:09 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP107 | 29/06/15 14:10 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP107 | 29/06/15 14:11 | | | | | | | | | 1.03 |
| CP108 | 15/04/15 10:40 | 1008 | | | | | | | 17 | |
| CP108 | 15/04/15 10:41 | | | | | | | 0.0 | | |
| CP108 | 15/04/15 10:42 | | | | | | | 0.0 | | |
| CP108 | 15/04/15 10:43 | | | | | | | 0.0 | | |
| CP108 | 15/04/15 10:44 | | | | | | | 0.0 | | |
| CP108 | 15/04/15 10:45 | | | | | | | 0.0 | | |
| CP108 | 15/04/15 10:46 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP108 | 15/04/15 10:47 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP108 | 15/04/15 10:48 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP108 | 15/04/15 10:49 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP108 | 15/04/15 10:50 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP108 | 15/04/15 10:51 | | | | | | | | | 1.60 |
| CP108 | 05/05/15 12:49 | 983 | | | | | | | 13 | |
| CP108 | 05/05/15 12:50 | | | | | | | 0.0 | | |
| CP108 | 05/05/15 12:51 | | | | | | | 0.0 | | |
| CP108 | 05/05/15 12:52 | | | | | | | 0.0 | | |
| CP108 | 05/05/15 12:53 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP108 | 05/05/15 12:54 | | | | | | | 0.0 | | |
| CP108 | 05/05/15 12:55 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP108 | 05/05/15 12:56 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP108 | 05/05/15 12:57 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP108 | 05/05/15 12:58 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP108 | 05/05/15 12:59 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP108 | 05/05/15 13:00 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP108 | 05/05/15 13:01 | | | | | | | | | 1.52 |
| CP108 | 18/05/15 13:20 | 992 | | | | | | | 12 | |
| CP108 | 18/05/15 13:21 | | | | | | | 0.0 | | |
| CP108 | 18/05/15 13:22 | | | | | | | 0.0 | | |
| CP108 | 18/05/15 13:23 | | | | | | | 0.0 | | |
| CP108 | 18/05/15 13:24 | | | | | | | 0.0 | | |
| CP108 | 18/05/15 13:25 | | | | | | | 0.0 | | |
| CP108 | 18/05/15 13:26 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP108 | 18/05/15 13:27 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP108 | 18/05/15 13:28 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP108 | 18/05/15 13:29 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP108 | 18/05/15 13:30 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP108 | 18/05/15 13:31 | | | | | | | | | 1.53 |
| CP108 | 01/06/15 13:42 | 1000 | | | | | | | 15 | |
| CP108 | 01/06/15 13:43 | | | | | | | 0.0 | | |
| CP108 | 01/06/15 13:44 | | | | | | | 0.0 | | |
| CP108 | 01/06/15 13:45 | | | | | | | 0.0 | | |
| CP108 | 01/06/15 13:46 | | | | | | | 0.0 | | |
| CP108 | 01/06/15 13:47 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP108 | 01/06/15 13:48 | | 0.2 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP108 | 01/06/15 13:49 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP108 | 01/06/15 13:50 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP108 | 01/06/15 13:51 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP108 | 01/06/15 13:52 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP108 | 01/06/15 13:53 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP108 | 01/06/15 13:54 | | | | | | | | | 1.58 |
| CP108 | 16/06/15 14:27 | 1013 | | | | | | | 21 | |
| CP108 | 16/06/15 14:28 | | | | | | | 0.0 | | |
| CP108 | 16/06/15 14:29 | | | | | | | 0.0 | | |
| CP108 | 16/06/15 14:30 | | | | | | | 0.0 | | |
| CP108 | 16/06/15 14:31 | | | | | | | 0.0 | | |
| CP108 | 16/06/15 14:32 | | | | | | | 0.0 | | |
| CP108 | 16/06/15 14:33 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP108 | 16/06/15 14:34 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP108 | 16/06/15 14:35 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP108 | 16/06/15 14:36 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP108 | 16/06/15 14:37 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP108 | 16/06/15 14:38 | | | | | | | | | 1.69 |
| CP108 | 29/06/15 13:44 | 1009 | | | | | | | 20 | |
| CP108 | 29/06/15 13:45 | | | | | | | 0.0 | | |
| CP108 | 29/06/15 13:46 | | | | | | | 0.0 | | |
| CP108 | 29/06/15 13:47 | | | | | | | 0.0 | | |
| CP108 | 29/06/15 13:48 | | | | | | | 0.0 | | |
| CP108 | 29/06/15 13:49 | | | | | | | 0.0 | | |
| CP108 | 29/06/15 13:50 | | 0.0 | 0.0 | 19.6 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP108 | 29/06/15 13:51 | | 0.0 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP108 | 29/06/15 13:52 | | 0.0 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP108 | 29/06/15 13:53 | | 0.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP108 | 29/06/15 13:54 | | 0.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP108 | 29/06/15 13:55 | | 0.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP108 | 29/06/15 13:56 | | 0.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP108 | 29/06/15 13:57 | | 0.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP108 | 29/06/15 13:58 | | | | | | | | | 1.74 |
| CP110 | 15/04/15 11:00 | 1008 | | | | | | | 17 | |
| CP110 | 15/04/15 11:01 | | | | | | | 0.0 | | |
| CP110 | 15/04/15 11:02 | | | | | | | 0.0 | | |
| CP110 | 15/04/15 11:03 | | | | | | | 0.0 | | |
| CP110 | 15/04/15 11:04 | | | | | | | 0.0 | | |
| CP110 | 15/04/15 11:05 | | | | | | | 0.0 | | |
| CP110 | 15/04/15 11:06 | | 0.3 | 0.0 | 15.1 | 0.0 | 0.0 | | | |
| CP110 | 15/04/15 11:07 | | 0.2 | 0.0 | 16.3 | 0.0 | 0.0 | | | |
| CP110 | 15/04/15 11:08 | | 0.1 | 0.0 | 17.6 | 0.0 | 0.0 | | | |
| CP110 | 15/04/15 11:09 | | 0.1 | 0.0 | 18.2 | 0.0 | 0.0 | | | |
| CP110 | 15/04/15 11:10 | | 0.1 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP110 | 15/04/15 11:11 | | 0.0 | 0.0 | 18.9 | 0.0 | 0.0 | | | |
| CP110 | 15/04/15 11:12 | | 0.0 | 0.0 | 19.1 | 0.0 | 0.0 | | | |
| CP110 | 15/04/15 11:13 | | 0.0 | 0.0 | 19.1 | 0.0 | 0.0 | | | |
| CP110 | 15/04/15 11:14 | | 0.0 | 0.0 | 19.1 | 0.0 | 0.0 | | | |
| CP110 | 15/04/15 11:15 | | 0.0 | 0.0 | 19.1 | 0.0 | 0.0 | | | |
| CP110 | 15/04/15 11:16 | | | | | | | | | 2.50 |
| CP110 | 05/05/15 12:28 | 983 | | | | | | | 13 | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP110 | 05/05/15 12:29 | | | | | | | 0.0 | | |
| CP110 | 05/05/15 12:30 | | | | | | | 0.0 | | |
| CP110 | 05/05/15 12:31 | | | | | | | 0.0 | | |
| CP110 | 05/05/15 12:32 | | | | | | | 0.0 | | |
| CP110 | 05/05/15 12:33 | | | | | | | 0.0 | | |
| CP110 | 05/05/15 12:34 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP110 | 05/05/15 12:35 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP110 | 05/05/15 12:36 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP110 | 05/05/15 12:37 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP110 | 05/05/15 12:38 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP110 | 05/05/15 12:39 | | | | | | | | | 2.40 |
| CP110 | 18/05/15 12:59 | 992 | | | | | | | 12 | |
| CP110 | 18/05/15 13:00 | | | | | | | 0.0 | | |
| CP110 | 18/05/15 13:01 | | | | | | | 0.0 | | |
| CP110 | 18/05/15 13:02 | | | | | | | 0.0 | | |
| CP110 | 18/05/15 13:03 | | | | | | | 0.0 | | |
| CP110 | 18/05/15 13:04 | | | | | | | 0.0 | | |
| CP110 | 18/05/15 13:05 | | 0.5 | 0.0 | 18.3 | 0.0 | 0.0 | | | |
| CP110 | 18/05/15 13:06 | | 0.5 | 0.0 | 18.3 | 0.0 | 0.0 | | | |
| CP110 | 18/05/15 13:07 | | 0.5 | 0.0 | 18.1 | 0.0 | 0.0 | | | |
| CP110 | 18/05/15 13:08 | | 0.5 | 0.0 | 18.0 | 0.0 | 0.0 | | | |
| CP110 | 18/05/15 13:09 | | 0.5 | 0.0 | 17.7 | 0.0 | 0.0 | | | |
| CP110 | 18/05/15 13:10 | | 0.6 | 0.0 | 17.5 | 0.0 | 0.0 | | | |
| CP110 | 18/05/15 13:11 | | 0.6 | 0.0 | 17.3 | 0.0 | 0.0 | | | |
| CP110 | 18/05/15 13:12 | | 0.6 | 0.0 | 17.2 | 0.0 | 0.0 | | | |
| CP110 | 18/05/15 13:13 | | 0.7 | 0.0 | 17.1 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP110 | 18/05/15 13:14 | | 0.7 | 0.0 | 17.1 | 0.0 | 0.0 | | | |
| CP110 | 18/05/15 13:15 | | | | | | | | | 2.49 |
| CP110 | 01/06/15 12:49 | 1002 | | | | | | | 15 | |
| CP110 | 01/06/15 12:50 | | | | | | | 0.0 | | |
| CP110 | 01/06/15 12:51 | | | | | | | 0.0 | | |
| CP110 | 01/06/15 12:52 | | | | | | | 0.0 | | |
| CP110 | 01/06/15 12:53 | | | | | | | 0.0 | | |
| CP110 | 01/06/15 12:54 | | | | | | | 0.0 | | |
| CP110 | 01/06/15 12:55 | | 0.4 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP110 | 01/06/15 12:56 | | 0.4 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP110 | 01/06/15 12:57 | | 0.5 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP110 | 01/06/15 12:58 | | 0.6 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP110 | 01/06/15 12:59 | | 0.7 | 0.0 | 19.4 | 0.0 | 0.0 | | | |
| CP110 | 01/06/15 13:00 | | 0.7 | 0.0 | 19.4 | 0.0 | 0.0 | | | |
| CP110 | 01/06/15 13:01 | | 0.7 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP110 | 01/06/15 13:02 | | 0.8 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP110 | 01/06/15 13:03 | | 0.8 | 0.0 | 19.1 | 0.0 | 0.0 | | | |
| CP110 | 01/06/15 13:04 | | 0.8 | 0.0 | 19.0 | 0.0 | 0.0 | | | |
| CP110 | 01/06/15 13:05 | | | | | | | | | 2.48 |
| CP110 | 16/06/15 14:02 | 1013 | | | | | | | 21 | |
| CP110 | 16/06/15 14:03 | | | | | | | 0.0 | | |
| CP110 | 16/06/15 14:04 | | | | | | | 0.0 | | |
| CP110 | 16/06/15 14:05 | | | | | | | 0.0 | | |
| CP110 | 16/06/15 14:06 | | | | | | | 0.0 | | |
| CP110 | 16/06/15 14:07 | | | | | | | 0.0 | | |
| CP110 | 16/06/15 14:08 | | 0.4 | 0.0 | 20.3 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP110 | 16/06/15 14:09 | | 0.5 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP110 | 16/06/15 14:10 | | 0.6 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP110 | 16/06/15 14:11 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP110 | 16/06/15 14:12 | | 0.7 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP110 | 16/06/15 14:13 | | 0.6 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP110 | 16/06/15 14:14 | | 0.6 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP110 | 16/06/15 14:15 | | 0.6 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP110 | 16/06/15 14:16 | | 0.5 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP110 | 16/06/15 14:17 | | 0.5 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP110 | 16/06/15 14:18 | | | | | | | | | 2.59 |
| CP110 | 29/06/15 13:26 | 1011 | | | | | | | 20 | |
| CP110 | 29/06/15 13:27 | | | | | | | 0.0 | | |
| CP110 | 29/06/15 13:28 | | | | | | | 0.0 | | |
| CP110 | 29/06/15 13:29 | | | | | | | 0.0 | | |
| CP110 | 29/06/15 13:30 | | | | | | | 0.0 | | |
| CP110 | 29/06/15 13:31 | | | | | | | 0.0 | | |
| CP110 | 29/06/15 13:32 | | 0.5 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP110 | 29/06/15 13:33 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP110 | 29/06/15 13:34 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP110 | 29/06/15 13:35 | | 0.8 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP110 | 29/06/15 13:36 | | 0.9 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP110 | 29/06/15 13:37 | | 0.9 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP110 | 29/06/15 13:38 | | 1.0 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP110 | 29/06/15 13:39 | | 1.1 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| CP110 | 29/06/15 13:40 | | 1.2 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| CP110 | 29/06/15 13:41 | | 1.2 | 0.0 | 19.5 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP110 | 29/06/15 13:42 | | | | | | | | | 2.59 |
| CP111 | 15/04/15 11:40 | 1008 | | | | | | | 17 | |
| CP111 | 15/04/15 11:41 | | | | | | | 0.0 | | |
| CP111 | 15/04/15 11:42 | | | | | | | 0.0 | | |
| CP111 | 15/04/15 11:43 | | | | | | | 0.0 | | |
| CP111 | 15/04/15 11:44 | | | | | | | 0.0 | | |
| CP111 | 15/04/15 11:45 | | | | | | | 0.0 | | |
| CP111 | 15/04/15 11:46 | | 2.7 | 0.0 | 11.3 | 0.0 | 0.0 | | | |
| CP111 | 15/04/15 11:47 | | 2.2 | 0.0 | 12.3 | 0.0 | 0.0 | | | |
| CP111 | 15/04/15 11:48 | | 1.7 | 0.0 | 13.7 | 0.0 | 0.0 | | | |
| CP111 | 15/04/15 11:49 | | 1.3 | 0.0 | 14.8 | 0.0 | 0.0 | | | |
| CP111 | 15/04/15 11:50 | | 1.0 | 0.0 | 15.6 | 0.0 | 0.0 | | | |
| CP111 | 15/04/15 11:51 | | 0.8 | 0.0 | 15.8 | 0.0 | 0.0 | | | |
| CP111 | 15/04/15 11:52 | | 0.7 | 0.0 | 16.1 | 0.0 | 0.0 | | | |
| CP111 | 15/04/15 11:53 | | 0.7 | 0.0 | 16.1 | 0.0 | 0.0 | | | |
| CP111 | 15/04/15 11:54 | | 0.7 | 0.0 | 16.0 | 0.0 | 0.0 | | | |
| CP111 | 15/04/15 11:55 | | 0.8 | 0.0 | 16.0 | 0.0 | 0.0 | | | |
| CP111 | 15/04/15 11:56 | | | | | | | | | 2.03 |
| CP111 | 05/05/15 12:12 | 984 | | | | | | | 13 | |
| CP111 | 05/05/15 12:13 | | | | | | | 0.0 | | |
| CP111 | 05/05/15 12:14 | | | | | | | 0.0 | | |
| CP111 | 05/05/15 12:15 | | | | | | | 0.0 | | |
| CP111 | 05/05/15 12:16 | | | | | | | 0.0 | | |
| CP111 | 05/05/15 12:17 | | | | | | | 0.0 | | |
| CP111 | 05/05/15 12:18 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP111 | 05/05/15 12:19 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP111 | 05/05/15 12:20 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP111 | 05/05/15 12:21 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP111 | 05/05/15 12:22 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP111 | 05/05/15 12:23 | | | | | | | | | 2.12 |
| CP111 | 18/05/15 12:39 | 992 | | | | | | | 12 | |
| CP111 | 18/05/15 12:40 | | | | | | | 0.0 | | |
| CP111 | 18/05/15 12:41 | | | | | | | 0.0 | | |
| CP111 | 18/05/15 12:42 | | | | | | | 0.0 | | |
| CP111 | 18/05/15 12:43 | | | | | | | 0.0 | | |
| CP111 | 18/05/15 12:44 | | | | | | | 0.0 | | |
| CP111 | 18/05/15 12:45 | | 0.3 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP111 | 18/05/15 12:46 | | 0.3 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP111 | 18/05/15 12:47 | | 0.3 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP111 | 18/05/15 12:48 | | 0.3 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP111 | 18/05/15 12:49 | | 0.4 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP111 | 18/05/15 12:50 | | 0.4 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP111 | 18/05/15 12:51 | | 0.5 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP111 | 18/05/15 12:52 | | 0.5 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP111 | 18/05/15 12:53 | | 0.4 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP111 | 18/05/15 12:54 | | 0.4 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP111 | 18/05/15 12:55 | | | | | | | | | 2.19 |
| CP111 | 01/06/15 12:30 | 1002 | | | | | | | 14 | |
| CP111 | 01/06/15 12:31 | | | | | | | 0.0 | | |
| CP111 | 01/06/15 12:32 | | | | | | | 0.0 | | |
| CP111 | 01/06/15 12:33 | | | | | | | 0.0 | | |
| CP111 | 01/06/15 12:34 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP111 | 01/06/15 12:35 | | | | | | | 0.0 | | |
| CP111 | 01/06/15 12:36 | | 1.6 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| CP111 | 01/06/15 12:37 | | 1.9 | 0.0 | 18.3 | 0.0 | 0.0 | | | |
| CP111 | 01/06/15 12:38 | | 2.3 | 0.0 | 17.6 | 0.0 | 0.0 | | | |
| CP111 | 01/06/15 12:39 | | 2.3 | 0.0 | 17.4 | 0.0 | 0.0 | | | |
| CP111 | 01/06/15 12:40 | | 2.2 | 0.0 | 17.6 | 0.0 | 0.0 | | | |
| CP111 | 01/06/15 12:41 | | 2.1 | 0.0 | 17.8 | 0.0 | 0.0 | | | |
| CP111 | 01/06/15 12:42 | | 2.0 | 0.0 | 17.9 | 0.0 | 0.0 | | | |
| CP111 | 01/06/15 12:43 | | 2.0 | 0.0 | 17.9 | 0.0 | 0.0 | | | |
| CP111 | 01/06/15 12:44 | | 2.0 | 0.0 | 18.0 | 0.0 | 0.0 | | | |
| CP111 | 01/06/15 12:45 | | 2.0 | 0.0 | 18.0 | 0.0 | 0.0 | | | |
| CP111 | 01/06/15 12:46 | | | | | | | | | 2.29 |
| CP111 | 16/06/15 13:40 | 1015 | | | | | | | 21 | |
| CP111 | 16/06/15 13:41 | | | | | | | 0.0 | | |
| CP111 | 16/06/15 13:42 | | | | | | | 0.0 | | |
| CP111 | 16/06/15 13:43 | | | | | | | 0.0 | | |
| CP111 | 16/06/15 13:44 | | | | | | | 0.0 | | |
| CP111 | 16/06/15 13:45 | | | | | | | 0.0 | | |
| CP111 | 16/06/15 13:46 | | 2.2 | 0.0 | 17.7 | 0.0 | 0.0 | | | |
| CP111 | 16/06/15 13:47 | | 2.4 | 0.0 | 17.4 | 0.0 | 0.0 | | | |
| CP111 | 16/06/15 13:48 | | 2.7 | 0.0 | 17.1 | 0.0 | 0.0 | | | |
| CP111 | 16/06/15 13:49 | | 2.6 | 0.0 | 17.1 | 0.0 | 0.0 | | | |
| CP111 | 16/06/15 13:50 | | 2.4 | 0.0 | 17.2 | 0.0 | 0.0 | | | |
| CP111 | 16/06/15 13:51 | | 2.3 | 0.0 | 17.4 | 0.0 | 0.0 | | | |
| CP111 | 16/06/15 13:52 | | 2.3 | 0.0 | 17.4 | 0.0 | 0.0 | | | |
| CP111 | 16/06/15 13:53 | | 2.2 | 0.0 | 17.5 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP111 | 16/06/15 13:54 | | 2.1 | 0.0 | 17.5 | 0.0 | 0.0 | | | |
| CP111 | 16/06/15 13:55 | | 2.0 | 0.0 | 17.6 | 0.0 | 0.0 | | | |
| CP111 | 16/06/15 13:56 | | | | | | | | | 2.42 |
| CP111 | 29/06/15 12:55 | 1011 | | | | | | | 20 | |
| CP111 | 29/06/15 12:56 | | | | | | | 0.0 | | |
| CP111 | 29/06/15 12:57 | | | | | | | 0.0 | | |
| CP111 | 29/06/15 12:58 | | | | | | | 0.0 | | |
| CP111 | 29/06/15 12:59 | | | | | | | 0.0 | | |
| CP111 | 29/06/15 13:00 | | | | | | | 0.0 | | |
| CP111 | 29/06/15 13:01 | | 2.9 | 0.0 | 17.6 | 0.0 | 0.0 | | | |
| CP111 | 29/06/15 13:02 | | 3.0 | 0.0 | 17.3 | 0.0 | 0.0 | | | |
| CP111 | 29/06/15 13:03 | | 2.6 | 0.0 | 17.5 | 0.0 | 0.0 | | | |
| CP111 | 29/06/15 13:04 | | 2.3 | 0.0 | 17.8 | 0.0 | 0.0 | | | |
| CP111 | 29/06/15 13:05 | | 2.1 | 0.0 | 18.0 | 0.0 | 0.0 | | | |
| CP111 | 29/06/15 13:06 | | 2.0 | 0.0 | 18.1 | 0.0 | 0.0 | | | |
| CP111 | 29/06/15 13:07 | | 1.9 | 0.0 | 18.2 | 0.0 | 0.0 | | | |
| CP111 | 29/06/15 13:08 | | 1.7 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP111 | 29/06/15 13:09 | | 1.6 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP111 | 29/06/15 13:10 | | 1.6 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| CP111 | 29/06/15 13:11 | | | | | | | | | 2.46 |
| CP113 | 15/04/15 17:30 | 1005 | | | | | | | 17 | |
| CP113 | 15/04/15 17:31 | | | | | | | 0.0 | | |
| CP113 | 15/04/15 17:32 | | | | | | | 0.0 | | |
| CP113 | 15/04/15 17:33 | | | | | | | 0.0 | | |
| CP113 | 15/04/15 17:34 | | | | | | | 0.0 | | |
| CP113 | 15/04/15 17:35 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP113 | 15/04/15 17:36 | | 0.1 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP113 | 15/04/15 17:37 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP113 | 15/04/15 17:38 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP113 | 15/04/15 17:39 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP113 | 15/04/15 17:40 | | 0.0 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP113 | 15/04/15 17:41 | | | | | | | | | 0.60 |
| CP113 | 05/05/15 13:30 | 985 | | | | | | | 13 | |
| CP113 | 05/05/15 13:31 | | | | | | | 0.0 | | |
| CP113 | 05/05/15 13:32 | | | | | | | 0.0 | | |
| CP113 | 05/05/15 13:33 | | | | | | | 0.0 | | |
| CP113 | 05/05/15 13:34 | | | | | | | 0.0 | | |
| CP113 | 05/05/15 13:35 | | | | | | | 0.0 | | |
| CP113 | 05/05/15 13:36 | | 0.3 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| CP113 | 05/05/15 13:37 | | 0.1 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP113 | 05/05/15 13:38 | | 0.1 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP113 | 05/05/15 13:39 | | 0.1 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP113 | 05/05/15 13:40 | | 0.2 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP113 | 05/05/15 13:41 | | 0.3 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| CP113 | 05/05/15 13:42 | | 0.3 | 0.0 | 18.8 | 0.0 | 0.0 | | | |
| CP113 | 05/05/15 13:43 | | 0.4 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| CP113 | 05/05/15 13:44 | | 0.2 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| CP113 | 05/05/15 13:45 | | 0.2 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| CP113 | 05/05/15 13:46 | | | | | | | | | 0.88 |
| CP113 | 18/05/15 11:30 | 992 | | | | | | | 12 | |
| CP113 | 18/05/15 11:31 | | | | | | | 0.0 | | |
| CP113 | 18/05/15 11:32 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP113 | 18/05/15 11:33 | | | | | | | 0.0 | | |
| CP113 | 18/05/15 11:34 | | | | | | | 0.0 | | |
| CP113 | 18/05/15 11:35 | | | | | | | 0.0 | | |
| CP113 | 18/05/15 11:36 | | 0.1 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP113 | 18/05/15 11:37 | | 0.1 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP113 | 18/05/15 11:38 | | 0.1 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP113 | 18/05/15 11:39 | | 0.1 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP113 | 18/05/15 11:40 | | 0.1 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP113 | 18/05/15 11:41 | | 0.1 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP113 | 18/05/15 11:42 | | | | | | | | | 0.86 |
| CP113 | 01/06/15 11:43 | 1005 | | | | | | | 14 | |
| CP113 | 01/06/15 11:44 | | | | | | | 0.0 | | |
| CP113 | 01/06/15 11:45 | | | | | | | 0.0 | | |
| CP113 | 01/06/15 11:46 | | | | | | | 0.0 | | |
| CP113 | 01/06/15 11:47 | | | | | | | 0.0 | | |
| CP113 | 01/06/15 11:48 | | | | | | | 0.0 | | |
| CP113 | 01/06/15 11:49 | | 0.1 | 0.0 | 20.7 | 0.0 | 0.0 | | | |
| CP113 | 01/06/15 11:50 | | 0.1 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP113 | 01/06/15 11:51 | | 0.1 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP113 | 01/06/15 11:52 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP113 | 01/06/15 11:53 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP113 | 01/06/15 11:54 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP113 | 01/06/15 11:55 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP113 | 01/06/15 11:56 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP113 | 01/06/15 11:57 | | | | | | | | | 0.91 |
| CP113 | 16/06/15 12:47 | 1015 | | | | | | | 20 | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP113 | 16/06/15 12:48 | | | | | | | 0.0 | | |
| CP113 | 16/06/15 12:49 | | | | | | | 0.0 | | |
| CP113 | 16/06/15 12:50 | | | | | | | 0.0 | | |
| CP113 | 16/06/15 12:51 | | | | | | | 0.0 | | |
| CP113 | 16/06/15 12:52 | | | | | | | 0.0 | | |
| CP113 | 16/06/15 12:53 | | 1.7 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP113 | 16/06/15 12:54 | | 1.7 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP113 | 16/06/15 12:55 | | 1.8 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP113 | 16/06/15 12:56 | | 1.8 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP113 | 16/06/15 12:57 | | 1.8 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP113 | 16/06/15 12:58 | | 1.8 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP113 | 16/06/15 12:59 | | 1.8 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP113 | 16/06/15 13:00 | | | | | | | | | 1.19 |
| CP113 | 29/06/15 12:00 | 1011 | | | | | | | 21 | |
| CP113 | 29/06/15 12:01 | | | | | | | 0.0 | | |
| CP113 | 29/06/15 12:02 | | | | | | | 0.0 | | |
| CP113 | 29/06/15 12:03 | | | | | | | 0.0 | | |
| CP113 | 29/06/15 12:04 | | | | | | | 0.0 | | |
| CP113 | 29/06/15 12:05 | | | | | | | 0.0 | | |
| CP113 | 29/06/15 12:06 | | 1.9 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| CP113 | 29/06/15 12:07 | | 1.9 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP113 | 29/06/15 12:08 | | 2.0 | 0.0 | 18.3 | 0.0 | 0.0 | | | |
| CP113 | 29/06/15 12:09 | | 2.0 | 0.0 | 18.3 | 0.0 | 0.0 | | | |
| CP113 | 29/06/15 12:10 | | 2.0 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP113 | 29/06/15 12:11 | | 1.9 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| CP113 | 29/06/15 12:12 | | 1.9 | 0.0 | 18.6 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP113 | 29/06/15 12:13 | | 1.8 | 0.0 | 18.6 | 0.0 | 0.0 | | | |
| CP113 | 29/06/15 12:14 | | 1.7 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| CP113 | 29/06/15 12:15 | | 1.7 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| CP113 | 29/06/15 12:16 | | | | | | | | | 1.17 |
| CP114 | 15/04/15 13:30 | 1007 | | | | | | | 20 | |
| CP114 | 15/04/15 13:31 | | | | | | | 0.0 | | |
| CP114 | 15/04/15 13:32 | | | | | | | 0.0 | | |
| CP114 | 15/04/15 13:33 | | | | | | | 0.0 | | |
| CP114 | 15/04/15 13:34 | | | | | | | 0.0 | | |
| CP114 | 15/04/15 13:35 | | | | | | | 0.0 | | |
| CP114 | 15/04/15 13:36 | | 0.9 | 0.0 | 19.4 | 0.0 | 0.0 | | | |
| CP114 | 15/04/15 13:37 | | 0.9 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP114 | 15/04/15 13:38 | | 0.9 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP114 | 15/04/15 13:39 | | 0.9 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP114 | 15/04/15 13:40 | | 0.9 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP114 | 15/04/15 13:41 | | 0.9 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP114 | 15/04/15 13:42 | | | | | | | | | DRY |
| CP114 | 05/05/15 11:00 | 980 | | | | | | | 12 | |
| CP114 | 05/05/15 11:01 | | | | | | | 0.0 | | |
| CP114 | 05/05/15 11:02 | | | | | | | 0.0 | | |
| CP114 | 05/05/15 11:03 | | | | | | | 0.0 | | |
| CP114 | 05/05/15 11:04 | | | | | | | 0.0 | | |
| CP114 | 05/05/15 11:05 | | | | | | | 0.0 | | |
| CP114 | 05/05/15 11:06 | | 1.0 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP114 | 05/05/15 11:07 | | 1.0 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP114 | 05/05/15 11:08 | | 1.0 | 0.0 | 19.3 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP114 | 05/05/15 11:09 | | 1.0 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP114 | 05/05/15 11:10 | | 1.0 | 0.0 | 19.3 | 0.0 | 0.0 | | | |
| CP114 | 05/05/15 11:11 | | 0.9 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| CP114 | 05/05/15 11:12 | | 0.8 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP114 | 05/05/15 11:13 | | 0.7 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| CP114 | 05/05/15 11:14 | | 0.7 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP114 | 05/05/15 11:15 | | 0.7 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| CP114 | 05/05/15 11:16 | | | | | | | | | 6.23 |
| CP114 | 18/05/15 12:03 | 992 | | | | | | | 12 | |
| CP114 | 18/05/15 12:04 | | | | | | | 0.0 | | |
| CP114 | 18/05/15 12:05 | | | | | | | 0.0 | | |
| CP114 | 18/05/15 12:06 | | | | | | | 0.0 | | |
| CP114 | 18/05/15 12:07 | | | | | | | 0.0 | | |
| CP114 | 18/05/15 12:08 | | | | | | | 0.0 | | |
| CP114 | 18/05/15 12:09 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP114 | 18/05/15 12:10 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP114 | 18/05/15 12:11 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP114 | 18/05/15 12:12 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP114 | 18/05/15 12:13 | | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP114 | 18/05/15 12:14 | | | | | | | | | 0.94 |
| CP115 | 15/04/15 17:45 | 1004 | | | | | | | 18 | |
| CP115 | 15/04/15 17:46 | | | | | | | 0.0 | | |
| CP115 | 15/04/15 17:47 | | | | | | | 0.0 | | |
| CP115 | 15/04/15 17:48 | | | | | | | 0.0 | | |
| CP115 | 15/04/15 17:49 | | | | | | | 0.0 | | |
| CP115 | 15/04/15 17:50 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP115 | 15/04/15 17:51 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| CP115 | 15/04/15 17:52 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| CP115 | 15/04/15 17:53 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| CP115 | 15/04/15 17:54 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| CP115 | 15/04/15 17:55 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| CP115 | 15/04/15 17:56 | | | | | | | | | 0.97 |
| CP115 | 05/05/15 14:30 | 984 | | | | | | | 12 | |
| CP115 | 05/05/15 14:31 | | | | | | | 0.0 | | |
| CP115 | 05/05/15 14:32 | | | | | | | 0.0 | | |
| CP115 | 05/05/15 14:33 | | | | | | | 0.0 | | |
| CP115 | 05/05/15 14:34 | | | | | | | 0.0 | | |
| CP115 | 05/05/15 14:35 | | | | | | | 0.0 | | |
| CP115 | 05/05/15 14:36 | | 0.7 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP115 | 05/05/15 14:37 | | 0.4 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP115 | 05/05/15 14:38 | | 0.2 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| CP115 | 05/05/15 14:39 | | 0.1 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP115 | 05/05/15 14:40 | | 0.1 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP115 | 05/05/15 14:41 | | 0.1 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP115 | 05/05/15 14:42 | | 0.1 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP115 | 05/05/15 14:43 | | 0.1 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP115 | 05/05/15 14:44 | | 0.1 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP115 | 05/05/15 14:45 | | 0.1 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| CP115 | 05/05/15 14:46 | | | | | | | | | 1.67 |
| CP115 | 18/05/15 11:17 | 992 | | | | | | | 12 | |
| CP115 | 18/05/15 11:18 | | | | | | | 0.0 | | |
| CP115 | 18/05/15 11:19 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP115 | 18/05/15 11:20 | | | | | | | 0.0 | | |
| CP115 | 18/05/15 11:21 | | | | | | | 0.0 | | |
| CP115 | 18/05/15 11:22 | | | | | | | 0.0 | | |
| CP115 | 18/05/15 11:23 | | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| CP115 | 18/05/15 11:24 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| CP115 | 18/05/15 11:25 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| CP115 | 18/05/15 11:26 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| CP115 | 18/05/15 11:27 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| CP115 | 18/05/15 11:28 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| CP115 | 18/05/15 11:29 | | | | | | | | | 0.97 |
| CP115 | 01/06/15 11:59 | 1004 | | | | | | | 14 | |
| CP115 | 01/06/15 12:00 | | | | | | | 0.0 | | |
| CP115 | 01/06/15 12:01 | | | | | | | 0.0 | | |
| CP115 | 01/06/15 12:02 | | | | | | | 0.0 | | |
| CP115 | 01/06/15 12:03 | | | | | | | 0.0 | | |
| CP115 | 01/06/15 12:04 | | | | | | | 0.0 | | |
| CP115 | 01/06/15 12:05 | | 0.1 | 0.0 | 20.4 | 0.0 | 0.0 | | | |
| CP115 | 01/06/15 12:06 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP115 | 01/06/15 12:07 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP115 | 01/06/15 12:08 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP115 | 01/06/15 12:09 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP115 | 01/06/15 12:10 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| CP115 | 01/06/15 12:11 | | | | | | | | | 0.95 |
| CP115 | 16/06/15 12:30 | 1015 | | | | | | | 20 | |
| CP115 | 16/06/15 12:31 | | | | | | | 0.0 | | |
| CP115 | 16/06/15 12:32 | | | | | | | 0.0 | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| CP115 | 16/06/15 12:33 | | | | | | | 0.0 | | |
| CP115 | 16/06/15 12:34 | | | | | | | 0.0 | | |
| CP115 | 16/06/15 12:35 | | | | | | | 0.0 | | |
| CP115 | 16/06/15 12:36 | | 0.2 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| CP115 | 16/06/15 12:37 | | 0.1 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 16/06/15 12:38 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 16/06/15 12:39 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 16/06/15 12:40 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 16/06/15 12:41 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 16/06/15 12:42 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 16/06/15 12:43 | | | | | | | | | 1.03 |
| CP115 | 29/06/15 12:16 | 1011 | | | | | | | 20 | |
| CP115 | 29/06/15 12:17 | | | | | | | 0.0 | | |
| CP115 | 29/06/15 12:18 | | | | | | | 0.0 | | |
| CP115 | 29/06/15 12:19 | | | | | | | 0.0 | | |
| CP115 | 29/06/15 12:20 | | | | | | | 0.0 | | |
| CP115 | 29/06/15 12:21 | | | | | | | 0.0 | | |
| CP115 | 29/06/15 12:22 | | 0.4 | 0.0 | 19.9 | 0.0 | 0.0 | | | |
| CP115 | 29/06/15 12:23 | | 0.1 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| CP115 | 29/06/15 12:24 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 29/06/15 12:25 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 29/06/15 12:26 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 29/06/15 12:27 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 29/06/15 12:28 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| CP115 | 29/06/15 12:29 | | | | | | | | | 1.17 |
| RC303 | 15/04/15 10:07 | 1013 | | | | | | | 16 | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| RC303 | 15/04/15 10:08 | | | | | | | 0.0 | | |
| RC303 | 15/04/15 10:09 | | | | | | | 0.0 | | |
| RC303 | 15/04/15 10:10 | | | | | | | 0.0 | | |
| RC303 | 15/04/15 10:11 | | | | | | | 0.0 | | |
| RC303 | 15/04/15 10:12 | | | | | | | 0.0 | | |
| RC303 | 15/04/15 10:13 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC303 | 15/04/15 10:14 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC303 | 15/04/15 10:15 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC303 | 15/04/15 10:16 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC303 | 15/04/15 10:17 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC303 | 15/04/15 10:18 | | | | | | | | | 2.22 |
| RC303 | 05/05/15 13:06 | 984 | | | | | | | 13 | |
| RC303 | 05/05/15 13:07 | | | | | | | 0.0 | | |
| RC303 | 05/05/15 13:08 | | | | | | | 0.0 | | |
| RC303 | 05/05/15 13:09 | | | | | | | 0.0 | | |
| RC303 | 05/05/15 13:10 | | | | | | | 0.0 | | |
| RC303 | 05/05/15 13:11 | | | | | | | 0.0 | | |
| RC303 | 05/05/15 13:12 | | 0.8 | 0.0 | 19.2 | 0.0 | 0.0 | | | |
| RC303 | 05/05/15 13:13 | | 0.4 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| RC303 | 05/05/15 13:14 | | 0.3 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| RC303 | 05/05/15 13:15 | | 0.3 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| RC303 | 05/05/15 13:16 | | 0.3 | 0.0 | 20.1 | 0.0 | 0.0 | | | |
| RC303 | 05/05/15 13:17 | | 0.2 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| RC303 | 05/05/15 13:18 | | 0.2 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC303 | 05/05/15 13:19 | | 0.1 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC303 | 05/05/15 13:20 | | 0.1 | 0.0 | 20.3 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| RC303 | 05/05/15 13:21 | | 0.1 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC303 | 05/05/15 13:22 | | | | | | | | | 2.40 |
| RC303 | 01/06/15 13:26 | 1000 | | | | | | | 15 | |
| RC303 | 01/06/15 13:27 | | | | | | | 0.0 | | |
| RC303 | 01/06/15 13:28 | | | | | | | 0.0 | | |
| RC303 | 01/06/15 13:29 | | | | | | | 0.0 | | |
| RC303 | 01/06/15 13:30 | | | | | | | 0.0 | | |
| RC303 | 01/06/15 13:31 | | | | | | | 0.0 | | |
| RC303 | 01/06/15 13:32 | | 0.4 | 0.0 | 19.7 | 0.0 | 0.0 | | | |
| RC303 | 01/06/15 13:33 | | 0.4 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| RC303 | 01/06/15 13:34 | | 0.4 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| RC303 | 01/06/15 13:35 | | 0.4 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| RC303 | 01/06/15 13:36 | | 0.4 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| RC303 | 01/06/15 13:37 | | 0.4 | 0.0 | 19.8 | 0.0 | 0.0 | | | |
| RC303 | 01/06/15 13:38 | | | | | | | | | 2.54 |
| RC303 | 16/06/15 15:00 | 1014 | | | | | | | 21 | |
| RC303 | 16/06/15 15:01 | | | | | | | 0.0 | | |
| RC303 | 16/06/15 15:02 | | | | | | | 0.0 | | |
| RC303 | 16/06/15 15:03 | | | | | | | 0.0 | | |
| RC303 | 16/06/15 15:04 | | | | | | | 0.0 | | |
| RC303 | 16/06/15 15:05 | | | | | | | 0.0 | | |
| RC303 | 16/06/15 15:06 | | 1.0 | 0.0 | 18.0 | 0.0 | 0.0 | | | |
| RC303 | 16/06/15 15:07 | | 1.0 | 0.0 | 18.0 | 0.0 | 0.0 | | | |
| RC303 | 16/06/15 15:08 | | 1.0 | 0.0 | 18.0 | 0.0 | 0.0 | | | |
| RC303 | 16/06/15 15:09 | | 1.0 | 0.0 | 18.0 | 0.0 | 0.0 | | | |
| RC303 | 16/06/15 15:10 | | 1.0 | 0.0 | 18.0 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| RC303 | 16/06/15 15:11 | | | | | | | | | 2.50 |
| RC303 | 29/06/15 14:15 | 1010 | | | | | | | 20 | |
| RC303 | 29/06/15 14:16 | | | | | | | 0.0 | | |
| RC303 | 29/06/15 14:17 | | | | | | | 0.0 | | |
| RC303 | 29/06/15 14:18 | | | | | | | 0.0 | | |
| RC303 | 29/06/15 14:19 | | | | | | | 0.0 | | |
| RC303 | 29/06/15 14:20 | | | | | | | 0.0 | | |
| RC303 | 29/06/15 14:21 | | 0.8 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| RC303 | 29/06/15 14:22 | | 0.8 | 0.0 | 18.8 | 0.0 | 0.0 | | | |
| RC303 | 29/06/15 14:23 | | 0.8 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| RC303 | 29/06/15 14:24 | | 0.8 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| RC303 | 29/06/15 14:25 | | 0.8 | 0.0 | 18.6 | 0.0 | 0.0 | | | |
| RC303 | 29/06/15 14:26 | | 0.8 | 0.0 | 18.6 | 0.0 | 0.0 | | | |
| RC303 | 29/06/15 14:27 | | 0.9 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| RC303 | 29/06/15 14:28 | | 0.9 | 0.0 | 18.5 | 0.0 | 0.0 | | | |
| RC303 | 29/06/15 14:29 | | 0.9 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| RC303 | 29/06/15 14:30 | | 0.9 | 0.0 | 18.4 | 0.0 | 0.0 | | | |
| RC303 | 29/06/15 14:31 | | | | | | | | | 2.55 |
| RC308 | 15/04/15 12:40 | 1007 | | | | | | | 18 | |
| RC308 | 15/04/15 12:41 | | | | | | | 0.0 | | |
| RC308 | 15/04/15 12:42 | | | | | | | 0.0 | | |
| RC308 | 15/04/15 12:43 | | | | | | | 0.0 | | |
| RC308 | 15/04/15 12:44 | | | | | | | 0.0 | | |
| RC308 | 15/04/15 12:45 | | | | | | | 0.0 | | |
| RC308 | 15/04/15 12:46 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| RC308 | 15/04/15 12:47 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| RC308 | 15/04/15 12:48 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| RC308 | 15/04/15 12:49 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| RC308 | 15/04/15 12:50 | | 0.0 | 0.0 | 20.8 | 0.0 | 0.0 | | | |
| RC308 | 15/04/15 12:51 | | | | | | | | | 0.76 |
| RC308 | 05/05/15 10:55 | 980 | | | | | | | 12 | |
| RC308 | 05/05/15 10:56 | | | | | | | 0.0 | | |
| RC308 | 05/05/15 10:57 | | | | | | | 0.0 | | |
| RC308 | 05/05/15 10:58 | | | | | | | 0.0 | | |
| RC308 | 05/05/15 10:59 | | | | | | | 0.0 | | |
| RC308 | 05/05/15 11:00 | | | | | | | 0.0 | | |
| RC308 | 05/05/15 11:01 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC308 | 05/05/15 11:02 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC308 | 05/05/15 11:03 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC308 | 05/05/15 11:04 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC308 | 05/05/15 11:05 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC308 | 05/05/15 11:06 | | | | | | | | | 1.02 |
| RC308 | 18/05/15 08:29 | 995 | | | | | | | 11 | |
| RC308 | 18/05/15 08:30 | | | | | | | 0.0 | | |
| RC308 | 18/05/15 08:31 | | | | | | | 0.0 | | |
| RC308 | 18/05/15 08:32 | | | | | | | 0.0 | | |
| RC308 | 18/05/15 08:33 | | | | | | | 0.0 | | |
| RC308 | 18/05/15 08:34 | | | | | | | 0.0 | | |
| RC308 | 18/05/15 08:35 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| RC308 | 18/05/15 08:36 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| RC308 | 18/05/15 08:37 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| RC308 | 18/05/15 08:38 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| RC308 | 18/05/15 08:39 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| RC308 | 18/05/15 08:40 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| RC308 | 18/05/15 08:41 | | | | | | | | | 1.10 |
| RC308 | 01/06/15 11:25 | 1004 | | | | | | | 14 | |
| RC308 | 01/06/15 11:26 | | | | | | | 0.0 | | |
| RC308 | 01/06/15 11:27 | | | | | | | 0.0 | | |
| RC308 | 01/06/15 11:28 | | | | | | | 0.0 | | |
| RC308 | 01/06/15 11:29 | | | | | | | 0.0 | | |
| RC308 | 01/06/15 11:30 | | | | | | | 0.0 | | |
| RC308 | 01/06/15 11:31 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC308 | 01/06/15 11:32 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC308 | 01/06/15 11:33 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC308 | 01/06/15 11:34 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC308 | 01/06/15 11:35 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC308 | 01/06/15 11:36 | | | | | | | | | 1.09 |
| RC308 | 16/06/15 12:06 | 1015 | | | | | | | 20 | |
| RC308 | 16/06/15 12:07 | | | | | | | 0.0 | | |
| RC308 | 16/06/15 12:08 | | | | | | | 0.0 | | |
| RC308 | 16/06/15 12:09 | | | | | | | 0.0 | | |
| RC308 | 16/06/15 12:10 | | | | | | | 0.0 | | |
| RC308 | 16/06/15 12:11 | | | | | | | 0.0 | | |
| RC308 | 16/06/15 12:12 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| RC308 | 16/06/15 12:13 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| RC308 | 16/06/15 12:14 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| RC308 | 16/06/15 12:15 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| RC308 | 16/06/15 12:16 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| RC308 | 16/06/15 12:17 | | | | | | | | | 1.12 |
| RC308 | 29/06/15 11:40 | 1011 | | | | | | | 21 | |
| RC308 | 29/06/15 11:41 | | | | | | | 0.0 | | |
| RC308 | 29/06/15 11:42 | | | | | | | 0.0 | | |
| RC308 | 29/06/15 11:43 | | | | | | | 0.0 | | |
| RC308 | 29/06/15 11:44 | | | | | | | 0.0 | | |
| RC308 | 29/06/15 11:45 | | | | | | | 0.0 | | |
| RC308 | 29/06/15 11:46 | | | | | | | | | |
| RC308 | 29/06/15 11:47 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC308 | 29/06/15 11:48 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC308 | 29/06/15 11:49 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC308 | 29/06/15 11:50 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC308 | 29/06/15 11:51 | | 0.0 | 0.0 | 20.3 | 0.0 | 0.0 | | | |
| RC308 | 29/06/15 11:52 | | | | | | | | | 1.07 |
| RC313 | 15/04/15 13:59 | 1007 | | | | | | | 21 | |
| RC313 | 15/04/15 14:00 | | | | | | | -0.7 | | |
| RC313 | 15/04/15 14:01 | | | | | | | -0.7 | | |
| RC313 | 15/04/15 14:02 | | | | | | | -0.7 | | |
| RC313 | 15/04/15 14:03 | | | | | | | -0.2 | | |
| RC313 | 15/04/15 14:04 | | | | | | | -0.1 | | |
| RC313 | 15/04/15 14:05 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| RC313 | 15/04/15 14:06 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| RC313 | 15/04/15 14:07 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| RC313 | 15/04/15 14:08 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| RC313 | 15/04/15 14:09 | | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | | | |
| RC313 | 15/04/15 14:10 | | | | | | | | | 0.32 |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| RC313 | 05/05/15 11:50 | 982 | | | | | | | 12 | |
| RC313 | 05/05/15 11:51 | | | | | | | 0.0 | | |
| RC313 | 05/05/15 11:52 | | | | | | | 0.0 | | |
| RC313 | 05/05/15 11:53 | | | | | | | 0.0 | | |
| RC313 | 05/05/15 11:54 | | | | | | | 0.0 | | |
| RC313 | 05/05/15 11:55 | | | | | | | 0.0 | | |
| RC313 | 05/05/15 11:56 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC313 | 05/05/15 11:57 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC313 | 05/05/15 11:58 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC313 | 05/05/15 11:59 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC313 | 05/05/15 12:00 | | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | | | |
| RC313 | 05/05/15 12:01 | | | | | | | | | 0.84 |
| RC313 | 18/05/15 12:18 | 992 | | | | | | | 12 | |
| RC313 | 18/05/15 12:19 | | | | | | | 0.0 | | |
| RC313 | 18/05/15 12:20 | | | | | | | 0.0 | | |
| RC313 | 18/05/15 12:21 | | | | | | | 0.0 | | |
| RC313 | 18/05/15 12:22 | | | | | | | 0.0 | | |
| RC313 | 18/05/15 12:23 | | | | | | | 0.0 | | |
| RC313 | 18/05/15 12:24 | | 0.3 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| RC313 | 18/05/15 12:25 | | 0.2 | 0.0 | 20.0 | 0.0 | 0.0 | | | |
| RC313 | 18/05/15 12:26 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| RC313 | 18/05/15 12:27 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| RC313 | 18/05/15 12:28 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| RC313 | 18/05/15 12:29 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| RC313 | 18/05/15 12:30 | | 0.0 | 0.0 | 20.2 | 0.0 | 0.0 | | | |
| RC313 | 18/05/15 12:31 | | | | | | | | | 0.94 |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| RC313 | 01/06/15 12:15 | 1004 | | | | | | | 14 | |
| RC313 | 01/06/15 12:16 | | | | | | | 0.0 | | |
| RC313 | 01/06/15 12:17 | | | | | | | 0.0 | | |
| RC313 | 01/06/15 12:18 | | | | | | | 0.0 | | |
| RC313 | 01/06/15 12:19 | | | | | | | 0.0 | | |
| RC313 | 01/06/15 12:20 | | | | | | | 0.0 | | |
| RC313 | 01/06/15 12:21 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| RC313 | 01/06/15 12:22 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| RC313 | 01/06/15 12:23 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| RC313 | 01/06/15 12:24 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| RC313 | 01/06/15 12:25 | | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | | | |
| RC313 | 01/06/15 12:26 | | | | | | | | | 1.14 |
| RC313 | 16/06/15 13:09 | 1013 | | | | | | | 21 | |
| RC313 | 16/06/15 13:10 | | | | | | | 0.0 | | |
| RC313 | 16/06/15 13:11 | | | | | | | 0.0 | | |
| RC313 | 16/06/15 13:12 | | | | | | | 0.0 | | |
| RC313 | 16/06/15 13:13 | | | | | | | 0.0 | | |
| RC313 | 16/06/15 13:14 | | | | | | | 0.0 | | |
| RC313 | 16/06/15 13:15 | | 0.6 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| RC313 | 16/06/15 13:16 | | 0.6 | 0.0 | 19.6 | 0.0 | 0.0 | | | |
| RC313 | 16/06/15 13:17 | | 0.6 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 16/06/15 13:18 | | 0.7 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 16/06/15 13:19 | | 0.7 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 16/06/15 13:20 | | 0.7 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 16/06/15 13:21 | | 0.6 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 16/06/15 13:22 | | 0.7 | 0.0 | 19.5 | 0.0 | 0.0 | | | |

general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| **30378** | |

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Geotechnical Engineering Limited

# GAS AND GROUNDWATER LEVELS

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | date & time | barometric pressure (mb) | carbon dioxide (%) | methane (%) | oxygen (%) | LEL (%) | hydrogen sulphide (ppm) | gas flow (ltr/hr) | temperature (°C) | water level (m - bgl) |
|---|---|---|---|---|---|---|---|---|---|---|
| RC313 | 16/06/15 13:23 | | 0.6 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 16/06/15 13:24 | | | | | | | | | 1.40 |
| RC313 | 29/06/15 00:00 | | | | | | | 0.0 | | |
| RC313 | 29/06/15 12:35 | 1011 | | | | | | | 20 | |
| RC313 | 29/06/15 12:37 | | | | | | | 0.0 | | |
| RC313 | 29/06/15 12:38 | | | | | | | 0.0 | | |
| RC313 | 29/06/15 12:39 | | | | | | | 0.0 | | |
| RC313 | 29/06/15 12:40 | | | | | | | 0.0 | | |
| RC313 | 29/06/15 12:41 | | 0.8 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 29/06/15 12:42 | | 0.8 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 29/06/15 12:43 | | 0.8 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 29/06/15 12:44 | | 0.8 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 29/06/15 12:45 | | 0.8 | 0.0 | 19.5 | 0.0 | 0.0 | | | |
| RC313 | 29/06/15 12:46 | | | | | | | | | 1.48 |

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general remarks:

# denotes result exceeding capacity of gas monitoring equipment

| CONTRACT | CHECKED |
|---|---|
| 30378 | |

# APPENDIX B

## LABORATORY TESTING

2718

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| | | | |
|---|---|---|---|
| | | Version No. | 1 |
| For the attention of | Dave Owen/Steve Farrer | Page No. | 1 of 15 |
| | | Date of Issue | 16/06/2015 |

# TEST REPORT

| | | | |
|---|---|---|---|
| PROJECT/SITE | Graven Hill, Bicester | Samples received | 23/04/2015 |
| GEL REPORT NUMBER | 30378/A | Schedule received | 09/06/2015 |
| Your ref/PO: | 0 | Testing commenced | 10/06/2015 |
| Test report refers to | Schedule A | Status | Final |

## SUMMARY OF RESULTS ATTACHED

| TEST METHOD & DESCRIPTION | QUANTITY | ACCREDITED TEST |
|---|---|---|
| BS1377: Part 7: 1990:8&9, Undrained Triaxial Compression | 23 | NO |
| BS1377: Part 8: 1990: Effective Stress Testing | 3 | NO |

Remarks

This report may not be partially reproduced without written permission from this laboratory.

Approved Signatories:

**S Robinson (Client Manager)** C Reid (Client Manager)

W Jones (Technical Support) J Hanson (Director) C Thomas (Consultant)

Doc TR01 Rev No. 7 Revision date 12/02/15 DC:JH

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**Sort code**: 30-15-99 **Bank account**: 00072116

Geotechnical Engineering Limited

# UNDRAINED TRIAXIAL COMPRESSION

**BS.1377 : Part 7 : 1990 : 8 and 9**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./ type | sample depth (m) | specimen depth (m) | code | moisture content (%) | density bulk ($Mg/m^3$) | density dry ($Mg/m^3$) | cell pressure (kPa) | deviator stress (kPa) | failure strain (%) | failure mode | shear strength* (kPa) | description and remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CP101 | 8UT | 2.70 | 2.75 | UU100 | 31.0 | 1.86 | 1.42 | 80 | 113 | 5.3 | S | 57 | Dark brown mottled grey sligfhtly sandy slightly gravelly silty CLAY |
| CP101 | 14UT | 4.70 | 4.70 | UU100 | 15.8 | 2.05 | 1.77 | 100 | 364 | 15.5 | S | 182 | Dark grey slightly sandy slightly gravelly silty CLAY |
| CP102 | UT | 2.70 | 2.75 | UU100 | 33.2 | 1.80 | 1.35 | 60 | 79 | 7.2 | S | 40 | Brownish grey slightly sandy silty CLAY with rare gypsum |
| CP107 | 10UT | 3.20 | 3.25 | UU100 | 27.4 | 1.85 | 1.45 | 70 | 178 | 5.8 | S | 89 | Dark brown mottled yellowish brown slightly sandy silty CLAY with occasional gypsum |
| CP108 | 5UT | 1.70 | 1.75 | UU100 | 31.1 | 1.90 | 1.45 | 40 | 103 | 6.3 | S | 52 | Grey mottled brown slightly sandy slightly gravelly silty CLAY with frequent shell fragments |
| CP109 | 8UT | 2.70 | 2.70 | UU100 | 23.7 | 1.90 | 1.53 | 60 | 93 | 12.5 | S | 47 | Orangish brown mottled orange slightly sandy slightly gravelly silty CLAY |
| CP109 | 14UT | 4.70 | 4.93 | UU100 | 40.1 | 1.72 | 1.23 | 100 | 102 | 5.3 | S | 51 | Dark brown slightly sandy silty CLAY |
| CP110 | 8UT | 2.70 | 2.75 | UU100 | 32.0 | 1.85 | 1.40 | 60 | 80 | 8.7 | S | 40 | Brown slightly sandy slightly gravelly silty CLAY with occasional shell fragmenrts |
| RC306 | 7UT | 2.20 | 2.25 | UU100 | 30.5 | 1.91 | 1.46 | 50 | 63 | 15.0 | I | 32 | Greyish brown slightly sandy slightly gravelly silty CLAY |
| RC307 | 9UT | 3.20 | 3.25 | UU100 | 28.6 | 1.72 | 1.33 | 70 | 115 | 18.8 | S | 58 | Dark brown slightly sandy slightly gravelly silty CLAY |
| RC307 | 18Cs | 7.40 | 7.45 | UU100 | 28.2 | 1.93 | 1.51 | 150 | 149 | 15.9 | S | 75 | Dark grey slightly sandy slightly gravelly silty CLAY with occasional shell fragments |
| RC308 | 7UT | 2.20 | 2.25 | UU100 | 42.2 | 1.62 | 1.14 | 50 | 51 | 19.8 | S | 26 | Dark brown slightly sandy silty CLAY |
| RC308 | 10UT | 3.20 | 3.40 | UU100 | 33.9 | 1.72 | 1.29 | 70 | 83 | 5.3 | S | 42 | Dark brown slightly sandy slightly gravelly silty CLAY |
| RC308 | 13UT | 4.20 | 4.33 | UU100 | 22.6 | 2.00 | 1.63 | 90 | 322 | 3.1 | S | 161 | Dark brown slightly sandy slightly gravelly CLAY with rare shell fragments |
| RC310 | 10UT | 3.20 | 3.25 | UU100 | 25.9 | 1.84 | 1.46 | 70 | 124 | 3.9 | S | 62 | Brown slightly sandy silty CLAY with occasional gypsum |
| RC311 | 4UT | 1.20 | 1.30 | UU100 | 30.0 | 1.86 | 1.43 | 30 | 59 | 13.0 | S | 30 | Grey mottled orangish brown and light grey slightly sandy slightlty gravelly silty CLAY with rare gypsum |
| RC311 | 7UT | 2.20 | 2.40 | UU100 | 39.0 | 1.76 | 1.27 | 50 | 88 | 8.7 | S | 44 | Brown slightly sandy silty CLAY with occasional decomposed organic matter |

general remarks: * shear strength taken as half deviator stress at failure for each stage.
# denotes sample unsuitable to test.

code:
CD - Consolidated drained
CU - Consolidated undrained
UU - Unconsolidated undrained
M - Multistage
S - Set of 3 specimens
R - Remoulded
38 - 38mm dia. x 76mm
70 - 69mm dia. x 140mm
100 - 106mm dia. x 200mm

failure mode:
B - barrelling (plastic failure)
S - shear (brittle failure)
I - intermediate
O - other (see remarks)

membrane correction applied
sample taken vertically (unless specified)
rate of strain = 2%/min (unless specified)

membrane thickness:
38 - 0.2mm 70 - 0.4mm
106 - 0.4mm

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quedgeley, Gloucester. GL2 4NF. Tel. 01452 527743 30378 MASTER.GPJ 16/06/2015 12:15:18

Geotechnical Engineering Limited

# UNDRAINED TRIAXIAL COMPRESSION

**BS.1377 : Part 7 : 1990 : 8 and 9**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./ type | sample depth (m) | specimen depth (m) | code | moisture content (%) | density bulk ($Mg/m^3$) | density dry ($Mg/m^3$) | cell pressure (kPa) | deviator stress (kPa) | failure strain (%) | failure mode | shear strength* (kPa) | description and remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RC311 | 11UT | 4.20 | 4.25 | UU100 | 27.0 | 1.91 | 1.50 | 90 | 132 | 4.8 | S | 66 | Dark grey slightly sandy silty CLAY with occasional shell fragments |
| RC311 | 17Cs | 7.90 | 7.95 | UU100 | 26.1 | 1.91 | 1.52 | 160 | 114 | 12.4 | S | 57 | Dark grey slightly sandy silty CLAY with rare shell fragments |
| RC312 | 4UT | 1.20 | 1.40 | UU100 | 30.0 | 1.92 | 1.48 | 30 | 35 | 12.6 | S | 18 | Grey mottled orangish brown slightly sandy silty CLAY |
| RC312 | 9UT | 3.20 | 3.30 | UU100 | 22.1 | 1.97 | 1.61 | 70 | 163 | 7.7 | S | 82 | Dark grey mottled reddish brown slightly sandy silty CLAY with occasional gypsum |
| RC313 | 10UT | 3.20 | 3.25 | UU100 | 20.8 | 2.03 | 1.68 | 70 | 118 | 5.3 | S | 59 | Grey slightly sandy silty CLAY with occasional gypsum |
| RC313 | 17Cs | 8.40 | 8.40 | UU100 | 25.2 | 2.00 | 1.60 | 170 | 114 | 6.3 | S | 57 | Dark grey slightly sandy slightly gravelly silty CLAY with frequent shell fragments |

general remarks: * shear strength taken as half deviator stress at failure for each stage.
# denotes sample unsuitable to test.

code:
CD - Consolidated drained
CU - Consolidated undrained
UU - Unconsolidated undrained
M - Multistage
S - Set of 3 specimens
R - Remoulded
38 - 38mm dia. x 76mm
70 - 69mm dia. x 140mm
100 - 106mm dia. x 200mm

failure mode:
B - barrelling (plastic failure)
S - shear (brittle failure)
I - intermediate
O - other (see remarks)

membrane correction applied
sample taken vertically (unless specified)
rate of strain = 2%/min (unless specified)

membrane thickness:
38 - 0.2mm 70 - 0.4mm
106 - 0.4mm

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP109 |
| SITE | GRAVEN HILL , BICESTER | SAMPLE No./TYPE | 17UT |
| | | SAMPLE DEPTH (m) | 6.2-6.65 |
| DESCRIPTION | Dark brown slightly sandy CLAY with rare shell fragments. | SPECIMEN DEPTH (m) | 6.20 |

| | |
|---|---|
| **TYPE OF SPECIMEN** | **Undisturbed / Vertical** |
| **TYPE OF TEST** | **Single Specimen Single Stage** |
| **SIDE DRAINS FITTED** | **Yes** |
| **DRAINAGE CONDITIONS** | **Both ends and radial boundary** |

| | | | **SPECIMEN** | **1** |
|---|---|---|---|---|
| **INITIAL CONDITIONS** | Length | mm | 188.06 | |
| | Diameter | mm | 103.87 | |
| | Moisture Content | % | 29 | |
| | Bulk Density | $Mg/m^3$ | 1.80 | |
| | Dry Density | $Mg/m^3$ | 1.40 | |
| **FINAL CONDITIONS** | Moisture Content | % | 30 | |
| | Bulk Density | $Mg/m^3$ | 1.86 | |
| | Dry Density | $Mg/m^3$ | 1.43 | |
| **SATURATION** (by cell pressure and back pressure increments) | Initial PWP | kPa | 0 | |
| | Saturated PWP | kPa | 340 | |
| | Final Cell Pressure | kPa | 350 | |
| | B Value | | 0.96 | |
| **CONSOLIDATION** | Cell Pressure | kPa | 390 | |
| | Back Pressure | kPa | 290 | |
| | Initial PWP | kPa | 379 | |
| | Final PWP | kPa | 297 | |
| | $c_v$ | $m^2/yr$ | 6.62 | |
| | $m_v$ | $m^2/MN$ | 0.267 | |
| | k (calculated value) | m/s | 5.5E-10 | |
| **COMPRESSION** | Cell Pressure | kPa | 390 | |
| | Back Pressure | kPa | 290 | |
| | $\sigma_3'$ | kPa | 100 | |
| | Rate of Strain | %/hr | 2 | |
| **FAILURE CONDITIONS** (based on maximum deviator stress) | Strain ($\varepsilon$) | % | 2.7 | |
| | $\delta u$ | kPa | 48 | |
| | $\sigma_{3f}'$ | kPa | 52 | |
| | $(\sigma_1' - \sigma_3')_f$ | kPa | 85 | |
| **FAILURE MODE** (also see photographs) | | | SHEAR | |
| | | **EFFECTIVE STRESS PARAMETERS** | **c' kPa :** | **$\phi'$ deg :** |

| | | | |
|---|---|---|---|
| remarks | Test originally scheduled as a multistage, however the sample failed prematurely during shear stage 1. | CONTRACT **30378** | CHECKED **NP** |

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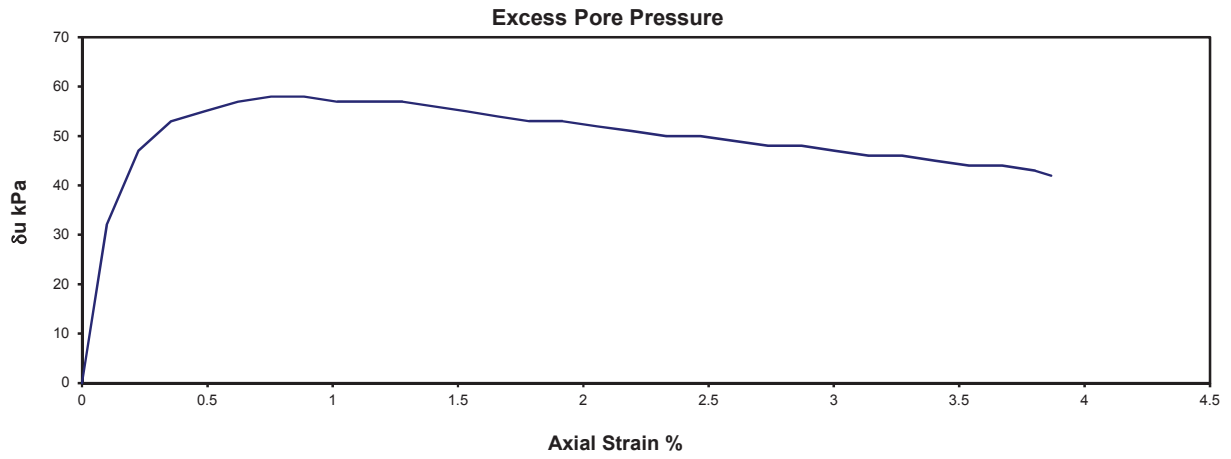
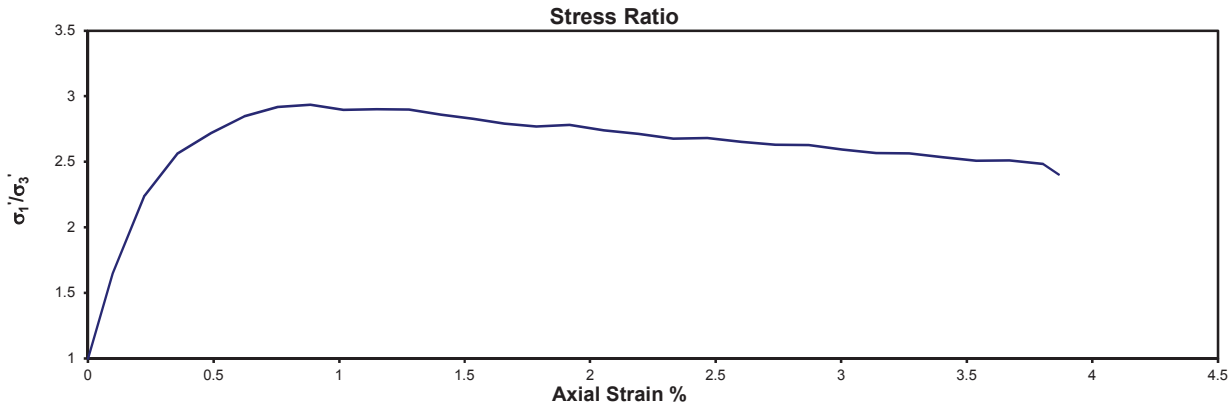
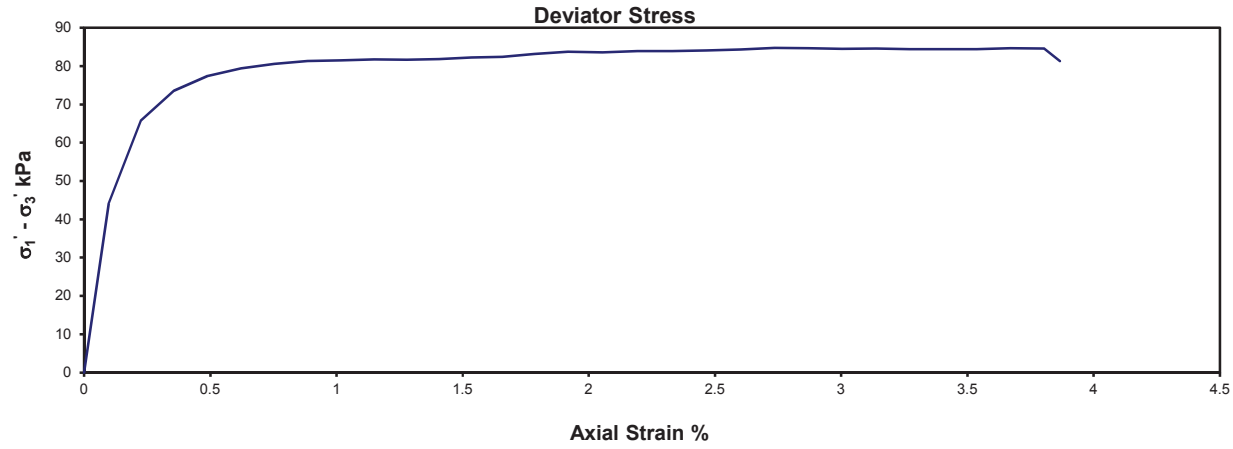
# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP109 |
| SITE | GRAVEN HILL , BICESTER | SAMPLE No./TYPE | 17UT |
| | | SAMPLE DEPTH (m) | 6.2-6.65 |
| | | SPECIMEN DEPTH (m) | 6.20 |




| remarks | CONTRACT | CHECKED |
|---|---|---|
| | **30378** | **NP** |

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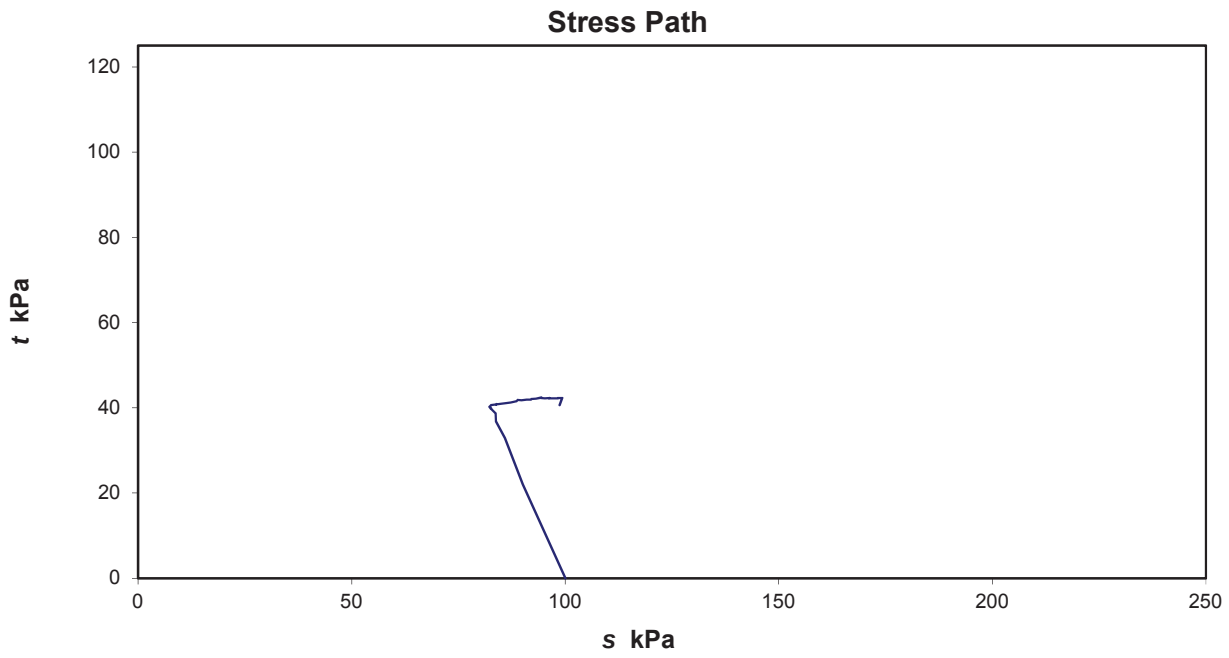
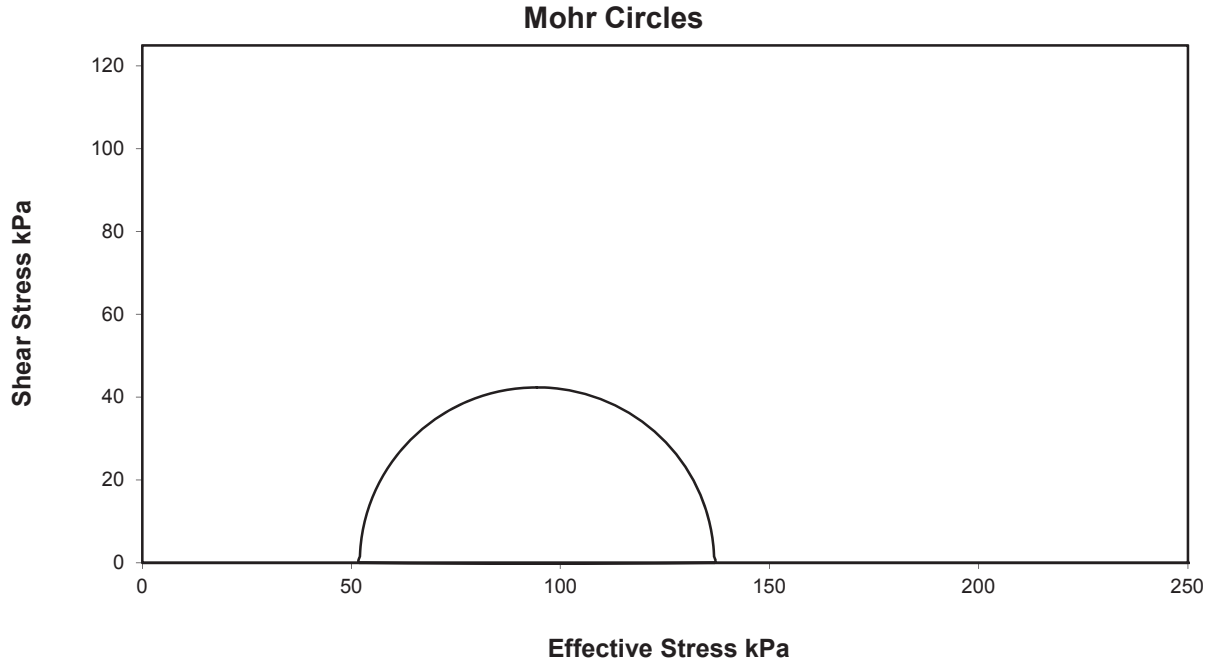
# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP109 |
| SITE | GRAVEN HILL , BICESTER | SAMPLE No./TYPE | 17UT |
| | | SAMPLE DEPTH (m) | 6.2-6.65 |
| | | SPECIMEN DEPTH (m) | 6.20 |




| remarks | C' assumed as zero. | CONTRACT | CHECKED |
|---|---|---|---|
| | | **30378** | **NP** |

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# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP109 |
| SITE | GRAVEN HILL , BICESTER | SAMPLE No./TYPE | 17UT |
| | | SAMPLE DEPTH (m) | 6.2-6.65 |
| | | SPECIMEN DEPTH (m) | 6.20 |

Failure Mode SHEAR

| remarks | CONTRACT | CHECKED |
|---|---|---|
| Please note the photos are intended to show the mode of failure only. | **30378** | **NP** |

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# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | RC307 |
| SITE | GRAVEN HILL, BICESTER. | SAMPLE No./TYPE | 12UT |
| | | SAMPLE DEPTH (m) | 4.2-4.65 |
| DESCRIPTION | Dark brown slightly gravelly slightly sandy CLAY with rare shell fragments. | SPECIMEN DEPTH (m) | 4.30 |

| | |
|---|---|
| **TYPE OF SPECIMEN** | **Undisturbed / Vertical** |
| **TYPE OF TEST** | **Single Specimen Multistage** |
| **SIDE DRAINS FITTED** | **Yes** |
| **DRAINAGE CONDITIONS** | **Both ends and radial boundary** |

| | | **STAGE** | **1** | **2** | | **3** | |
|---|---|---|---|---|---|---|---|
| **INITIAL CONDITIONS** | Length | mm | 203.58 | 198 | * | 196 | * |
| | Diameter | mm | 103.74 | 101 | * | 100 | * |
| | Moisture Content | % | 32 | | | | |
| | Bulk Density | $Mg/m^3$ | 1.93 | | | | |
| | Dry Density | $Mg/m^3$ | 1.46 | | | | |
| **FINAL CONDITIONS** | Moisture Content | % | | | | 24 | |
| | Bulk Density | $Mg/m^3$ | | | | 2.02 | |
| | Dry Density | $Mg/m^3$ | | | | 1.63 | |
| **SATURATION** (by cell pressure and back pressure increments) | Initial PWP | kPa | -2 | | | | |
| | Saturated PWP | kPa | 337 | | | | |
| | Final Cell Pressure | kPa | 350 | | | | |
| | B Value | | 0.96 | | | | |
| **CONSOLIDATION** | Cell Pressure | kPa | 390 | 490 | | 690 | |
| | Back Pressure | kPa | 290 | 290 | | 290 | |
| | Initial PWP | kPa | 378 | 386 | | 499 | |
| | Final PWP | kPa | 277 | 288 | | 287 | |
| | $c_v$ | $m^2/yr$ | 0.56 | 0.12 | | 0.05 | |
| | $m_v$ | $m^2/MN$ | 0.243 | 0.147 | | 0.123 | |
| | k (calculated value) | m/s | 4.2E-11 | 5.7E-12 | | 1.8E-12 | |
| **COMPRESSION** | Cell Pressure | kPa | 390 | 490 | | 690 | |
| | Back Pressure | kPa | 290 | 290 | | 290 | |
| | $\sigma_3'$ | kPa | 100 | 200 | | 400 | |
| | Rate of Strain | %/hr | 0.172 | 0.0387 | | 0.0152 | |
| **FAILURE CONDITIONS** (based on maximum stress ratio) | Axial Strain ($\varepsilon$) | % | 1.8 | 1.2 | | 1.4 | |
| | $\delta u_f$ | kPa | 75 | 132 | | 240 | |
| | $\sigma_{3f}'$ | kPa | 25 | 68 | | 160 | |
| | $(\sigma_1' - \sigma_3')_f$ | kPa | 139 | 200 | | 342 | |
| | $(\sigma_1'/\sigma_3')_f$ | | 6.6 | 3.9 | | 3.1 | |

| | | | | |
|---|---|---|---|---|
| **FAILURE MODE** (also see photo) | SHEAR | **EFFECTIVE STRESS PARAMETERS** | **c' kPa :** **31.4** | **ϕ' deg :** **25.5** |
| remarks | * Calculated values | | CONTRACT **30378** | CHECKED **NP** |

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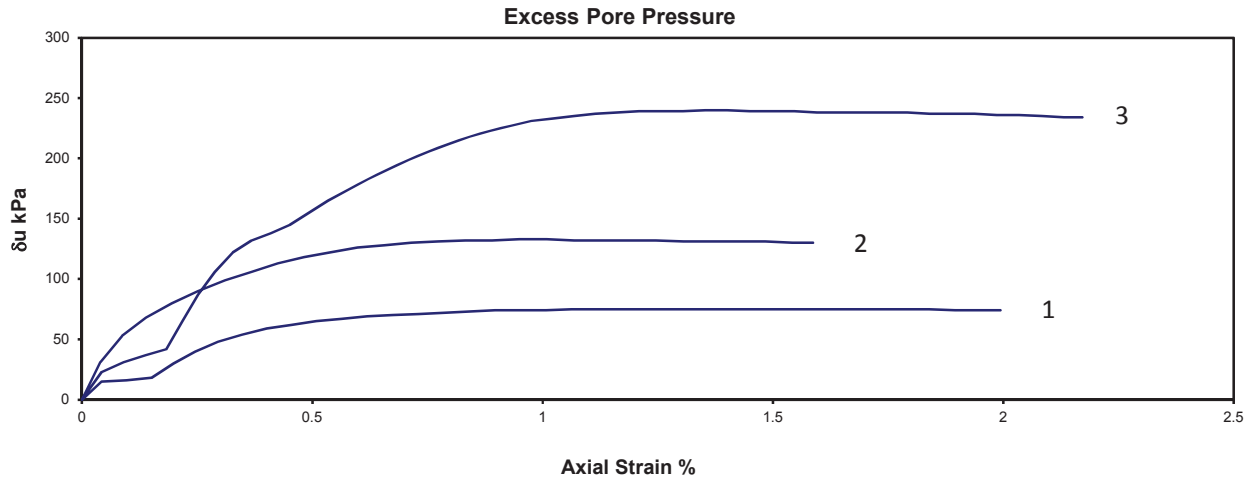
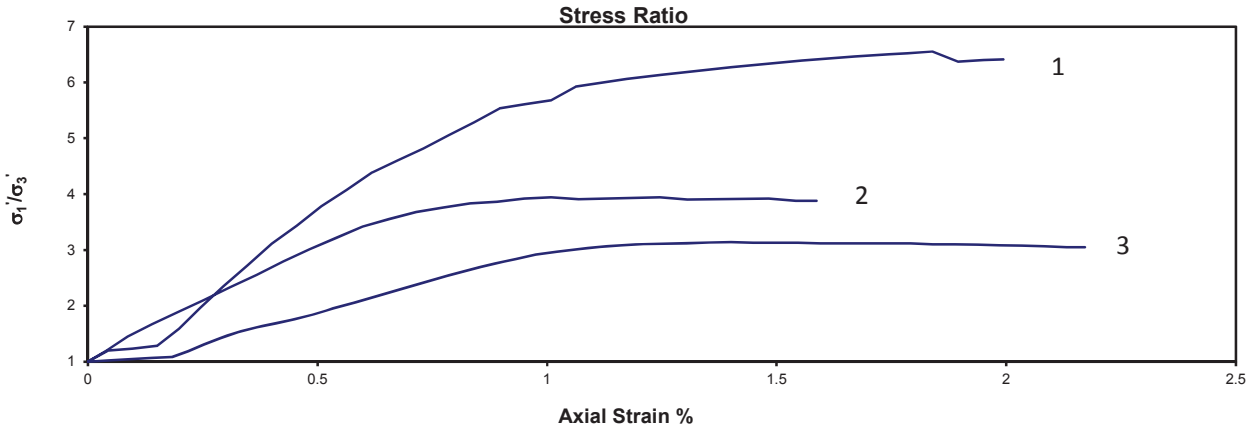
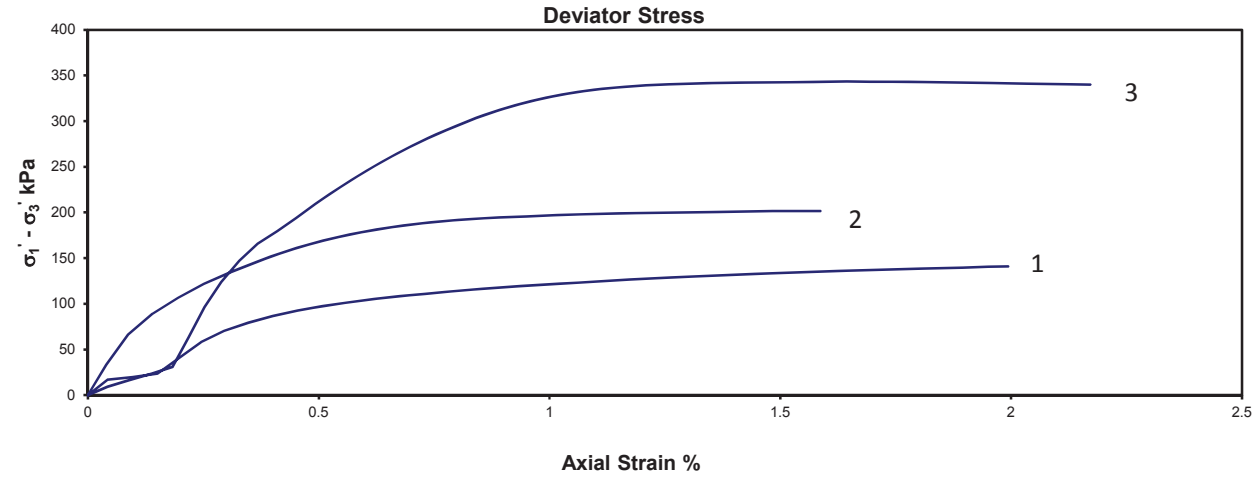
# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | RC307 |
| SITE | GRAVEN HILL, BICESTER. | SAMPLE No./TYPE | 12UT |
| | | SAMPLE DEPTH (m) | 4.2-4.65 |
| | | SPECIMEN DEPTH (m) | 4.30 |




| remarks | CONTRACT | CHECKED |
|---|---|---|
| | **30378** | **NP** |

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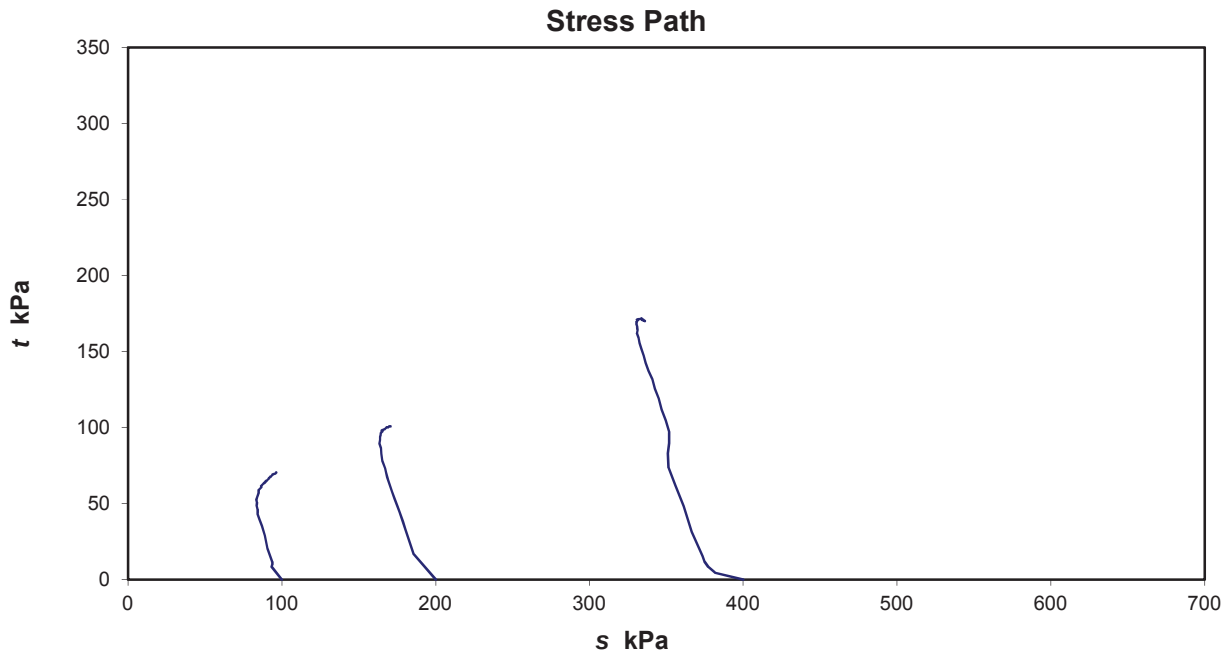
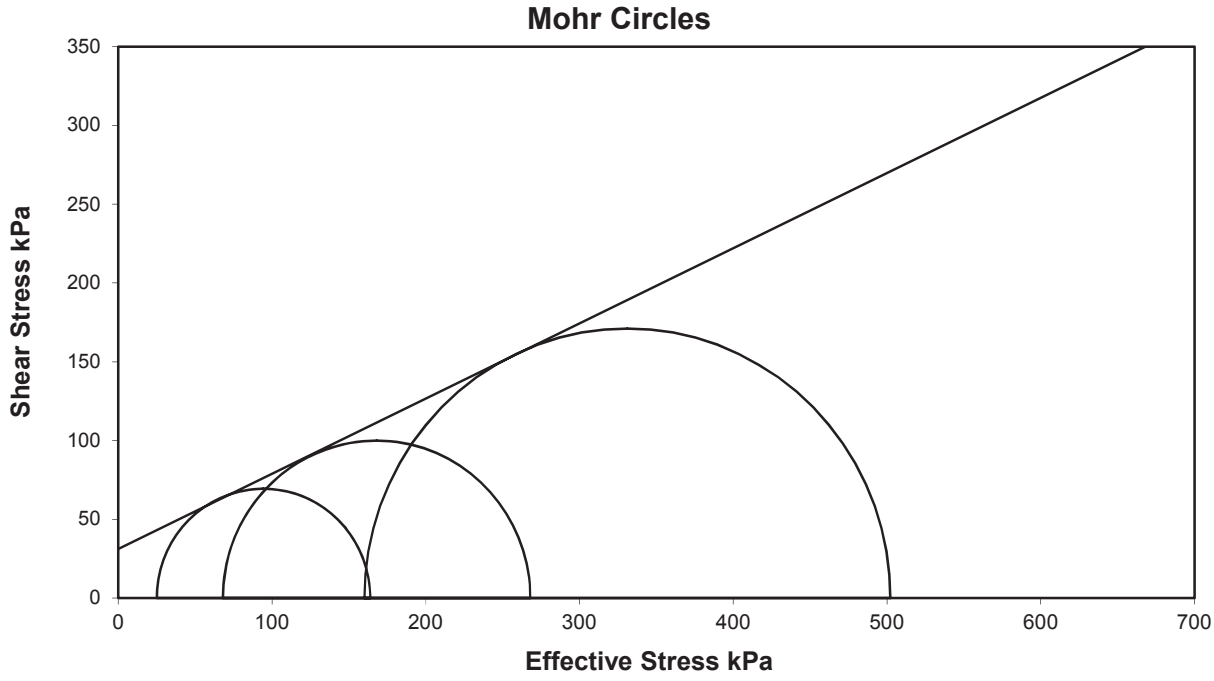
# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | RC307 |
| SITE | GRAVEN HILL, BICESTER. | SAMPLE No./TYPE | 12UT |
| | | SAMPLE DEPTH (m) | 4.2-4.65 |
| | | SPECIMEN DEPTH (m) | 4.30 |




| remarks | CONTRACT | CHECKED |
|---|---|---|
| | **30378** | **NP** |

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# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | RC307 |
| SITE | GRAVEN HILL, BICESTER. | SAMPLE No./TYPE | 12UT |
| | | SAMPLE DEPTH (m) | 4.2-4.65 |
| | | SPECIMEN DEPTH (m) | 4.30 |

Failure Mode SHEAR

| remarks | CONTRACT | CHECKED |
|---|---|---|
| Please note the photo is intended to show the mode of failure only. | **30378** | **NP** |
| T:\30378\30378 Labs\Lab Testing\30378 Schedule A\30378 cu single specimen multistage(revised on 02-06-10) RC307 12UT @ 4.30 | | 16/06/2015 - 12:16 |

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# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | RC310 |
| SITE | GRAVEN HILL , BICESTER | SAMPLE No./TYPE | 7UT |
| | | SAMPLE DEPTH (m) | 2.20-2.65 |
| DESCRIPTION | | SPECIMEN DEPTH (m) | 2.40 |

| | |
|---|---|
| **TYPE OF SPECIMEN** | **Undisturbed / Vertical** |
| **TYPE OF TEST** | **Single Specimen Multistage** |
| **SIDE DRAINS FITTED** | **Yes** |
| **DRAINAGE CONDITIONS** | **Both ends and radial boundary** |

| | | **STAGE** | **1** | **2** | | **3** | |
|---|---|---|---|---|---|---|---|
| **INITIAL CONDITIONS** | Length | mm | 206.99 | 210 | * | 210 | * |
| | Diameter | mm | 104.12 | 106 | * | 106 | * |
| | Moisture Content | % | 37 | | | | |
| | Bulk Density | $Mg/m^3$ | 1.83 | | | | |
| | Dry Density | $Mg/m^3$ | 1.34 | | | | |
| **FINAL CONDITIONS** | Moisture Content | % | | | | 40 | |
| | Bulk Density | $Mg/m^3$ | | | | 1.80 | |
| | Dry Density | $Mg/m^3$ | | | | 1.29 | |
| **SATURATION** (by cell pressure and back pressure increments) | Initial PWP | kPa | 0 | | | | |
| | Saturated PWP | kPa | 392 | | | | |
| | Final Cell Pressure | kPa | 400 | | | | |
| | B Value | | 1 | | | | |
| **CONSOLIDATION** | Cell Pressure | kPa | 440 | 540 | | 740 | |
| | Back Pressure | kPa | 340 | 340 | | 340 | |
| | Initial PWP | kPa | 427 | 463 | | 645 | |
| | Final PWP | kPa | 346 | 342 | | 343 | |
| | $c_v$ | $m^2/yr$ | 4.79 | 1.68 | | 0.29 | |
| | $m_v$ | $m^2/MN$ | 0.215 | 0.139 | | 0.025 | |
| | k (calculated value) | m/s | 3.2E-10 | 7.2E-11 | | 2.3E-12 | |
| **COMPRESSION** | Cell Pressure | kPa | 440 | 540 | | 740 | |
| | Back Pressure | kPa | 340 | 340 | | 340 | |
| | $\sigma_3'$ | kPa | 100 | 200 | | 400 | |
| | Rate of Strain | %/hr | 1.338 | 0.474 | | 0.084 | |
| **FAILURE CONDITIONS** (based on maximum stress ratio) | Axial Strain ($\varepsilon$) | % | 1.2 | 0.9 | | 0.0 | |
| | $\delta u_f$ | kPa | 67 | 123 | | 0 | |
| | $\sigma_{3f}'$ | kPa | 33 | 77 | | 400 | |
| | $(\sigma_1' - \sigma_3')_f$ | kPa | 98 | 160 | | 0 | |
| | $(\sigma_1'/\sigma_3')_f$ | | 4.0 | 3.1 | | 1.0 | |

| | | | | |
|---|---|---|---|---|
| **FAILURE MODE** (also see photo) | SHEAR | **EFFECTIVE STRESS PARAMETERS** | **c' kPa : 16.9** | **ϕ' deg : 24.5** |
| remarks | * Calculated values<br>Sample disintegrated during stage 3, Stage 3 shear results are not appropriate for use, see photograph. | | CONTRACT **30378** | CHECKED **NP** |

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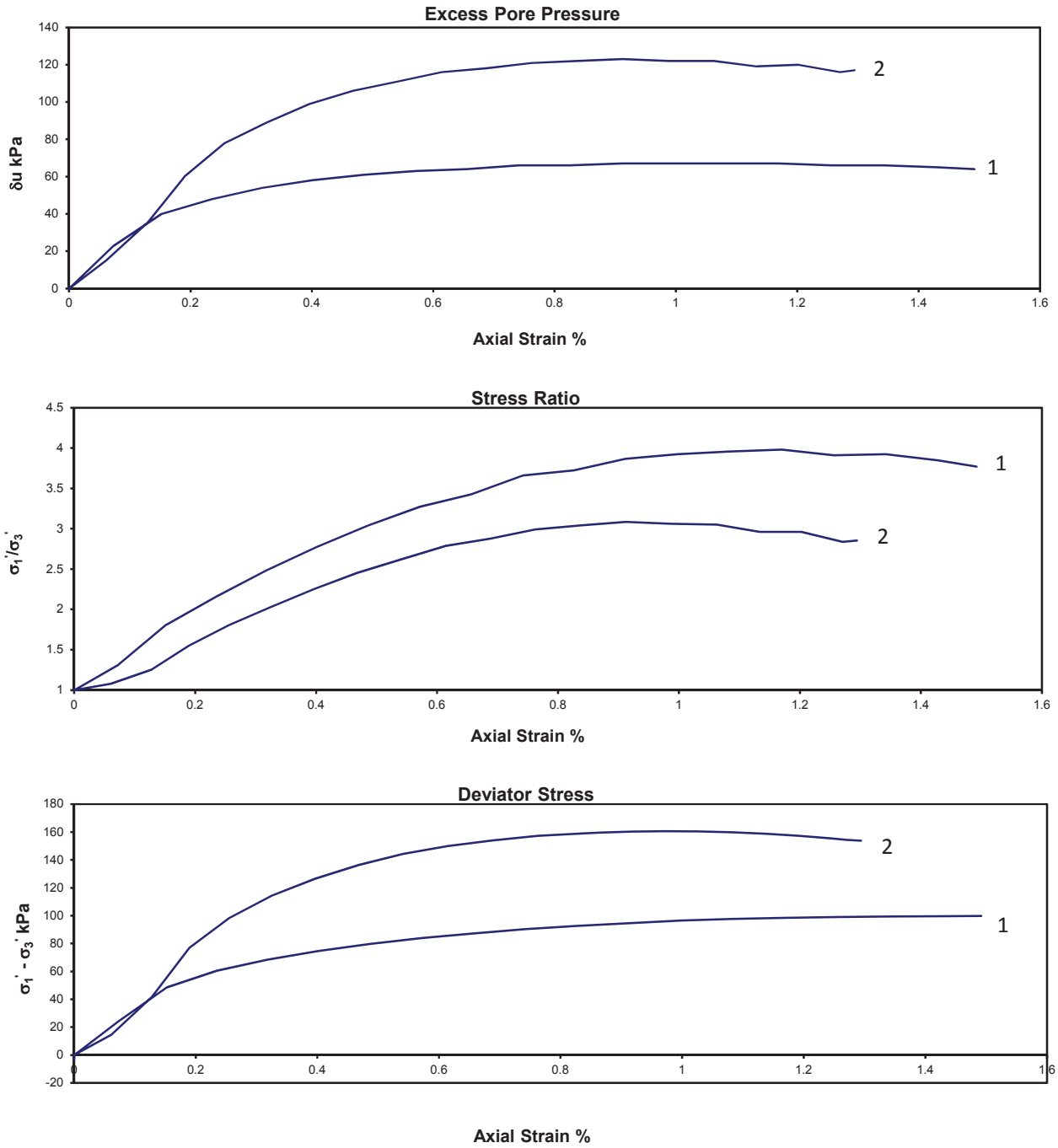
# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | RC310 |
| SITE | GRAVEN HILL , BICESTER | SAMPLE No./TYPE | 7UT |
| | | SAMPLE DEPTH (m) | 2.20-2.65 |
| | | SPECIMEN DEPTH (m) | 2.40 |




| remarks | CONTRACT | CHECKED |
|---|---|---|
| | **30378** | **NP** |

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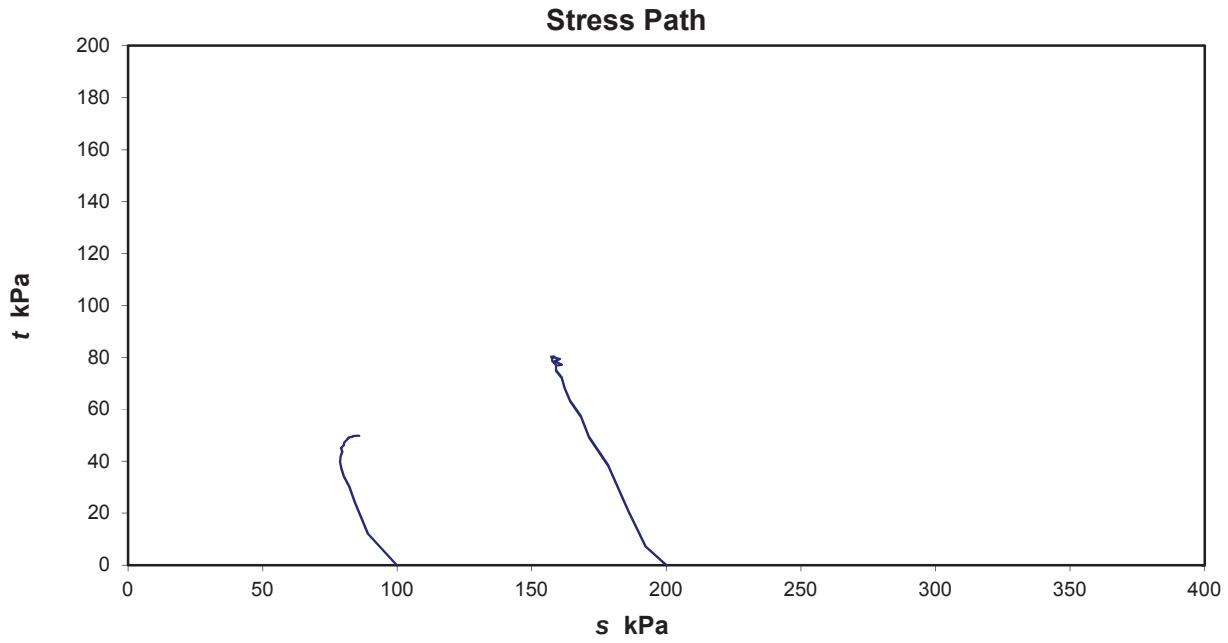
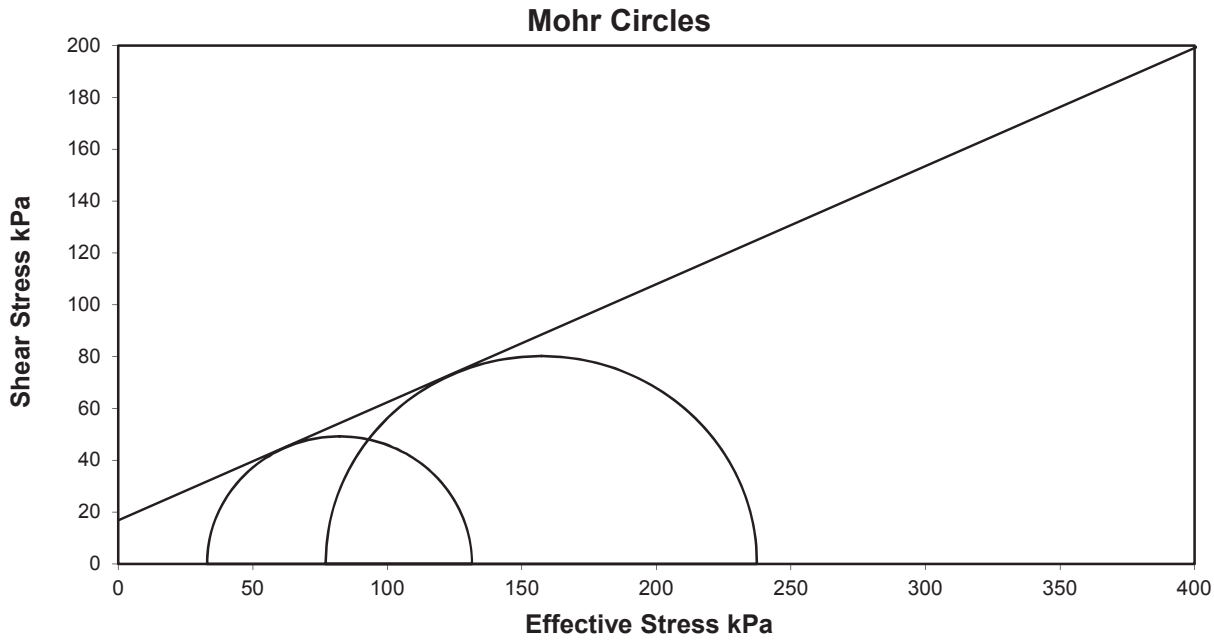
# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | RC310 |
| SITE | GRAVEN HILL , BICESTER | SAMPLE No./TYPE | 7UT |
| | | SAMPLE DEPTH (m) | 2.20-2.65 |
| | | SPECIMEN DEPTH (m) | 2.40 |




| remarks | CONTRACT | CHECKED |
|---|---|---|
| | **30378** | **NP** |

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# CONSOLIDATED UNDRAINED TRIAXIAL TEST with PWP

**BS1377 : Part 8 : 1990 and "Manual of Soil Laboratory Testing", Volume 3, K.H. Head**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | RC310 |
| SITE | GRAVEN HILL , BICESTER | SAMPLE No./TYPE | 7UT |
| | | SAMPLE DEPTH (m) | 2.20-2.65 |
| | | SPECIMEN DEPTH (m) | 2.40 |

Failure Mode SHEAR

| remarks | CONTRACT | CHECKED |
|---|---|---|
| Please note the photo is intended to show the mode of failure only. | **30378** | **NP** |

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| | | | |
|---|---|---|---|
| | | Version No. | 2 |
| For the attention of | Dave Owen/Stephen Farrer | Page No. | 1 of 25 |
| | | Date of Issue | 23/06/2015 |

# TEST REPORT

| | | | |
|---|---|---|---|
| PROJECT/SITE | Graven Hill New Urban Community, Bicester | Samples received | 10/06/2015 |
| GEL REPORT NUMBER | 30378/B | Schedule received | 10/06/2015 |
| Your ref/PO: | 0 | Testing commenced | 10/06/2015 |
| Test report refers to | Schedule B | Status | Final |

## SUMMARY OF RESULTS ATTACHED

| TEST METHOD & DESCRIPTION | QUANTITY | ACCREDITED TEST |
|---|---|---|
| BS EN ISO 17892-1: 2014:5. Water Content | 77 | YES |
| BS1377: Part 2: 1990:4.2-4.4&5.2-5.4, Liquid & Plastic Limits | 13 | YES |
| BS1377: Part 2: 1990:9.2, Particle Size Distribution - Wet Sieve | 13 | YES |
| BS1377: Part 2: 1990:9.4, Particle Size Distribution - Pipette | 13 | YES |
| BS1377: Part 4: 1990:7, California Bearing Ratio (CBR) | 4 | YES |

Remarks

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Approved Signatories:

**S Robinson (Client Manager)** C Andrew (Client Manager)

W Jones (Technical Support) J Hanson (Director) C Thomas (Consultant)

Doc TR01 Rev No. 7 Revision date 12/02/15 DC:JH

**Geotechnical Engineering Ltd**
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Olympus Park, Quedgeley
Gloucester GL2 4NF

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**Payments**: Geotechnical Engineering Limited
**Sort code**: 30-15-99 **Bank account**: 00072116

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# LIQUID AND PLASTIC LIMITS

**BS.1377 : Part 2 : 1990 : 4 and 5**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./type | sample depth (m) | specimen depth (m) | natural water content (%) | specimen preparation and test method | fraction >0.425 mm (%) | liquid limit (%) | plastic limit (%) | plasticity index (%) | description and remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| CP101 | 6B | 1.00 | 1.00 | 43.7 | AXE | 0 | 91 | 31 | 60 | Orangish brown slightly sandy silty CLAY |
| CP101 | 14UT | 3.70 | 3.70 | 24.5 | E | | | | | Grey slightly sandy silty CLAY |
| CP101 | 21UT | 6.20 | 6.20 | 17.5 | E | | | | | Grey slightly sandy silty CLAY |
| CP101 | 25UT | 7.70 | 8.05 | 15.4 | E | | | | | Grey sandy silty CLAY |
| CP102 | 6B | 1.00 | 1.00 | 29.6 | AXE | 0 | 64 | 21 | 43 | Orangish brown slightly sandy silty CLAY |
| CP102 | 13UT | 3.70 | 3.70 | 16.7 | E | | | | | Grey slightly sandy silty CLAY with rare shell fragments |
| CP102 | 23UT | 7.70 | 7.70 | 22.1 | E | | | | | Grey slightly sandy silty CLAY |
| CP107 | 6B | 1.00 | 1.00 | 19.4 | AXE | 0 | 52 | 18 | 34 | Orangish brown sandy silty CLAY with rare rootlets |
| CP108 | 6B | 1.00 | 1.00 | 31.2 | AXE | 0 | 75 | 24 | 51 | Brown slightly sandy silty CLAY with rare rootlets |
| CP108 | 14UT | 3.70 | 3.70 | 29.1 | D | | | | | Brown slightly sandy CLAY with rare gypsum |
| CP108 | 17UT | 4.70 | 5.00 | 26.0 | E | | | | | Greyish brown slightly sandy CLAY with rare shell fragments |
| CP108 | 21UT | 6.20 | 6.20 | 33.7 | E | | | | | Brown slightly sandy CLAY with rare shell fragments |
| CP108 | 25UT | 7.70 | 8.00 | 24.3 | E | | | | | Greyish brown slightly sandy CLAY with rare shell fragments |
| CP109 | 6B | 1.00 | 1.00 | 37.0 | AXE | 0 | 81 | 27 | 54 | Brown mottled orange slightly sandy silty CLAY |
| CP109 | 8UT | 1.70 | 1.70 | 32.7 | D | | | | | Light brown slightly sandy CLAY with rare gypsum |
| CP109 | 14UT | 3.70 | 3.70 | 43.8 | E | | | | | Brown mottled grey and yellowish brown slightly sandy CLAY |
| CP109 | 17UT | 4.70 | 4.85 | 42.2 | E | | | | | Dark brown slightly sandy silty CLAY |
| CP109 | 25UT | 7.70 | 8.05 | 25.3 | E | | | | | Dark brown slightly sandy silty CLAY with rare shell fragments |

general remarks:
natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014
NP denotes non-plastic
# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

| specimen preparation: | | test method: | CONTRACT | CHECKED |
|---|---|---|---|---|
| A - as received | D - oven dried (60°C) | X - cone penetrometer (test 4.3) | 30378 | SR |
| B - washed on 0.425mm sieve | E - oven dried (105°C) | Y - one point cone penetrometer (test 4.4) | | |
| C - air dried | F - not known | Z - Casagrande apparatus (test 4.5) | | |

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# LIQUID AND PLASTIC LIMITS

**BS.1377 : Part 2 : 1990 : 4 and 5**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./type | sample depth (m) | specimen depth (m) | natural water content (%) | specimen preparation and test method | fraction >0.425 mm (%) | liquid limit (%) | plastic limit (%) | plasticity index (%) | description and remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| CP110 | 6B | 1.00 | 1.00 | 28.5 | AXE | 1 | 71 | 24 | 47 | Orangish brown slightly sandy silty CLAY |
| CP110 | 14UT | 3.70 | 4.10 | 34.7 | D | | | | | Brown slightly sandy CLAY with rare gypsum |
| CP110 | 17UT | 4.70 | 4.70 | 41.0 | D | | | | | Dark brown slightly sandy CLAY with rare gypsum |
| CP110 | 22UT | 6.20 | 6.20 | 26.0 | E | | | | | Dark brown slightly sandy CLAY with rare shell fragments |
| CP110 | 26UT | 7.70 | 8.05 | 23.8 | E | | | | | Dark brown slightly sandy CLAY with rare shell fragments |
| CP111 | 6B | 1.00 | 1.00 | 36.5 | BXE | 19 | 66 | 21 | 45 | Brownish grey slightly sandy slightly gravelly silty CLAY |
| CP111 | 14UT | 3.70 | 3.70 | 32.3 | E | | | | | Orangish brown slightly sandy CLAY with rare shell fragments |
| CP111 | 17UT | 4.70 | 4.70 | 44.9 | E | | | | | Greyish brown mottled orangish brown slightly sandy CLAY with rare gypsum |
| CP111 | 21UT | 6.20 | 6.45 | 27.2 | E | | | | | Dark brown and grey slightly sandy CLAY with rare shell fragments |
| CP111 | 25UT | 7.70 | 8.00 | 20.6 | E | | | | | Dark brown slightly sandy CLAY with rare shell fragments |
| CP112 | 6B | 1.00 | 1.00 | 30.0 | AXE | 2 | 60 | 22 | 38 | Orangish brown slightly sandy silty CLAY |
| CP112 | 8UT | 1.70 | 1.70 | 35.5 | E | | | | | Brownish grey mottled orangish brown slightly sandy CLAY |
| CP113 | 3B | 0.50 | 0.50 | 27.0 | BXE | 8 | 60 | 20 | 40 | Orangish brown sandy slightly gravelly silty CLAY |
| CP113 | 5B | 1.00 | 1.00 | 26.0 | BXE | 6 | 58 | 21 | 37 | Orangish brown slightly sandy slightly gravelly silty CLAY |
| CP113 | 7UT | 1.70 | 1.75 | 35.2 | AXE | 0 | 56 | 23 | 33 | Greyish brown and orange slightly sandy silty CLAY |
| CP113 | 10UT | 2.70 | 2.70 | 35.8 | BXE | 2 | 64 | 25 | 39 | Greyish brown slightly sandy slightly gravelly silty CLAY |
| CP114 | 6B | 1.00 | 1.00 | 33.2 | AXE | 2 | 80 | 22 | 58 | Light brown slightly sandy silty CLAY |
| CP114 | 13UT | 3.70 | 3.70 | 28.6 | E | | | | | Dark brown slightly sandy CLAY |

general remarks:
natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014
NP denotes non-plastic
# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

| specimen preparation: | | test method: | CONTRACT | CHECKED |
|---|---|---|---|---|
| A - as received | D - oven dried (60°C) | X - cone penetrometer (test 4.3) | 30378 | SR |
| B - washed on 0.425mm sieve | E - oven dried (105°C) | Y - one point cone penetrometer (test 4.4) | | |
| C - air dried | F - not known | Z - Casagrande apparatus (test 4.5) | | |

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# LIQUID AND PLASTIC LIMITS

**BS.1377 : Part 2 : 1990 : 4 and 5**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./type | sample depth (m) | specimen depth (m) | natural water content (%) | specimen preparation and test method | fraction >0.425 mm (%) | liquid limit (%) | plastic limit (%) | plasticity index (%) | description and remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| CP114 | 16UT | 4.70 | 4.70 | 26.0 | E | | | | | Dark brown slightly sandy CLAY with rare shell fragments |
| CP114 | 20UT | 6.20 | 6.55 | 20.8 | E | | | | | Dark greyish brown slightly sandy CLAY |
| CP114 | 24UT | 7.70 | 7.70 | 21.3 | E | | | | | Dark greyish brown slightly sandy CLAY |
| RC301 | 7UT | 1.20 | 1.20 | 32.0 | E | | | | | Orangish brown and grey slightly sandy CLAY with rare organic matter |
| RC301 | 10UT | 2.20 | 2.20 | 34.8 | E | | | | | Orangish brown slightly sandy CLAY |
| RC301 | 16UT | 4.20 | 4.20 | 35.7 | E | | | | | Brown slightly sandy CLAY with rare gypsum |
| RC302 | 7UT | 1.20 | 1.20 | 32.0 | E | | | | | Orangish brown mottled grey slightly sandy slightly gravelly CLAY |
| RC302 | 10UT | 2.20 | 2.20 | 41.0 | E | | | | | Orangish brown sandy slightly gravelly CLAY |
| RC302 | 16UT | 4.20 | 4.20 | 28.1 | D | | | | | Dark brown slightly sandy CLAY with rare gypsum |
| RC302 | 19UT | 5.20 | 5.20 | 25.5 | E | | | | | Dark brown slightly sandy CLAY with rare shell fragments |
| RC303 | 7UT | 1.20 | 1.60 | 37.7 | E | | | | | Greyish brown mottled orangish brown slightly sandy CLAY |
| RC303 | 10UT | 2.20 | 2.20 | 45.8 | E | | | | | Orangish brown mottled grey slightly sandy slightly organic CLAY |
| RC303 | 16UT | 4.20 | 4.20 | 43.3 | E | | | | | Dark brown slightly sandy CLAY with rare shell fragments |
| RC303 | 19UT | 5.20 | 5.50 | 26.3 | E | | | | | Dark brown slightly sandy CLAY with rare shell fragments |
| RC304 | 7UT | 1.20 | 1.55 | 36.7 | D | | | | | Grey mottled orangish brown slightly sandy CLAY with rare gypsum |
| RC304 | 10UT | 2.20 | 2.20 | 44.0 | E | | | | | Dark greyish brown slightly sandy slightly organic CLAY |
| RC304 | 13UT | 3.20 | 3.20 | 37.1 | E | | | | | Dark brown slightly sandy slightly organic CLAY |
| RC304 | 16UT | 4.20 | 4.20 | 22.8 | E | | | | | Brown slightly sandy CLAY with frequent shell fragments |

general remarks:
natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014
NP denotes non-plastic
# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

| specimen preparation: | | test method: | CONTRACT | CHECKED |
|---|---|---|---|---|
| A - as received | D - oven dried (60°C) | X - cone penetrometer (test 4.3) | 30378 | SR |
| B - washed on 0.425mm sieve | E - oven dried (105°C) | Y - one point cone penetrometer (test 4.4) | | |
| C - air dried | F - not known | Z - Casagrande apparatus (test 4.5) | | |

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# LIQUID AND PLASTIC LIMITS

**BS.1377 : Part 2 : 1990 : 4 and 5**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./type | sample depth (m) | specimen depth (m) | natural water content (%) | specimen preparation and test method | fraction >0.425 mm (%) | liquid limit (%) | plastic limit (%) | plasticity index (%) | description and remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| RC304 | 19UT | 5.20 | 5.20 | 28.5 | E | | | | | Dark brown slightly sandy CLAY with rare shell fragments |
| RC304 | 22UT | 6.20 | 6.20 | 25.1 | E | | | | | Brown slightly sandy CLAY with occasional shell fragments |
| RC304 | 25UT | 7.20 | 7.20 | 27.4 | E | | | | | Brown slightly sandy CLAY with rare shell fragments |
| RC305 | 7UT | 1.20 | 1.20 | 33.3 | E | | | | | Yellowish brown mottled grey slightly sandy CLAY |
| RC305 | 13UT | 3.20 | 3.20 | 36.4 | E | | | | | Light brown slightly sandy silty CLAY |
| RC305 | 16UT | 4.20 | 4.20 | 35.9 | E | | | | | Brown mottled yellowish brown sandy silty CLAY |
| RC305 | 22UT | 6.20 | 6.20 | 33.4 | E | | | | | Dark brown slightly sandy silty CLAY |
| RC306 | 7UT | 1.20 | 1.20 | 37.9 | E | | | | | Yellowish brown slightly sandy CLAY |
| RC306 | 10UT | 2.20 | 2.25 | | | | | | | Greyish brown slightly sandy slightly gravelly silty CLAY |
| RC306 | 13UT | 3.20 | 3.20 | 37.1 | E | | | | | Yellowish brown slightly sandy slightly gravelly CLAY |
| RC306 | 16UT | 4.20 | 4.20 | 37.7 | E | | | | | Light brown slightly sandy CLAY with rare shell fragments |
| RC307 | 7UT | 1.20 | 1.20 | 30.0 | E | | | | | Dark brown slightly sandy slightly gravelly silty CLAY |
| RC307 | 12UT | 3.20 | 3.45 | 36.7 | E | | | | | Dark brown slightly sandy slightly gravelly silty CLAY |
| RC308 | 7UT | 1.20 | 1.55 | 47.7 | E | | | | | Greyish brown mottled orangish brown slightly sandy silty CLAY with rare shell fragments |
| RC308 | 13UT | 3.20 | 3.50 | 46.1 | E | | | | | Dark brown slightly sandy slightly gravelly silty CLAY |
| RC309 | 4UT | 1.20 | 1.20 | 37.1 | E | | | | | Yellowish brown slightly sandy CLAY |
| RC309 | 10UT | 3.20 | 3.35 | 42.9 | E | | | | | Brownish grey silty CLAY |
| RC310 | 7UT | 1.20 | 1.20 | 42.1 | E | | | | | Greyish brown slightly sandy silty CLAY |

general remarks:
natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014
NP denotes non-plastic
# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

| specimen preparation: | | test method: | CONTRACT | CHECKED |
|---|---|---|---|---|
| A - as received | D - oven dried (60°C) | X - cone penetrometer (test 4.3) | 30378 | SR |
| B - washed on 0.425mm sieve | E - oven dried (105°C) | Y - one point cone penetrometer (test 4.4) | | |
| C - air dried | F - not known | Z - Casagrande apparatus (test 4.5) | | |

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# LIQUID AND PLASTIC LIMITS

**BS.1377 : Part 2 : 1990 : 4 and 5**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./type | sample depth (m) | specimen depth (m) | natural water content (%) | specimen preparation and test method | fraction >0.425 mm (%) | liquid limit (%) | plastic limit (%) | plasticity index (%) | description and remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| RC310 | 13UT | 3.20 | 3.20 | 25.9 | D | | | | | Brown slightly sandy silty CLAY with occasional gypsum |
| RC311 | 7UT | 1.20 | 1.50 | 35.5 | D | | | | | Grey mottled orangish brown and light grey slightly sandy silty CLAY with rare gypsum |
| RC311 | 10UT | 2.20 | 2.35 | 44.4 | E | | | | | Brown slightly sandy silty CLAY with occasional decomposed organic matter |
| RC312 | 7UT | 1.20 | 1.60 | 29.4 | E | | | | | Grey mottled orangish brown slightly sandy silty CLAY |
| RC312 | 13UT | 3.20 | 3.50 | 23.6 | D | | | | | Dark grey mottled reddish brown slightly sandy silty CLAY with occasional gypsum |
| RC313 | 7UT | 1.20 | 1.20 | 27.5 | E | | | | | Orangish brown slightly sandy CLAY |

general remarks:
natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014
NP denotes non-plastic
# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

| specimen preparation: | | test method: | CONTRACT | CHECKED |
|---|---|---|---|---|
| A - as received | D - oven dried (60°C) | X - cone penetrometer (test 4.3) | **30378** | **SR** |
| B - washed on 0.425mm sieve | E - oven dried (105°C) | Y - one point cone penetrometer (test 4.4) | | |
| C - air dried | F - not known | Z - Casagrande apparatus (test 4.5) | | |

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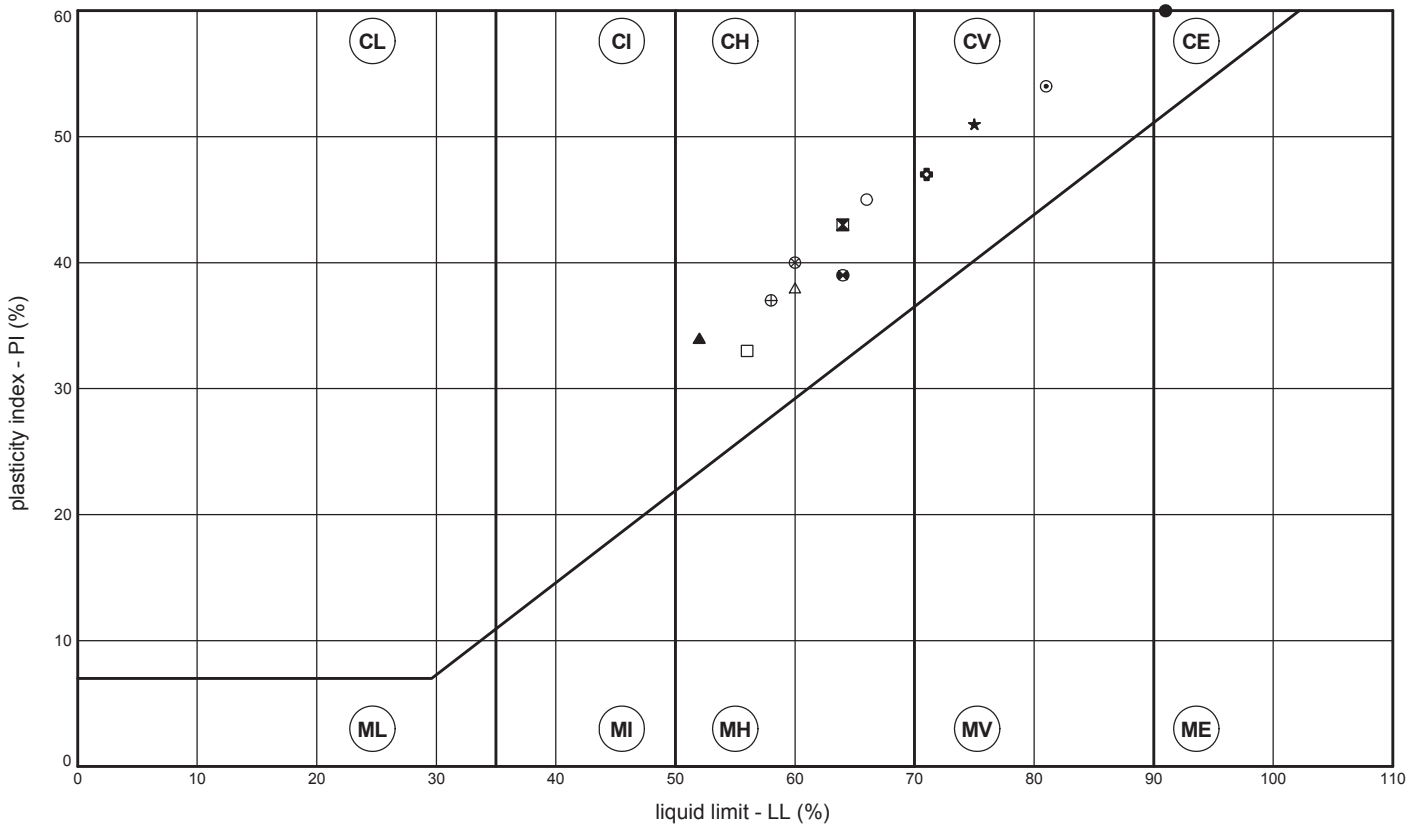
# ATTERBERG LINE PLOT

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER




| | BH/TP No. | depth (m) | LL | PL | PI | remarks |
|---|---|---|---|---|---|---|
| ● | CP101 | 1.00 | 91 | 31 | 60 | |
| ⊠ | CP102 | 1.00 | 64 | 21 | 43 | |
| ▲ | CP107 | 1.00 | 52 | 18 | 34 | |
| ★ | CP108 | 1.00 | 75 | 24 | 51 | |
| ⊙ | CP109 | 1.00 | 81 | 27 | 54 | |
| ✿ | CP110 | 1.00 | 71 | 24 | 47 | |
| ○ | CP111 | 1.00 | 66 | 21 | 45 | |
| △ | CP112 | 1.00 | 60 | 22 | 38 | |
| ⊗ | CP113 | 0.50 | 60 | 20 | 40 | |
| ⊕ | CP113 | 1.00 | 58 | 21 | 37 | |
| □ | CP113 | 1.75 | 56 | 23 | 33 | |
| ⊛ | CP113 | 2.70 | 64 | 25 | 39 | |

| CONTRACT | CHECKED |
|---|---|
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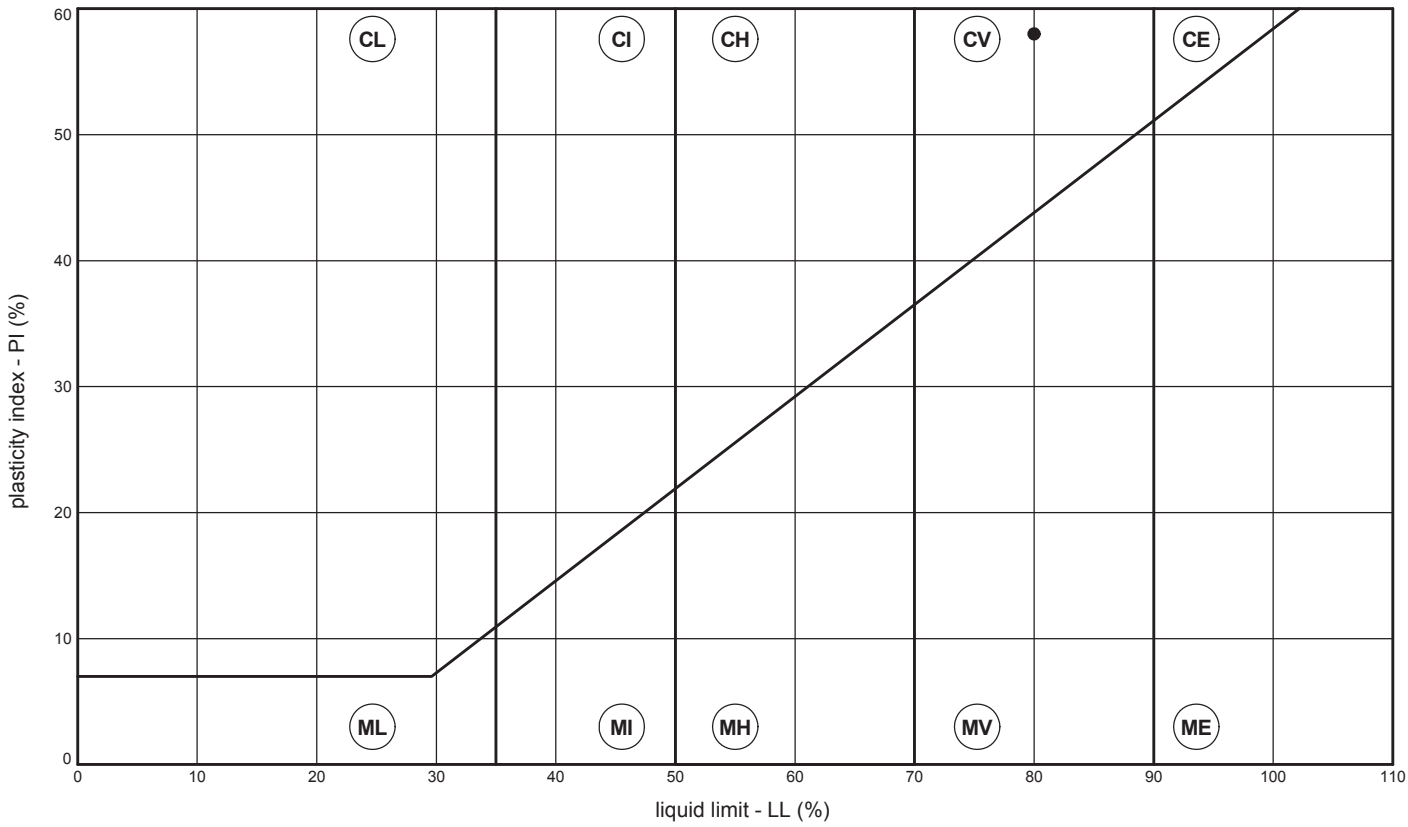
# ATTERBERG LINE PLOT

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER




| | BH/TP No. | depth (m) | LL | PL | PI | remarks |
|---|---|---|---|---|---|---|
| ● | CP114 | 1.00 | 80 | 22 | 58 | |
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| CONTRACT | CHECKED |
|---|---|
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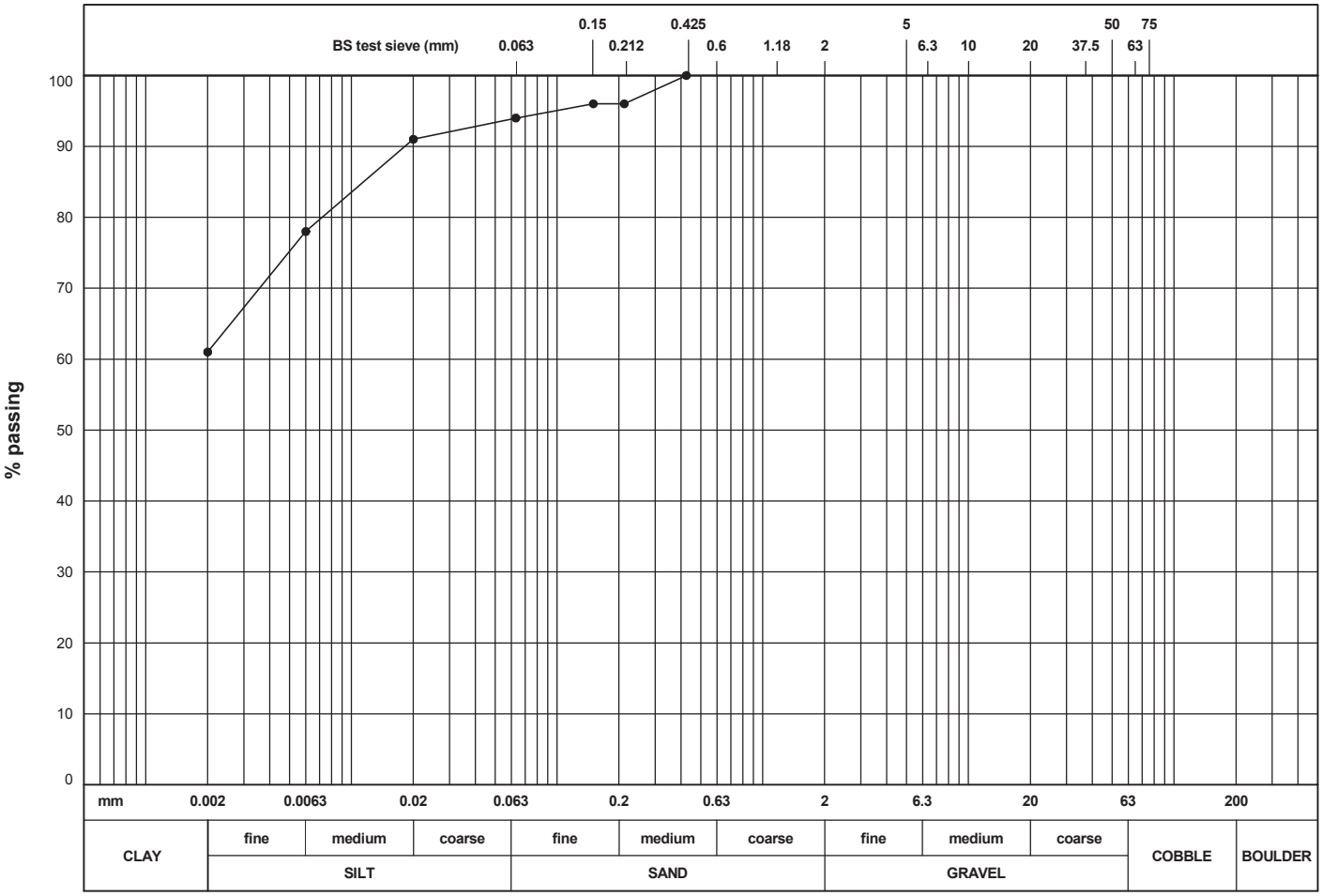
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP101 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Orangish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 61 |
| SILT | 33 |
| SILT & CLAY | 94 |
| SAND | 6 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 91 |
| 75 | | 2 | | 6 | 78 |
| 63 | | 1.18 | | 2 | 61 |
| 50 | | 0.6 | | | |
| 37.5 | | 0.425 | 100 | | |
| 20 | | 0.212 | 96 | | |
| 10 | | 0.15 | 96 | | |
| 6.3 | | 0.063 | 94 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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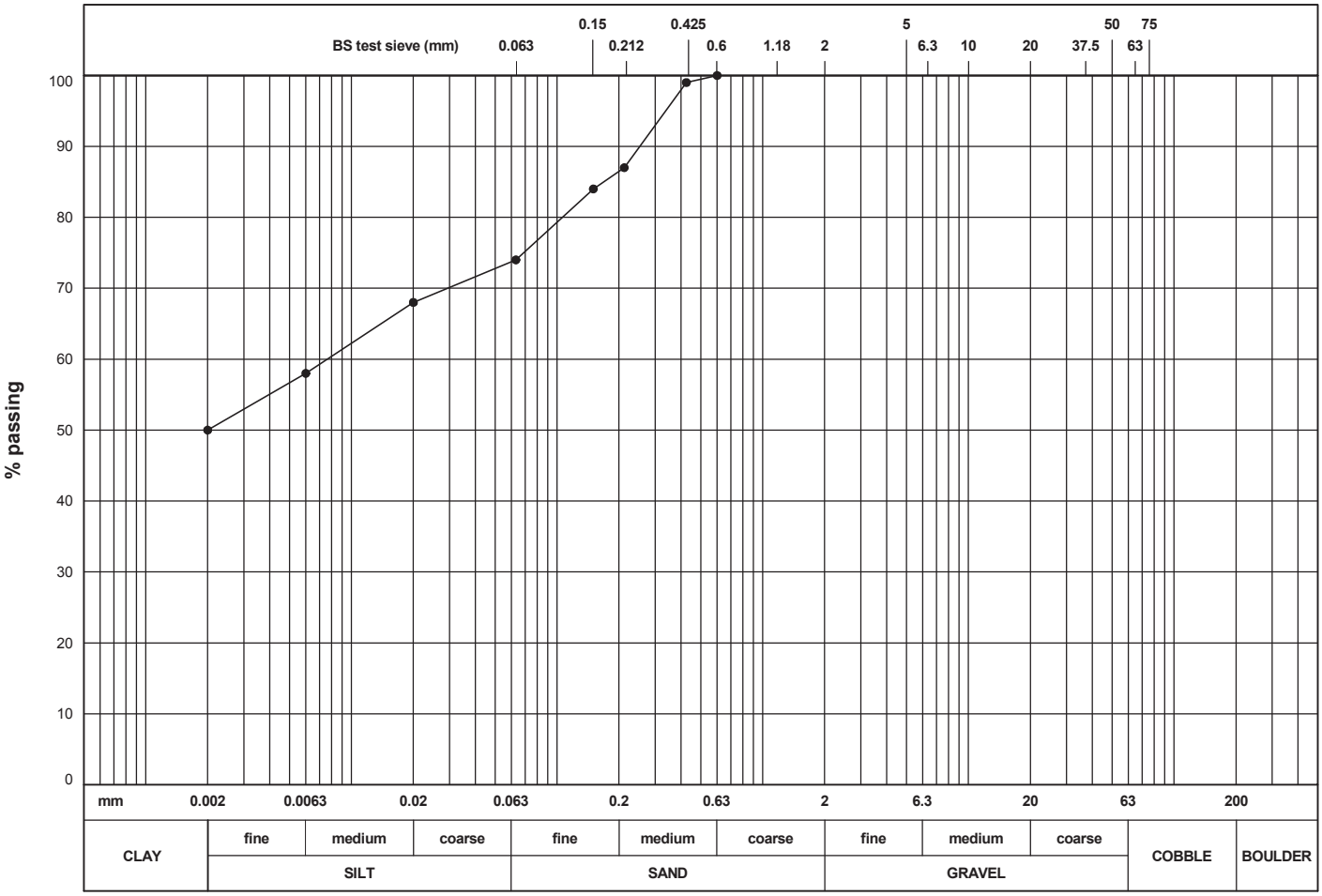
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP102 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Orangish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 50 |
| SILT | 24 |
| SILT & CLAY | 74 |
| SAND | 26 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 68 |
| 75 | | 2 | | 6 | 58 |
| 63 | | 1.18 | | 2 | 50 |
| 50 | | 0.6 | 100 | | |
| 37.5 | | 0.425 | 99 | | |
| 20 | | 0.212 | 87 | | |
| 10 | | 0.15 | 84 | | |
| 6.3 | | 0.063 | 74 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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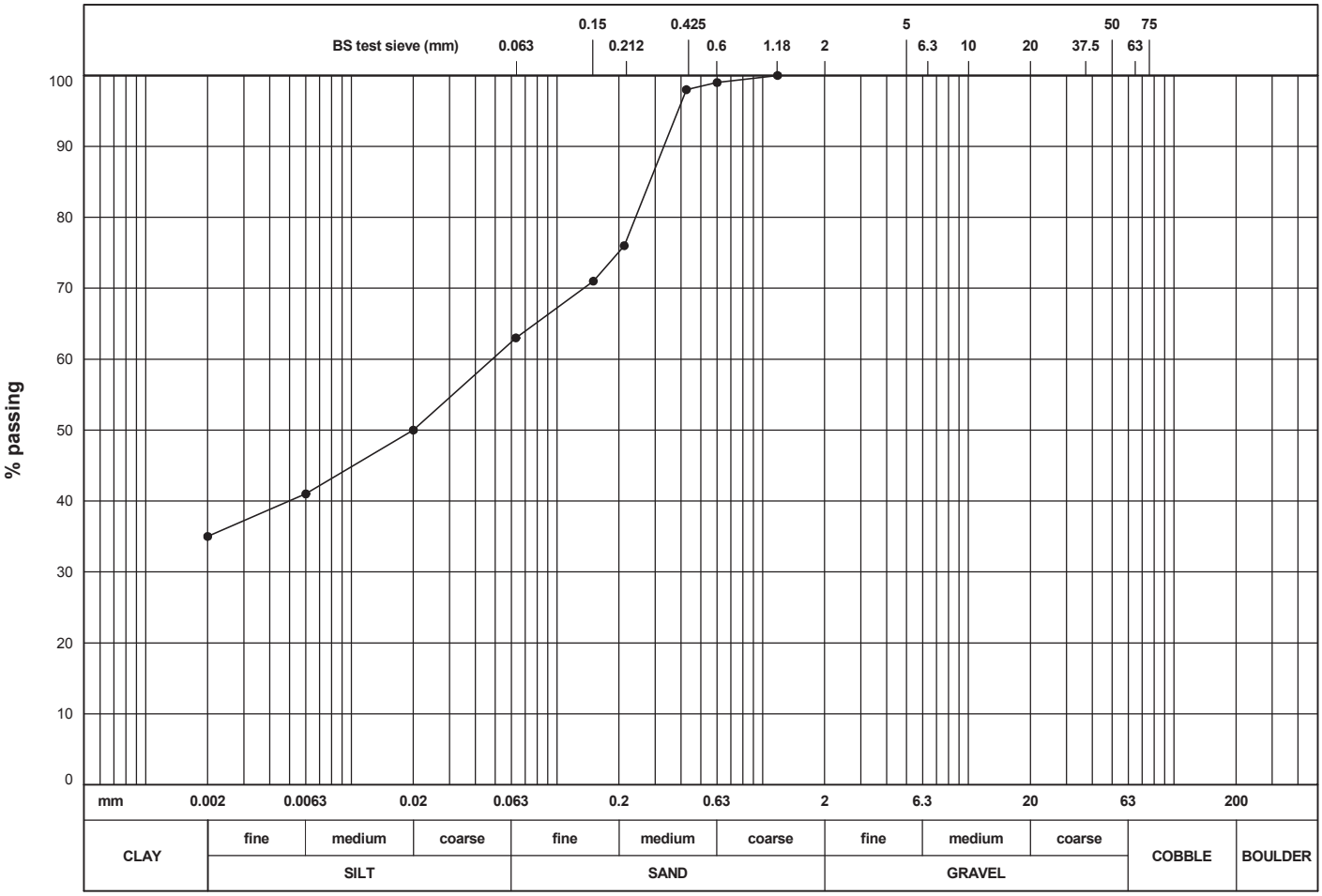
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP107 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Orangish brown sandy silty CLAY with rare rootlets | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 35 |
| SILT | 28 |
| SILT & CLAY | 63 |
| SAND | 37 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 50 |
| 75 | | 2 | | 6 | 41 |
| 63 | | 1.18 | 100 | 2 | 35 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 98 | | |
| 20 | | 0.212 | 76 | | |
| 10 | | 0.15 | 71 | | |
| 6.3 | | 0.063 | 63 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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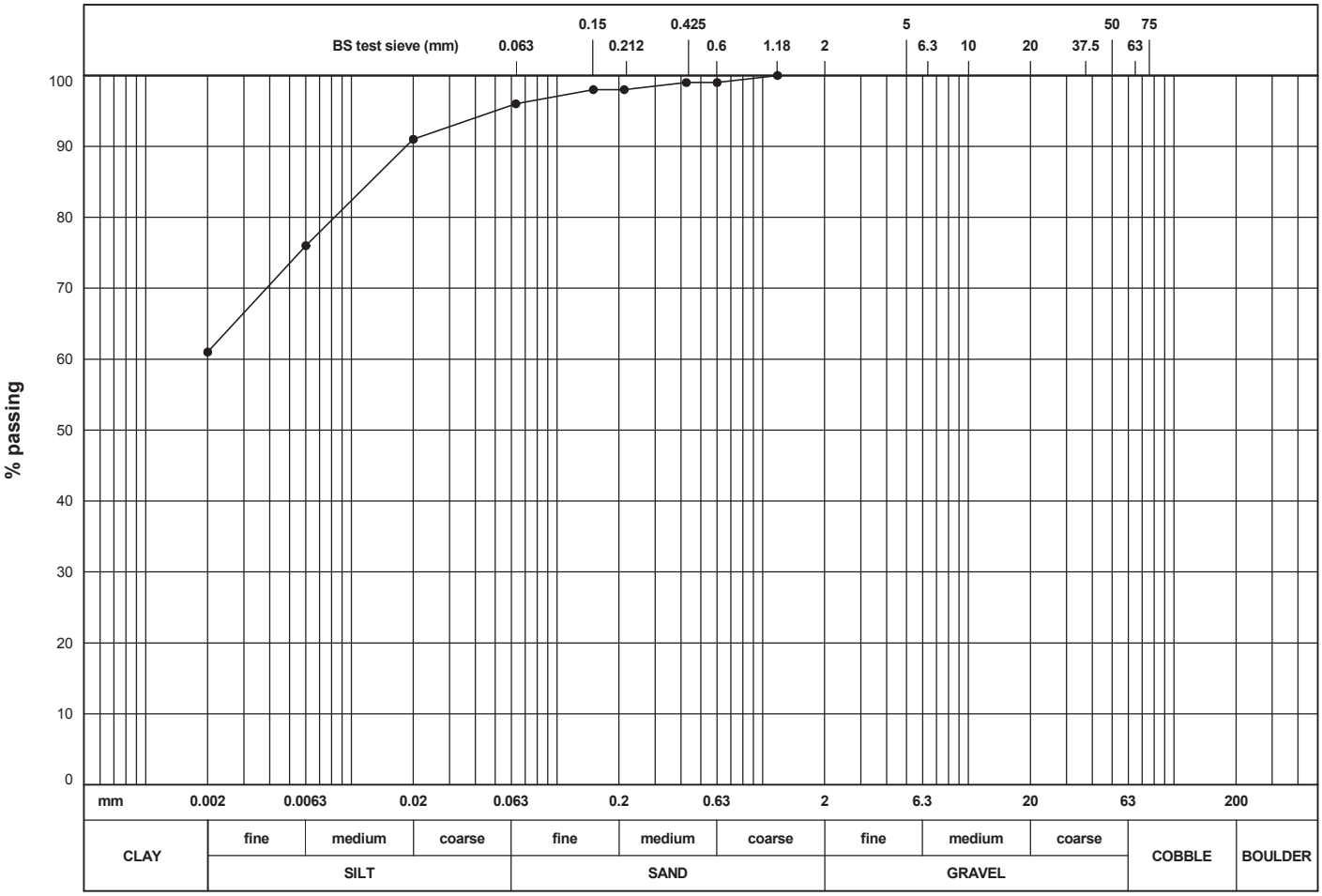
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP108 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Brown slightly sandy silty CLAY with rare rootlets | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 61 |
| SILT | 35 |
| SILT & CLAY | 96 |
| SAND | 4 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 91 |
| 75 | | 2 | | 6 | 76 |
| 63 | | 1.18 | 100 | 2 | 61 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 99 | | |
| 20 | | 0.212 | 98 | | |
| 10 | | 0.15 | 98 | | |
| 6.3 | | 0.063 | 96 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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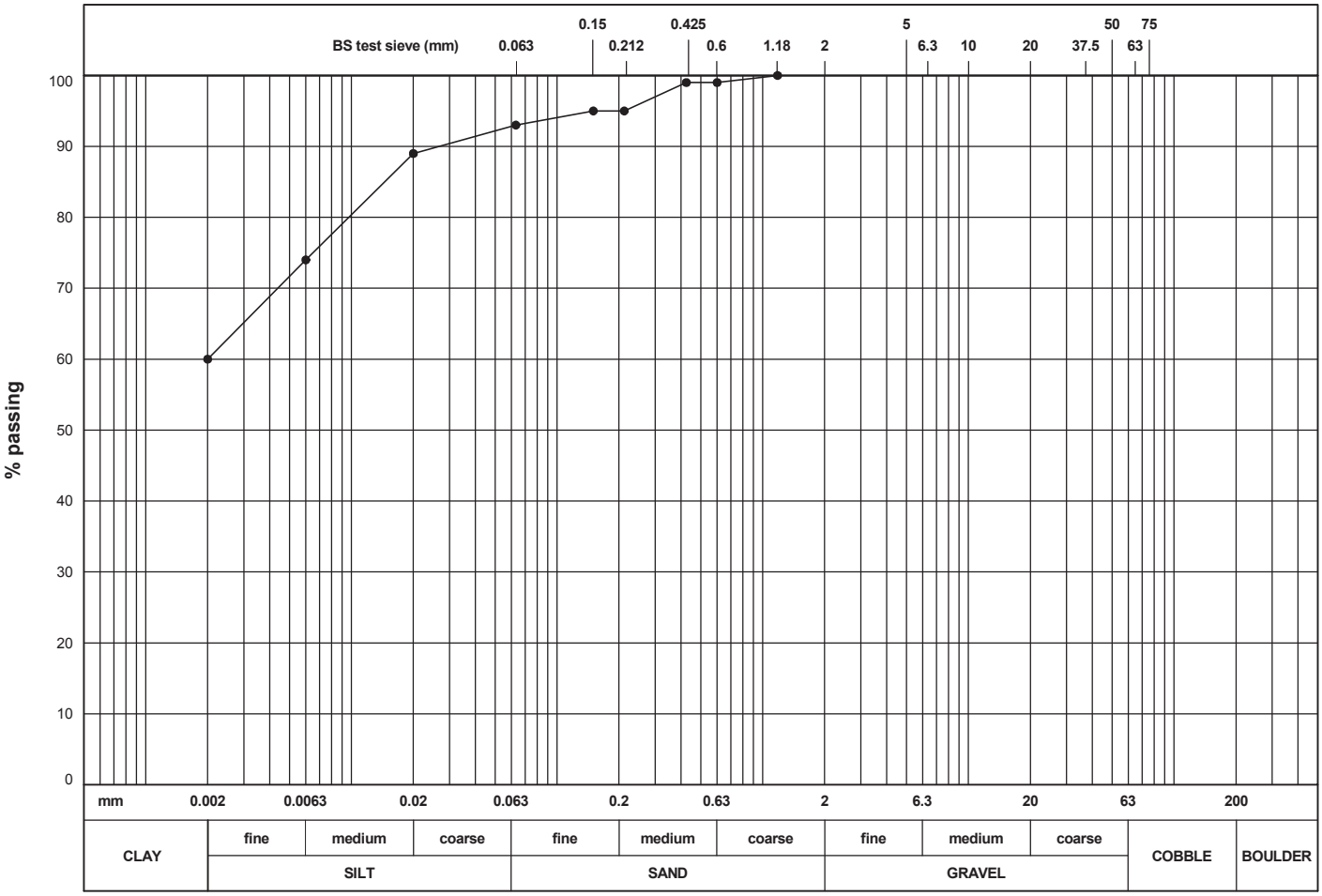
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP109 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Brown mottled orange slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 60 |
| SILT | 33 |
| SILT & CLAY | 93 |
| SAND | 7 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 89 |
| 75 | | 2 | | 6 | 74 |
| 63 | | 1.18 | 100 | 2 | 60 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 99 | | |
| 20 | | 0.212 | 95 | | |
| 10 | | 0.15 | 95 | | |
| 6.3 | | 0.063 | 93 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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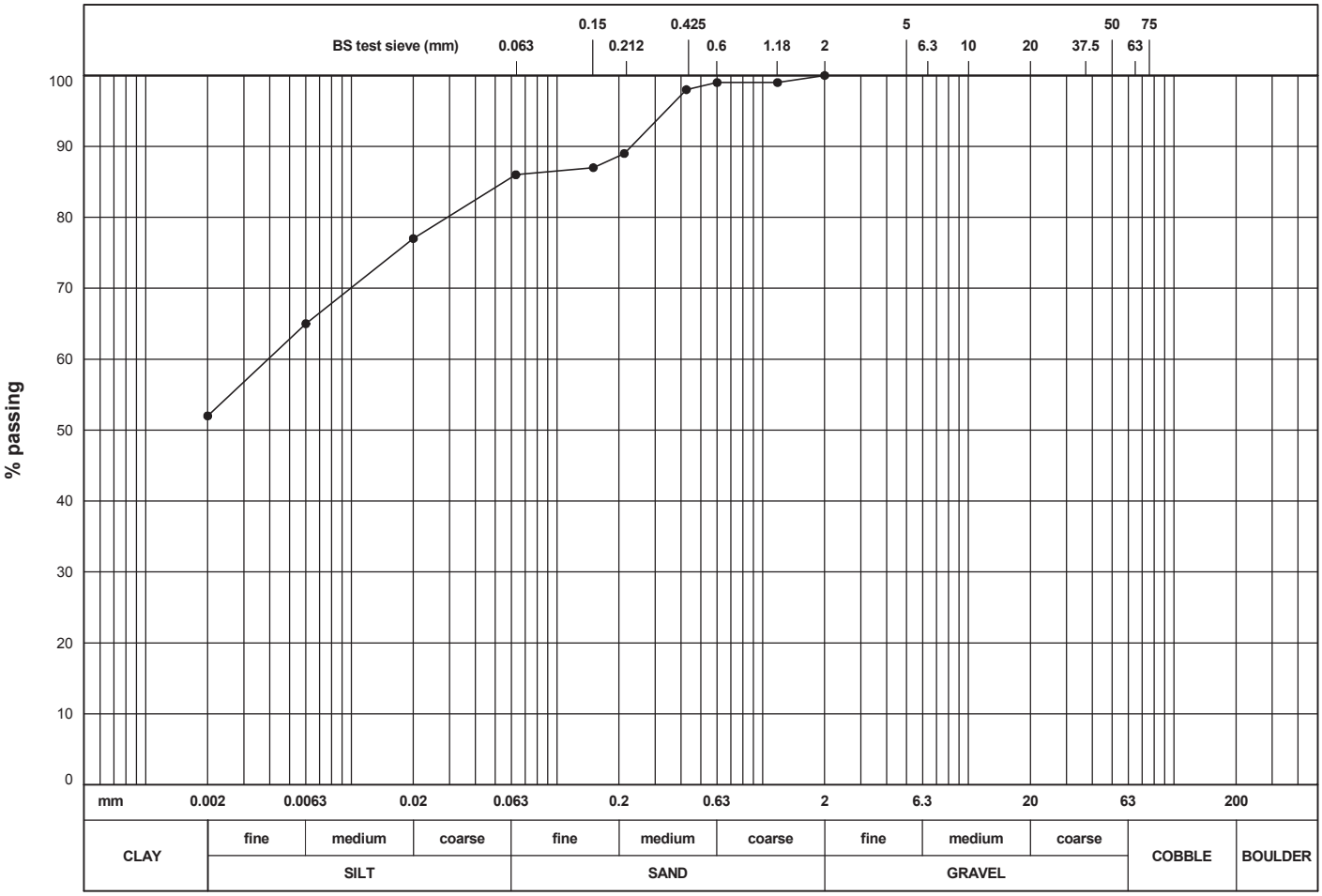
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP110 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Orangish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 52 |
| SILT | 34 |
| SILT & CLAY | 86 |
| SAND | 14 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 77 |
| 75 | | 2 | 100 | 6 | 65 |
| 63 | | 1.18 | 99 | 2 | 52 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 98 | | |
| 20 | | 0.212 | 89 | | |
| 10 | | 0.15 | 87 | | |
| 6.3 | | 0.063 | 86 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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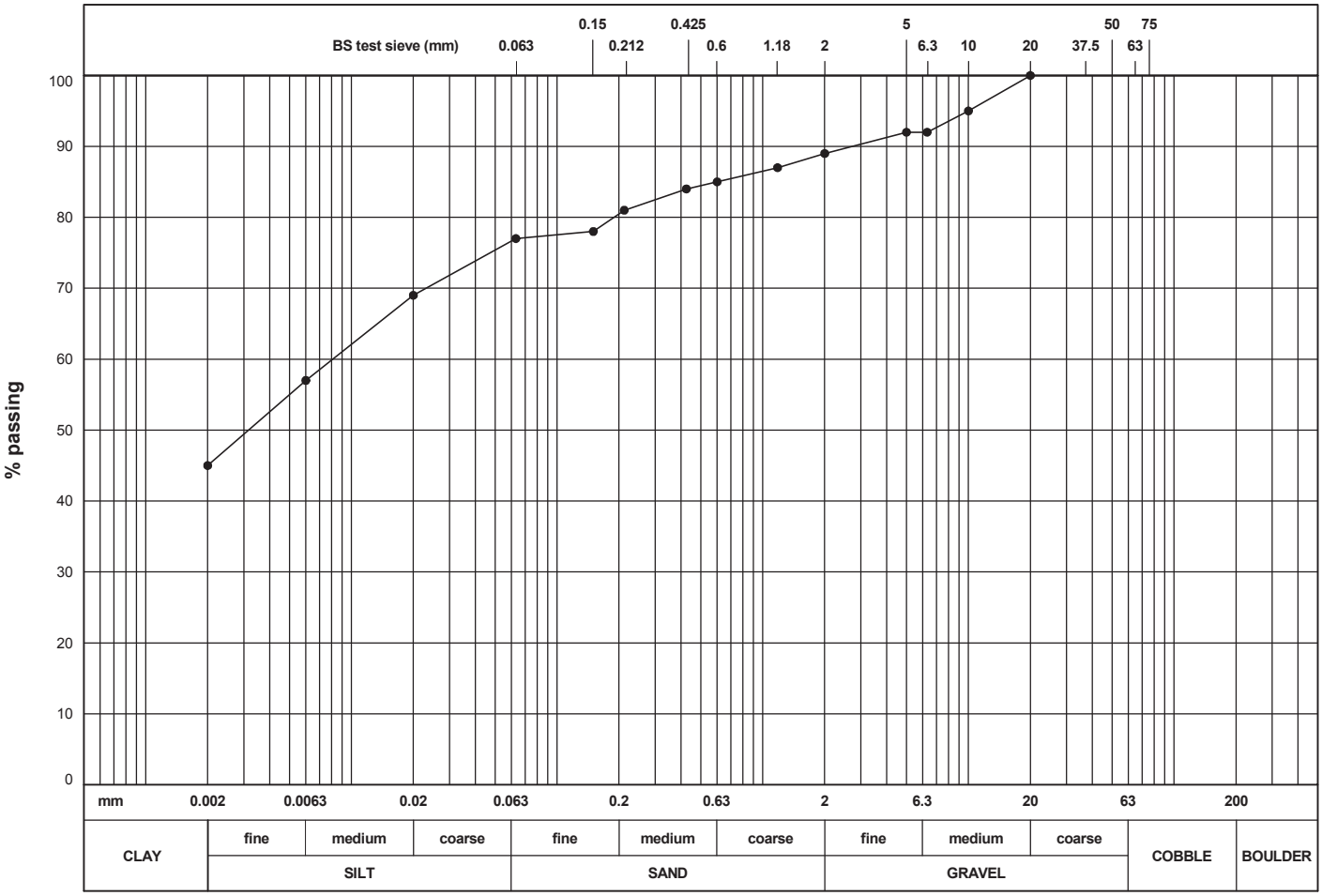
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP111 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Brownish grey slightly sandy slightly gravelly silty CLAY | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 45 |
| SILT | 32 |
| SILT & CLAY | 77 |
| SAND | 12 |
| GRAVEL | 11 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 92 | 20 | 69 |
| 75 | | 2 | 89 | 6 | 57 |
| 63 | | 1.18 | 87 | 2 | 45 |
| 50 | | 0.6 | 85 | | |
| 37.5 | | 0.425 | 84 | | |
| 20 | 100 | 0.212 | 81 | | |
| 10 | 95 | 0.15 | 78 | | |
| 6.3 | 92 | 0.063 | 77 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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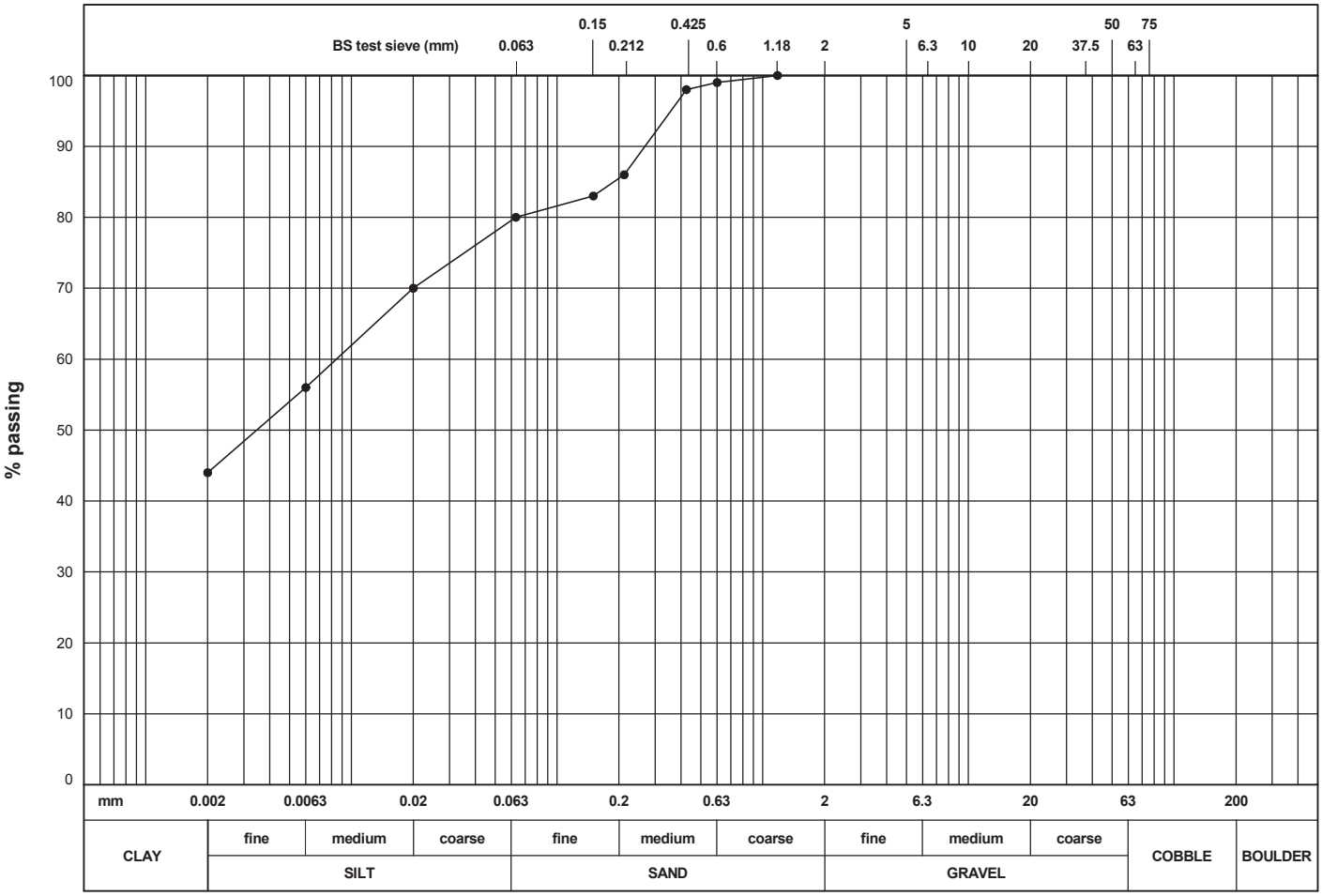
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP112 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Orangish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 44 |
| SILT | 36 |
| SILT & CLAY | 80 |
| SAND | 20 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 70 |
| 75 | | 2 | | 6 | 56 |
| 63 | | 1.18 | 100 | 2 | 44 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 98 | | |
| 20 | | 0.212 | 86 | | |
| 10 | | 0.15 | 83 | | |
| 6.3 | | 0.063 | 80 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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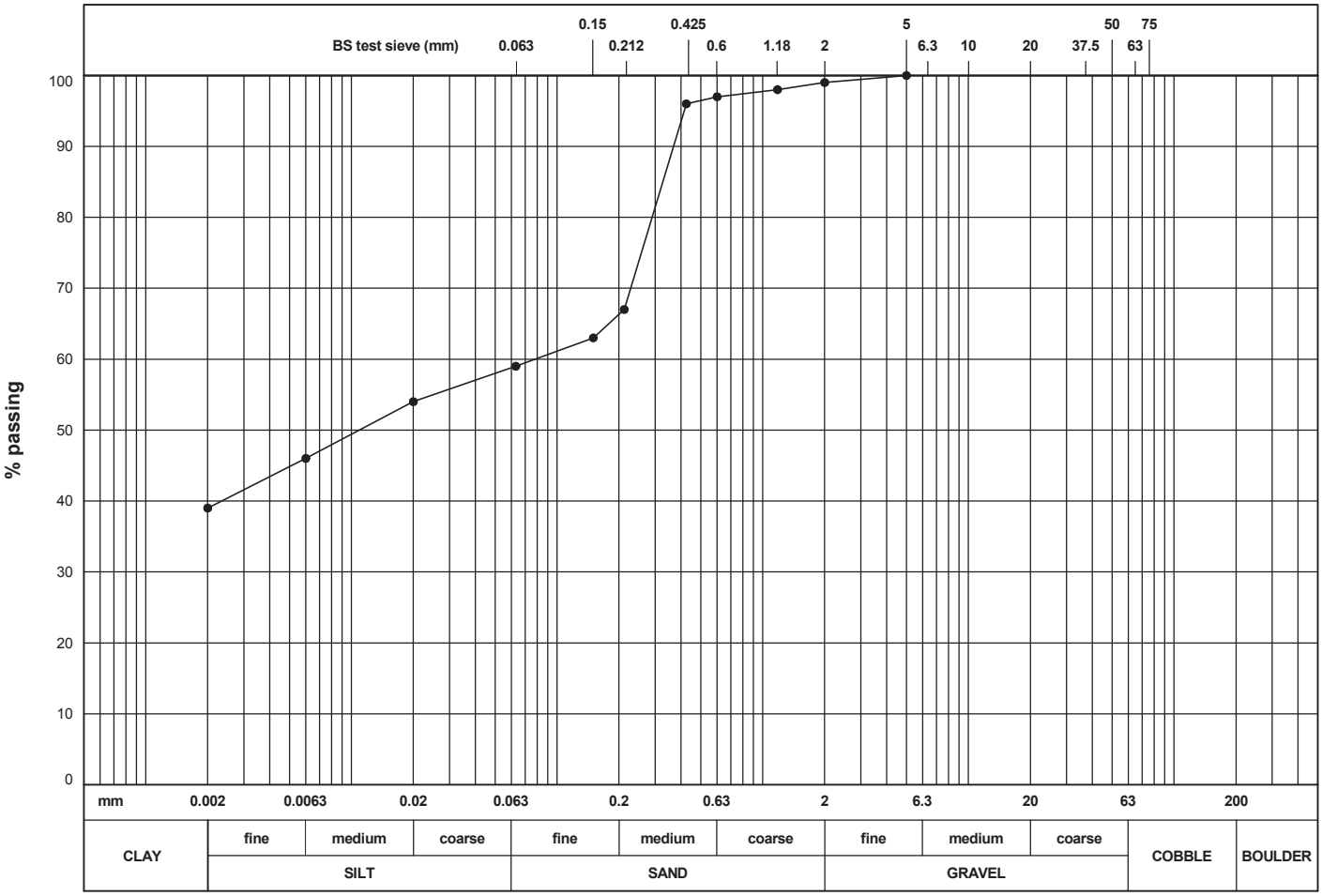
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP113 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Orangish brown sandy slightly gravelly silty CLAY | SPECIMEN DEPTH (m) | 0.50 |




| soil type | % fraction |
|---|---|
| CLAY | 39 |
| SILT | 20 |
| SILT & CLAY | 59 |
| SAND | 40 |
| GRAVEL | 1 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 100 | 20 | 54 |
| 75 | | 2 | 99 | 6 | 46 |
| 63 | | 1.18 | 98 | 2 | 39 |
| 50 | | 0.6 | 97 | | |
| 37.5 | | 0.425 | 96 | | |
| 20 | | 0.212 | 67 | | |
| 10 | | 0.15 | 63 | | |
| 6.3 | | 0.063 | 59 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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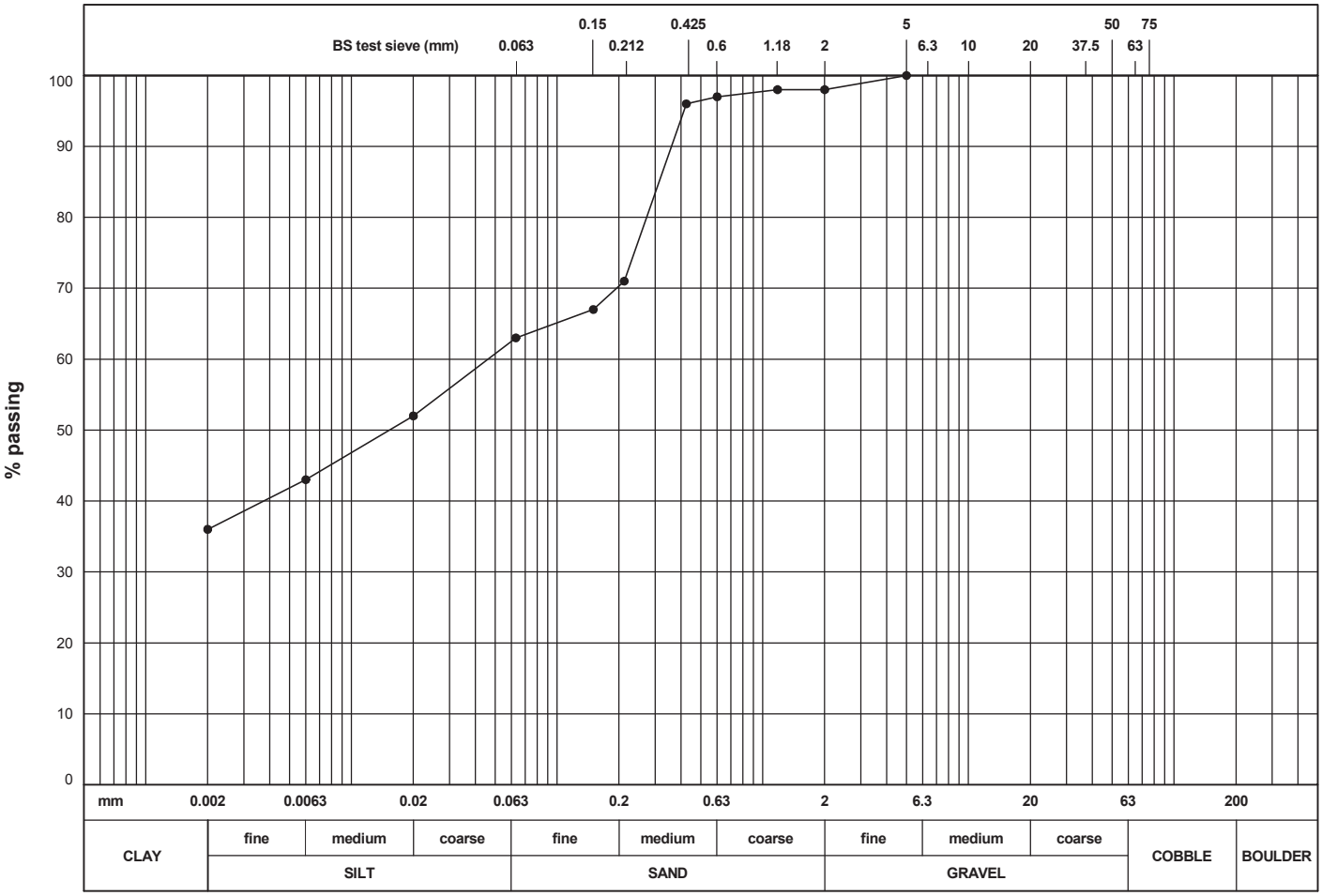
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP113 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 5B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Orangish brown slightly sandy slightly gravelly silty CLAY | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 36 |
| SILT | 27 |
| SILT & CLAY | 63 |
| SAND | 35 |
| GRAVEL | 2 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 100 | 20 | 52 |
| 75 | | 2 | 98 | 6 | 43 |
| 63 | | 1.18 | 98 | 2 | 36 |
| 50 | | 0.6 | 97 | | |
| 37.5 | | 0.425 | 96 | | |
| 20 | | 0.212 | 71 | | |
| 10 | | 0.15 | 67 | | |
| 6.3 | | 0.063 | 63 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
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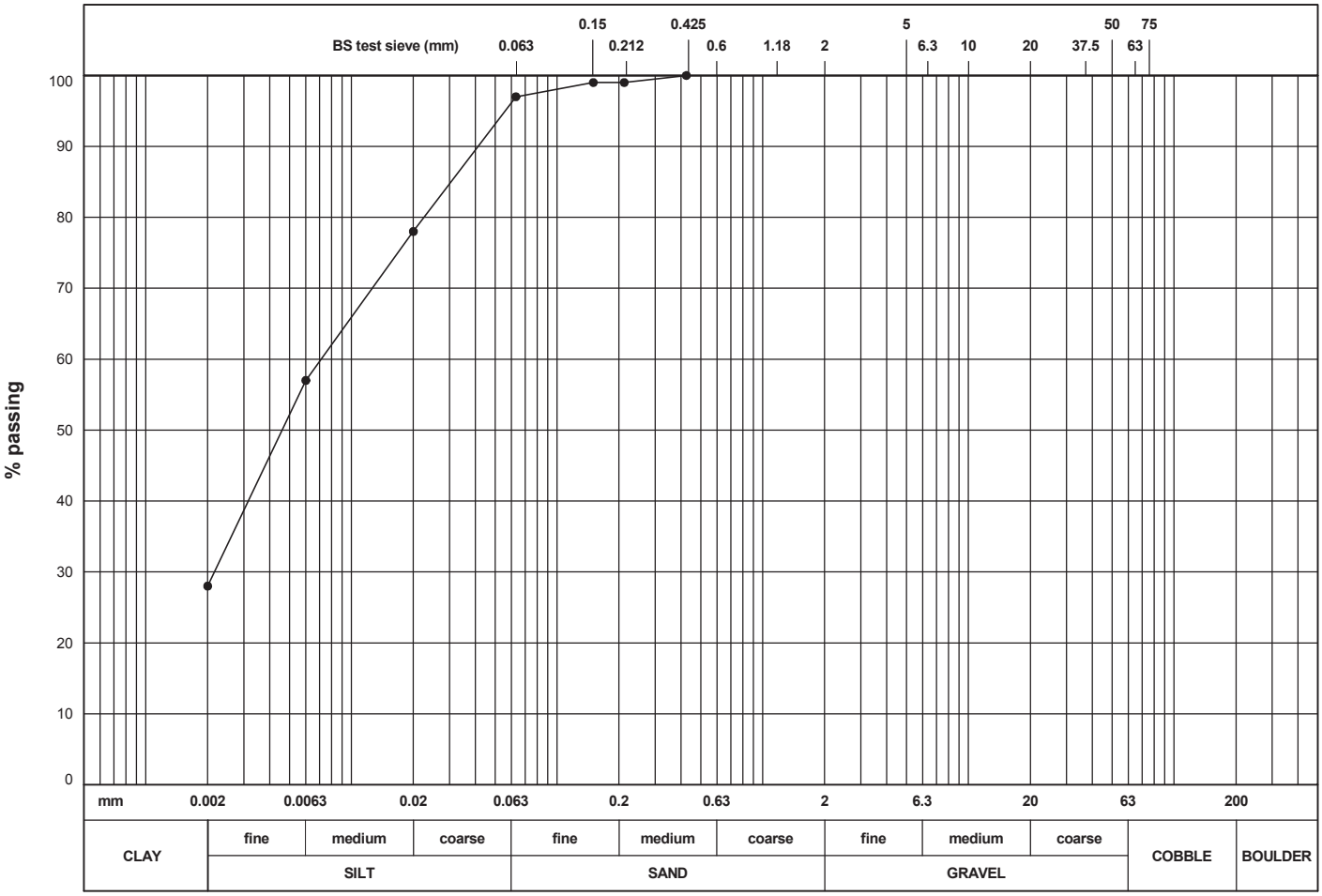
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP113 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 7UT |
| | | SAMPLE DEPTH (m) | 1.70 |
| DESCRIPTION | Greyish brown and orange slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.75 |




| soil type | % fraction |
|---|---|
| CLAY | 28 |
| SILT | 69 |
| SILT & CLAY | 97 |
| SAND | 3 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 78 |
| 75 | | 2 | | 6 | 57 |
| 63 | | 1.18 | | 2 | 28 |
| 50 | | 0.6 | | | |
| 37.5 | | 0.425 | 100 | | |
| 20 | | 0.212 | 99 | | |
| 10 | | 0.15 | 99 | | |
| 6.3 | | 0.063 | 97 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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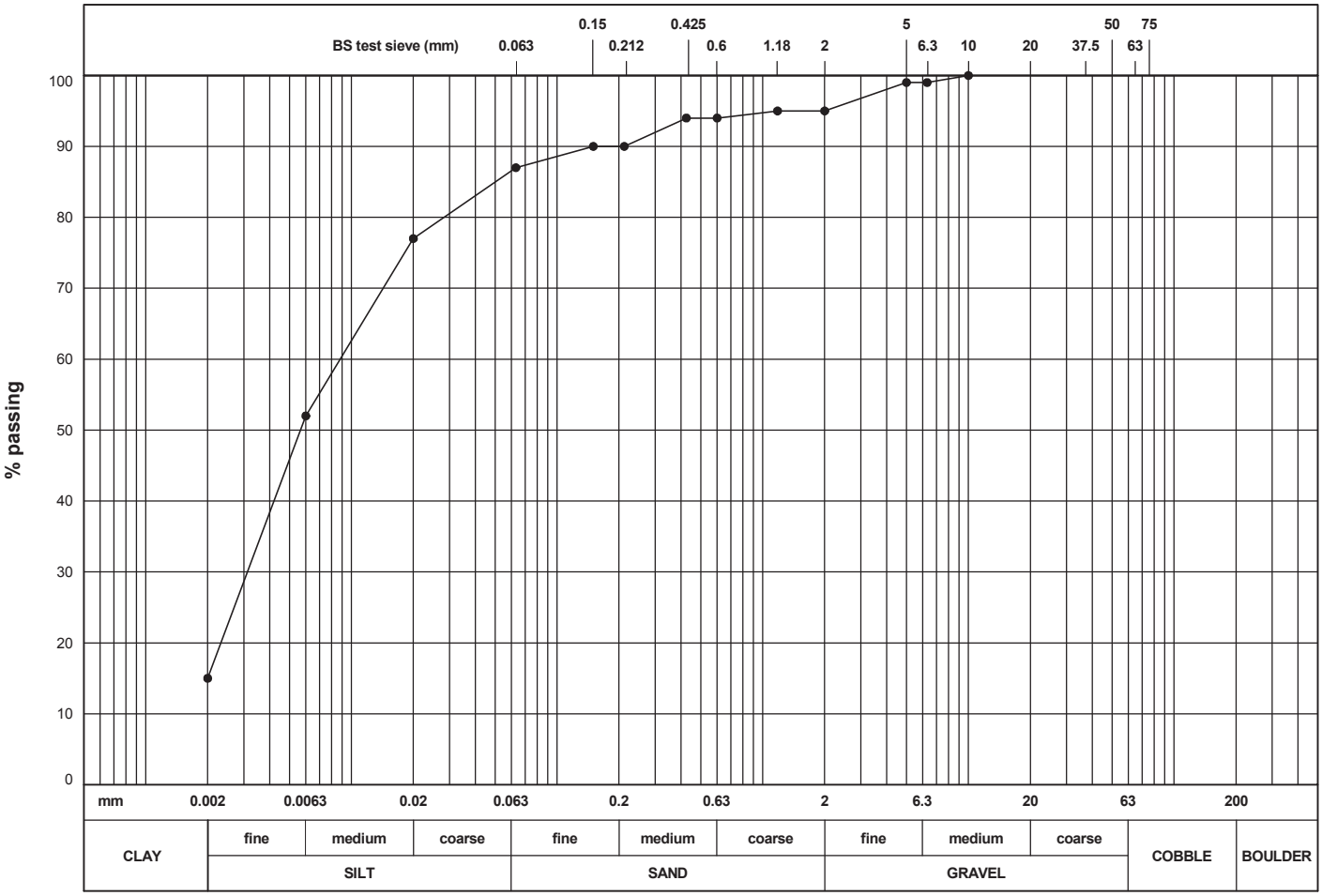
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP113 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 10UT |
| | | SAMPLE DEPTH (m) | 2.70 |
| DESCRIPTION | Greyish brown slightly sandy slightly gravelly silty CLAY | SPECIMEN DEPTH (m) | 2.70 |




| soil type | % fraction |
|---|---|
| CLAY | 15 |
| SILT | 72 |
| SILT & CLAY | 87 |
| SAND | 8 |
| GRAVEL | 5 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 99 | 20 | 77 |
| 75 | | 2 | 95 | 6 | 52 |
| 63 | | 1.18 | 95 | 2 | 15 |
| 50 | | 0.6 | 94 | | |
| 37.5 | | 0.425 | 94 | | |
| 20 | | 0.212 | 90 | | |
| 10 | 100 | 0.15 | 90 | | |
| 6.3 | 99 | 0.063 | 87 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
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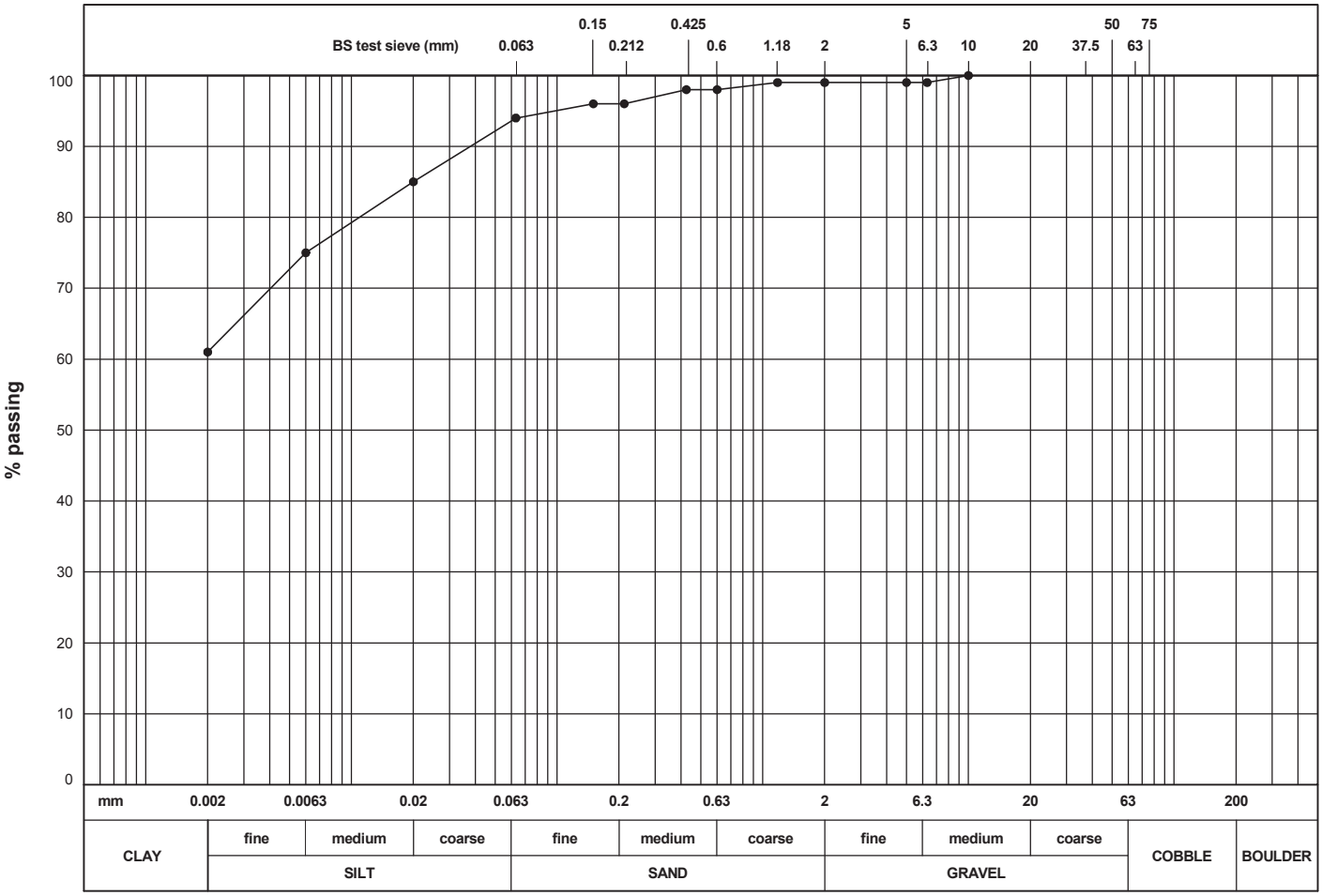
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP114 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Light brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 61 |
| SILT | 33 |
| SILT & CLAY | 94 |
| SAND | 5 |
| GRAVEL | 1 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 99 | 20 | 85 |
| 75 | | 2 | 99 | 6 | 75 |
| 63 | | 1.18 | 99 | 2 | 61 |
| 50 | | 0.6 | 98 | | |
| 37.5 | | 0.425 | 98 | | |
| 20 | | 0.212 | 96 | | |
| 10 | 100 | 0.15 | 96 | | |
| 6.3 | 99 | 0.063 | 94 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
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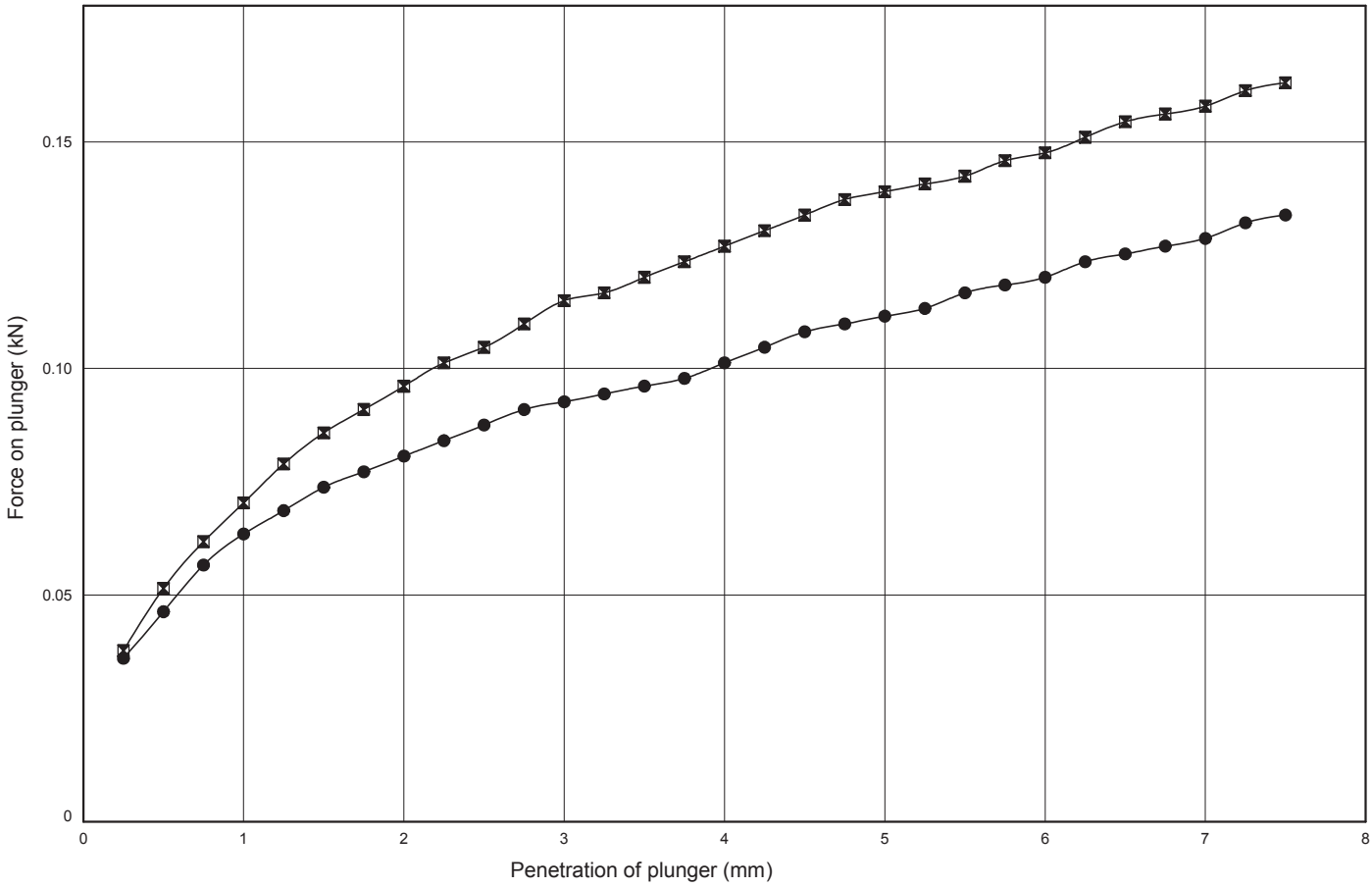
# CALIFORNIA BEARING RATIO

**BS.1377 : Part 4 : 1990 : 7**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP103 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 4B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Brown slightly sandy slightly gravelly CLAY with occasional rootlets | SPECIMEN DEPTH (m) | 0.50 |




| | | | |
|---|---|---|---|
| sample preparation: | Dynamic compaction - 2.5Kg rammer with specified effort | | |
| proportion >20mm removed (%) | 0 | sample condition | Soaked |
| surcharge mass (kg) | 10 | amount of swell (mm) | 0.76 |
| INITIAL CONDITIONS | | FINAL CONDITIONS | |
| moisture content (%) | 29 | moisture content - top (%) | 29 |
| bulk density (Mg/m$^3$) | 1.91 | moisture content - base (%) | 29 |
| dry density (Mg/m$^3$) | 1.48 | | |

remarks:

| | |
|---|---|
| CBR value top (%) | 0.66 |
| CBR value base (%) | 0.79 |
| average CBR value (%) | 0.73 |

Top  Base

| CONTRACT | CHECKED |
|---|---|
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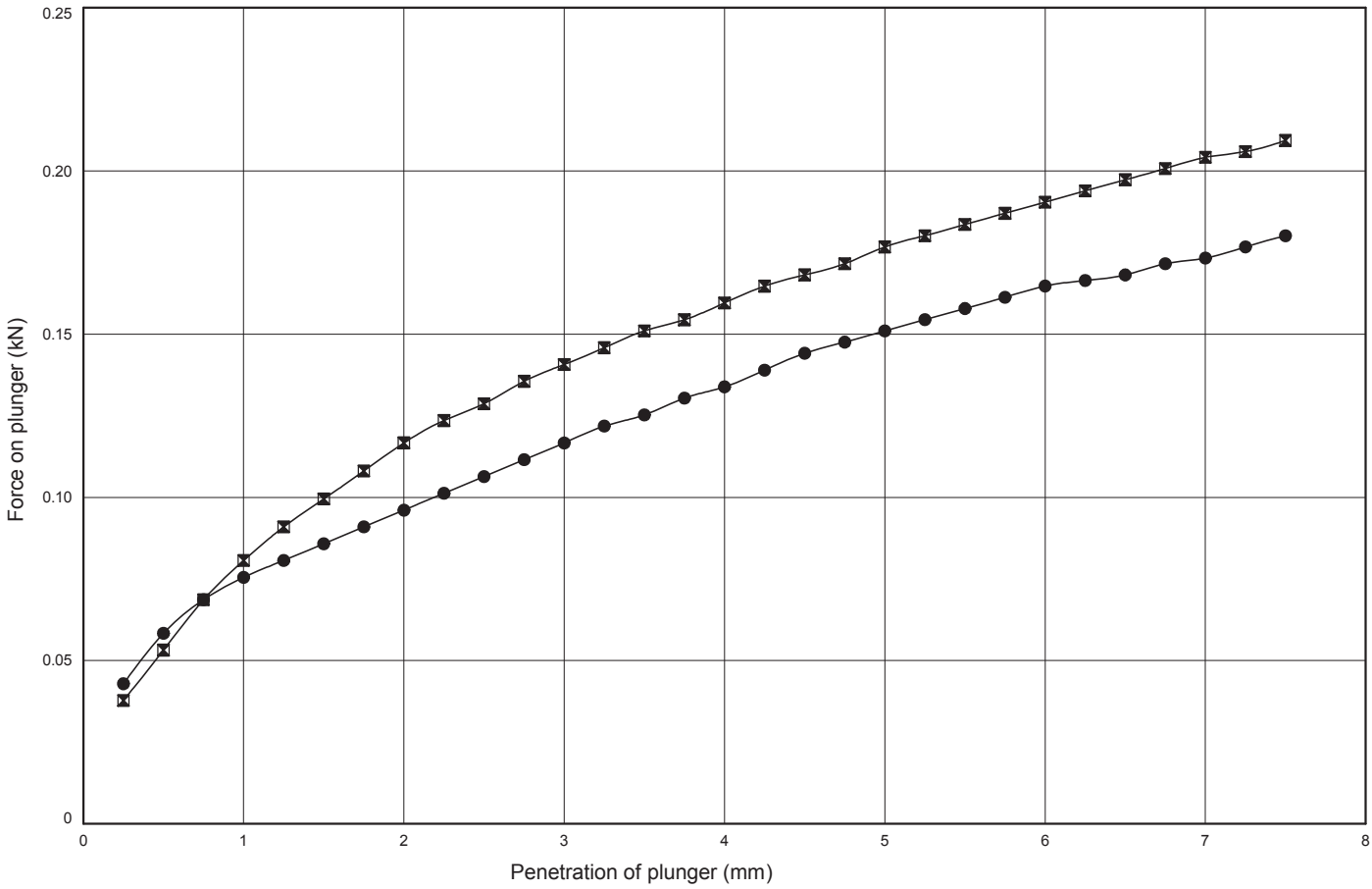
# CALIFORNIA BEARING RATIO

**BS.1377 : Part 4 : 1990 : 7**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP104 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 4B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Brown slightly sandy slightly gravelly CLAY with rare rootlets | SPECIMEN DEPTH (m) | 0.50 |




| | | | |
|---|---|---|---|
| sample preparation: | Dynamic compaction - 2.5Kg rammer with specified effort | | |
| proportion >20mm removed (%) | 0 | sample condition | Soaked |
| surcharge mass (kg) | 10 | amount of swell (mm) | -0.08 |
| INITIAL CONDITIONS | | FINAL CONDITIONS | |
| moisture content (%) | 24 | moisture content - top (%) | 24 |
| bulk density (Mg/m$^3$) | 1.99 | moisture content - base (%) | 24 |
| dry density (Mg/m$^3$) | 1.60 | | |

remarks:

| | |
|---|---|
| CBR value top (%) | 0.81 |
| CBR value base (%) | 0.97 |
| average CBR value (%) | 0.89 |

Top  Base

| CONTRACT | CHECKED |
|---|---|
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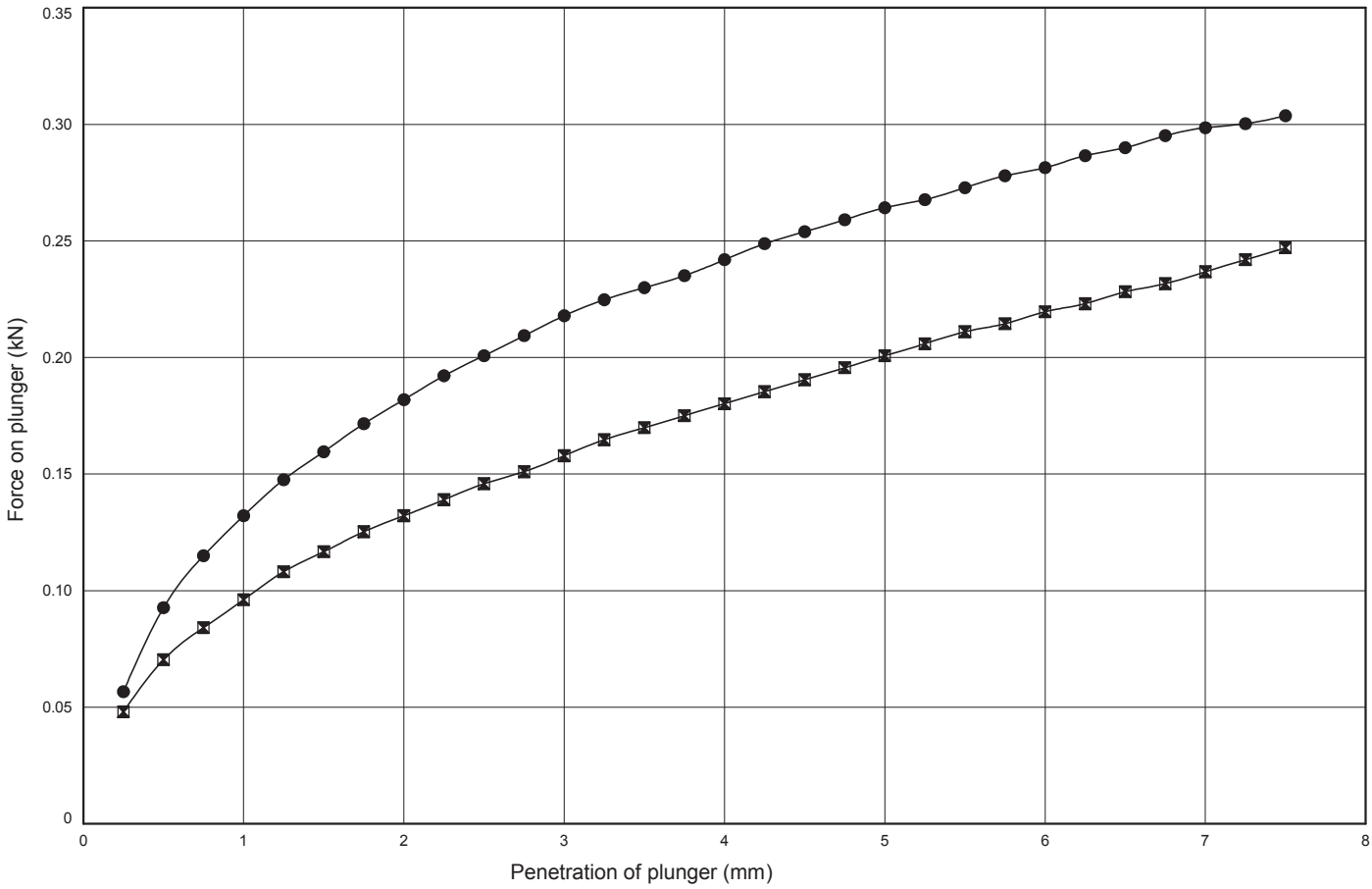
# CALIFORNIA BEARING RATIO

**BS.1377 : Part 4 : 1990 : 7**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP105 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 4B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Orangish brown slightly sandy slightly gravelly CLAY | SPECIMEN DEPTH (m) | 0.50 |




| | | | |
|---|---|---|---|
| sample preparation: | Dynamic compaction - 2.5Kg rammer with specified effort | | |
| proportion >20mm removed (%) | 0 | sample condition | Soaked |
| surcharge mass (kg) | 10 | amount of swell (mm) | 0.01 |
| INITIAL CONDITIONS | | FINAL CONDITIONS | |
| moisture content (%) | 21 | moisture content - top (%) | 22 |
| bulk density (Mg/m$^3$) | 2.03 | moisture content - base (%) | 21 |
| dry density (Mg/m$^3$) | 1.68 | | |

remarks:

| | |
|---|---|
| CBR value top (%) | 1.5 |
| CBR value base (%) | 1.1 |
| average CBR value (%) | |

Top  Base

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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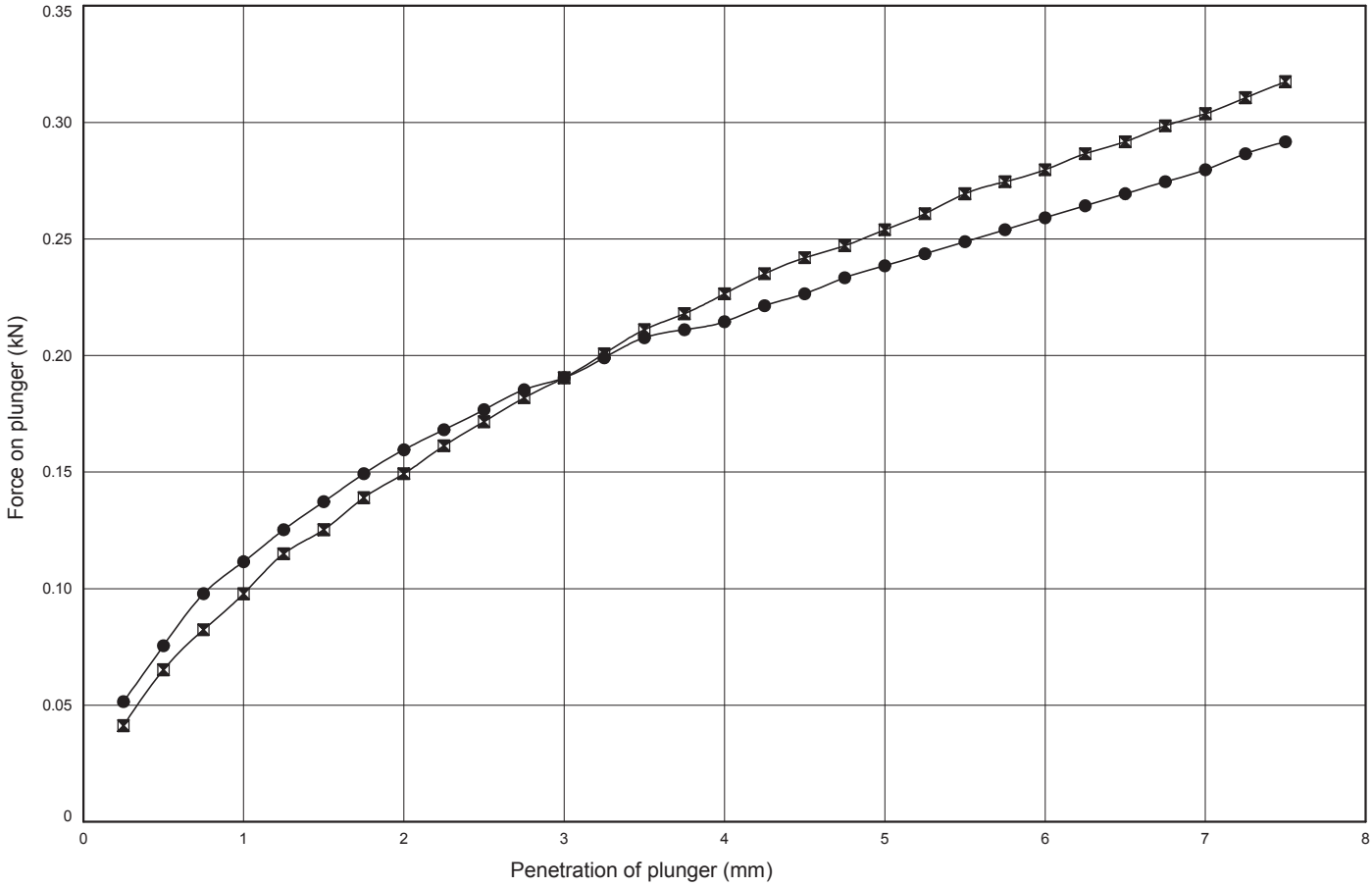
# CALIFORNIA BEARING RATIO

**BS.1377 : Part 4 : 1990 : 7**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | CP106 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 4B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Orangish brown slightly sandy slightly gravelly CLAY with rare rootlets | SPECIMEN DEPTH (m) | 0.50 |




| | | | |
|---|---|---|---|
| sample preparation: | Dynamic compaction - 2.5Kg rammer with specified effort | | |
| proportion >20mm removed (%) | 0 | sample condition | Soaked |
| surcharge mass (kg) | 10 | amount of swell (mm) | 0.13 |
| INITIAL CONDITIONS | | FINAL CONDITIONS | |
| moisture content (%) | 22 | moisture content - top (%) | 22 |
| bulk density (Mg/m$^3$) | 2.01 | moisture content - base (%) | 22 |
| dry density (Mg/m$^3$) | 1.65 | | |

remarks:

| | |
|---|---|
| CBR value top (%) | 1.3 |
| CBR value base (%) | 1.3 |
| average CBR value (%) | 1.3 |

Top  Base

| CONTRACT | CHECKED |
|---|---|
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2718

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| | | | |
|---|---|---|---|
| | | Version No. | 2 |
| For the attention of | Dave Owen/Stephen Farrer | Page No. | 1 of 67 |
| | | Date of Issue | 03/07/2015 |

# TEST REPORT

| | | | |
|---|---|---|---|
| PROJECT/SITE | Graven Hill New Urban Community, Bicester | Samples received | 16/06/2015 |
| GEL REPORT NUMBER | 30378/C | Schedule received | 16/06/2015 |
| Your ref/PO: | 0 | Testing commenced | 17/06/2015 |
| Test report refers to | Schedule C | Status | Final |

## SUMMARY OF RESULTS ATTACHED

| TEST METHOD & DESCRIPTION | QUANTITY | ACCREDITED TEST |
|---|---|---|
| BS EN ISO 17892-1: 2014:5. Water Content | 28 | YES |
| BS1377: Part 2: 1990:4.2-4.4&5.2-5.4, Liquid & Plastic Limits | 28 | YES |
| BS1377: Part 2: 1990:6.5, Linear Shrinkage | 28 | NO |
| BS1377: Part 2: 1990:9.2, Particle Size Distribution - Wet Sieve | 28 | YES |
| BS1377: Part 2: 1990:9.4, Particle Size Distribution - Pipette | 28 | YES |
| BS1377: Part 4: 1990:3, Dry Density/Moisture Content Relationship | 26 | YES |
| BRE SD1 Suite D (Subcontracted) | 28 | YES/NO |

Remarks

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Approved Signatories:

**S Robinson (Client Manager)** C Andrew (Client Manager)

W Jones (Technical Support) J Hanson (Director) C Thomas (Consultant)



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# LIQUID AND PLASTIC LIMITS

**BS.1377 : Part 2 : 1990 : 4 and 5**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./type | sample depth (m) | specimen depth (m) | natural water content (%) | specimen preparation and test method | fraction >0.425 mm (%) | liquid limit (%) | plastic limit (%) | plasticity index (%) | description and remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| TP514 | 3B | 0.40 | 0.40 | 32.4 | BXE | 3 | 78 | 25 | 53 | Greenish brown slightly sandy silty CLAY |
| TP514 | 6B | 1.40 | 1.40 | 44.5 | AXE | 0 | 72 | 26 | 46 | Greyish brown mottled off white slightly sandy silty CLAY |
| TP515 | 3B | 0.30 | 0.30 | 31.6 | BXE | 2 | 76 | 23 | 53 | Greenish brown slightly sandy silty CLAY |
| TP515 | 6B | 1.10 | 1.10 | 29.9 | BXE | 4 | 75 | 24 | 51 | Greenish brown slightly sandy slightly gravelly CLAY |
| TP516 | 3B | 1.00 | 1.00 | 24.3 | BXE | 2 | 53 | 19 | 34 | Greenish brown mottled orangish brown slightly sandy CLAY |
| TP516 | 5B | 2.00 | 2.00 | 28.0 | BXE | 4 | 61 | 22 | 39 | Greenish brown mottled orangish brown slightly sandy CLAY |
| TP518 | 3B | 0.40 | 0.40 | 22.2 | BXE | 5 | 53 | 20 | 33 | Yellowish brown mottled grey slightly sandy CLAY |
| TP518 | 6B | 1.50 | 1.50 | 22.2 | BXE | 8 | 47 | 18 | 29 | Multicoloured slightly sandy slightly gravelly silty CLAY |
| TP519 | 3B | 0.50 | 0.50 | 26.3 | BXE | 5 | 62 | 21 | 41 | Greenish brown slightly sandy CLAY |
| TP519 | 6B | 1.90 | 1.90 | 27.7 | BXE | 5 | 62 | 22 | 40 | Greenish grey slightly sandy silty CLAY |
| TP521 | 3B | 0.50 | 0.50 | 28.1 | BXE | 1 | 63 | 21 | 42 | Greenish brown slightly sandy silty CLAY |
| TP521 | 6B | 1.60 | 1.60 | 26.2 | BXE | 0 | 58 | 21 | 37 | Yellowish brown slightly sandy silty CLAY |
| TP523 | 10B | 2.00 | 2.00 | 36.9 | BXE | 3 | 64 | 23 | 41 | Greenish brown slightly sandy silty CLAY |
| TP523 | 12B | 2.40 | 2.40 | 36.4 | BXE | 6 | 68 | 25 | 43 | Grey mottled brown slightly sandy silty CLAY |
| TP524 | 3B | 0.50 | 0.50 | 27.7 | BXE | 7 | 60 | 20 | 40 | Orangish brown mottled greenish brown slightly sandy slightly gravelly silty CLAY |
| TP524 | 6B | 1.80 | 1.80 | 34.8 | AXE | 0 | 67 | 26 | 41 | Greenish brown mottled brown slightly sandy silty CLAY |
| TP526 | 3B | 0.60 | 0.60 | 35.6 | AXE | 0 | 72 | 25 | 47 | Multicoloured slightly sandy silty CLAY |
| TP526 | 7B | 1.50 | 1.50 | 38.5 | AXE | 0 | 68 | 28 | 40 | Greyish brown mottled orangish brown silty CLAY |

general remarks:
natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014
NP denotes non-plastic
# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

| specimen preparation: | | test method: | CONTRACT | CHECKED |
|---|---|---|---|---|
| A - as received | D - oven dried (60°C) | X - cone penetrometer (test 4.3) | 30378 | SR |
| B - washed on 0.425mm sieve | E - oven dried (105°C) | Y - one point cone penetrometer (test 4.4) | | |
| C - air dried | F - not known | Z - Casagrande apparatus (test 4.5) | | |

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# LIQUID AND PLASTIC LIMITS

**BS.1377 : Part 2 : 1990 : 4 and 5**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./type | sample depth (m) | specimen depth (m) | natural water content (%) | specimen preparation and test method | fraction >0.425 mm (%) | liquid limit (%) | plastic limit (%) | plasticity index (%) | description and remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| TP526 | 9B | 2.20 | 2.20 | 39.6 | BXE | 4 | 65 | 30 | 35 | Brown slightly sandy silty CLAY |
| TP527 | 3B | 0.40 | 0.40 | 22.3 | BXE | 4 | 48 | 18 | 30 | Greenish brown mottled orangish brown slightly sandy silty CLAY |
| TP527 | 6B | 1.20 | 1.20 | 34.9 | AXE | 0 | 71 | 25 | 46 | Grey mottled white slightly sandy CLAY |
| TP527 | 8B | 2.40 | 2.40 | 41.1 | BXE | 4 | 70 | 29 | 41 | Brown slightly sandy slightly gravelly silty CLAY |
| TP532A | 3B | 0.30 | 0.30 | 31.5 | AXE | 1 | 71 | 20 | 51 | Greenish brown slightly sandy silty CLAY |
| TP532A | 8B | 2.20 | 2.20 | 37.0 | AXE | 2 | 62 | 22 | 40 | Greyish brown mottled off white slightly sandy CLAY |
| TP533 | 3B | 0.60 | 0.60 | 31.8 | BXE | 2 | 71 | 23 | 48 | Greenish brown mottled brown slightly sandy silty CLAY |
| TP538 | 5B | 1.00 | 1.00 | 32.2 | BXE | 4 | 70 | 26 | 44 | Greenish brown slightly sandy silty CLAY |
| TP538 | 7B | 2.00 | 2.00 | 28.1 | BXE | 1 | 57 | 24 | 33 | Greyish brown mottled greenish brown slightly sandy silty CLAY |
| TP539 | 6B | 1.50 | 1.50 | 37.7 | AXE | 0 | 67 | 25 | 42 | Grey mottled white silty CLAY |

general remarks:
natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014
NP denotes non-plastic
# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

| specimen preparation: | | test method: | CONTRACT | CHECKED |
|---|---|---|---|---|
| A - as received | D - oven dried (60°C) | X - cone penetrometer (test 4.3) | 30378 | SR |
| B - washed on 0.425mm sieve | E - oven dried (105°C) | Y - one point cone penetrometer (test 4.4) | | |
| C - air dried | F - not known | Z - Casagrande apparatus (test 4.5) | | |

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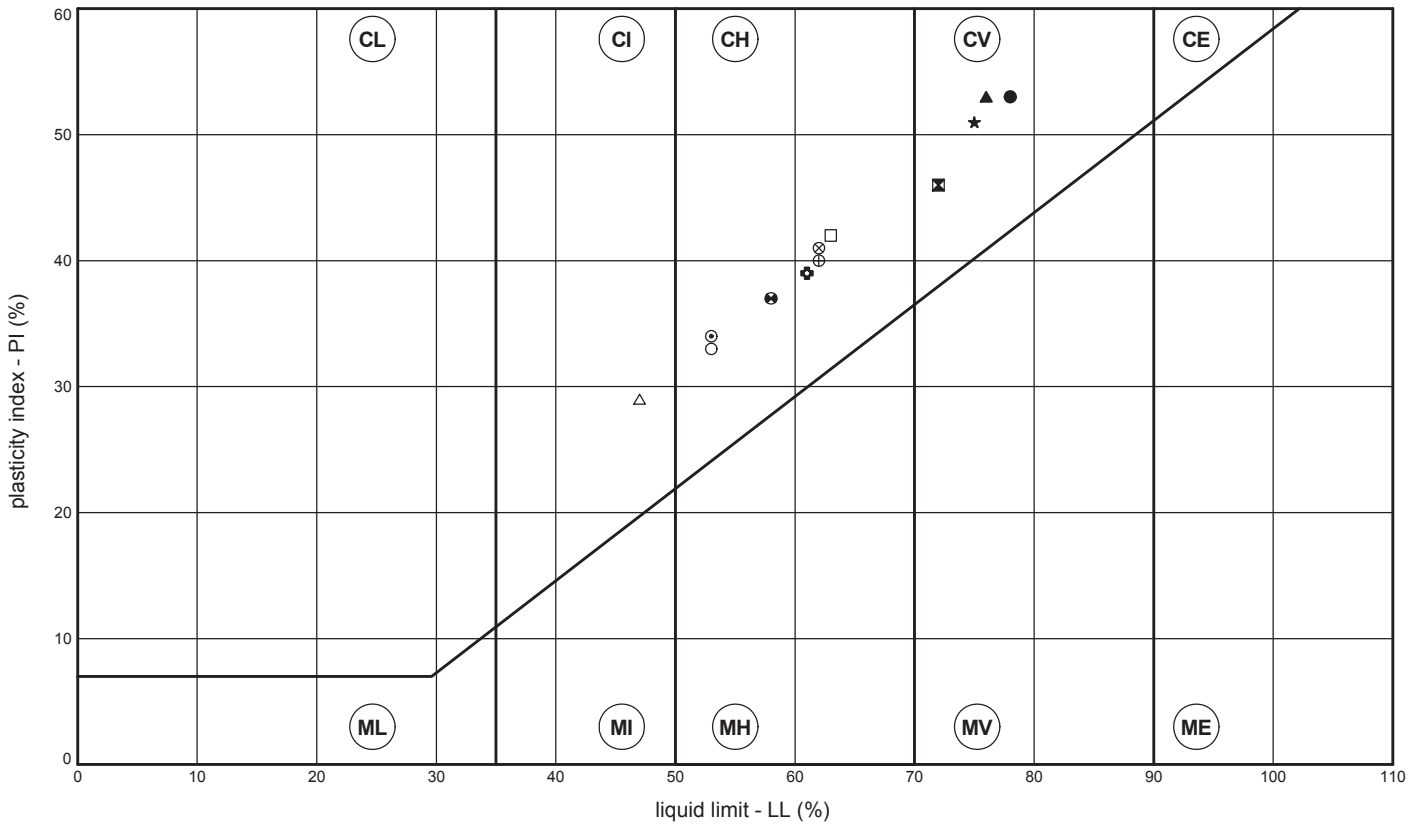
# ATTERBERG LINE PLOT

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER




| | BH/TP No. | depth (m) | LL | PL | PI | remarks |
|---|---|---|---|---|---|---|
| ● | TP514 | 0.40 | 78 | 25 | 53 | |
| ⊠ | TP514 | 1.40 | 72 | 26 | 46 | |
| ▲ | TP515 | 0.30 | 76 | 23 | 53 | |
| ★ | TP515 | 1.10 | 75 | 24 | 51 | |
| ⊙ | TP516 | 1.00 | 53 | 19 | 34 | |
| ✿ | TP516 | 2.00 | 61 | 22 | 39 | |
| ○ | TP518 | 0.40 | 53 | 20 | 33 | |
| △ | TP518 | 1.50 | 47 | 18 | 29 | |
| ⊗ | TP519 | 0.50 | 62 | 21 | 41 | |
| ⊕ | TP519 | 1.90 | 62 | 22 | 40 | |
| □ | TP521 | 0.50 | 63 | 21 | 42 | |
| ⊛ | TP521 | 1.60 | 58 | 21 | 37 | |

| CONTRACT | CHECKED |
|---|---|
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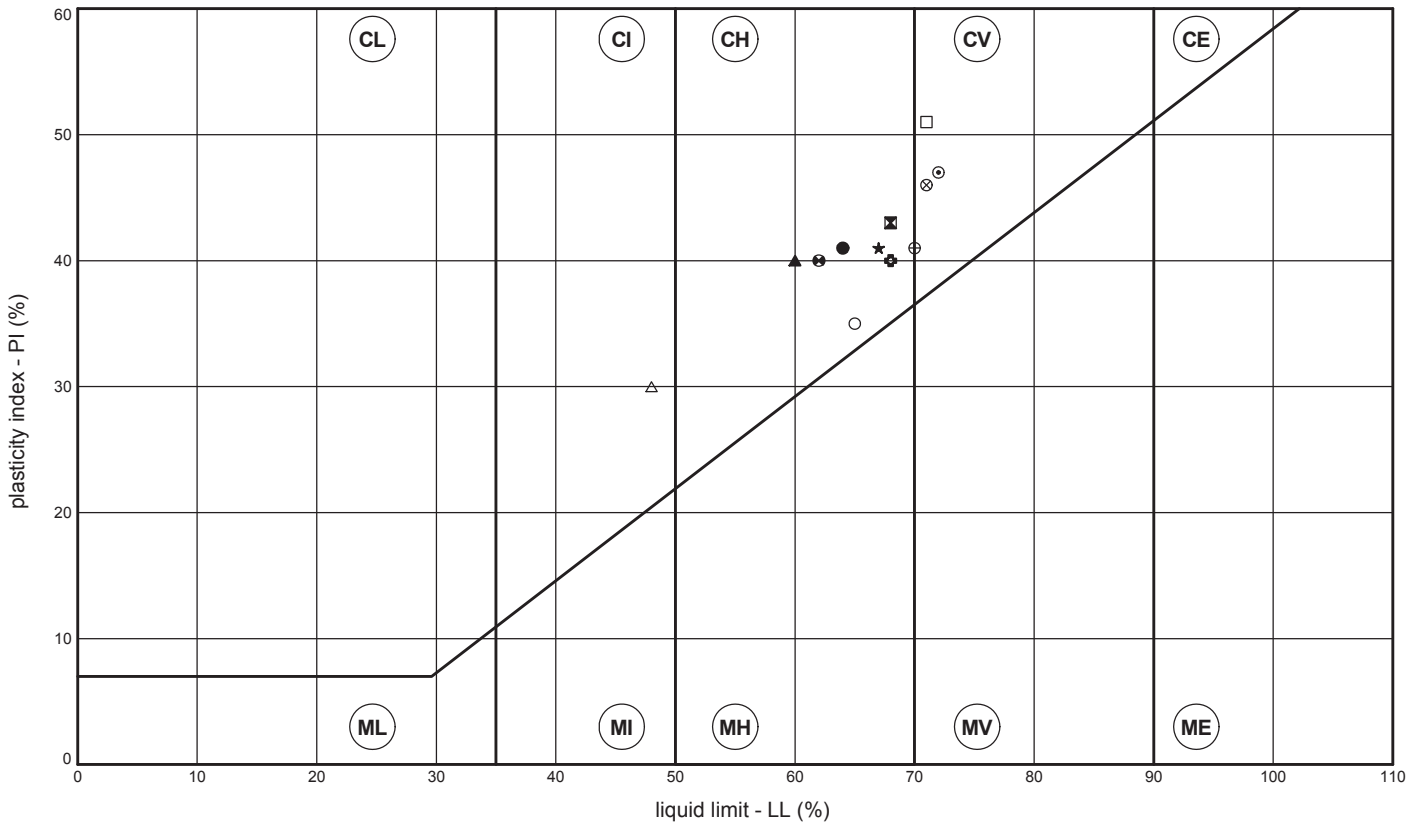
# ATTERBERG LINE PLOT

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER




| | BH/TP No. | depth (m) | LL | PL | PI | remarks |
|---|---|---|---|---|---|---|
| ● | TP523 | 2.00 | 64 | 23 | 41 | |
| ⊠ | TP523 | 2.40 | 68 | 25 | 43 | |
| ▲ | TP524 | 0.50 | 60 | 20 | 40 | |
| ★ | TP524 | 1.80 | 67 | 26 | 41 | |
| ⊙ | TP526 | 0.60 | 72 | 25 | 47 | |
| ✿ | TP526 | 1.50 | 68 | 28 | 40 | |
| ○ | TP526 | 2.20 | 65 | 30 | 35 | |
| △ | TP527 | 0.40 | 48 | 18 | 30 | |
| ⊗ | TP527 | 1.20 | 71 | 25 | 46 | |
| ⊕ | TP527 | 2.40 | 70 | 29 | 41 | |
| □ | TP532A | 0.30 | 71 | 20 | 51 | |
| ⊗ | TP532A | 2.20 | 62 | 22 | 40 | |

| CONTRACT | CHECKED |
|---|---|
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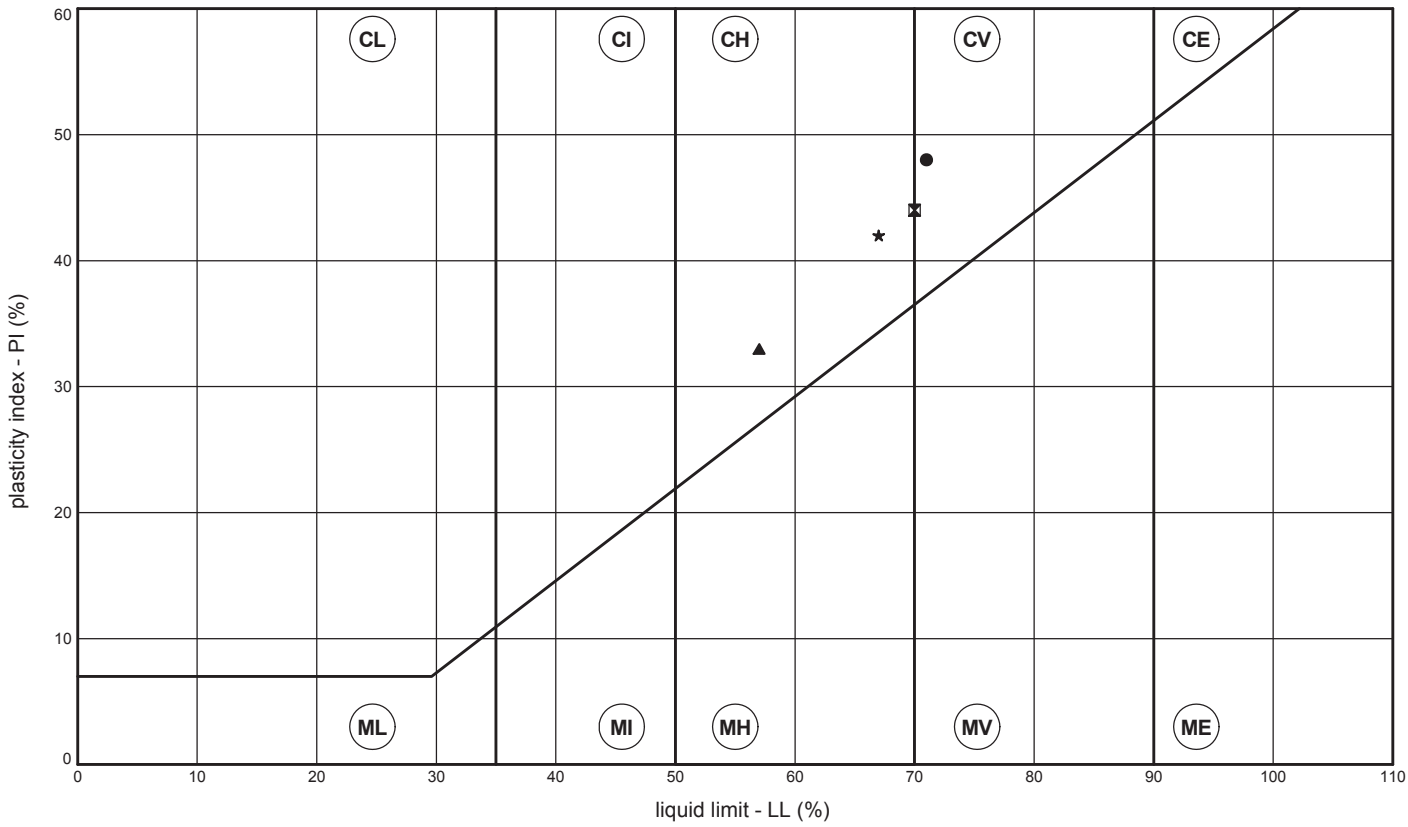
# ATTERBERG LINE PLOT

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER




| | BH/TP No. | depth (m) | LL | PL | PI | remarks |
|---|---|---|---|---|---|---|
| ● | TP533 | 0.60 | 71 | 23 | 48 | |
| ⊠ | TP538 | 1.00 | 70 | 26 | 44 | |
| ▲ | TP538 | 2.00 | 57 | 24 | 33 | |
| ★ | TP539 | 1.50 | 67 | 25 | 42 | |

| CONTRACT | CHECKED |
|---|---|
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# LINEAR SHRINKAGE

**BS.1377 : Part 2 : 1990 : 6.5**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./type | sample depth (m) | specimen depth (m) | specimen preparation | fraction > 0.425 mm (%) | linear shrinkage (%) | description and remarks |
|---|---|---|---|---|---|---|---|
| TP514 | 3B | 0.40 | 0.40 | B | 3 | 17 | Greenish brown slightly sandy silty CLAY |
| TP514 | 6B | 1.40 | 1.40 | A | 0 | 15 | Greyish brown mottled off white slightly sandy silty CLAY |
| TP515 | 3B | 0.30 | 0.30 | B | 2 | 17 | Greenish brown slightly sandy silty CLAY |
| TP515 | 6B | 1.10 | 1.10 | B | 4 | 19 | Greenish brown slightly sandy slightly gravelly CLAY |
| TP516 | 3B | 1.00 | 1.00 | B | 2 | 14 | Greenish brown mottled orangish brown slightly sandy CLAY |
| TP516 | 5B | 2.00 | 2.00 | B | 4 | 14 | Greenish brown mottled orangish brown slightly sandy CLAY |
| TP518 | 3B | 0.40 | 0.40 | B | 5 | 13 | Yellowish brown mottled grey slightly sandy CLAY |
| TP518 | 6B | 1.50 | 1.50 | B | 8 | 12 | Multicoloured slightly sandy slightly gravelly silty CLAY |
| TP519 | 3B | 0.50 | 0.50 | B | 5 | 15 | Greenish brown slightly sandy CLAY |
| TP519 | 6B | 1.90 | 1.90 | B | 5 | 14 | Greenish grey slightly sandy silty CLAY |
| TP521 | 3B | 0.50 | 0.50 | B | 1 | 14 | Greenish brown slightly sandy silty CLAY |
| TP521 | 6B | 1.60 | 1.60 | B | 0 | 15 | Yellowish brown slightly sandy silty CLAY |
| TP523 | 10B | 2.00 | 2.00 | B | 3 | 14 | Greenish brown slightly sandy silty CLAY |
| TP523 | 12B | 2.40 | 2.40 | B | 6 | 15 | Grey mottled brown slightly sandy silty CLAY |
| TP524 | 3B | 0.50 | 0.50 | B | 7 | 16 | Orangish brown mottled greenish brown slightly sandy slightly gravelly silty CLAY |
| TP524 | 6B | 1.80 | 1.80 | A | 0 | 14 | Greenish brown mottled brown slightly sandy silty CLAY |
| TP526 | 3B | 0.60 | 0.60 | A | 0 | 16 | Multicoloured slightly sandy silty CLAY |
| TP526 | 7B | 1.50 | 1.50 | A | 0 | 16 | Greyish brown mottled orangish brown silty CLAY |
| TP526 | 9B | 2.20 | 2.20 | B | 4 | 15 | Brown slightly sandy silty CLAY |
| TP527 | 3B | 0.40 | 0.40 | B | 4 | 14 | Greenish brown mottled orangish brown slightly sandy silty CLAY |
| TP527 | 6B | 1.20 | 1.20 | A | 0 | 14 | Grey mottled white slightly sandy CLAY |
| TP527 | 8B | 2.40 | 2.40 | B | 4 | 15 | Brown slightly sandy slightly gravelly silty CLAY |
| TP532A | 3B | 0.30 | 0.30 | A | 1 | 18 | Greenish brown slightly sandy silty CLAY |

general remarks:

specimen preparation:
A - as received
B - washed on 0.425mm sieve
C - air dried
D - oven dried (50°C)
E - not known

| CONTRACT | CHECKED |
|---|---|
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# LINEAR SHRINKAGE

**BS.1377 : Part 2 : 1990 : 6.5**

CLIENT GRAVEN HILL VILLAGE DEVELOPMENT COMPANY

SITE GRAVEN HILL NEW URBAN COMMUNITY, BICESTER

| borehole /trial pit no. | sample no./type | sample depth (m) | specimen depth (m) | specimen preparation | fraction > 0.425 mm (%) | linear shrinkage (%) | description and remarks |
|---|---|---|---|---|---|---|---|
| TP532A | 8B | 2.20 | 2.20 | A | 2 | 13 | Greyish brown mottled off white slightly sandy CLAY |
| TP533 | 3B | 0.60 | 0.60 | B | 2 | 14 | Greenish brown mottled brown slightly sandy silty CLAY |
| TP538 | 5B | 1.00 | 1.00 | B | 4 | 16 | Greenish brown slightly sandy silty CLAY |
| TP538 | 7B | 2.00 | 2.00 | B | 1 | 13 | Greyish brown mottled greenish brown slightly sandy silty CLAY |
| TP539 | 6B | 1.50 | 1.50 | A | 0 | 14 | Grey mottled white silty CLAY |

general remarks:

specimen preparation:
A - as received
B - washed on 0.425mm sieve
C - air dried
D - oven dried (50°C)
E - not known

| CONTRACT | CHECKED |
|---|---|
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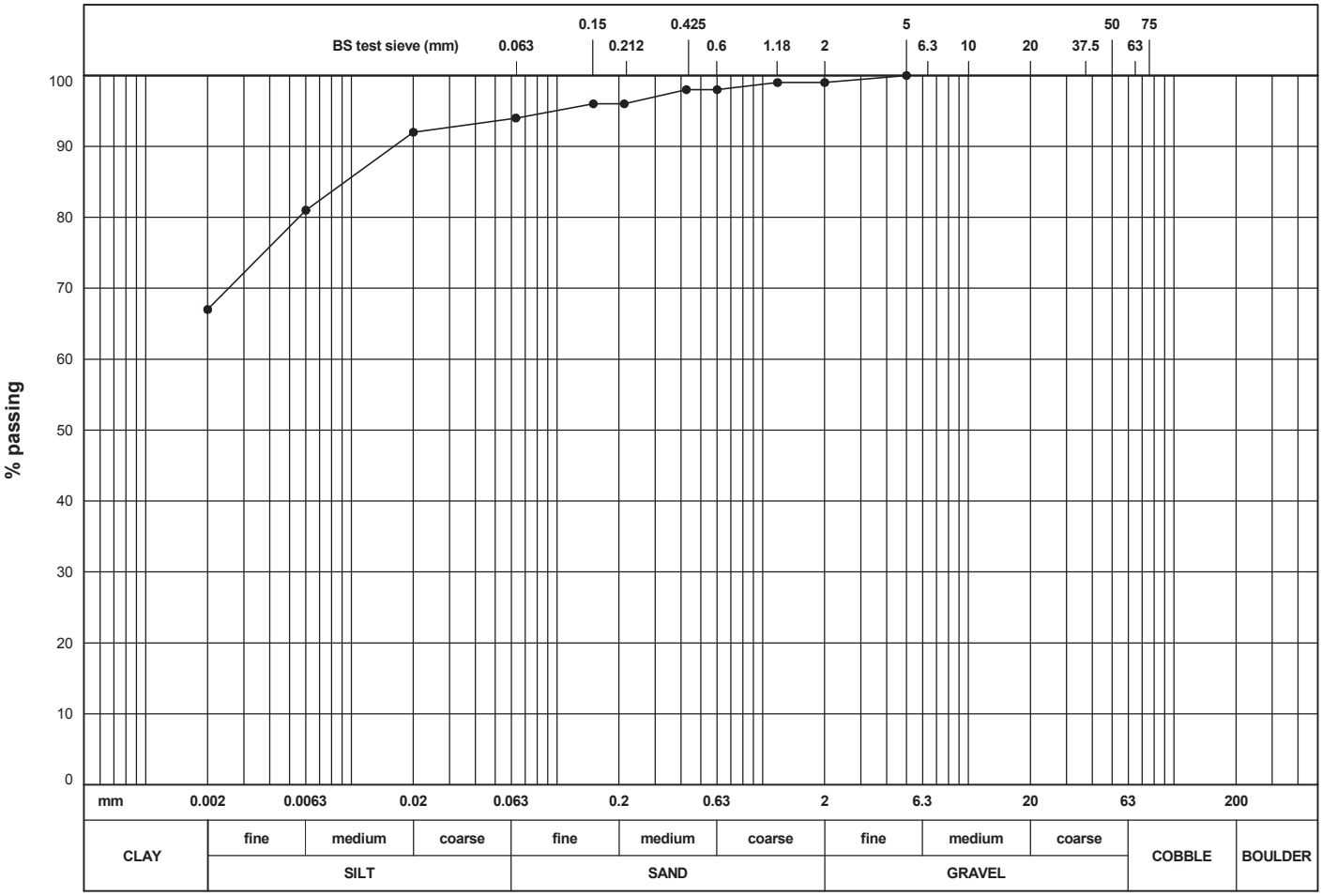
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP514 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.40 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.40 |




| soil type | % fraction |
|---|---|
| CLAY | 67 |
| SILT | 27 |
| SILT & CLAY | 94 |
| SAND | 5 |
| GRAVEL | 1 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 100 | 20 | 92 |
| 75 | | 2 | 99 | 6 | 81 |
| 63 | | 1.18 | 99 | 2 | 67 |
| 50 | | 0.6 | 98 | | |
| 37.5 | | 0.425 | 98 | | |
| 20 | | 0.212 | 96 | | |
| 10 | | 0.15 | 96 | | |
| 6.3 | | 0.063 | 94 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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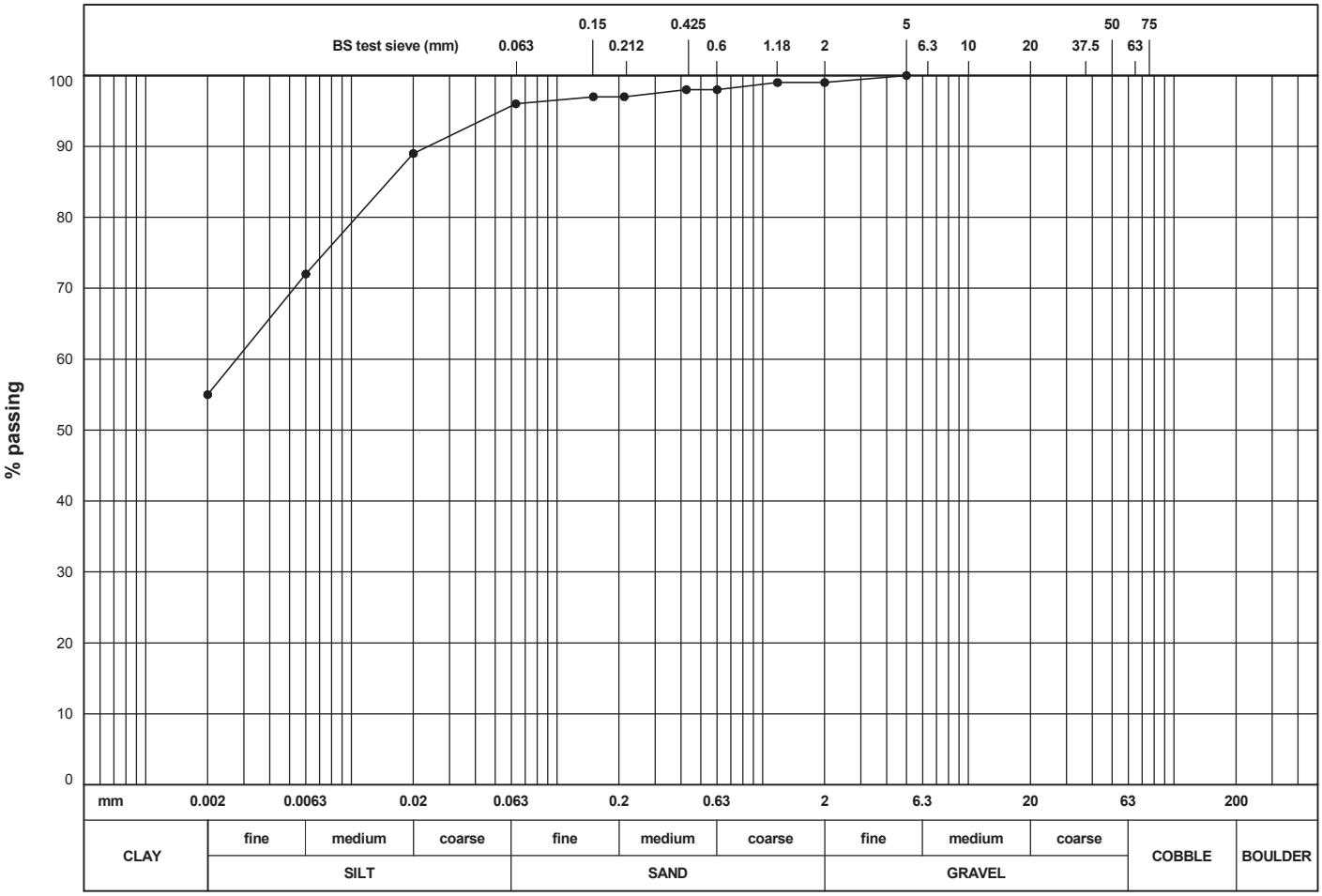
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP514 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.40 |
| DESCRIPTION | Greyish brown mottled off white slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.40 |




| soil type | % fraction |
|---|---|
| CLAY | 55 |
| SILT | 41 |
| SILT & CLAY | 96 |
| SAND | 3 |
| GRAVEL | 1 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 100 | 20 | 89 |
| 75 | | 2 | 99 | 6 | 72 |
| 63 | | 1.18 | 99 | 2 | 55 |
| 50 | | 0.6 | 98 | | |
| 37.5 | | 0.425 | 98 | | |
| 20 | | 0.212 | 97 | | |
| 10 | | 0.15 | 97 | | |
| 6.3 | | 0.063 | 96 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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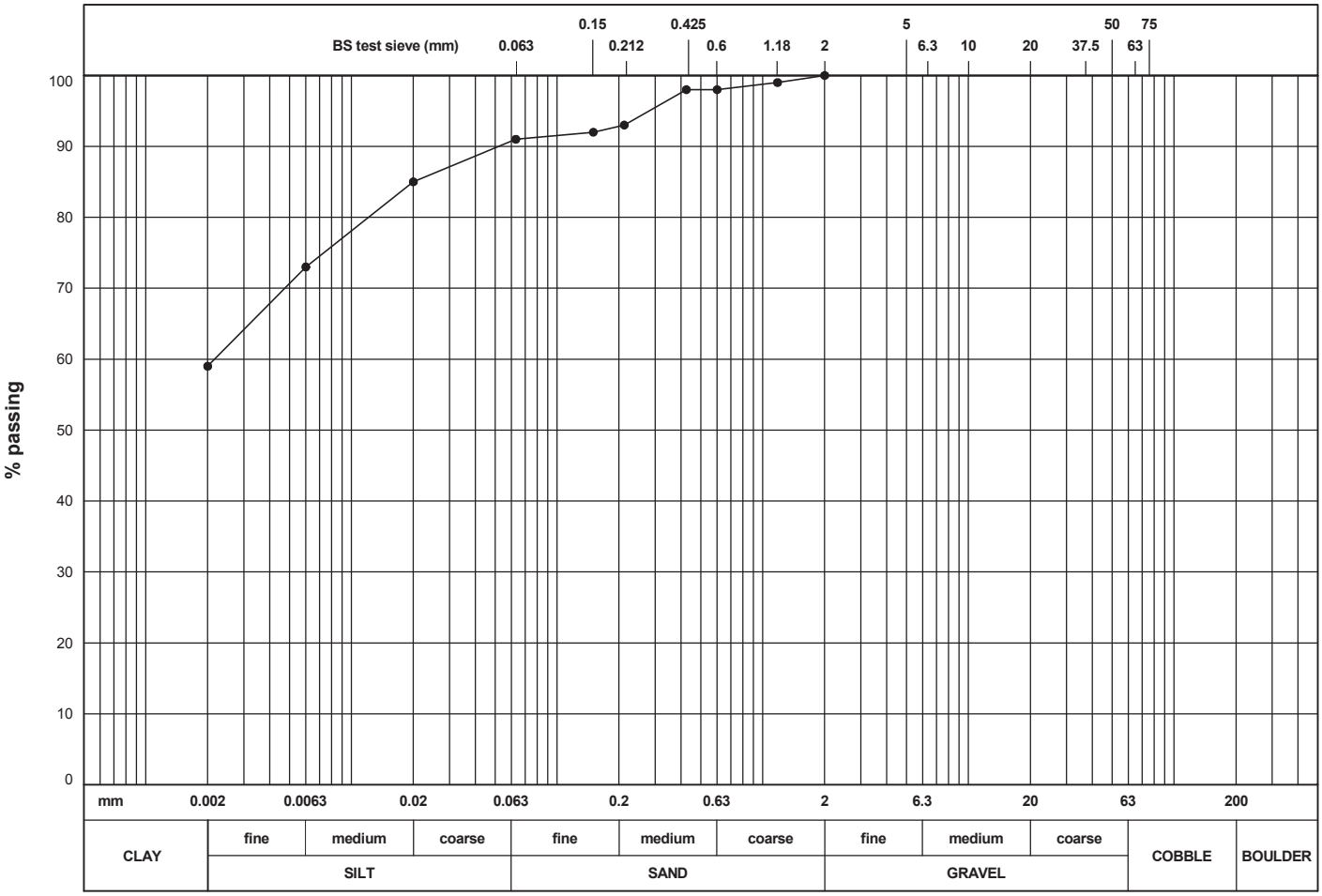
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP515 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.30 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.30 |




| soil type | % fraction |
|---|---|
| CLAY | 59 |
| SILT | 32 |
| SILT & CLAY | 91 |
| SAND | 9 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 85 |
| 75 | | 2 | 100 | 6 | 73 |
| 63 | | 1.18 | 99 | 2 | 59 |
| 50 | | 0.6 | 98 | | |
| 37.5 | | 0.425 | 98 | | |
| 20 | | 0.212 | 93 | | |
| 10 | | 0.15 | 92 | | |
| 6.3 | | 0.063 | 91 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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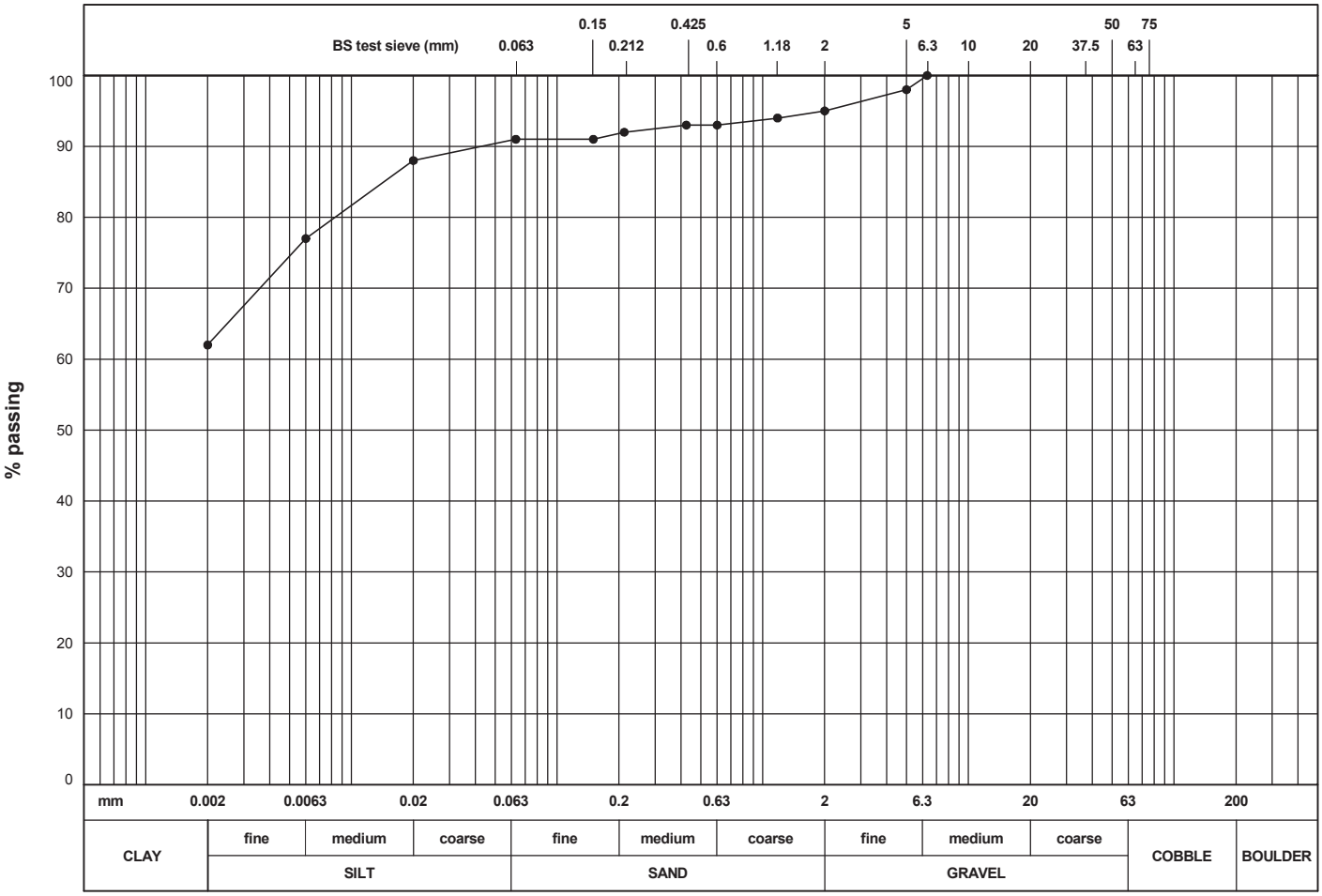
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP515 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.10 |
| DESCRIPTION | Greenish brown slightly sandy slightly gravelly CLAY | SPECIMEN DEPTH (m) | 1.10 |




| soil type | % fraction |
|---|---|
| CLAY | 62 |
| SILT | 29 |
| SILT & CLAY | 91 |
| SAND | 4 |
| GRAVEL | 5 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 98 | 20 | 88 |
| 75 | | 2 | 95 | 6 | 77 |
| 63 | | 1.18 | 94 | 2 | 62 |
| 50 | | 0.6 | 93 | | |
| 37.5 | | 0.425 | 93 | | |
| 20 | | 0.212 | 92 | | |
| 10 | | 0.15 | 91 | | |
| 6.3 | 100 | 0.063 | 91 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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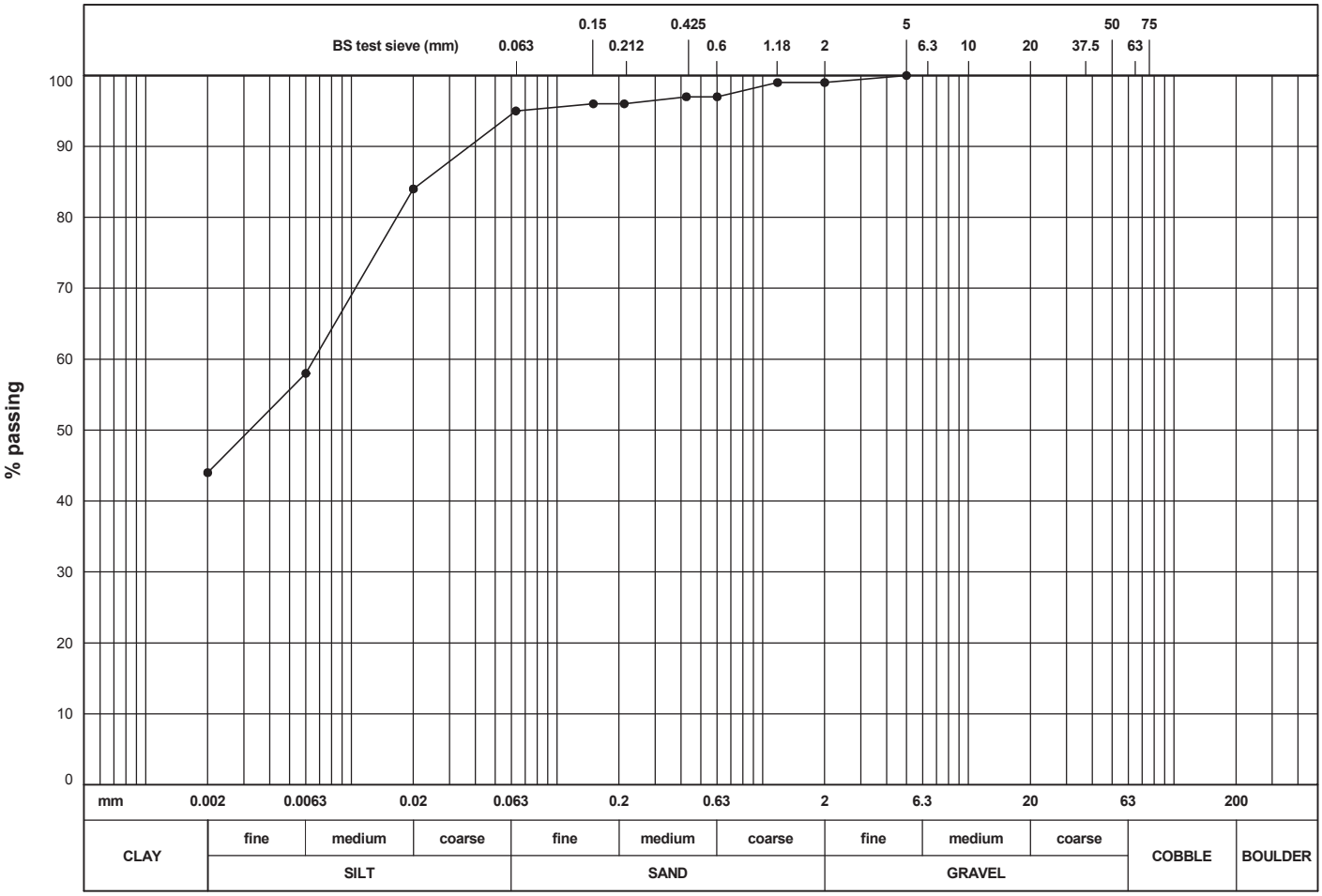
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP516 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Greenish brown mottled orangish brown slightly sandy CLAY | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 44 |
| SILT | 51 |
| SILT & CLAY | 95 |
| SAND | 4 |
| GRAVEL | 1 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 100 | 20 | 84 |
| 75 | | 2 | 99 | 6 | 58 |
| 63 | | 1.18 | 99 | 2 | 44 |
| 50 | | 0.6 | 97 | | |
| 37.5 | | 0.425 | 97 | | |
| 20 | | 0.212 | 96 | | |
| 10 | | 0.15 | 96 | | |
| 6.3 | | 0.063 | 95 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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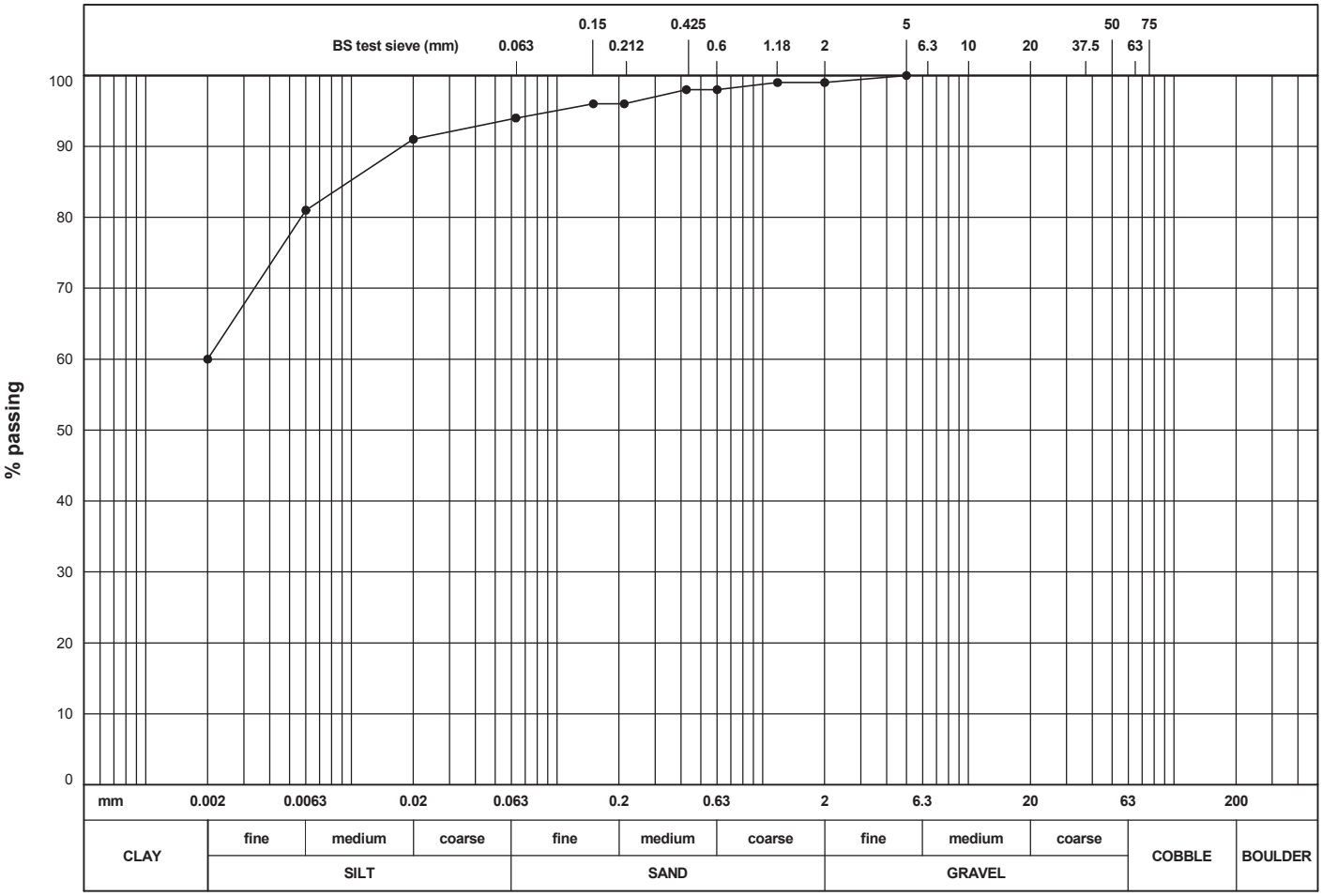
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP516 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 5B |
| | | SAMPLE DEPTH (m) | 2.00 |
| DESCRIPTION | Greenish brown mottled orangish brown slightly sandy CLAY | SPECIMEN DEPTH (m) | 2.00 |




| soil type | % fraction |
|---|---|
| CLAY | 60 |
| SILT | 34 |
| SILT & CLAY | 94 |
| SAND | 5 |
| GRAVEL | 1 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 100 | 20 | 91 |
| 75 | | 2 | 99 | 6 | 81 |
| 63 | | 1.18 | 99 | 2 | 60 |
| 50 | | 0.6 | 98 | | |
| 37.5 | | 0.425 | 98 | | |
| 20 | | 0.212 | 96 | | |
| 10 | | 0.15 | 96 | | |
| 6.3 | | 0.063 | 94 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
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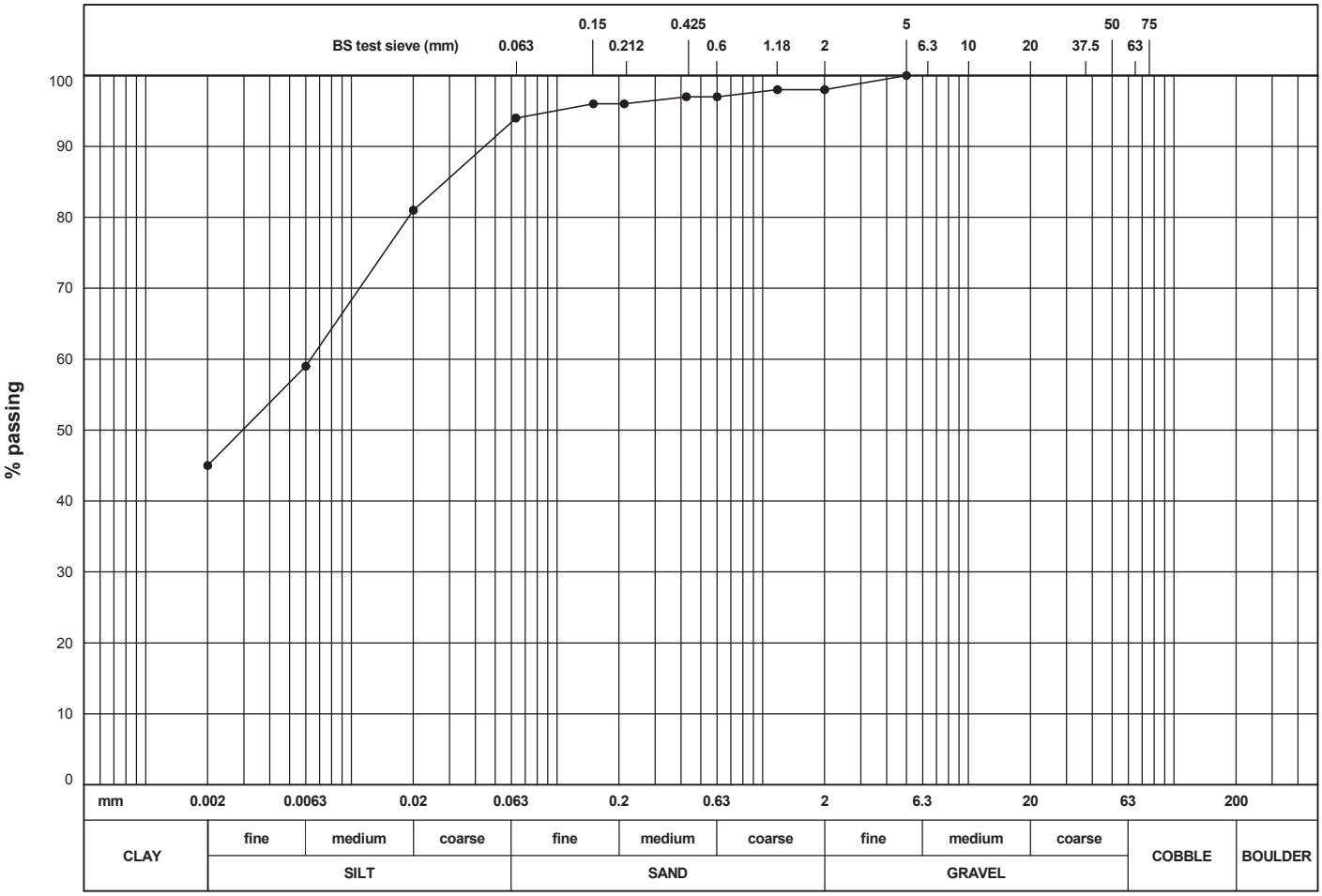
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP518 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.40 |
| DESCRIPTION | Yellowish brown mottled grey slightly sandy CLAY | SPECIMEN DEPTH (m) | 0.40 |




| soil type | % fraction |
|---|---|
| CLAY | 45 |
| SILT | 49 |
| SILT & CLAY | 94 |
| SAND | 4 |
| GRAVEL | 2 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 100 | 20 | 81 |
| 75 | | 2 | 98 | 6 | 59 |
| 63 | | 1.18 | 98 | 2 | 45 |
| 50 | | 0.6 | 97 | | |
| 37.5 | | 0.425 | 97 | | |
| 20 | | 0.212 | 96 | | |
| 10 | | 0.15 | 96 | | |
| 6.3 | | 0.063 | 94 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
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# PARTICLE SIZE DISTRIBUTION

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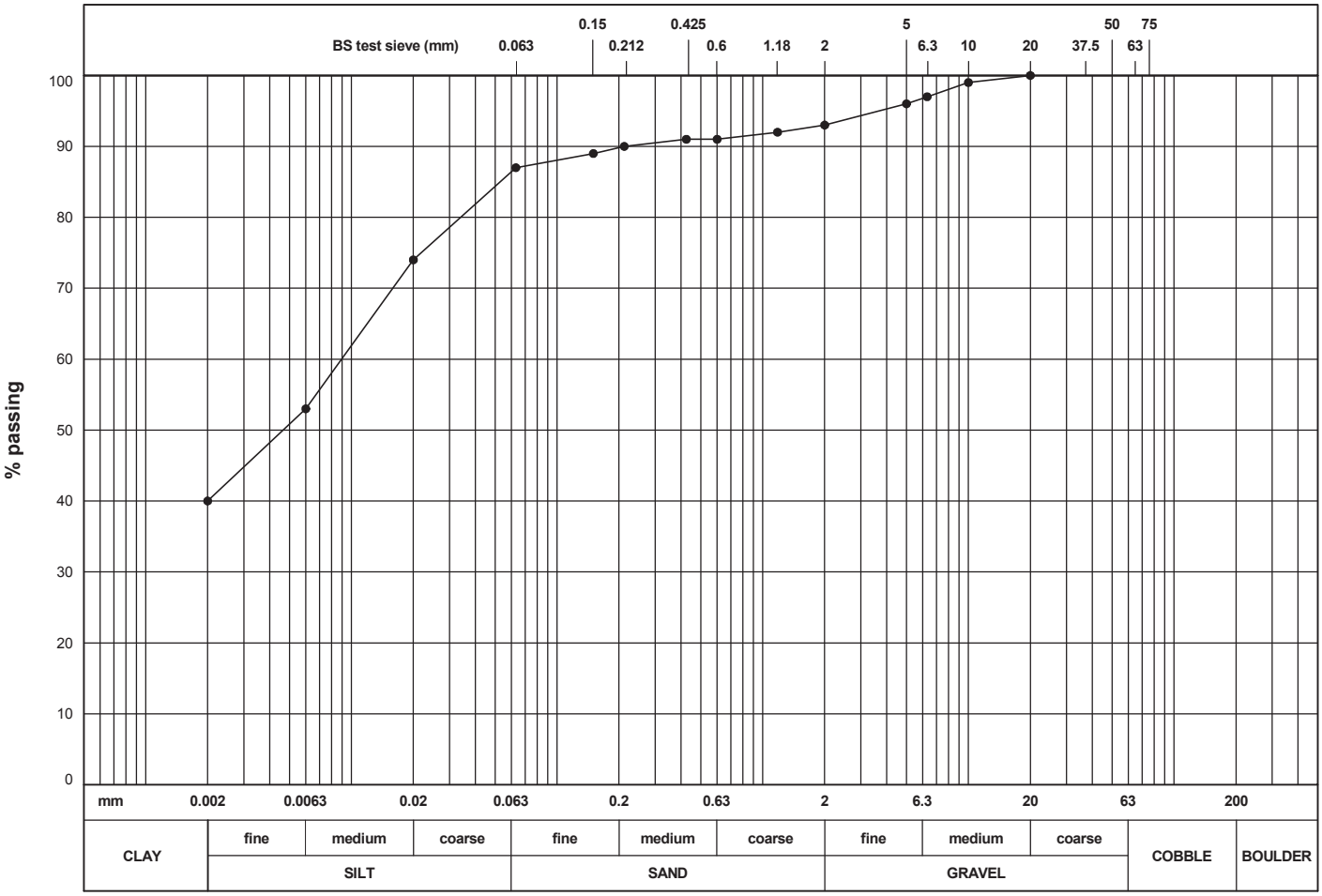
| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP518 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.50 |
| DESCRIPTION | Multicoloured slightly sandy slightly gravelly silty CLAY | SPECIMEN DEPTH (m) | 1.50 |




| soil type | % fraction |
|---|---|
| CLAY | 40 |
| SILT | 47 |
| SILT & CLAY | 87 |
| SAND | 6 |
| GRAVEL | 7 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 96 | 20 | 74 |
| 75 | | 2 | 93 | 6 | 53 |
| 63 | | 1.18 | 92 | 2 | 40 |
| 50 | | 0.6 | 91 | | |
| 37.5 | | 0.425 | 91 | | |
| 20 | 100 | 0.212 | 90 | | |
| 10 | 99 | 0.15 | 89 | | |
| 6.3 | 97 | 0.063 | 87 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

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# PARTICLE SIZE DISTRIBUTION

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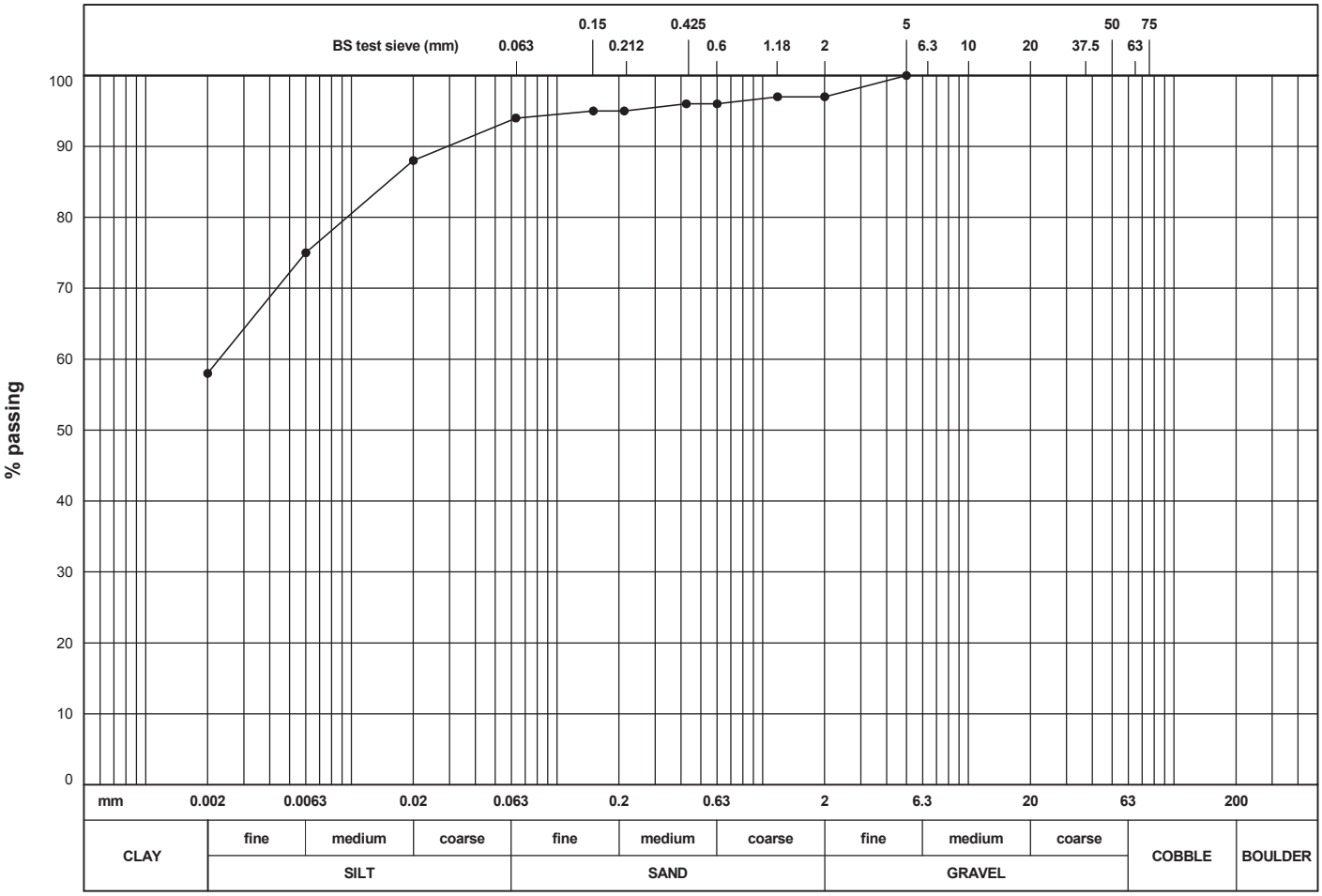
| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP519 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Greenish brown slightly sandy CLAY | SPECIMEN DEPTH (m) | 0.50 |




| soil type | % fraction |
|---|---|
| CLAY | 58 |
| SILT | 36 |
| SILT & CLAY | 94 |
| SAND | 3 |
| GRAVEL | 3 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 100 | 20 | 88 |
| 75 | | 2 | 97 | 6 | 75 |
| 63 | | 1.18 | 97 | 2 | 58 |
| 50 | | 0.6 | 96 | | |
| 37.5 | | 0.425 | 96 | | |
| 20 | | 0.212 | 95 | | |
| 10 | | 0.15 | 95 | | |
| 6.3 | | 0.063 | 94 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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# PARTICLE SIZE DISTRIBUTION

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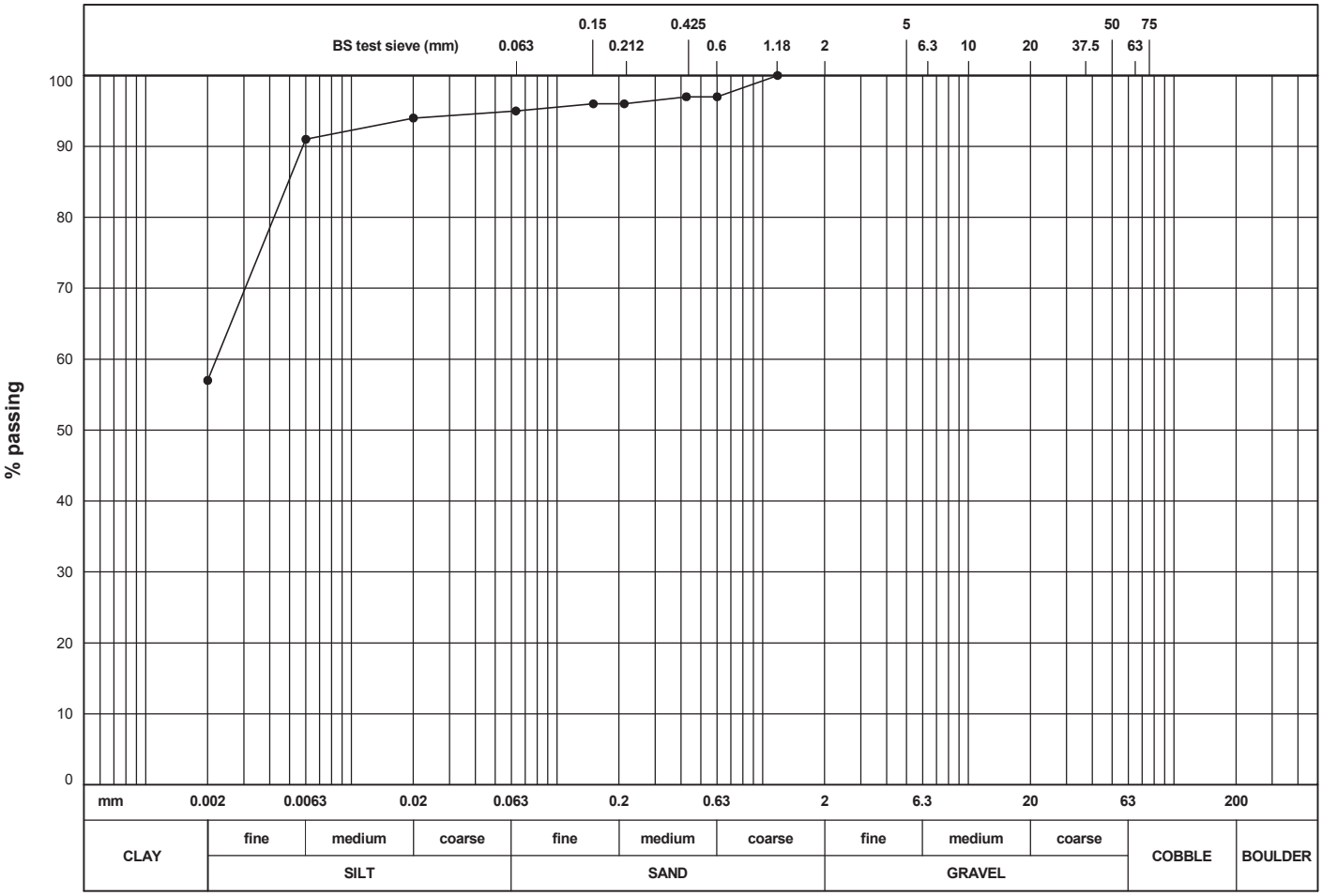
| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP519 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.90 |
| DESCRIPTION | Greenish grey slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.90 |




| soil type | % fraction |
|---|---|
| CLAY | 57 |
| SILT | 38 |
| SILT & CLAY | 95 |
| SAND | 5 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 94 |
| 75 | | 2 | | 6 | 91 |
| 63 | | 1.18 | 100 | 2 | 57 |
| 50 | | 0.6 | 97 | | |
| 37.5 | | 0.425 | 97 | | |
| 20 | | 0.212 | 96 | | |
| 10 | | 0.15 | 96 | | |
| 6.3 | | 0.063 | 95 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
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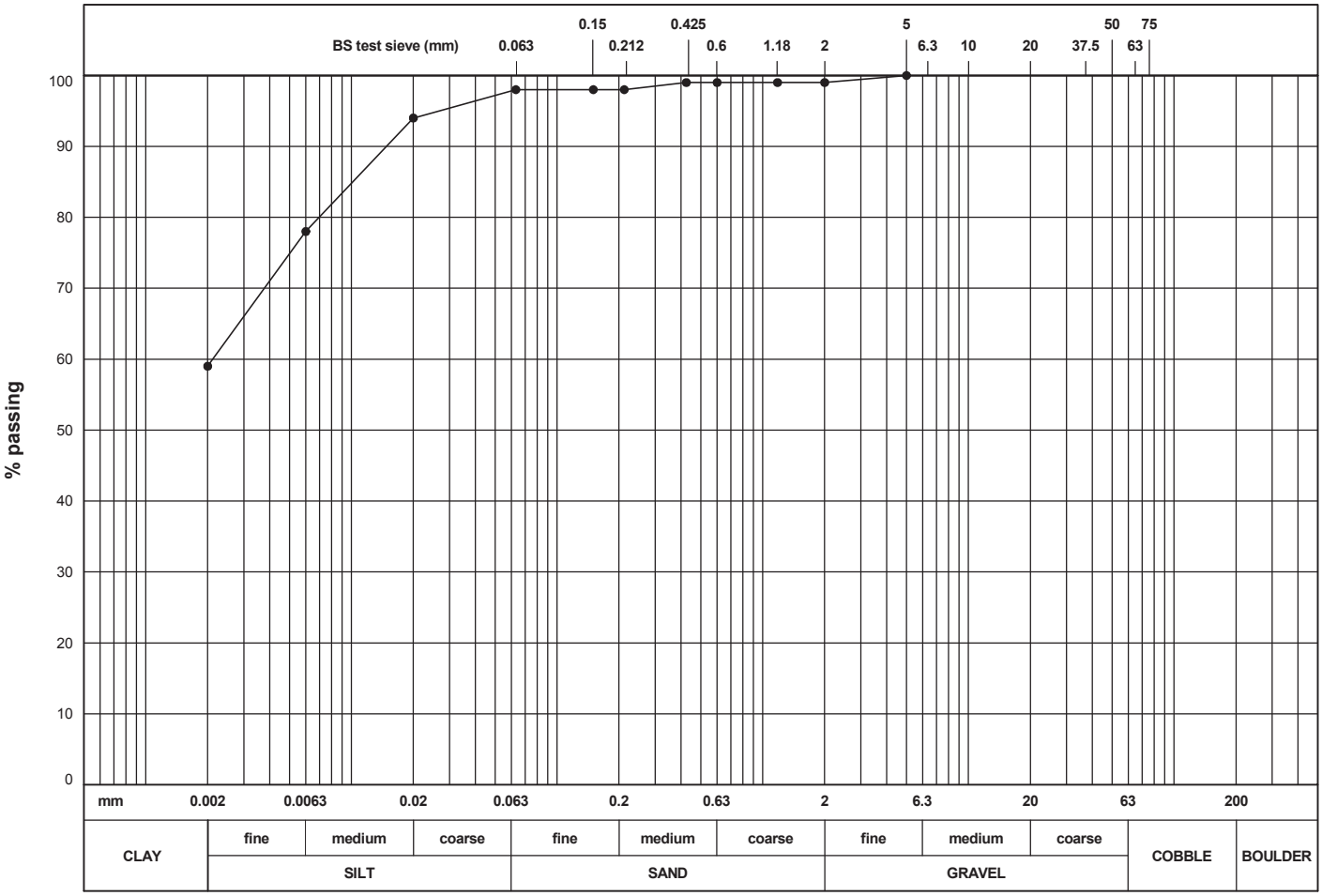
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP521 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.50 |




| soil type | % fraction |
|---|---|
| CLAY | 59 |
| SILT | 39 |
| SILT & CLAY | 98 |
| SAND | 1 |
| GRAVEL | 1 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 100 | 20 | 94 |
| 75 | | 2 | 99 | 6 | 78 |
| 63 | | 1.18 | 99 | 2 | 59 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 99 | | |
| 20 | | 0.212 | 98 | | |
| 10 | | 0.15 | 98 | | |
| 6.3 | | 0.063 | 98 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
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# PARTICLE SIZE DISTRIBUTION

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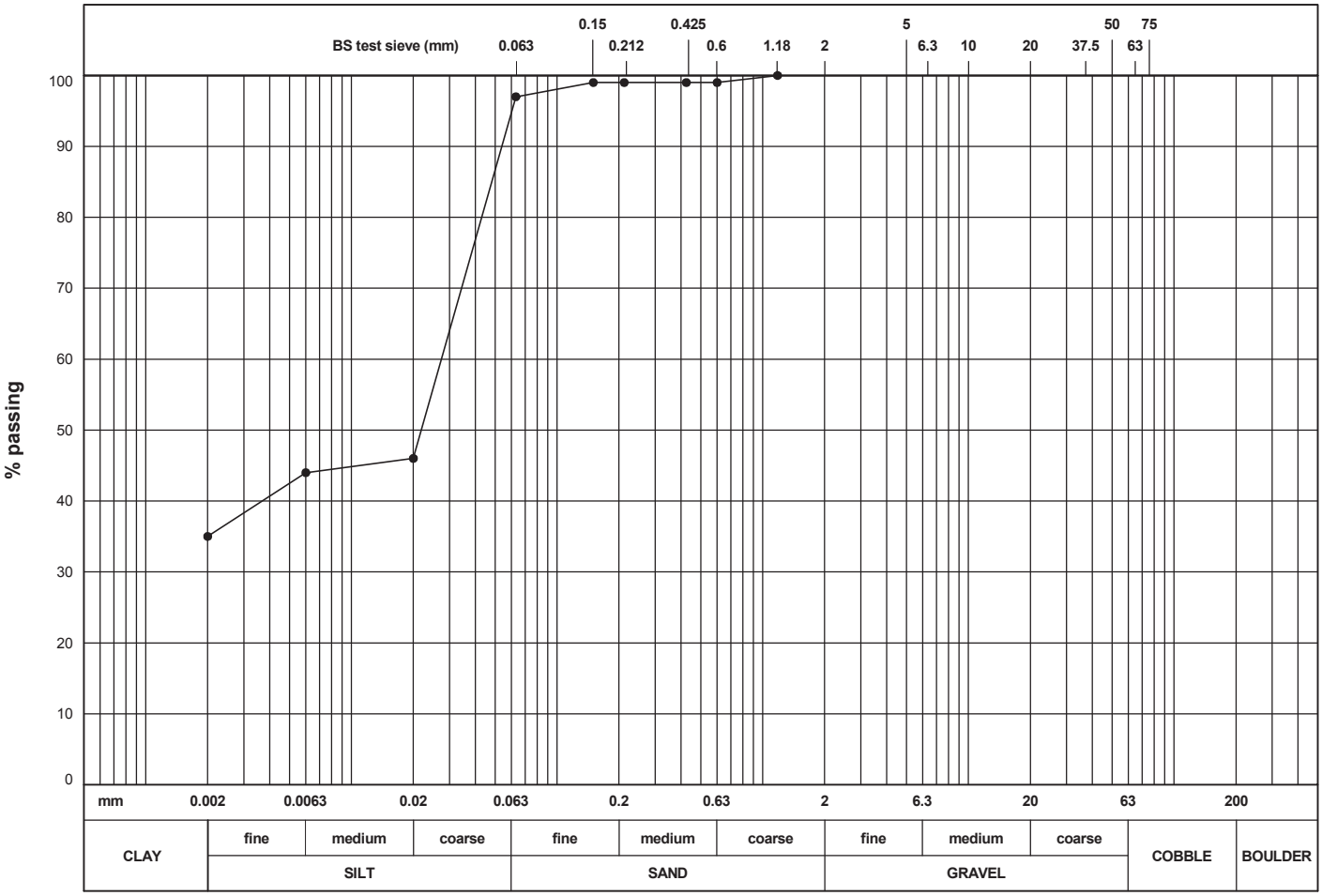
| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP521 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.60 |
| DESCRIPTION | Yellowish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.60 |




| soil type | % fraction |
|---|---|
| CLAY | 35 |
| SILT | 62 |
| SILT & CLAY | 97 |
| SAND | 3 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 46 |
| 75 | | 2 | | 6 | 44 |
| 63 | | 1.18 | 100 | 2 | 35 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 99 | | |
| 20 | | 0.212 | 99 | | |
| 10 | | 0.15 | 99 | | |
| 6.3 | | 0.063 | 97 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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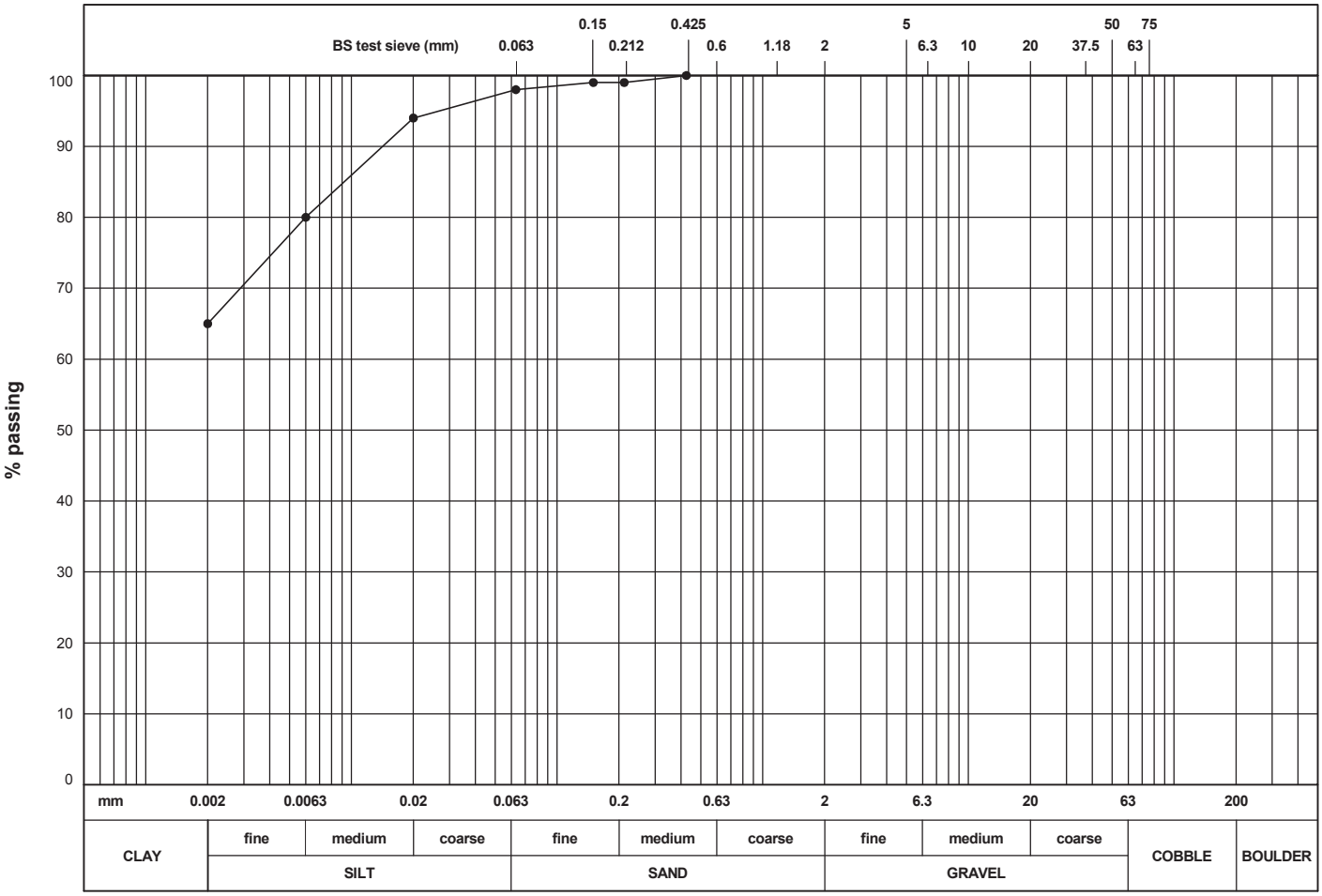
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP523 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 10B |
| | | SAMPLE DEPTH (m) | 2.00 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 2.00 |




| soil type | % fraction |
|---|---|
| CLAY | 65 |
| SILT | 33 |
| SILT & CLAY | 98 |
| SAND | 2 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 94 |
| 75 | | 2 | | 6 | 80 |
| 63 | | 1.18 | | 2 | 65 |
| 50 | | 0.6 | | | |
| 37.5 | | 0.425 | 100 | | |
| 20 | | 0.212 | 99 | | |
| 10 | | 0.15 | 99 | | |
| 6.3 | | 0.063 | 98 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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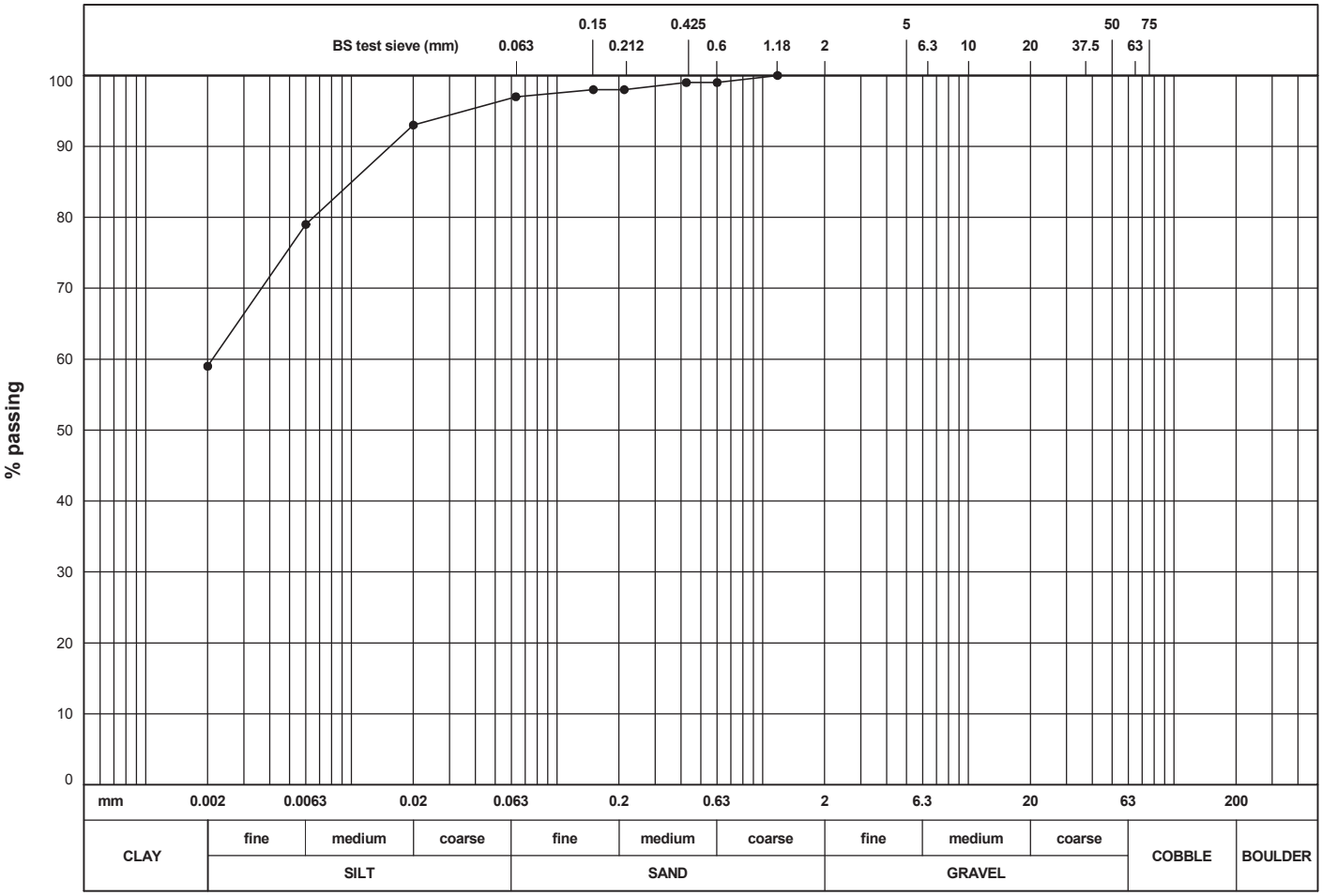
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP523 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 12B |
| | | SAMPLE DEPTH (m) | 2.40 |
| DESCRIPTION | Grey mottled brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 2.40 |




| soil type | % fraction |
|---|---|
| CLAY | 59 |
| SILT | 38 |
| SILT & CLAY | 97 |
| SAND | 3 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 93 |
| 75 | | 2 | | 6 | 79 |
| 63 | | 1.18 | 100 | 2 | 59 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 99 | | |
| 20 | | 0.212 | 98 | | |
| 10 | | 0.15 | 98 | | |
| 6.3 | | 0.063 | 97 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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# PARTICLE SIZE DISTRIBUTION

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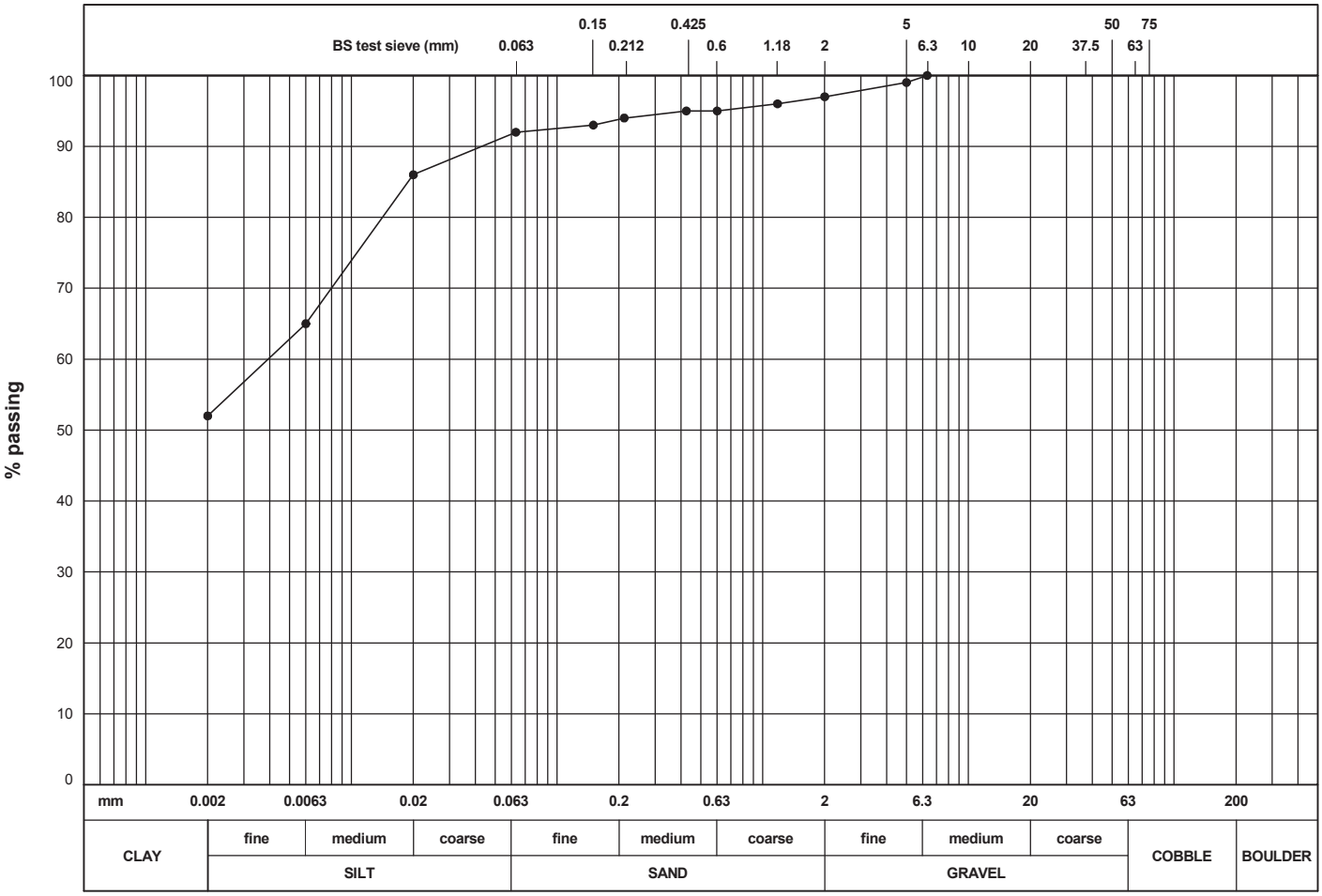
| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP524 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Orangish brown mottled greenish brown slightly sandy slightly gravelly silty CLAY | SPECIMEN DEPTH (m) | 0.50 |




| soil type | % fraction |
|---|---|
| CLAY | 52 |
| SILT | 40 |
| SILT & CLAY | 92 |
| SAND | 5 |
| GRAVEL | 3 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 99 | 20 | 86 |
| 75 | | 2 | 97 | 6 | 65 |
| 63 | | 1.18 | 96 | 2 | 52 |
| 50 | | 0.6 | 95 | | |
| 37.5 | | 0.425 | 95 | | |
| 20 | | 0.212 | 94 | | |
| 10 | | 0.15 | 93 | | |
| 6.3 | 100 | 0.063 | 92 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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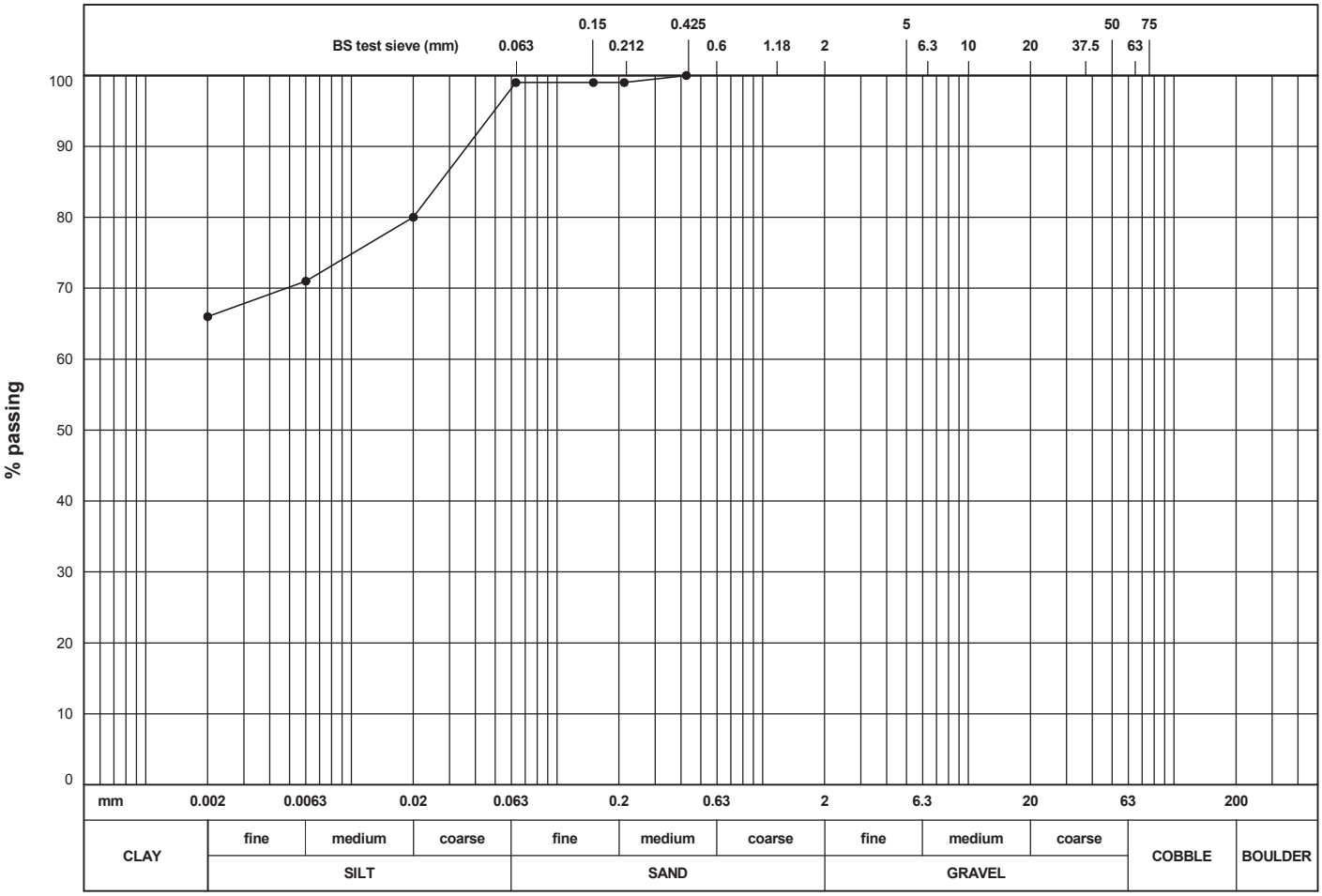
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP524 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.80 |
| DESCRIPTION | Greenish brown mottled brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.80 |




| soil type | % fraction |
|---|---|
| CLAY | 66 |
| SILT | 33 |
| SILT & CLAY | 99 |
| SAND | 1 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 80 |
| 75 | | 2 | | 6 | 71 |
| 63 | | 1.18 | | 2 | 66 |
| 50 | | 0.6 | | | |
| 37.5 | | 0.425 | 100 | | |
| 20 | | 0.212 | 99 | | |
| 10 | | 0.15 | 99 | | |
| 6.3 | | 0.063 | 99 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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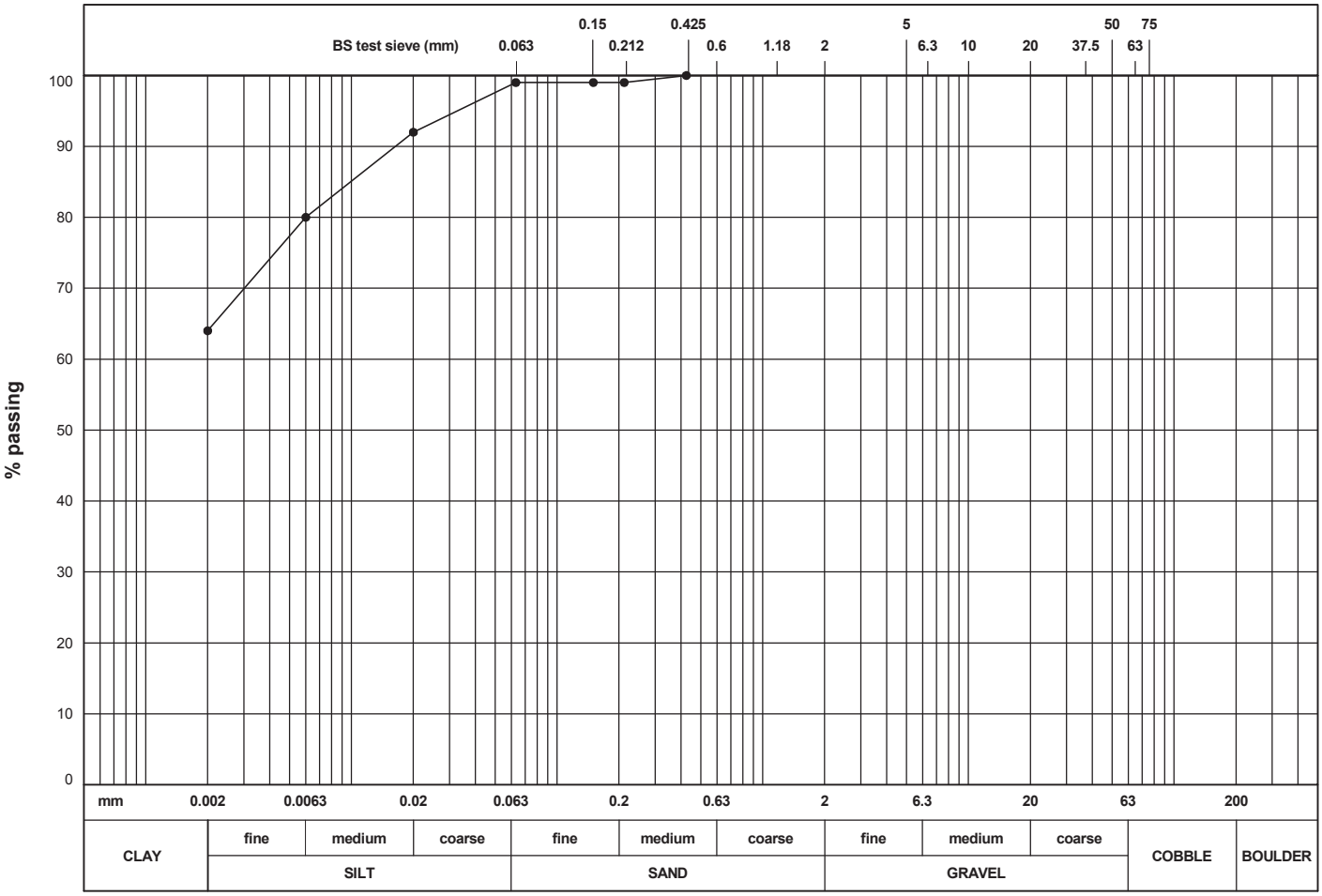
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP526 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.60 |
| DESCRIPTION | Multicoloured slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.60 |




| soil type | % fraction |
|---|---|
| CLAY | 64 |
| SILT | 35 |
| SILT & CLAY | 99 |
| SAND | 1 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 92 |
| 75 | | 2 | | 6 | 80 |
| 63 | | 1.18 | | 2 | 64 |
| 50 | | 0.6 | | | |
| 37.5 | | 0.425 | 100 | | |
| 20 | | 0.212 | 99 | | |
| 10 | | 0.15 | 99 | | |
| 6.3 | | 0.063 | 99 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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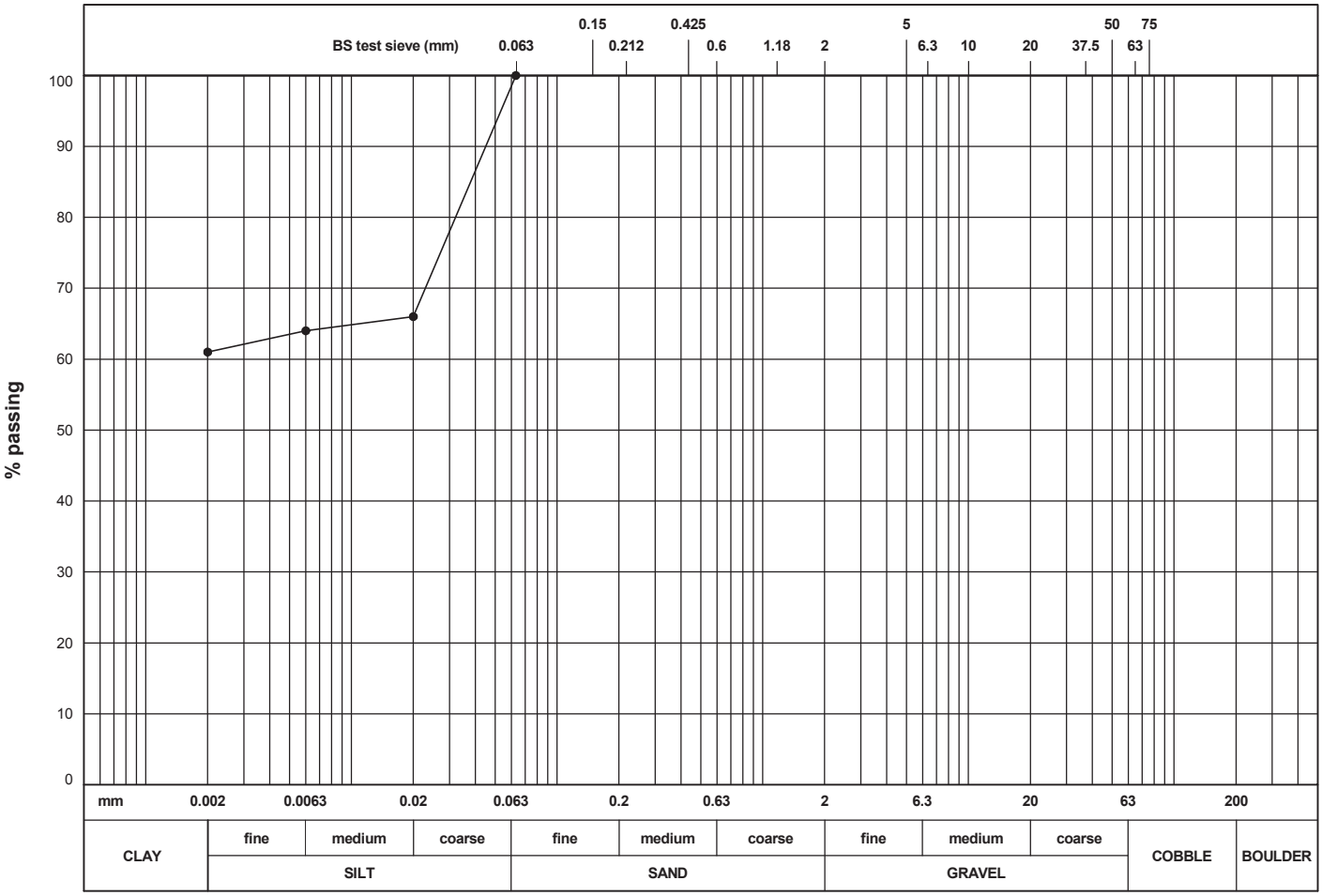
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP526 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 7B |
| | | SAMPLE DEPTH (m) | 1.50 |
| DESCRIPTION | Greyish brown mottled orangish brown silty CLAY | SPECIMEN DEPTH (m) | 1.50 |




| soil type | % fraction |
|---|---|
| CLAY | 61 |
| SILT | 39 |
| SILT & CLAY | 100 |
| SAND | 0 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 66 |
| 75 | | 2 | | 6 | 64 |
| 63 | | 1.18 | | 2 | 61 |
| 50 | | 0.6 | | | |
| 37.5 | | 0.425 | | | |
| 20 | | 0.212 | | | |
| 10 | | 0.15 | | | |
| 6.3 | | 0.063 | 100 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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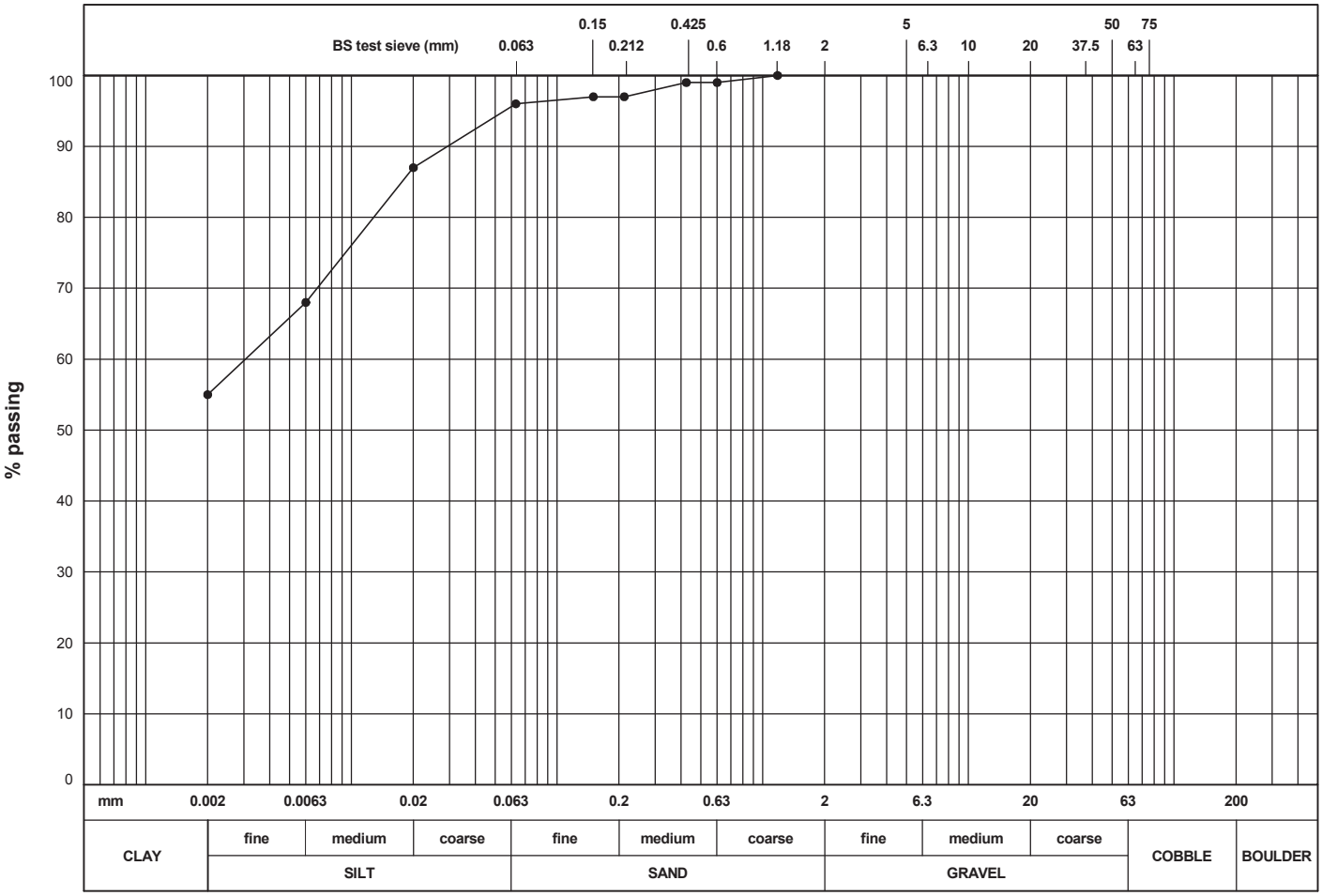
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP526 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 9B |
| | | SAMPLE DEPTH (m) | 2.20 |
| DESCRIPTION | Brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 2.20 |




| soil type | % fraction |
|---|---|
| CLAY | 55 |
| SILT | 41 |
| SILT & CLAY | 96 |
| SAND | 4 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 87 |
| 75 | | 2 | | 6 | 68 |
| 63 | | 1.18 | 100 | 2 | 55 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 99 | | |
| 20 | | 0.212 | 97 | | |
| 10 | | 0.15 | 97 | | |
| 6.3 | | 0.063 | 96 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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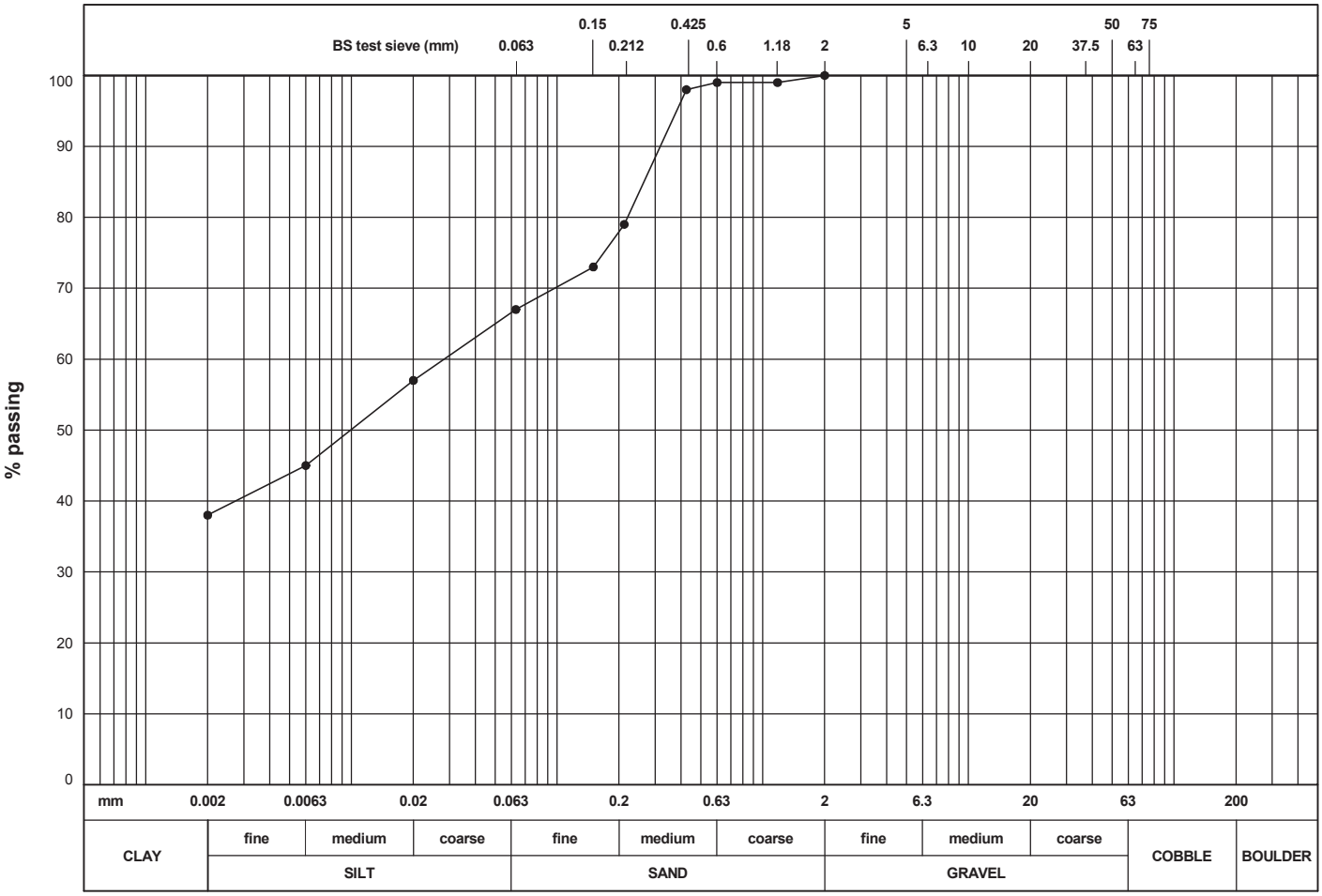
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP527 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.40 |
| DESCRIPTION | Greenish brown mottled orangish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.40 |




| soil type | % fraction |
|---|---|
| CLAY | 38 |
| SILT | 29 |
| SILT & CLAY | 67 |
| SAND | 33 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 57 |
| 75 | | 2 | 100 | 6 | 45 |
| 63 | | 1.18 | 99 | 2 | 38 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 98 | | |
| 20 | | 0.212 | 79 | | |
| 10 | | 0.15 | 73 | | |
| 6.3 | | 0.063 | 67 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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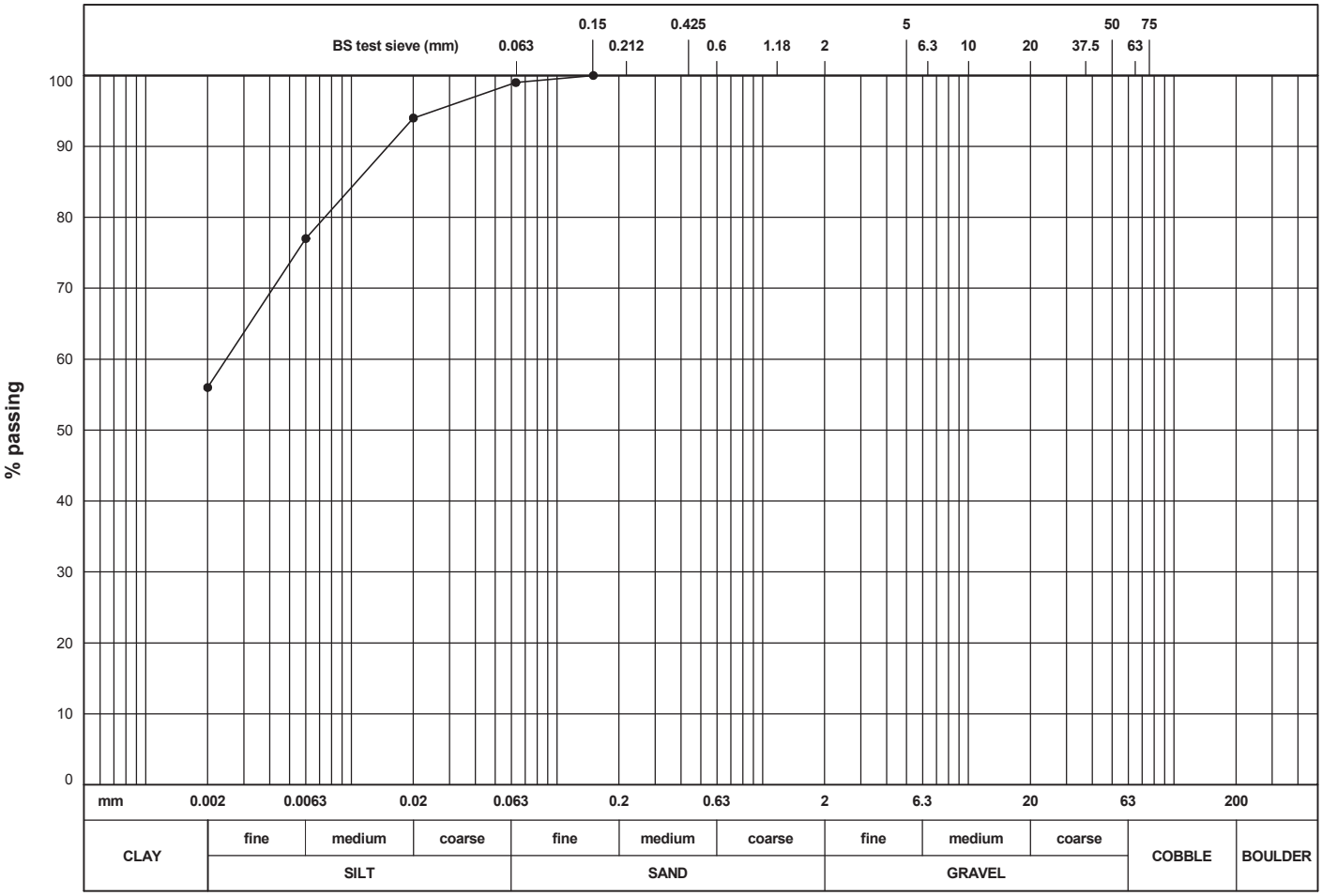
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP527 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.20 |
| DESCRIPTION | Grey mottled white slightly sandy CLAY | SPECIMEN DEPTH (m) | 1.20 |




| soil type | % fraction |
|---|---|
| CLAY | 56 |
| SILT | 43 |
| SILT & CLAY | 99 |
| SAND | 1 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 94 |
| 75 | | 2 | | 6 | 77 |
| 63 | | 1.18 | | 2 | 56 |
| 50 | | 0.6 | | | |
| 37.5 | | 0.425 | | | |
| 20 | | 0.212 | | | |
| 10 | | 0.15 | 100 | | |
| 6.3 | | 0.063 | 99 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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# PARTICLE SIZE DISTRIBUTION

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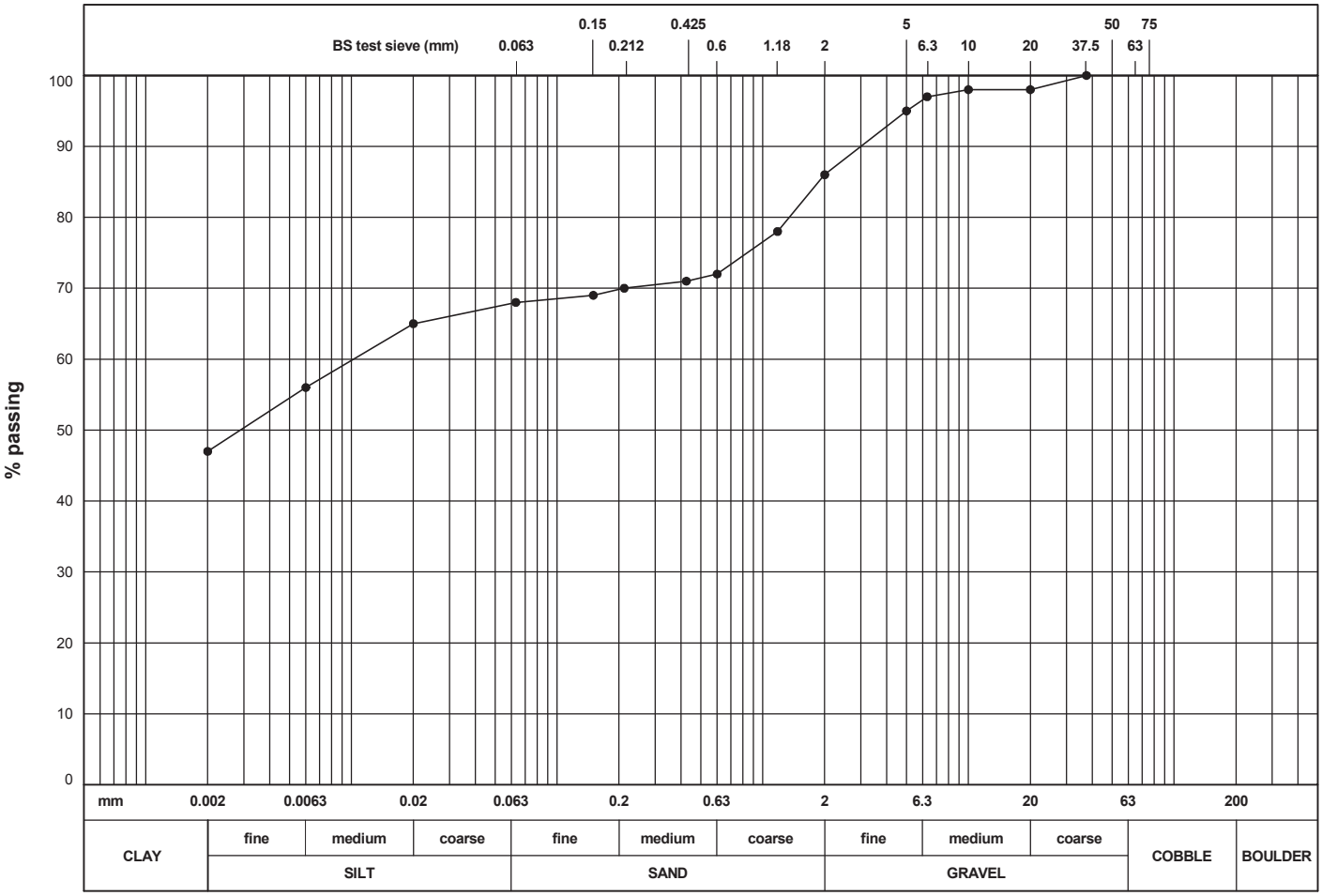
| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP527 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 8B |
| | | SAMPLE DEPTH (m) | 2.40 |
| DESCRIPTION | Brown slightly sandy slightly gravelly silty CLAY | SPECIMEN DEPTH (m) | 2.40 |




| soil type | % fraction |
|---|---|
| CLAY | 47 |
| SILT | 21 |
| SILT & CLAY | 68 |
| SAND | 18 |
| GRAVEL | 14 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | 95 | 20 | 65 |
| 75 | | 2 | 86 | 6 | 56 |
| 63 | | 1.18 | 78 | 2 | 47 |
| 50 | | 0.6 | 72 | | |
| 37.5 | 100 | 0.425 | 71 | | |
| 20 | 98 | 0.212 | 70 | | |
| 10 | 98 | 0.15 | 69 | | |
| 6.3 | 97 | 0.063 | 68 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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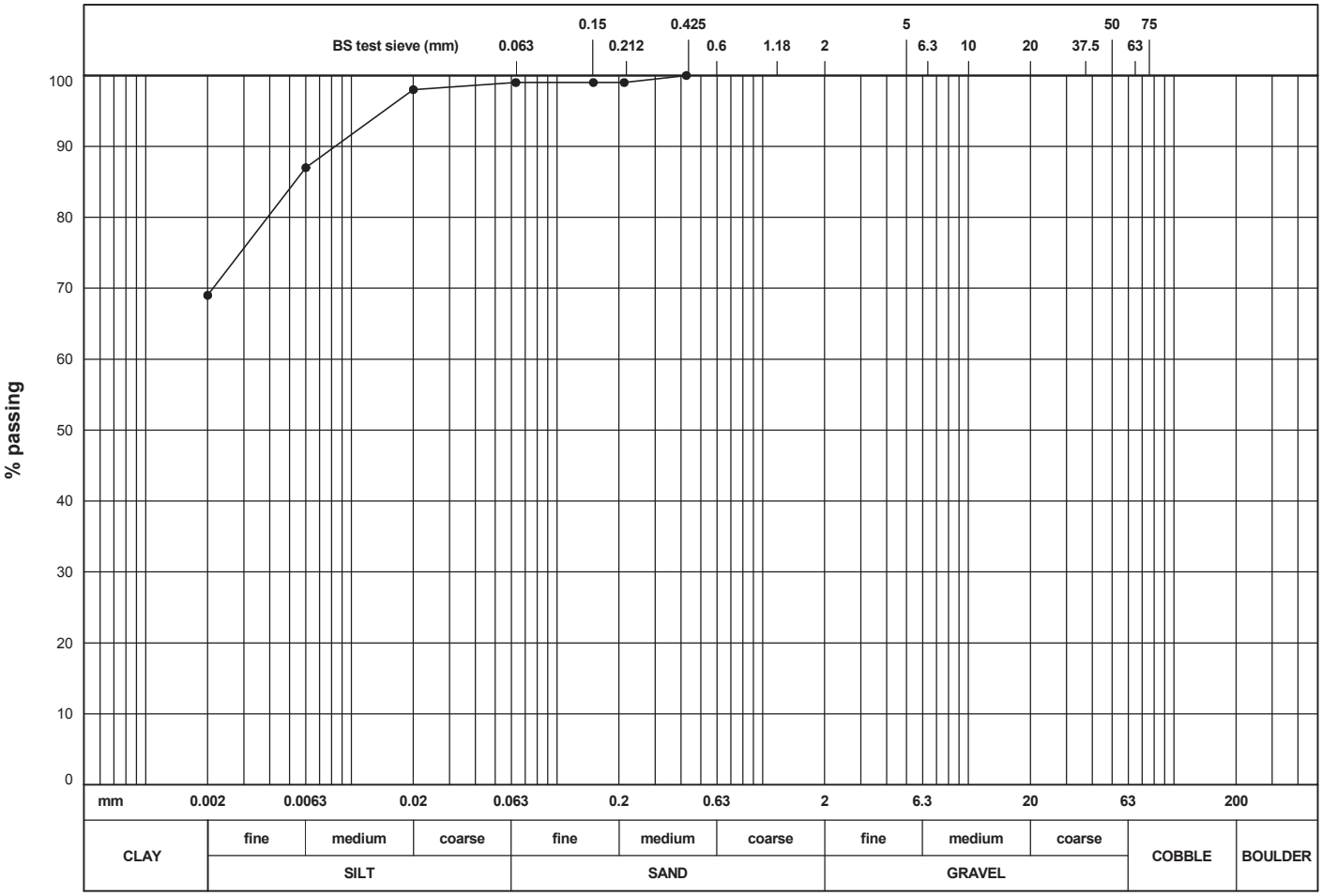
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP532A |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.30 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.30 |




| soil type | % fraction |
|---|---|
| CLAY | 69 |
| SILT | 30 |
| SILT & CLAY | 99 |
| SAND | 1 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 98 |
| 75 | | 2 | | 6 | 87 |
| 63 | | 1.18 | | 2 | 69 |
| 50 | | 0.6 | | | |
| 37.5 | | 0.425 | 100 | | |
| 20 | | 0.212 | 99 | | |
| 10 | | 0.15 | 99 | | |
| 6.3 | | 0.063 | 99 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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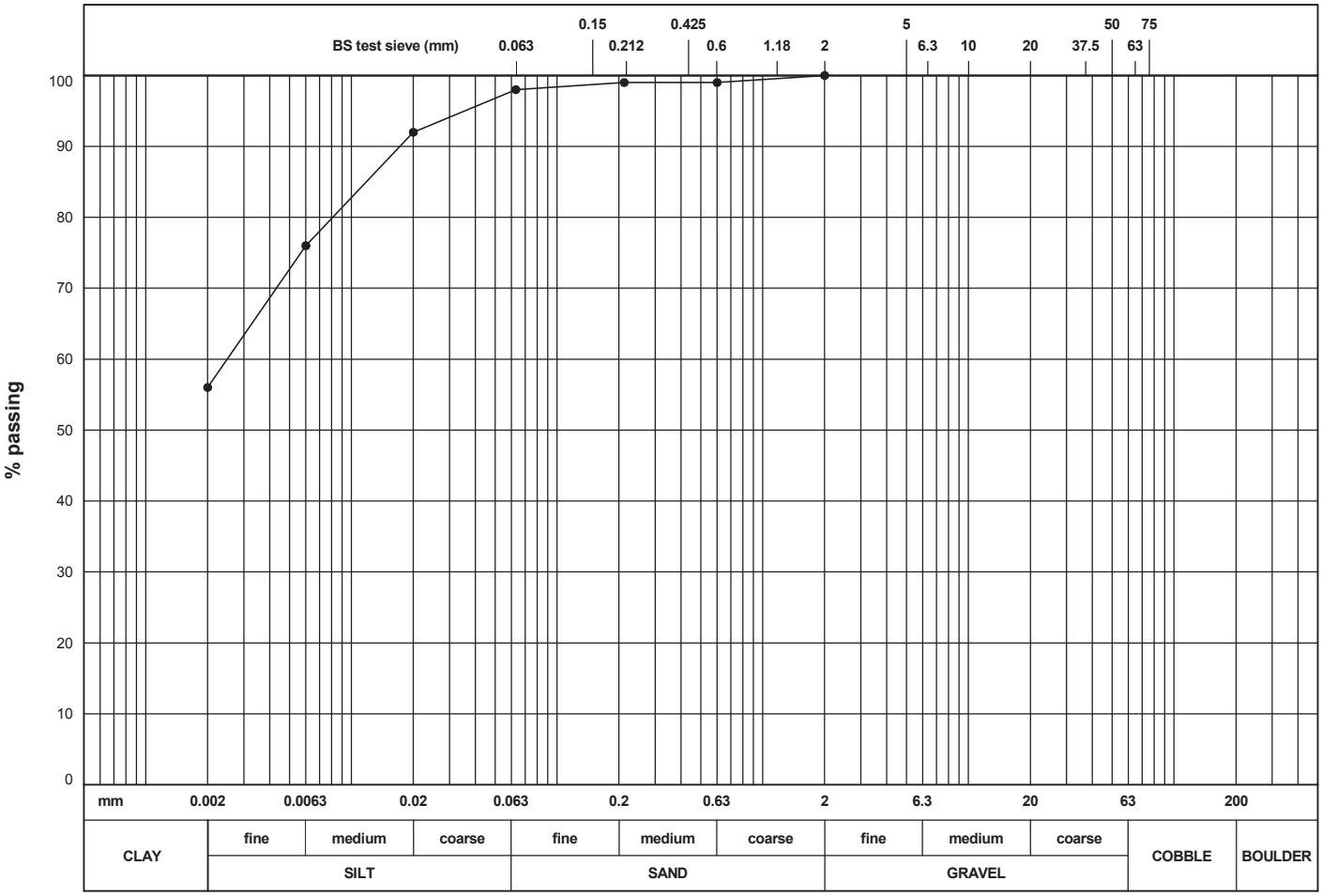
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP532A |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 8B |
| | | SAMPLE DEPTH (m) | 2.20 |
| DESCRIPTION | Greyish brown mottled off white slightly sandy CLAY | SPECIMEN DEPTH (m) | 2.20 |




| soil type | % fraction |
|---|---|
| CLAY | 56 |
| SILT | 42 |
| SILT & CLAY | 98 |
| SAND | 2 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 92 |
| 75 | | 2 | 100 | 6 | 76 |
| 63 | | 1.18 | | 2 | 56 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | | | |
| 20 | | 0.212 | 99 | | |
| 10 | | 0.15 | | | |
| 6.3 | | 0.063 | 98 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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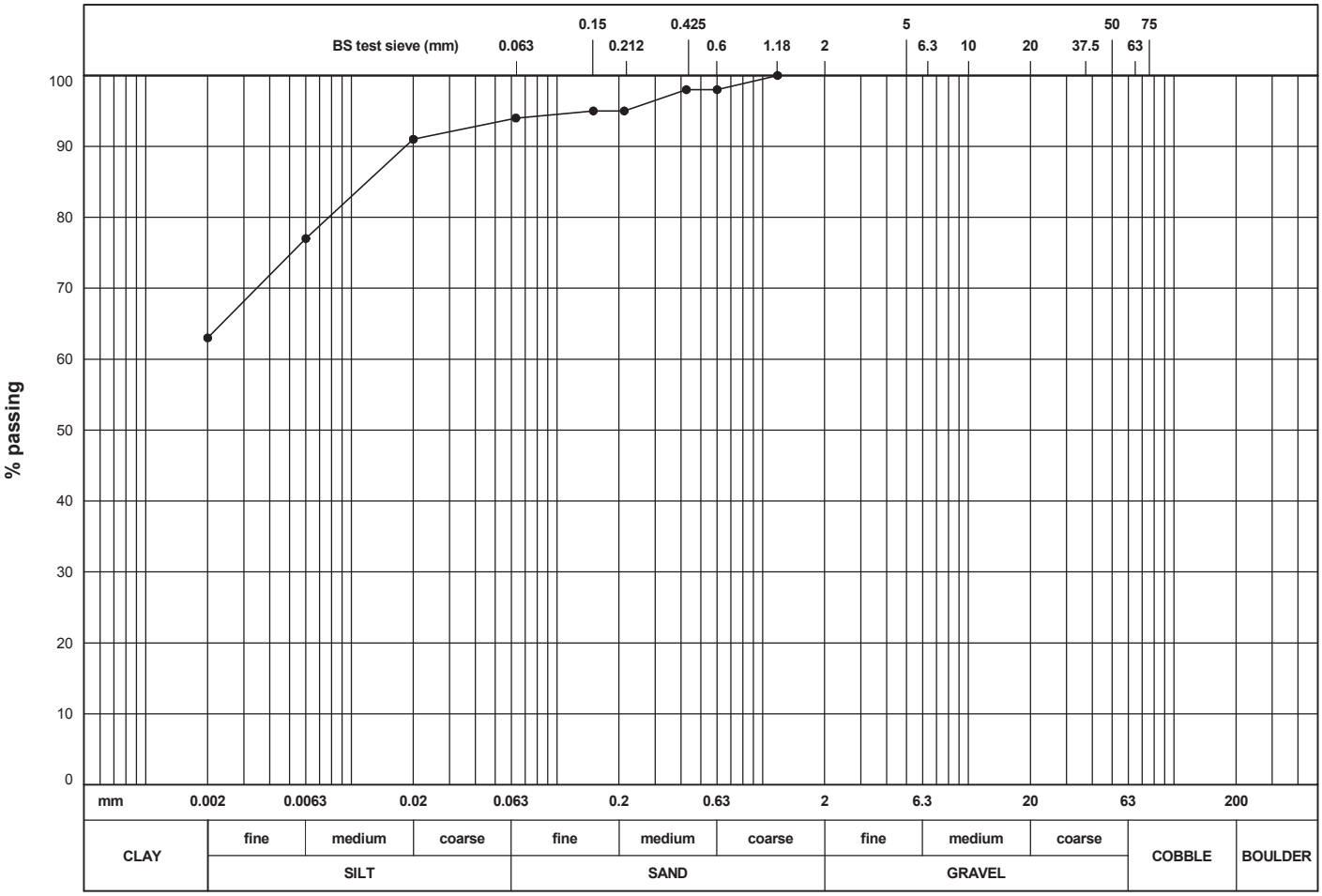
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP533 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.60 |
| DESCRIPTION | Greenish brown mottled brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.60 |




| soil type | % fraction |
|---|---|
| CLAY | 63 |
| SILT | 31 |
| SILT & CLAY | 94 |
| SAND | 6 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 91 |
| 75 | | 2 | | 6 | 77 |
| 63 | | 1.18 | 100 | 2 | 63 |
| 50 | | 0.6 | 98 | | |
| 37.5 | | 0.425 | 98 | | |
| 20 | | 0.212 | 95 | | |
| 10 | | 0.15 | 95 | | |
| 6.3 | | 0.063 | 94 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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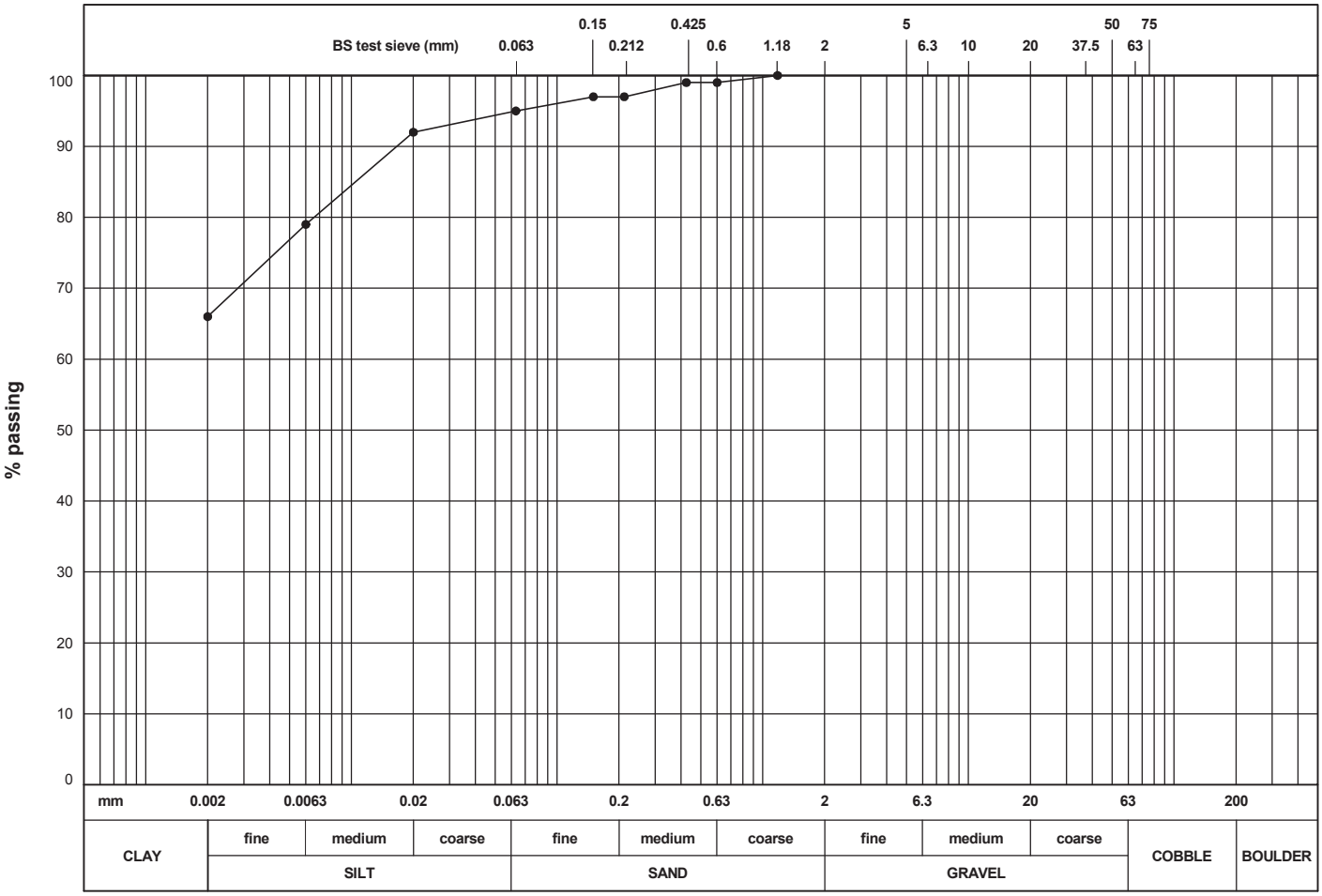
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP538 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 5B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.00 |




| soil type | % fraction |
|---|---|
| CLAY | 66 |
| SILT | 29 |
| SILT & CLAY | 95 |
| SAND | 5 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 92 |
| 75 | | 2 | | 6 | 79 |
| 63 | | 1.18 | 100 | 2 | 66 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 99 | | |
| 20 | | 0.212 | 97 | | |
| 10 | | 0.15 | 97 | | |
| 6.3 | | 0.063 | 95 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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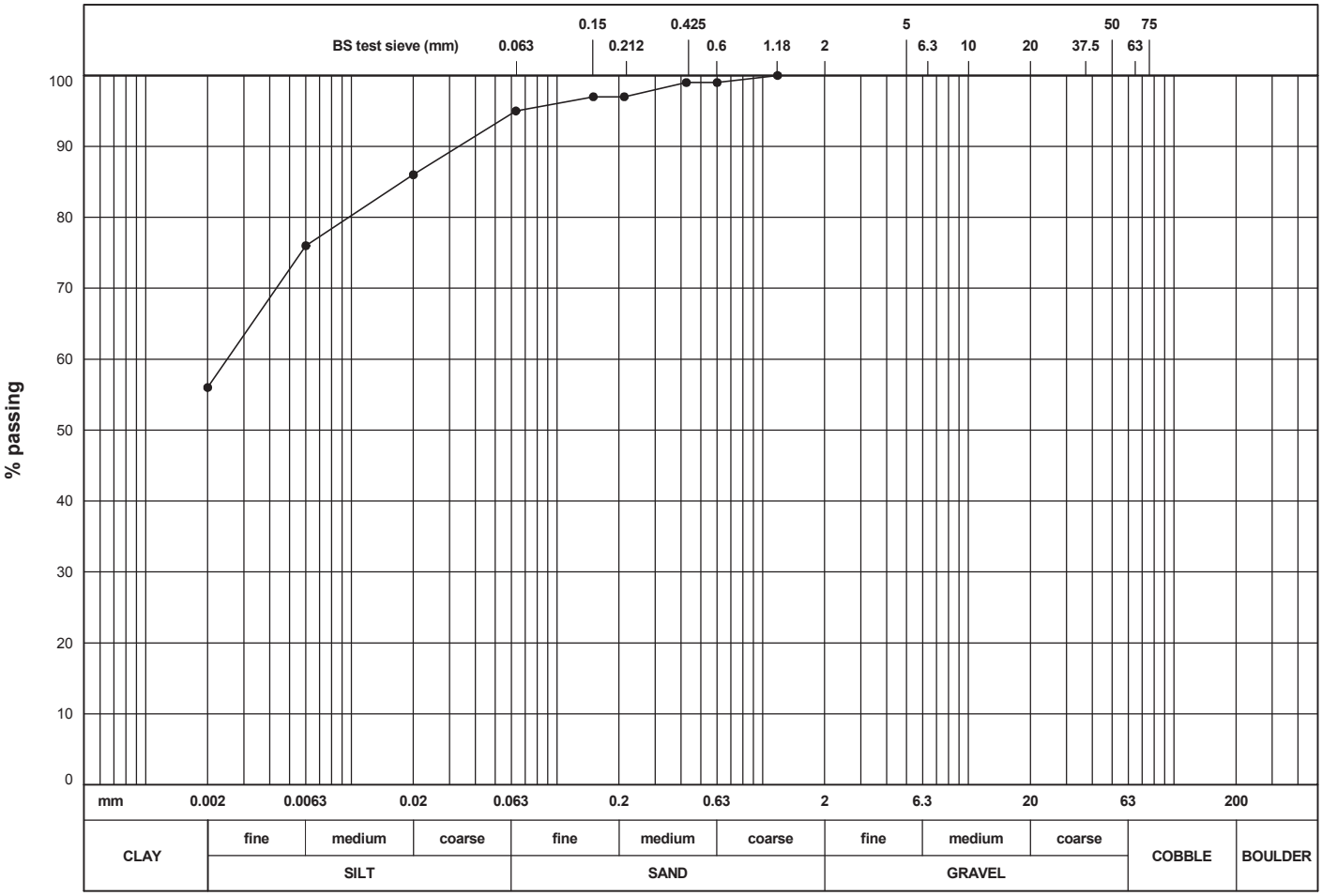
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP538 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 7B |
| | | SAMPLE DEPTH (m) | 2.00 |
| DESCRIPTION | Greyish brown mottled greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 2.00 |




| soil type | % fraction |
|---|---|
| CLAY | 56 |
| SILT | 39 |
| SILT & CLAY | 95 |
| SAND | 5 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 86 |
| 75 | | 2 | | 6 | 76 |
| 63 | | 1.18 | 100 | 2 | 56 |
| 50 | | 0.6 | 99 | | |
| 37.5 | | 0.425 | 99 | | |
| 20 | | 0.212 | 97 | | |
| 10 | | 0.15 | 97 | | |
| 6.3 | | 0.063 | 95 | | |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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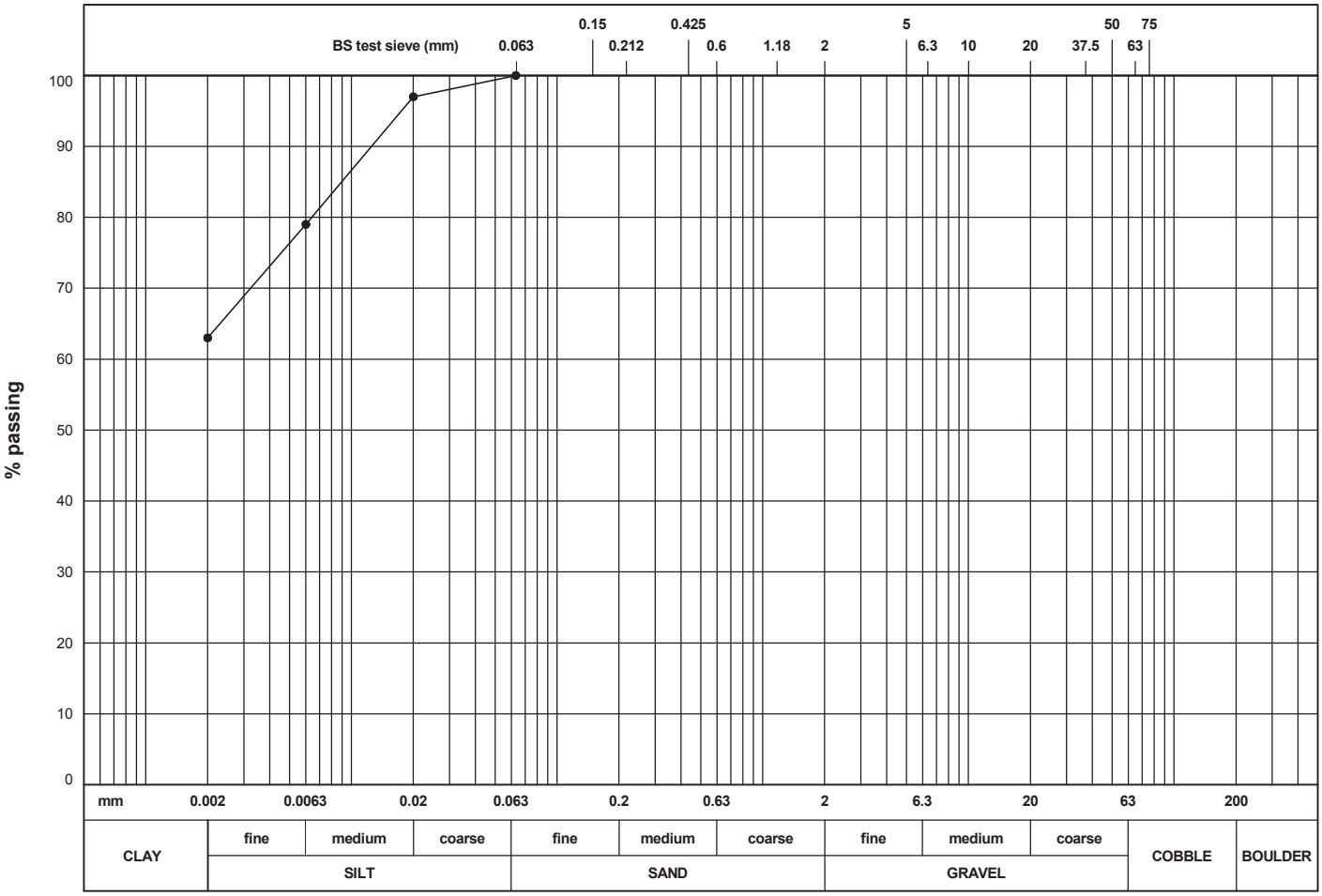
# PARTICLE SIZE DISTRIBUTION

**BS.1377 : Part 2 : 1990 : 9**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP539 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.50 |
| DESCRIPTION | Grey mottled white silty CLAY | SPECIMEN DEPTH (m) | 1.50 |




| soil type | % fraction |
|---|---|
| CLAY | 63 |
| SILT | 37 |
| SILT & CLAY | 100 |
| SAND | 0 |
| GRAVEL | 0 |
| COBBLE & BOULDER | 0 |
| test method(s) | 9.2 & 9.4 |

test method:
9.2 - wet sieving
9.3 - dry sieving
9.4 - sedimentation by pipette
9.5 - sedimentation by hydrometer

| BS test sieve (mm) | % passing | BS test sieve (mm) | % passing | particle size (μm) | % finer |
|---|---|---|---|---|---|
| 150 | | 5 | | 20 | 97 |
| 75 | | 2 | | 6 | 79 |
| 63 | | 1.18 | | 2 | 63 |
| 50 | | 0.6 | | | |
| 37.5 | | 0.425 | | | |
| 20 | | 0.212 | | | |
| 10 | | 0.15 | | | |
| 6.3 | | 0.063 | 100 | | |

remarks:
# denotes sample tested is smaller than that which is recommended in accordance with BS1377

| CONTRACT | CHECKED |
|---|---|
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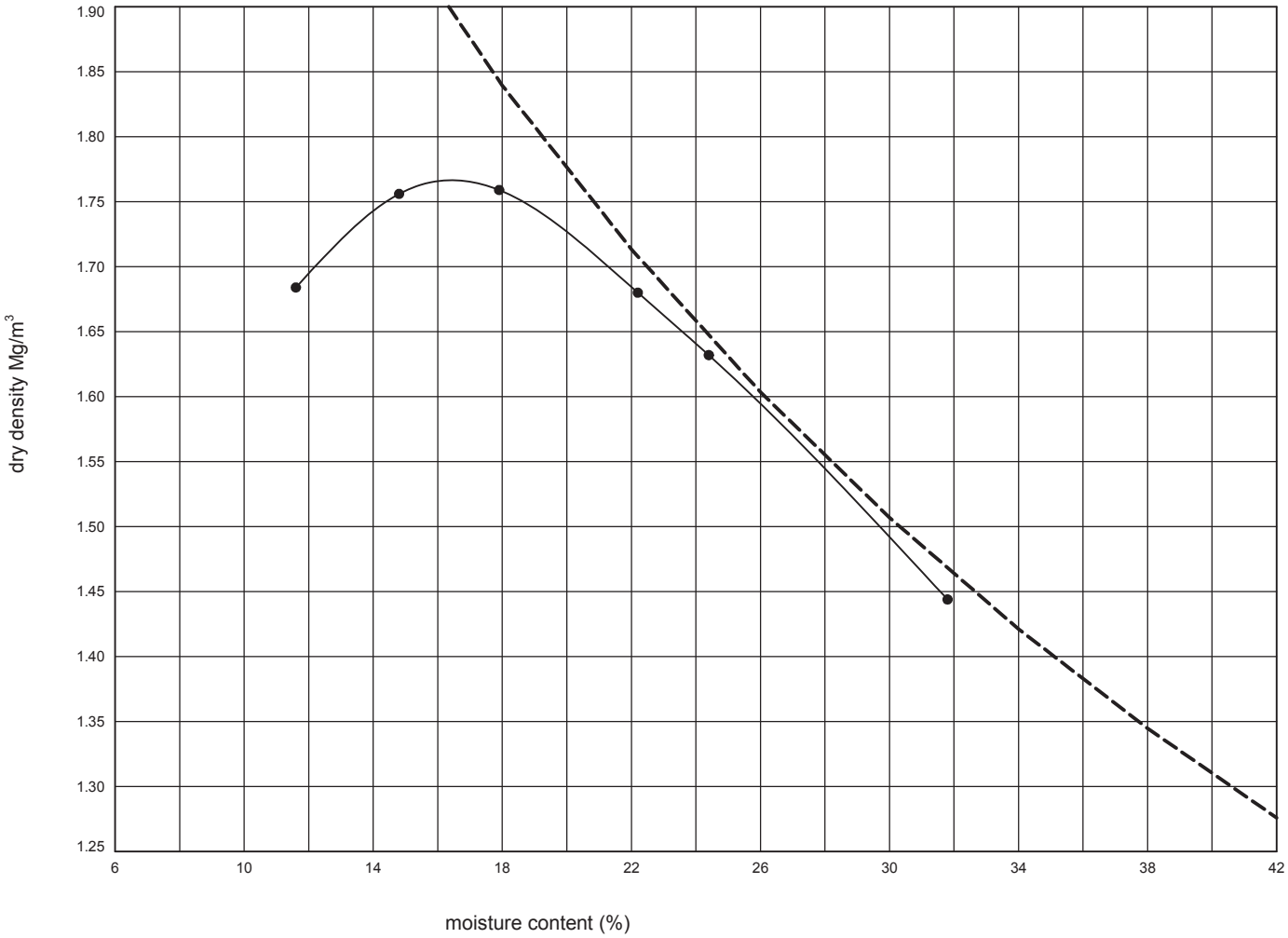
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP514 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.40 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.40 |




| | | | | |
|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | |
| sample preparation | | C,R | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content (%) | 32 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density ($Mg/m^3$) | 1.77 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content (%) | 16 |

remarks:

represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
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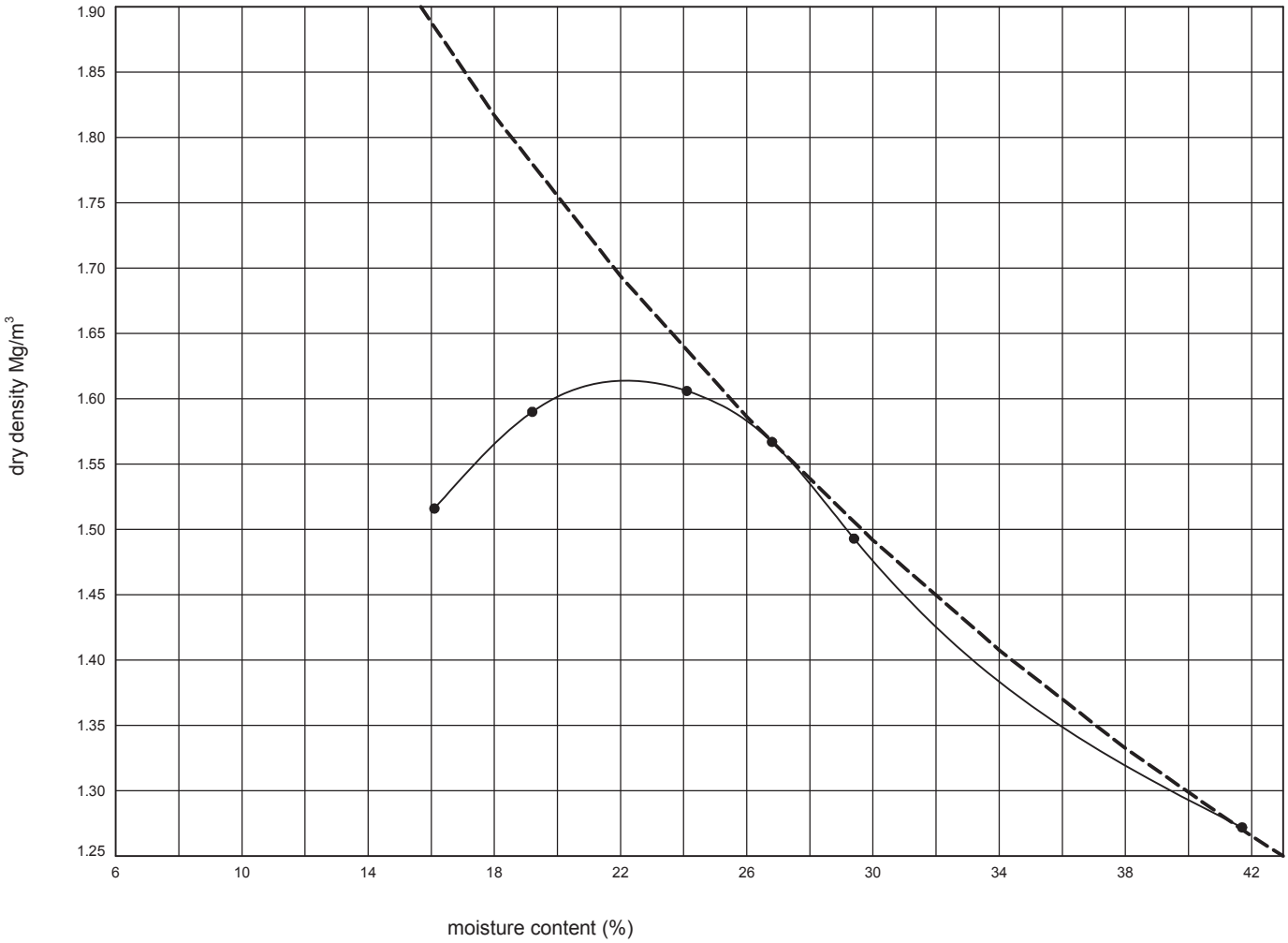
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP514 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.40 |
| DESCRIPTION | Greyish brown mottled off white slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.40 |




| | | | | |
|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | |
| sample preparation | | C,R | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content (%) | 45 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density ($Mg/m^3$) | 1.62 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content (%) | 23 |

remarks:

represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
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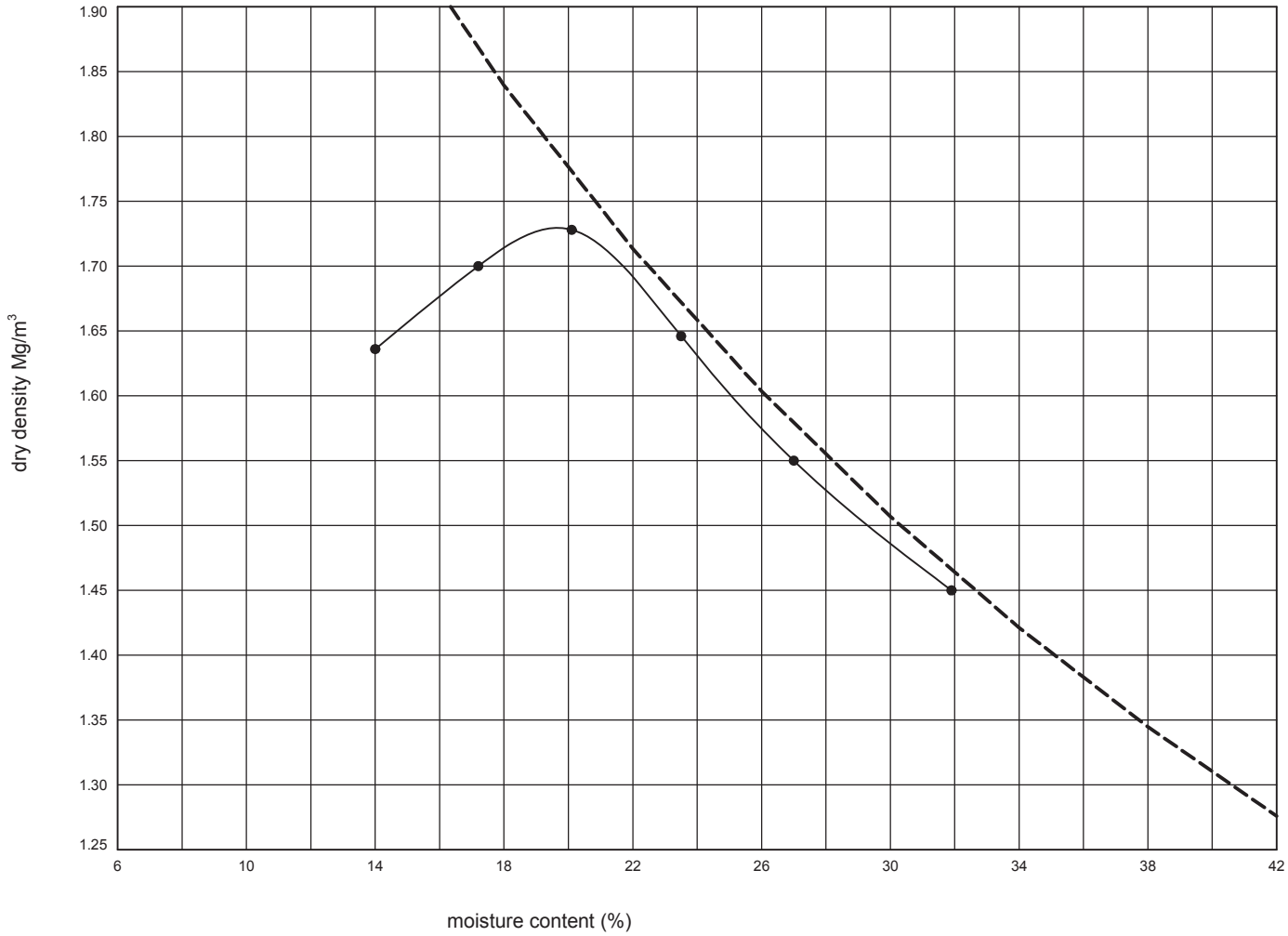
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP515 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.30 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.30 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 32 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.73 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content | (%) | 20 |

remarks:

– – – – represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
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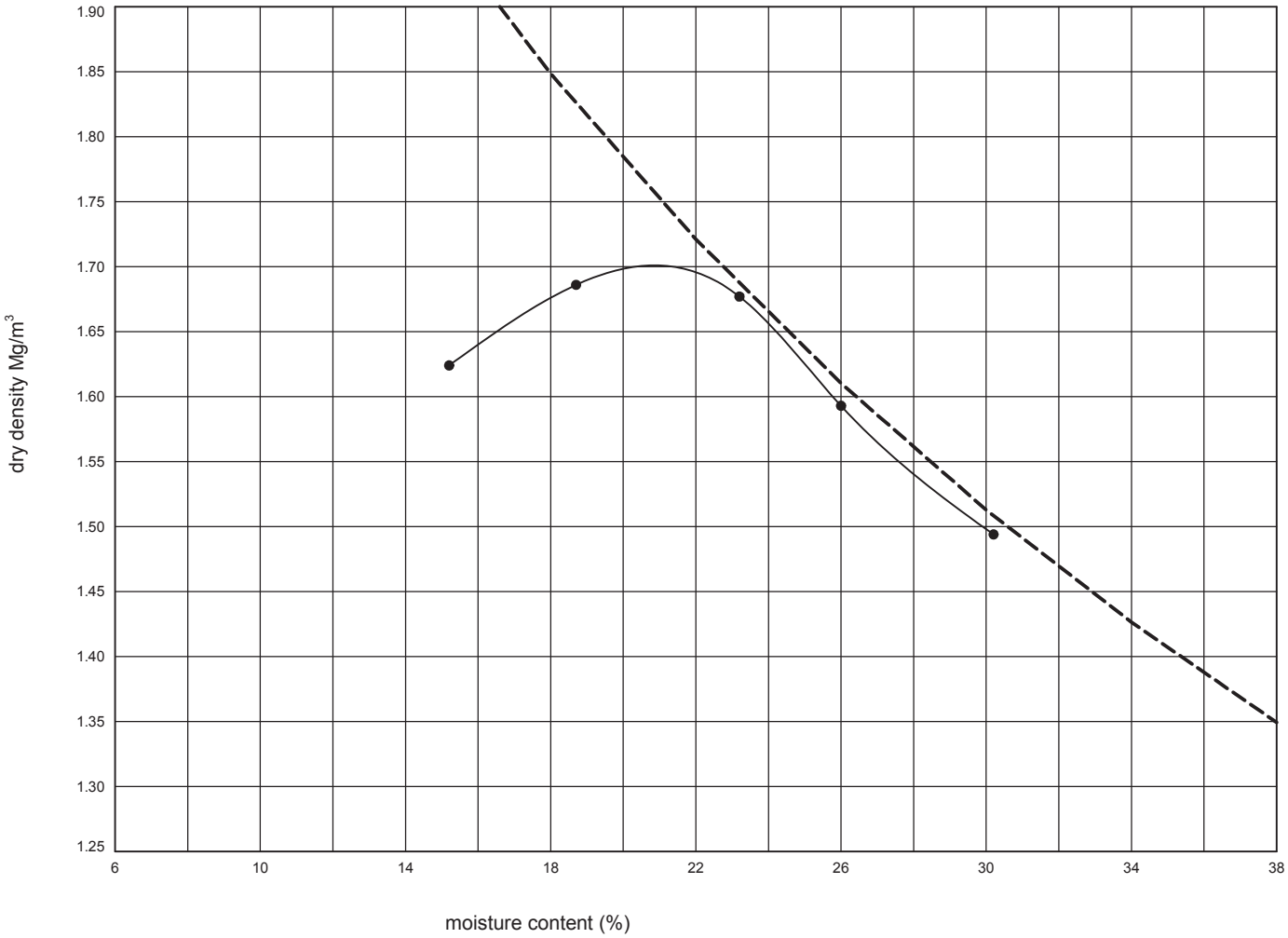
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP515 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.10 |
| DESCRIPTION | Greenish brown slightly sandy slightly gravelly CLAY | SPECIMEN DEPTH (m) | 1.10 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 30 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.70 |
| particle density | ($Mg/m^3$) | #2.77 | optimum moisture content | (%) | 21 |

remarks:

represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
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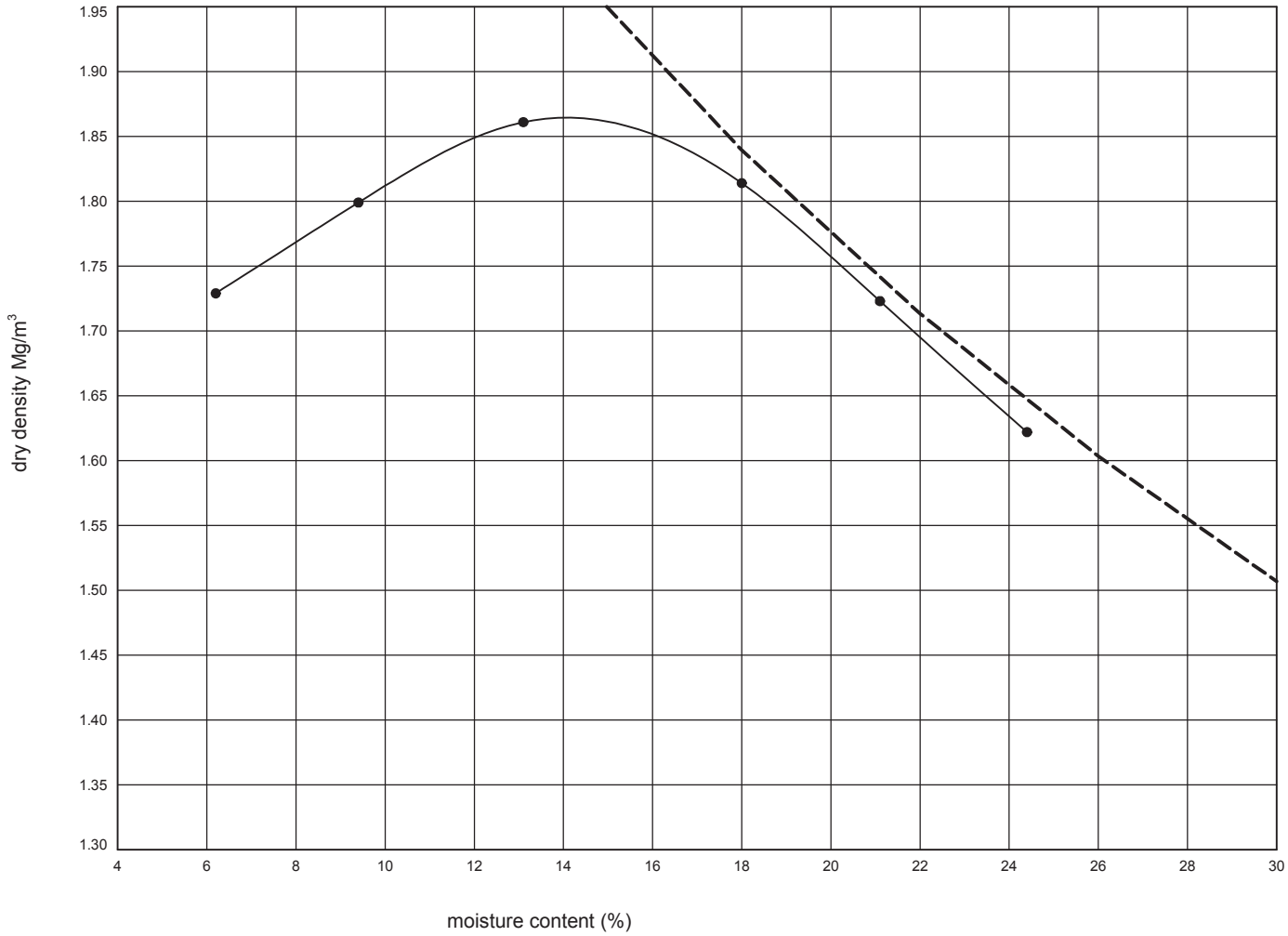
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP516 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Greenish brown mottled orangish brown slightly sandy CLAY | SPECIMEN DEPTH (m) | 1.00 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 24 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.87 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content | (%) | 14 |

remarks:

– – – – – represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
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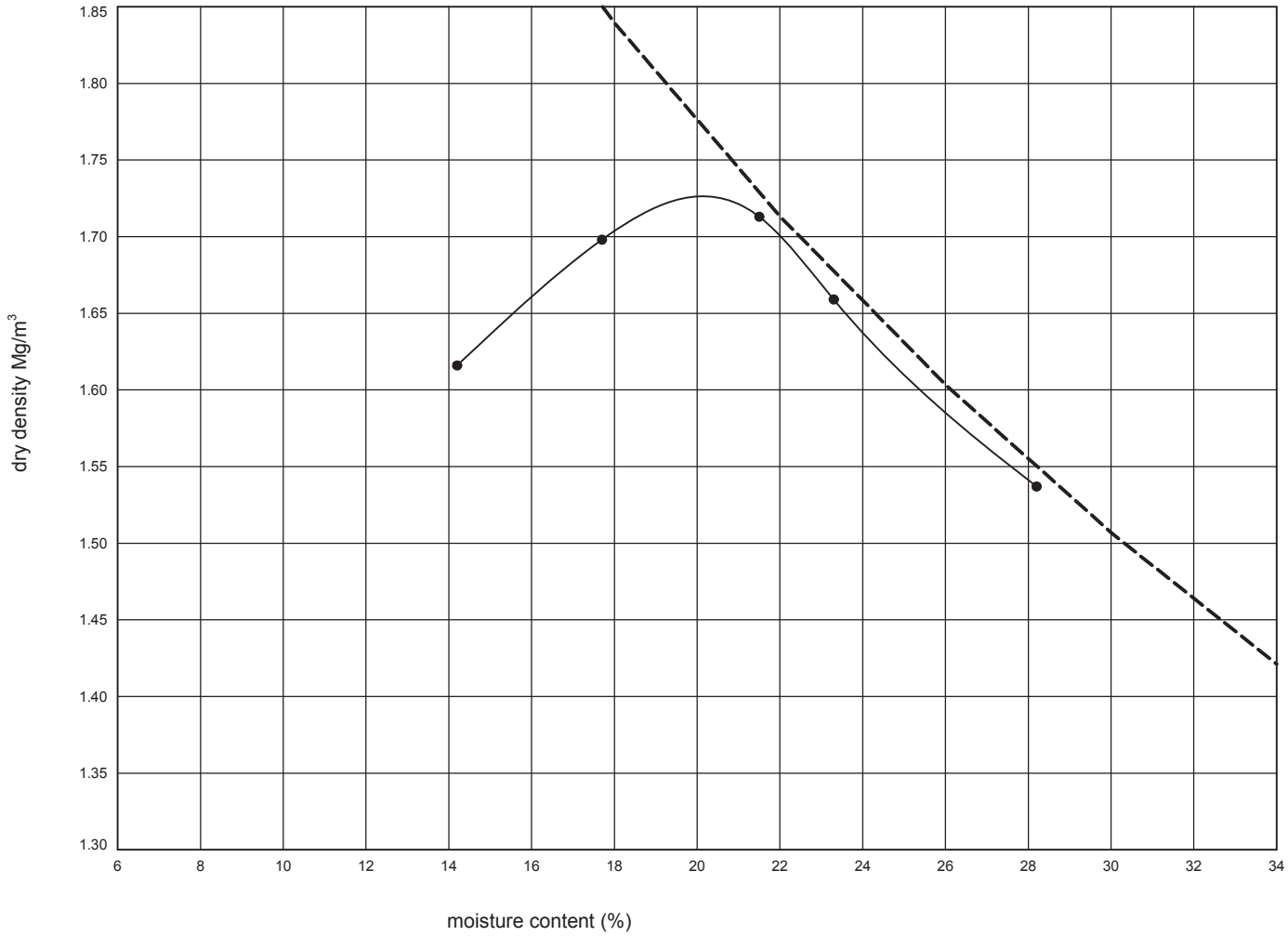
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP516 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 5B |
| | | SAMPLE DEPTH (m) | 2.00 |
| DESCRIPTION | Greenish brown mottled orangish brown slightly sandy CLAY | SPECIMEN DEPTH (m) | 2.00 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 28 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.73 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content | (%) | 20 |

remarks:

represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
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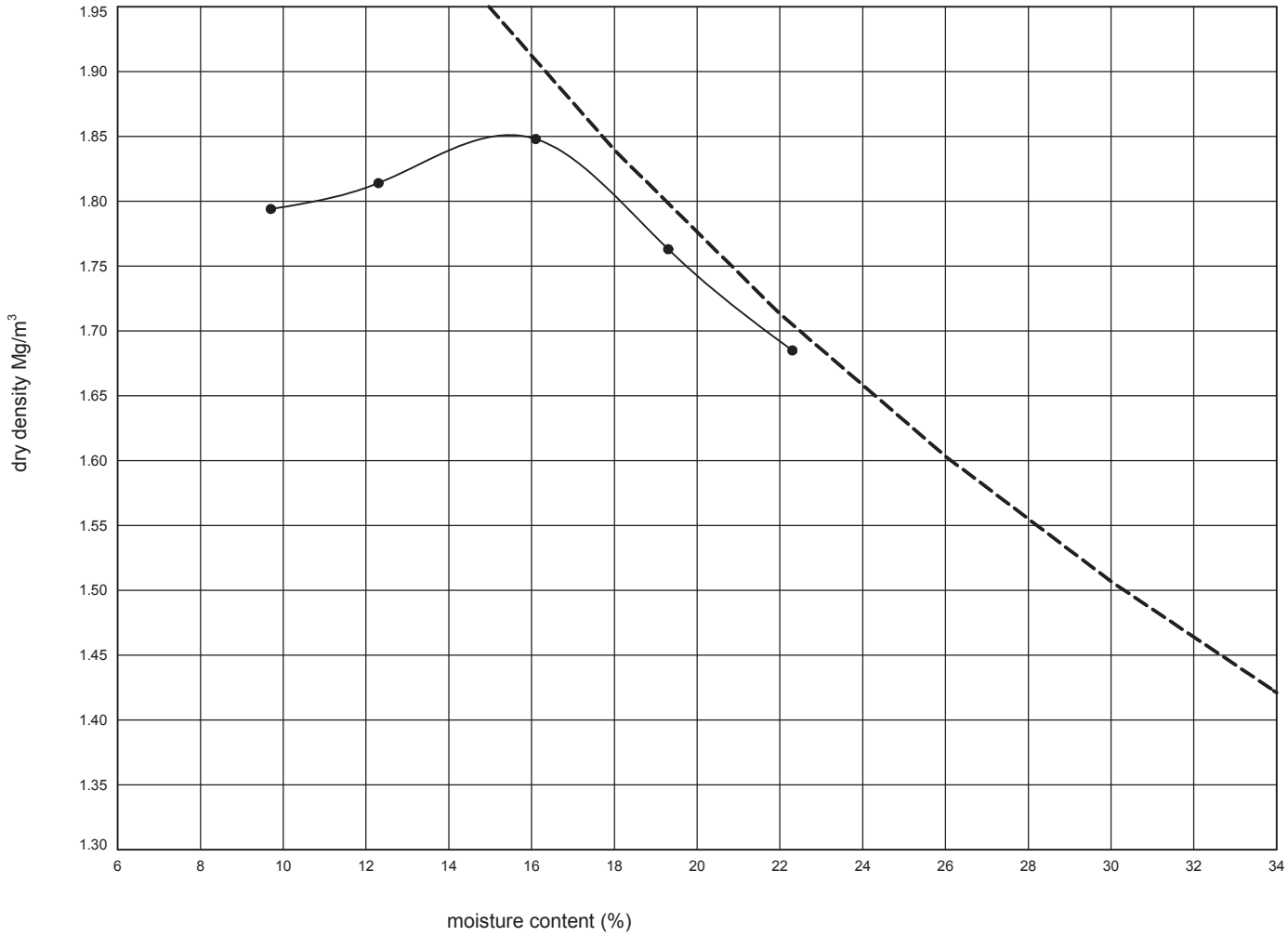
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP518 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.40 |
| DESCRIPTION | Yellowish brown mottled grey slightly sandy CLAY | SPECIMEN DEPTH (m) | 0.40 |




| | | | | |
|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | |
| sample preparation | | C,R | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content (%) | 22 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density ($Mg/m^3$) | 1.85 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content (%) | 16 |

remarks:

– – – – – represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
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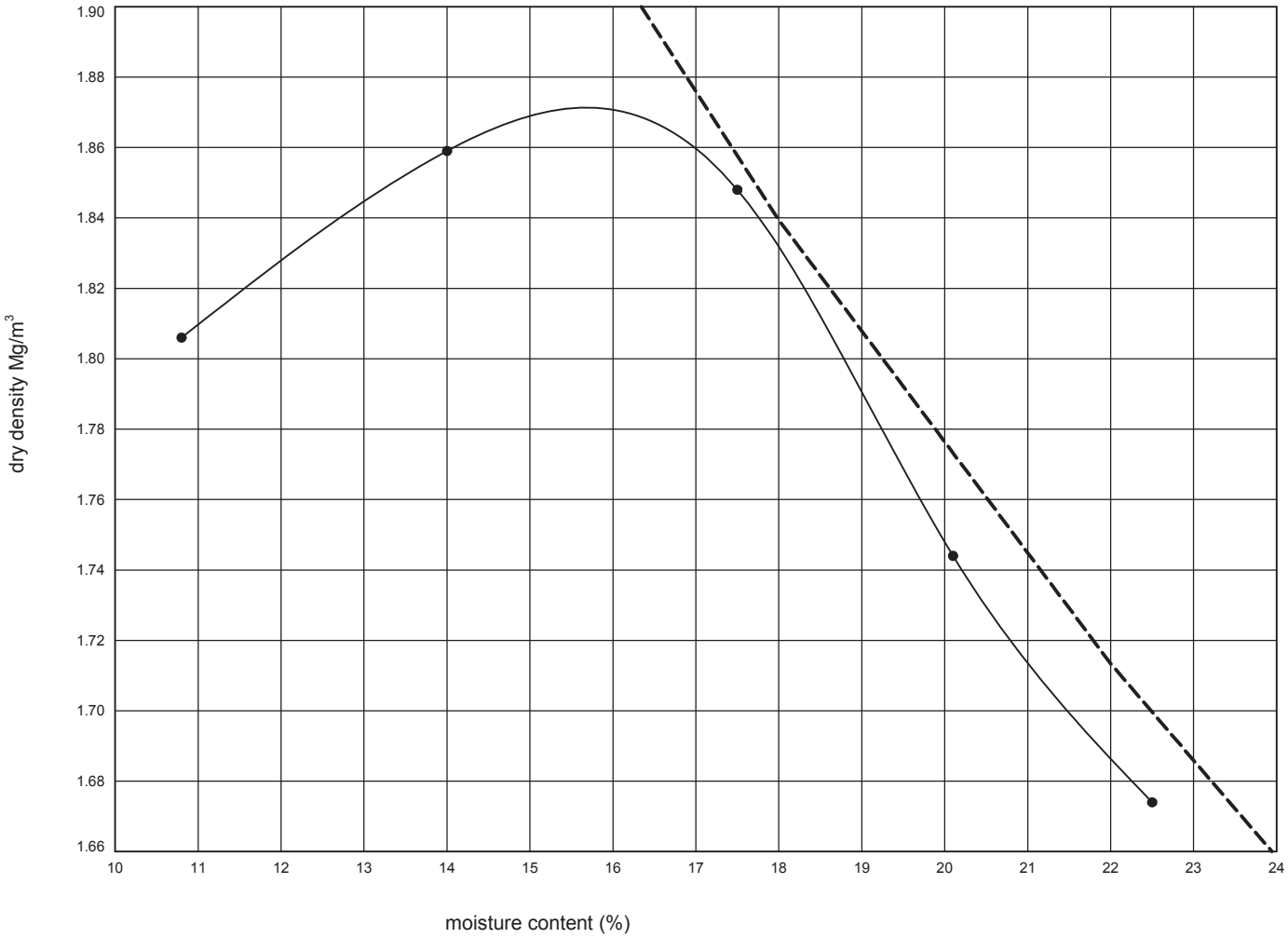
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP518 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.50 |
| DESCRIPTION | Multicoloured slightly sandy slightly gravelly silty CLAY | SPECIMEN DEPTH (m) | 1.50 |




| | | | | |
|---|---|---|---|---|
| test method | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | C,R | | | |
| proportion retained on 37.5mm sieve (%) | 0 | initial moisture content | (%) | 22 |
| proportion retained on 20mm sieve (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.87 |
| particle density ($Mg/m^3$) | #2.75 | optimum moisture content | (%) | 16 |

remarks:

– – – – represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
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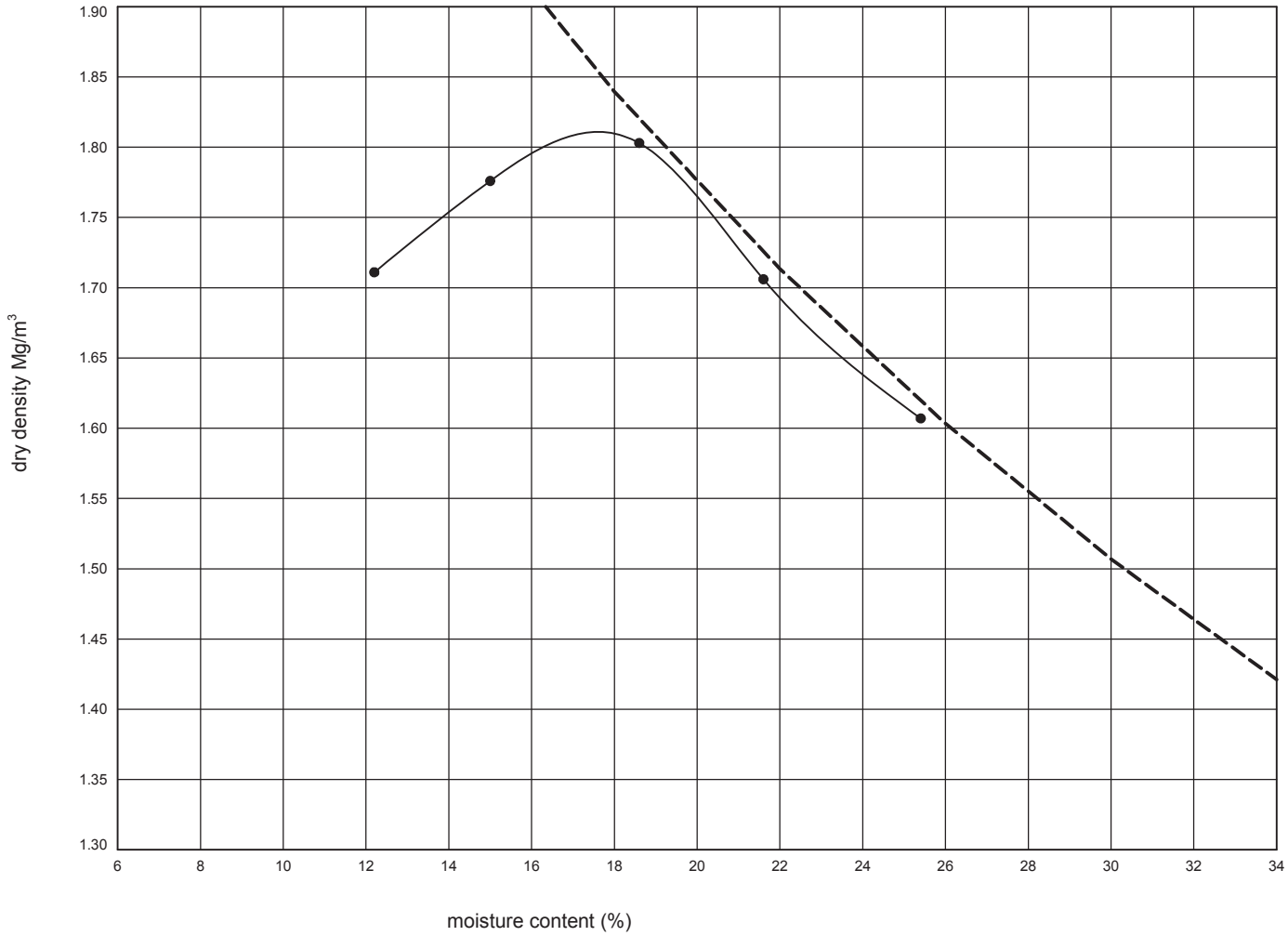
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP519 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Greenish brown slightly sandy CLAY | SPECIMEN DEPTH (m) | 0.50 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 26 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.81 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content | (%) | 18 |

remarks:

– – – – represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
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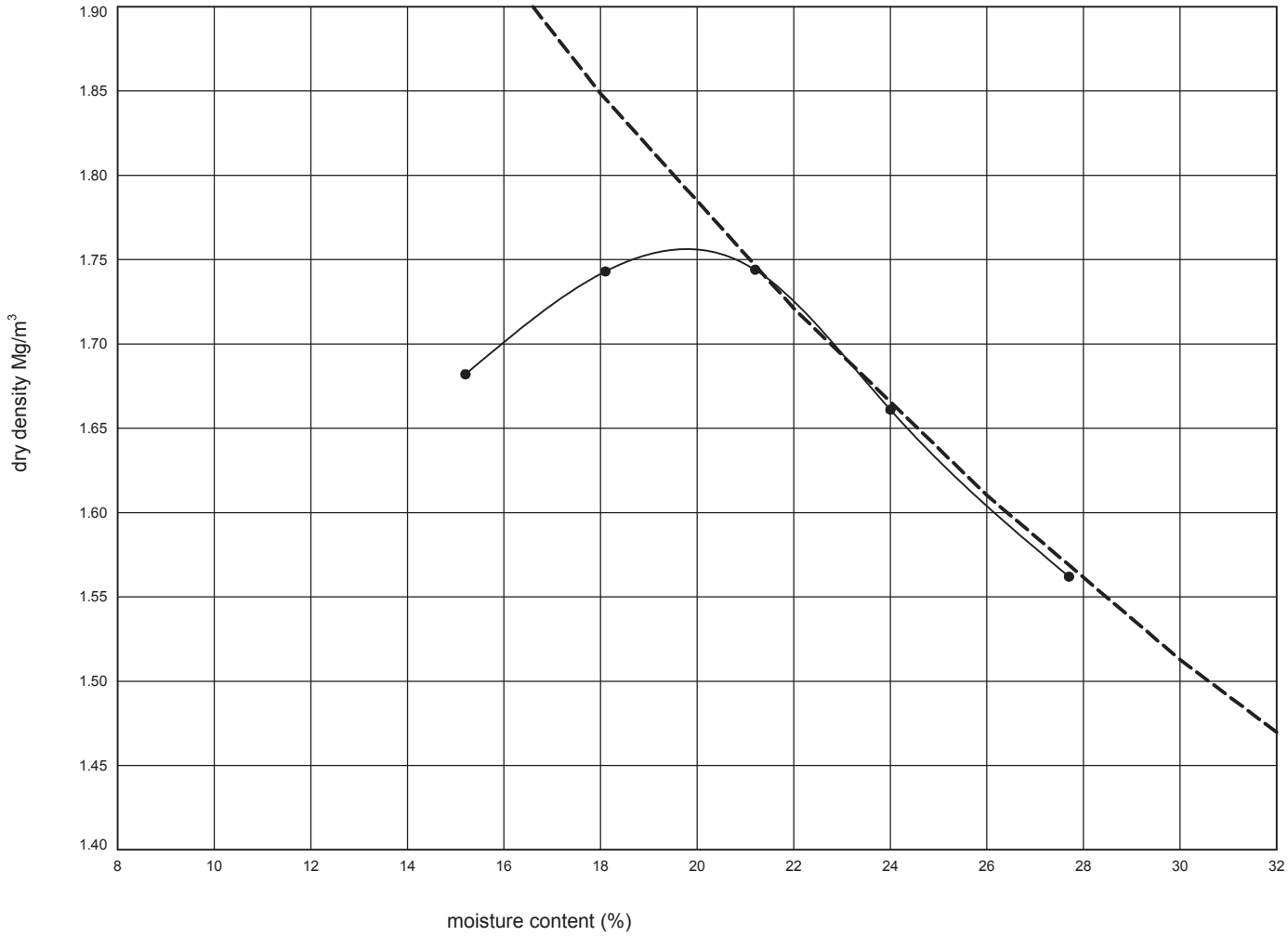
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP519 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.90 |
| DESCRIPTION | Greenish grey slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.90 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 28 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.76 |
| particle density | ($Mg/m^3$) | #2.77 | optimum moisture content | (%) | 20 |

remarks:

– – – – represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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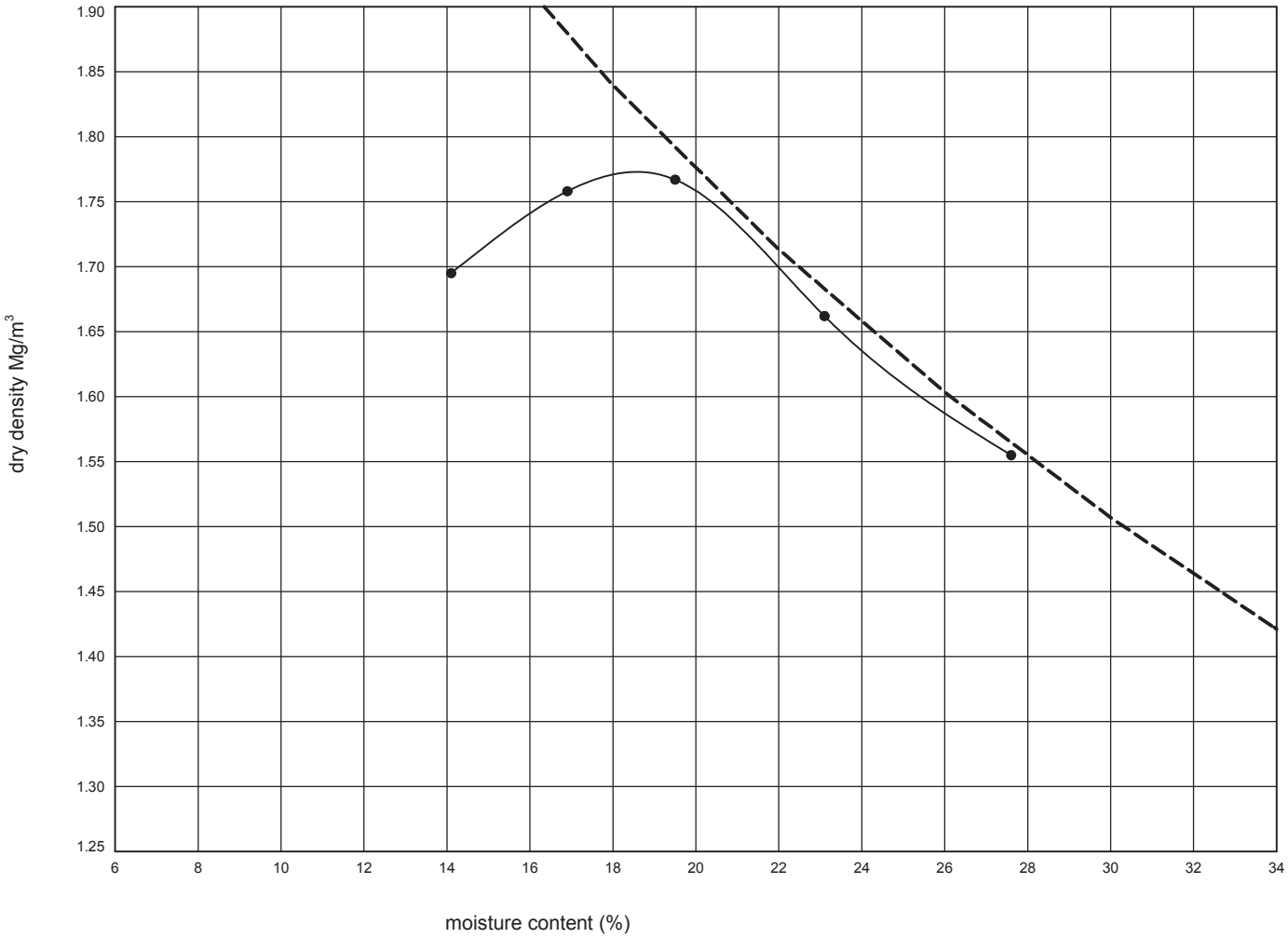
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP521 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.50 |




| | | | | |
|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | |
| sample preparation | | C,R | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content (%) | 28 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density ($Mg/m^3$) | 1.77 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content (%) | 19 |

remarks:

represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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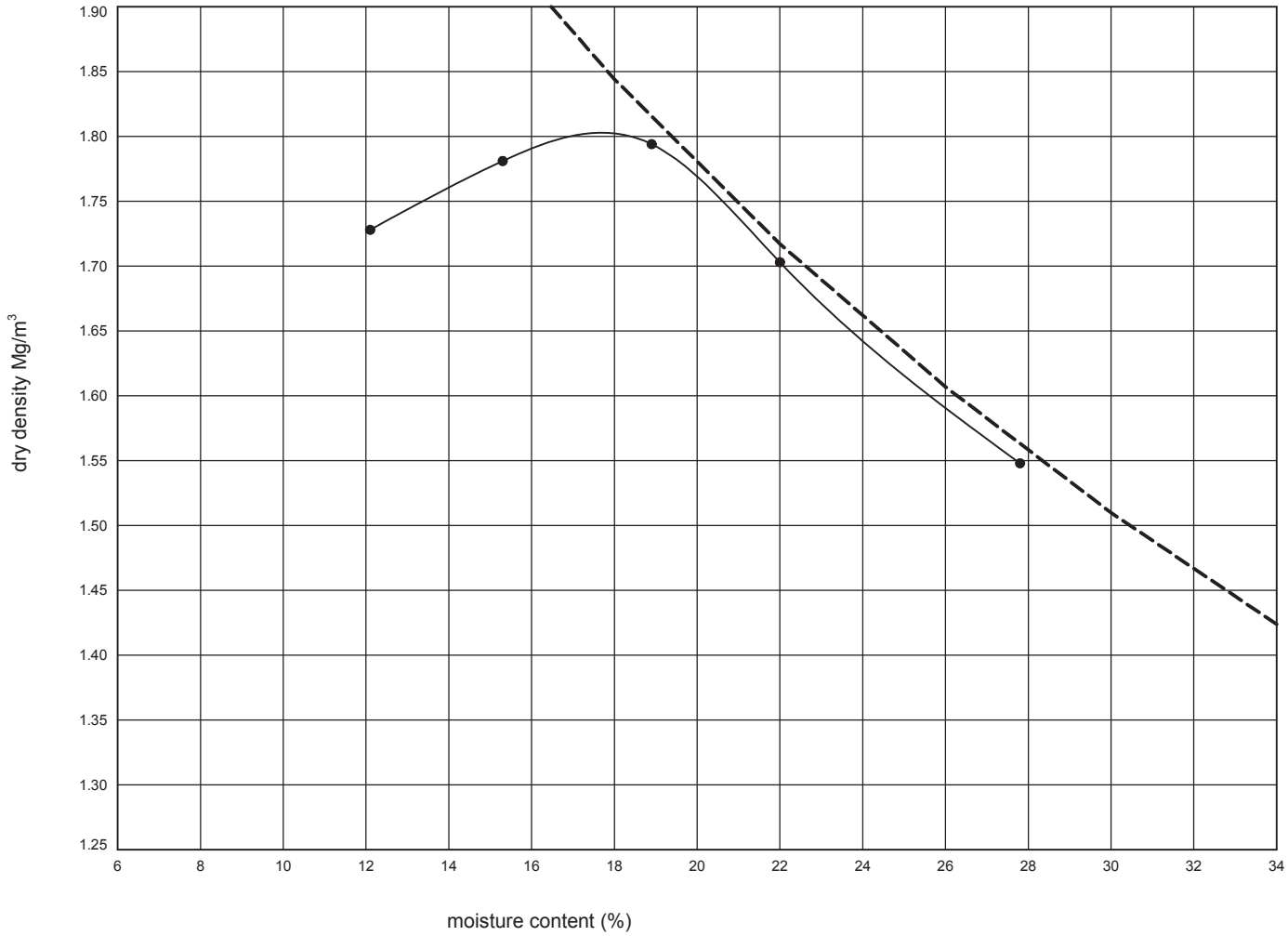
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP521 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.60 |
| DESCRIPTION | Yellowish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.60 |




| | | | | |
|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | |
| sample preparation | | C,R | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content (%) | 26 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density ($Mg/m^3$) | 1.80 |
| particle density | ($Mg/m^3$) | #2.76 | optimum moisture content (%) | 18 |

remarks:

– – – – – represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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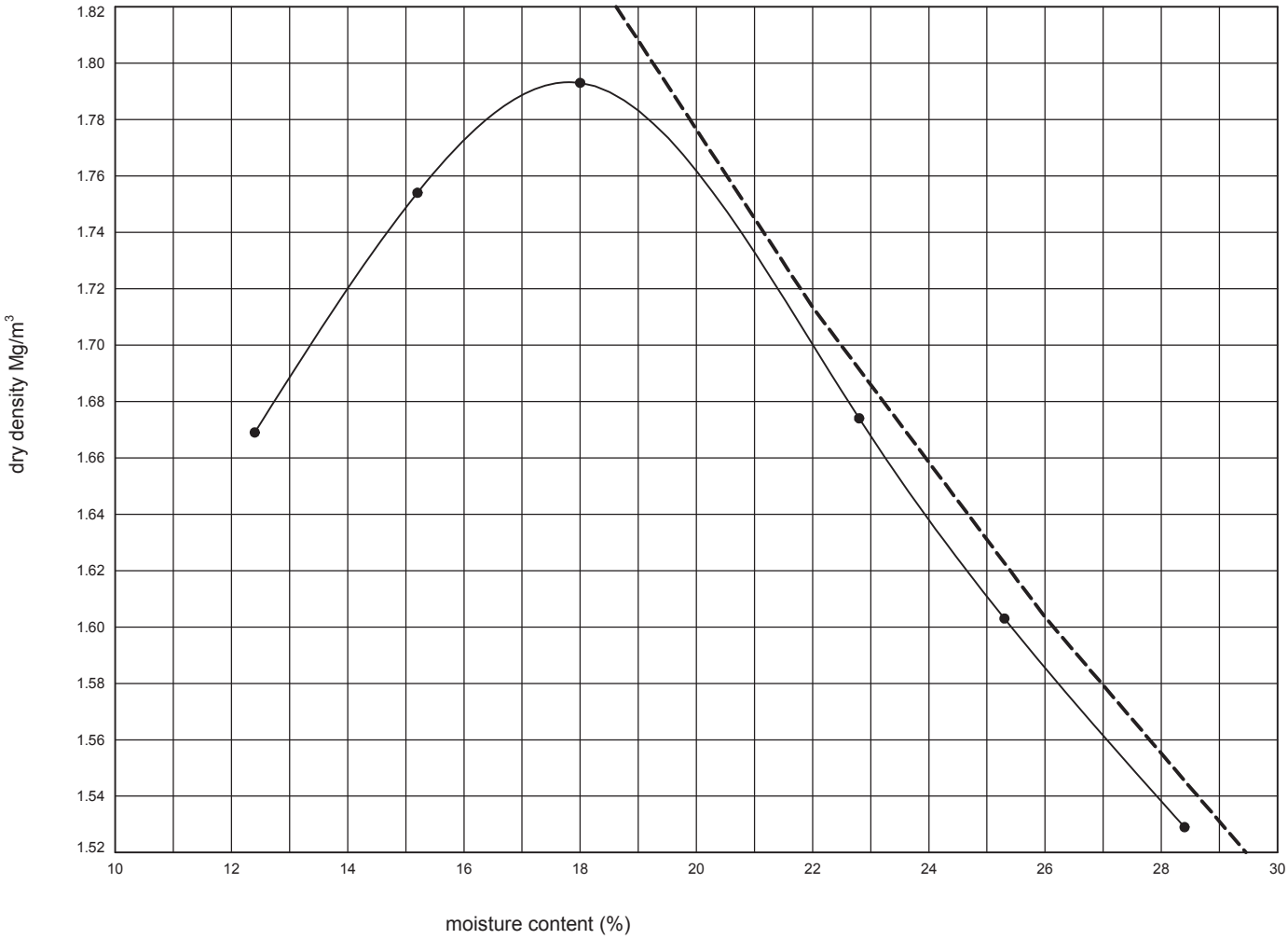
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP523 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 10B |
| | | SAMPLE DEPTH (m) | 2.00 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 2.00 |




| | | | | |
|---|---|---|---|---|
| test method | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | C,R | | | |
| proportion retained on 37.5mm sieve (%) | 0 | initial moisture content (%) | 37 | |
| proportion retained on 20mm sieve (%) | 0 | maximum dry density ($Mg/m^3$) | 1.79 | |
| particle density ($Mg/m^3$) | #2.75 | optimum moisture content (%) | 18 | |

remarks:

– – – – – represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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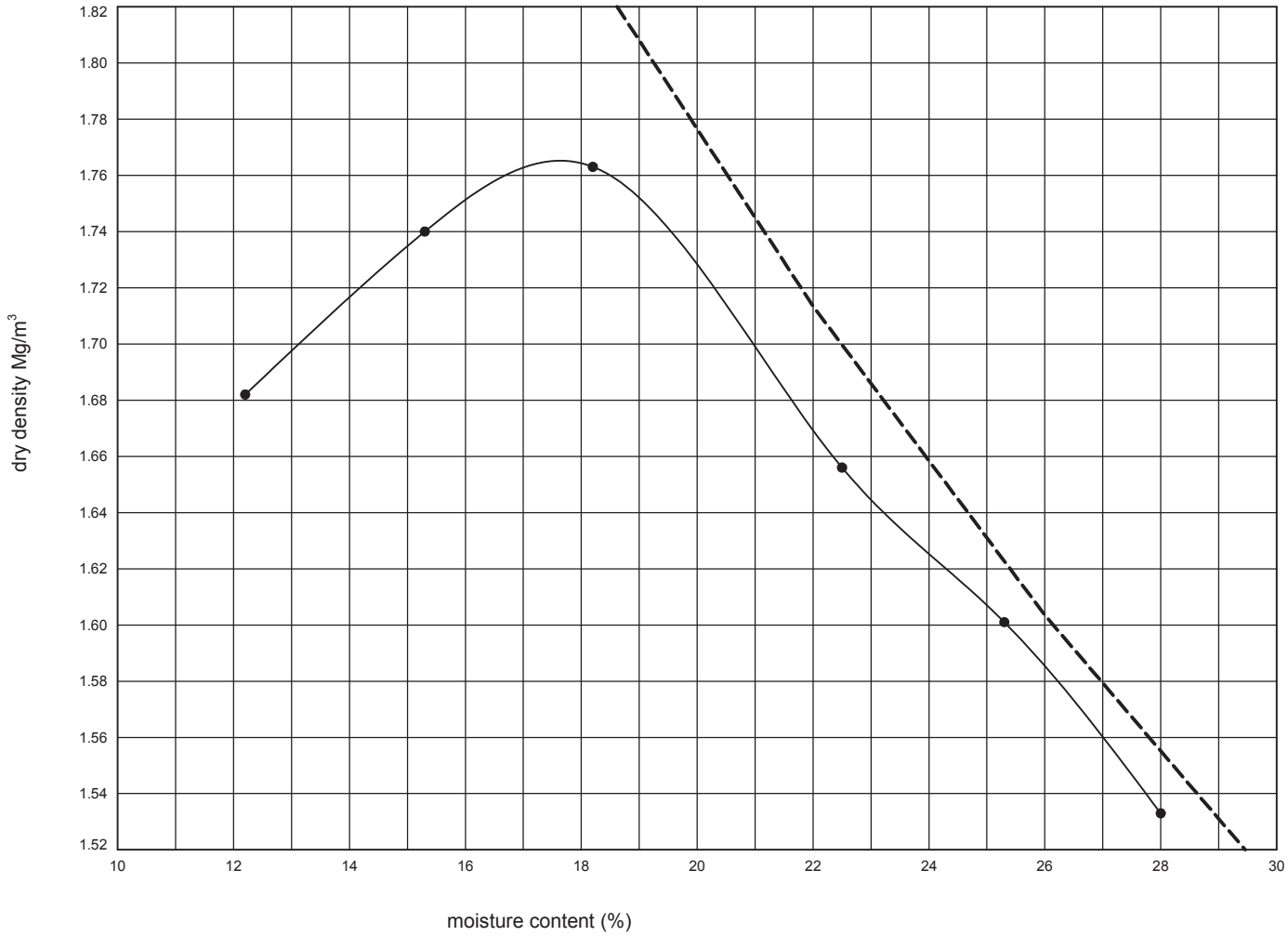
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP523 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 12B |
| | | SAMPLE DEPTH (m) | 2.40 |
| DESCRIPTION | Grey mottled brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 2.40 |




| | | | | |
|---|---|---|---|---|
| test method | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | C,R | | | |
| proportion retained on 37.5mm sieve (%) | 0 | initial moisture content (%) | 36 | |
| proportion retained on 20mm sieve (%) | 0 | maximum dry density ($Mg/m^3$) | 1.76 | |
| particle density ($Mg/m^3$) | #2.75 | optimum moisture content (%) | 18 | |

remarks:

– – – – – represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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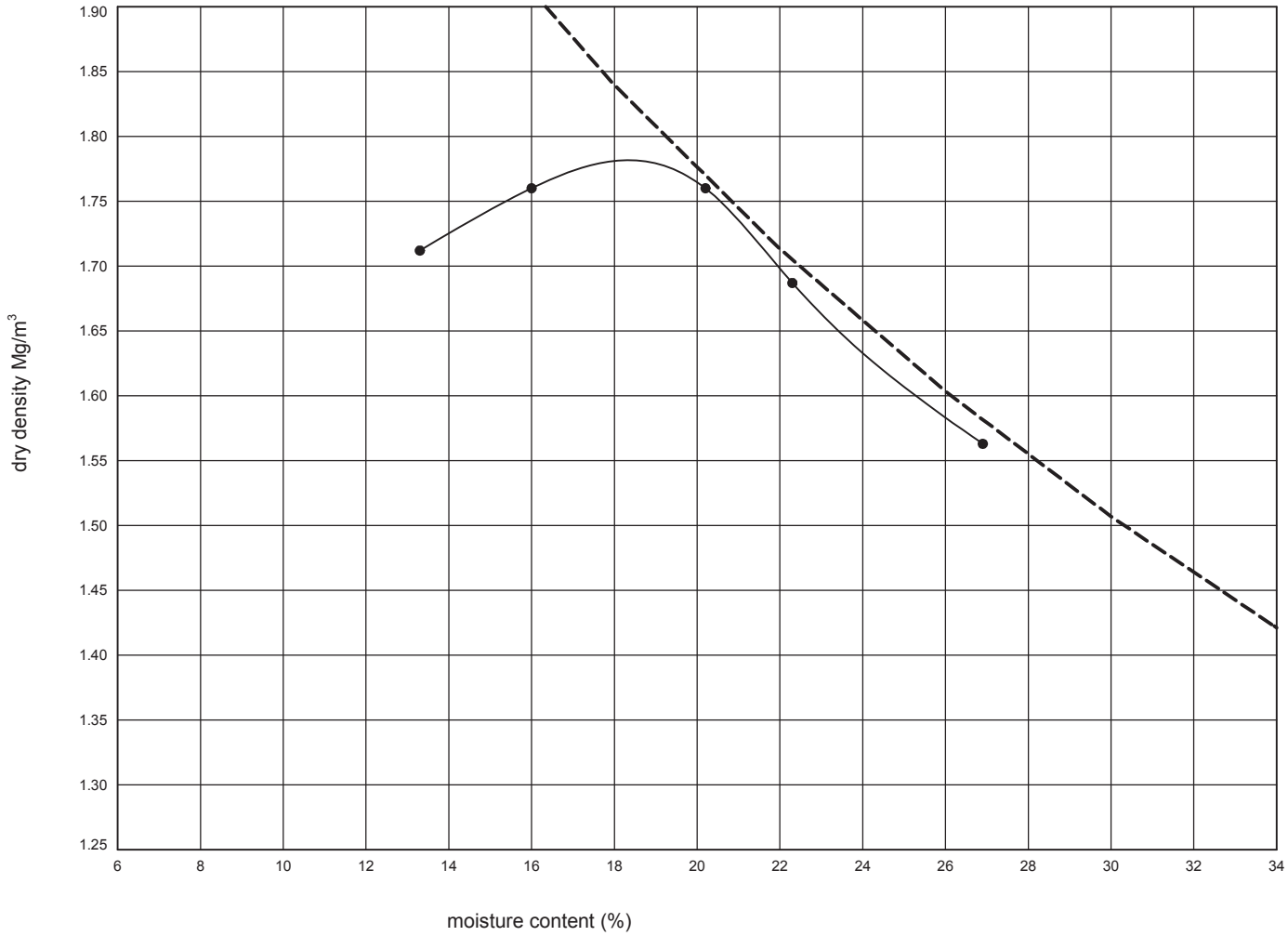
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP524 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.50 |
| DESCRIPTION | Orangish brown mottled greenish brown slightly sandy slightly gravelly silty CLAY | SPECIMEN DEPTH (m) | 0.50 |




| | | | | |
|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | |
| sample preparation | | C,R | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content (%) | 28 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density ($Mg/m^3$) | 1.78 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content (%) | 19 |

remarks:

represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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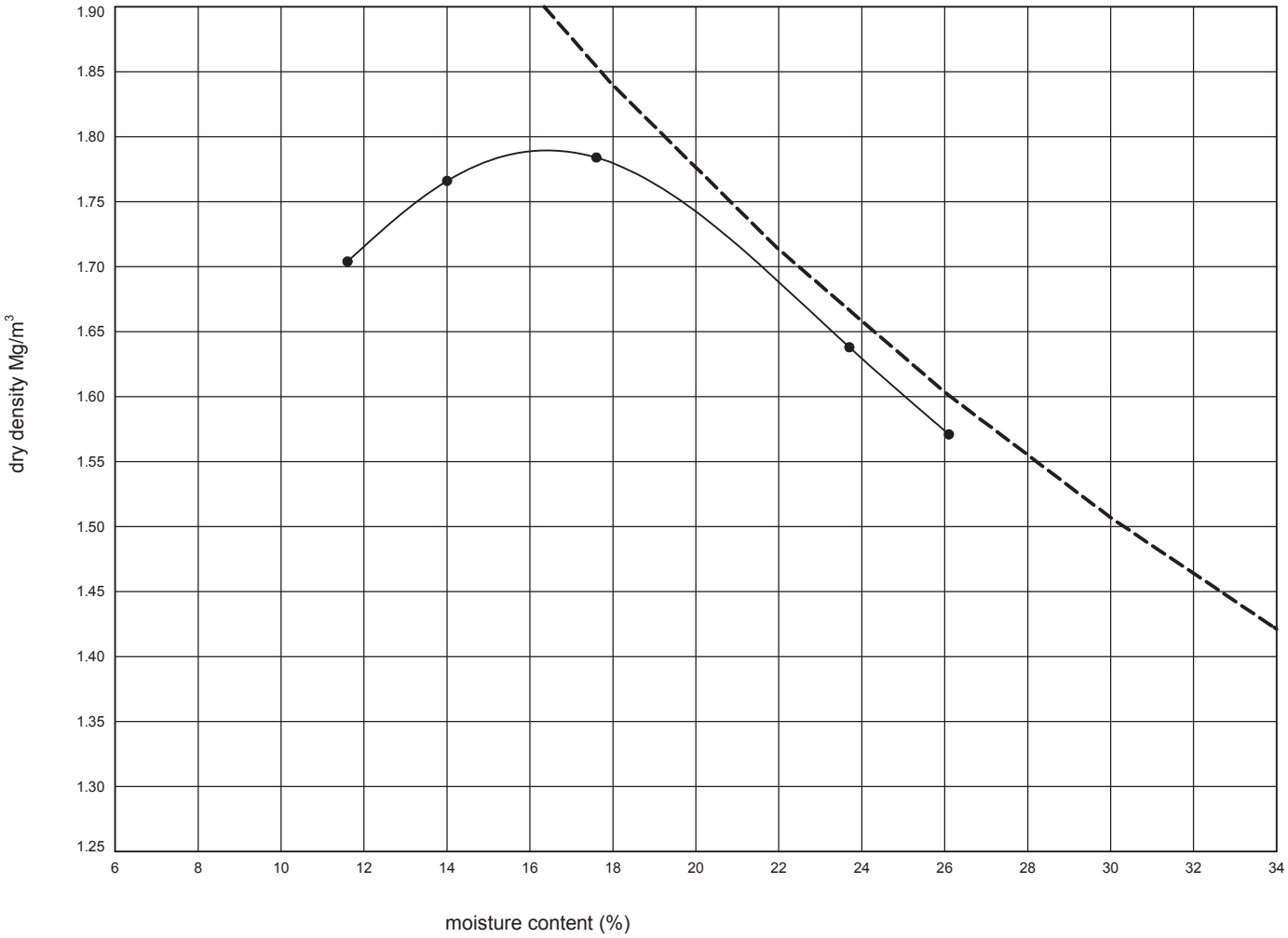
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP524 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.80 |
| DESCRIPTION | Greenish brown mottled brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.80 |




| | | | | |
|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | |
| sample preparation | | C,R | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content (%) | 35 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density ($Mg/m^3$) | 1.78 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content (%) | 16 |

remarks:

– – – – – represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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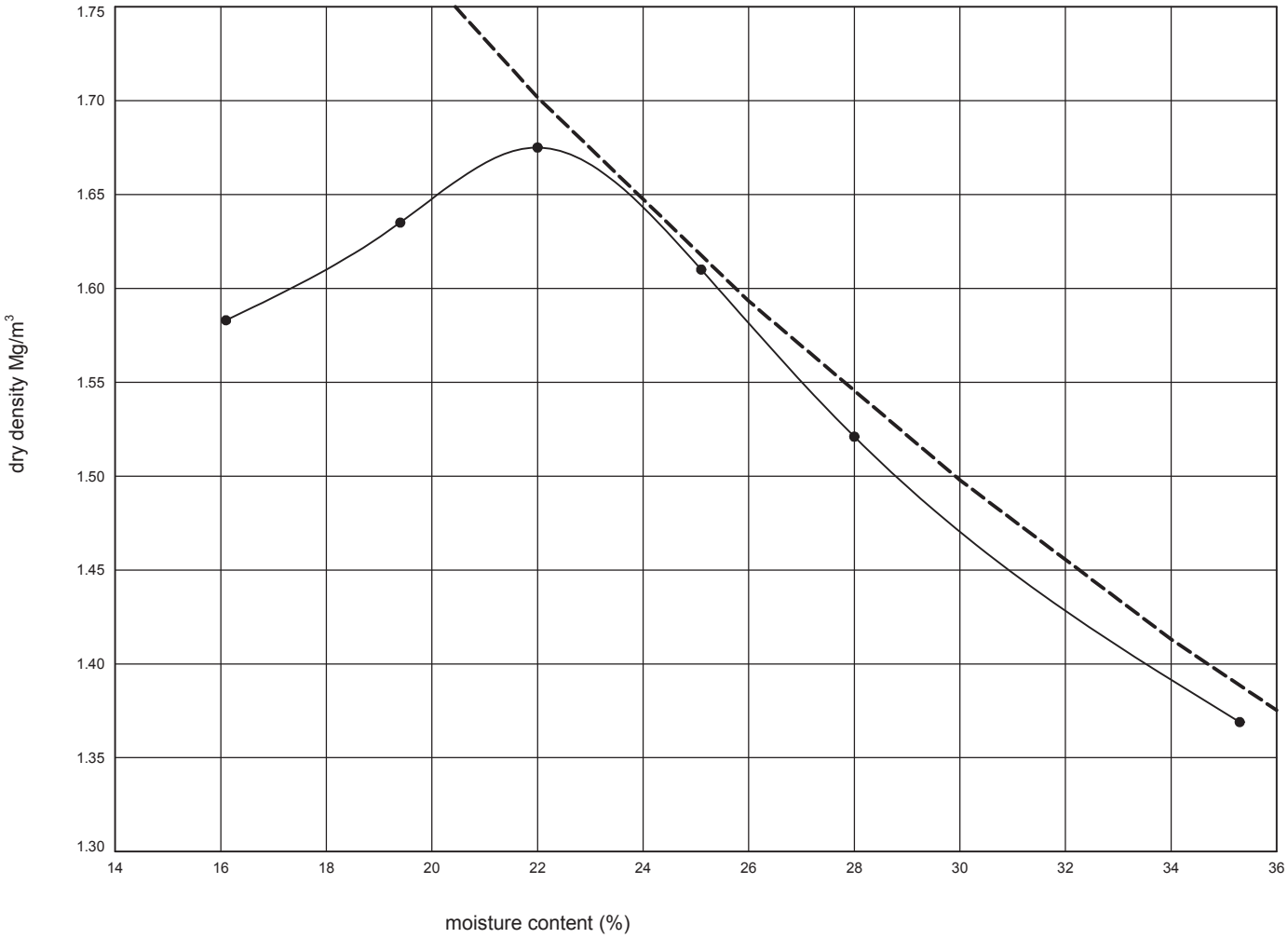
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP526 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.60 |
| DESCRIPTION | Multicoloured slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.60 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 36 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.68 |
| particle density | ($Mg/m^3$) | #2.72 | optimum moisture content | (%) | 22 |

remarks:

– – – – – represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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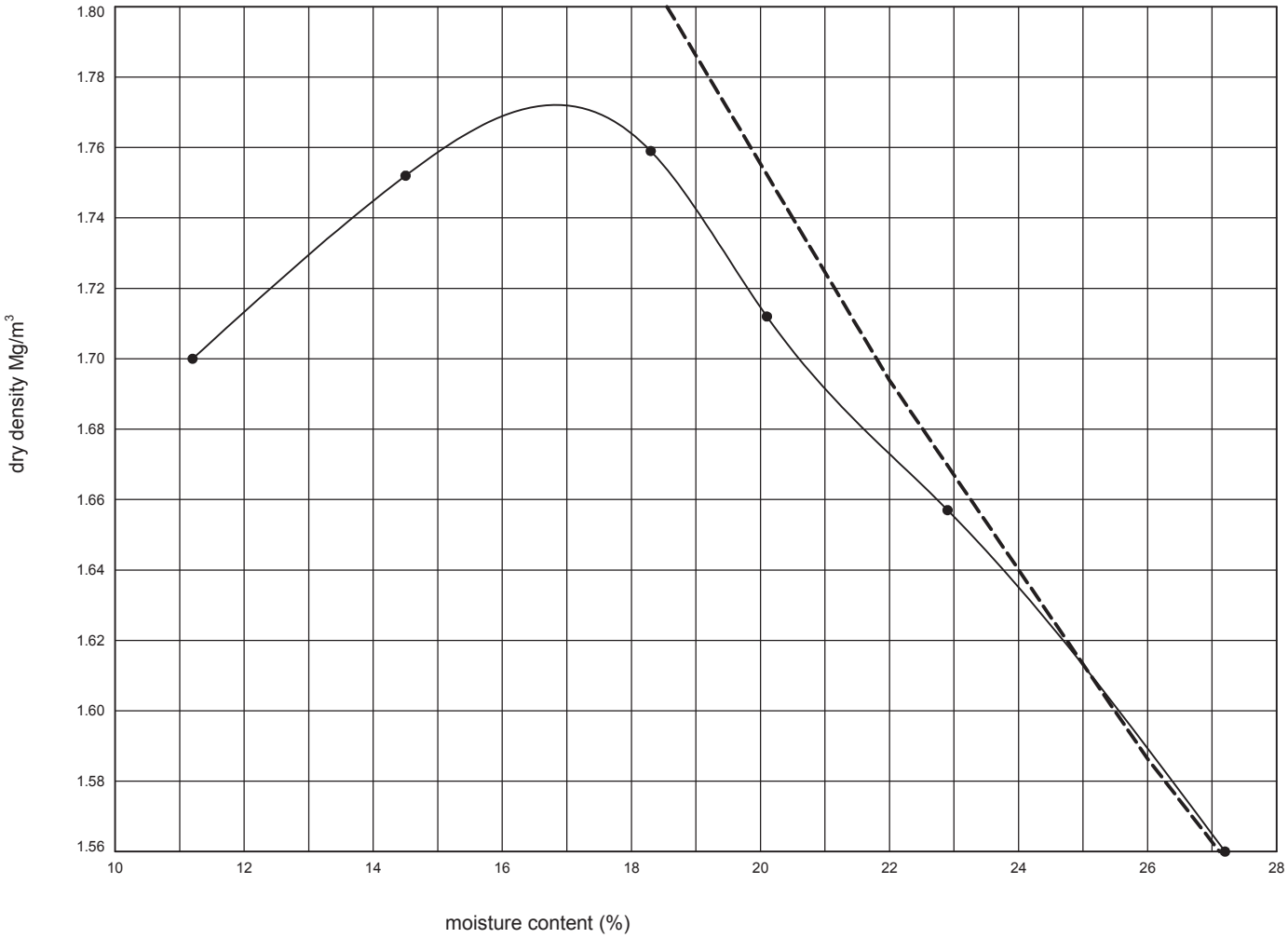
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP526 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 7B |
| | | SAMPLE DEPTH (m) | 1.50 |
| DESCRIPTION | Greyish brown mottled orangish brown silty CLAY | SPECIMEN DEPTH (m) | 1.50 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 39 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.77 |
| particle density | ($Mg/m^3$) | #2.70 | optimum moisture content | (%) | 17 |

remarks:

– – – – – represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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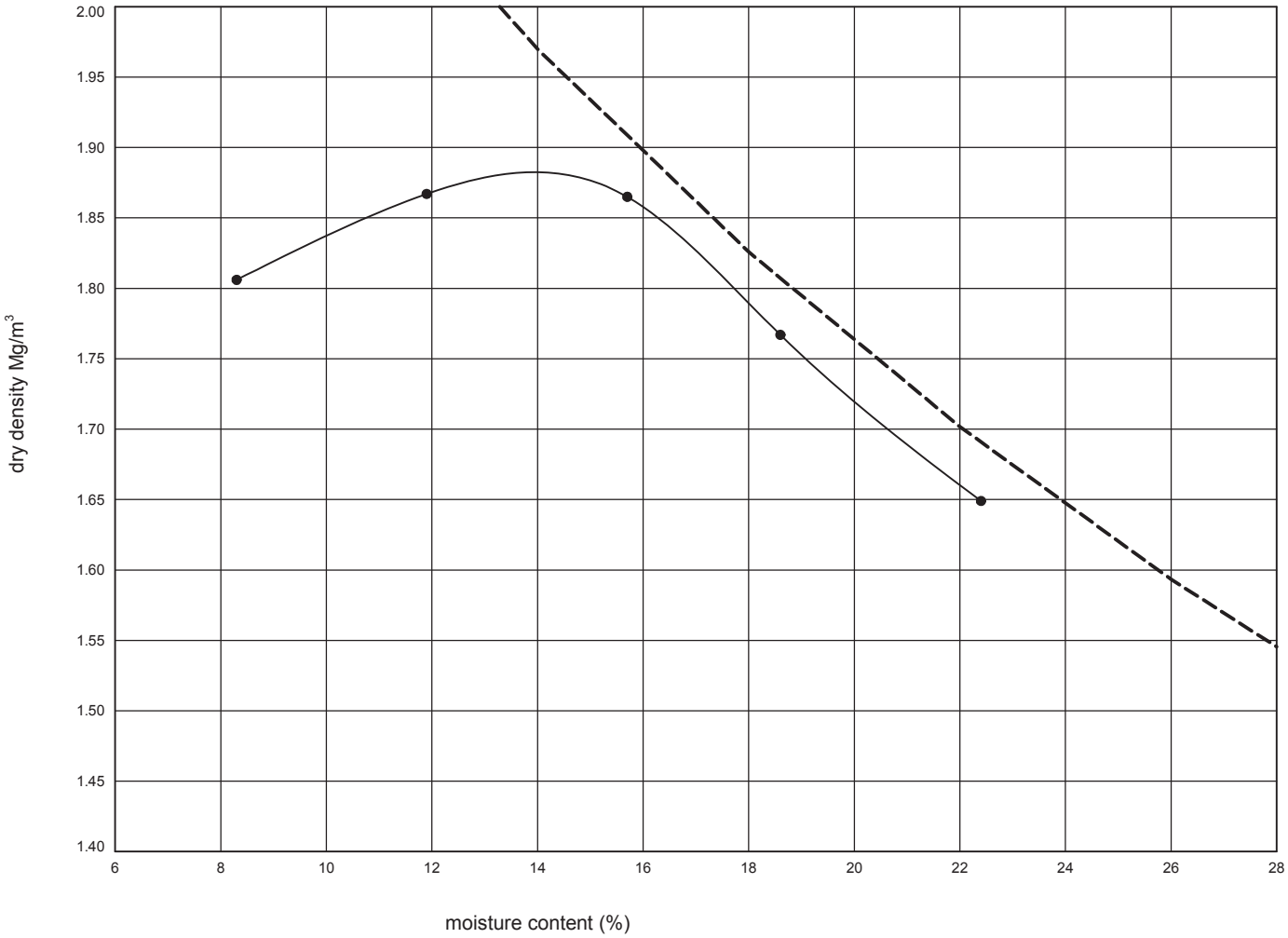
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP527 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.40 |
| DESCRIPTION | Greenish brown mottled orangish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.40 |




| | | | | |
|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | |
| sample preparation | | C,R | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content (%) | 22 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density ($Mg/m^3$) | 1.88 |
| particle density | ($Mg/m^3$) | #2.72 | optimum moisture content (%) | 14 |

remarks:

– – – – represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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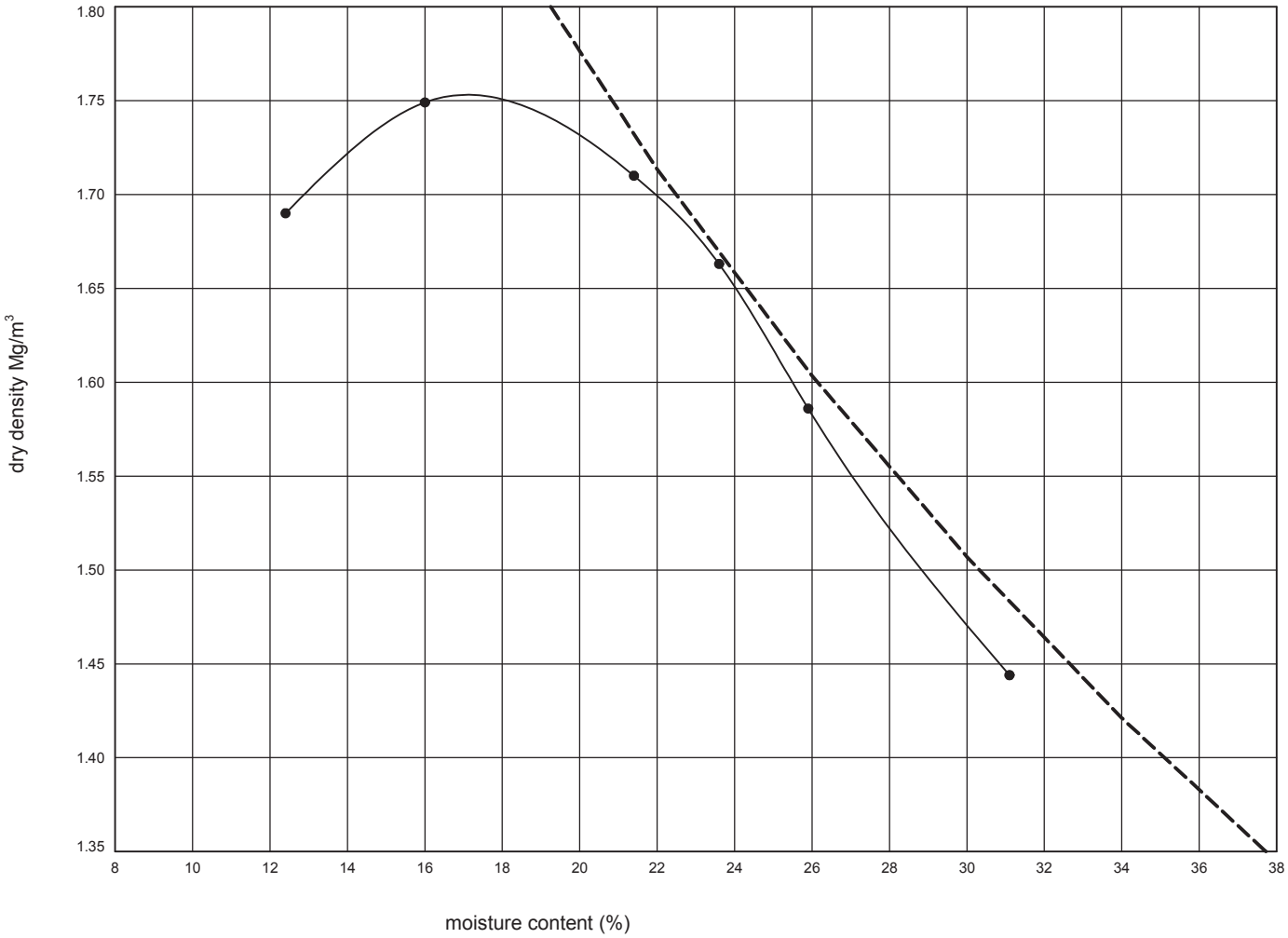
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP527 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.20 |
| DESCRIPTION | Grey mottled white slightly sandy CLAY | SPECIMEN DEPTH (m) | 1.20 |




| | | | | |
|---|---|---|---|---|
| test method | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | C,R | | | |
| proportion retained on 37.5mm sieve (%) | 0 | initial moisture content (%) | 35 | |
| proportion retained on 20mm sieve (%) | 0 | maximum dry density ($Mg/m^3$) | 1.76 | |
| particle density ($Mg/m^3$) | #2.75 | optimum moisture content (%) | 17 | |

remarks:

– – – – – represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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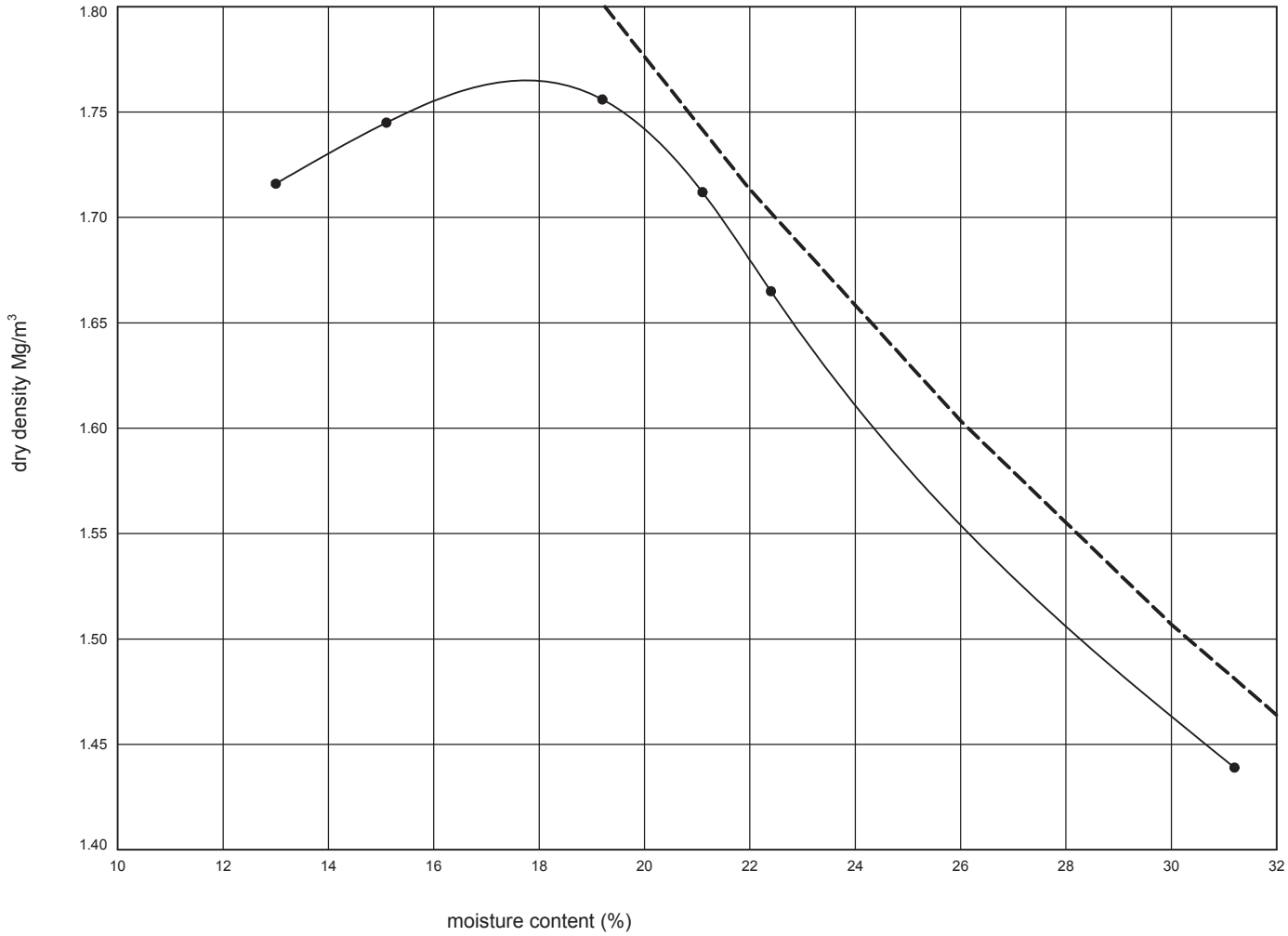
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP532A |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.30 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.30 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 32 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.76 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content | (%) | 18 |

remarks:

represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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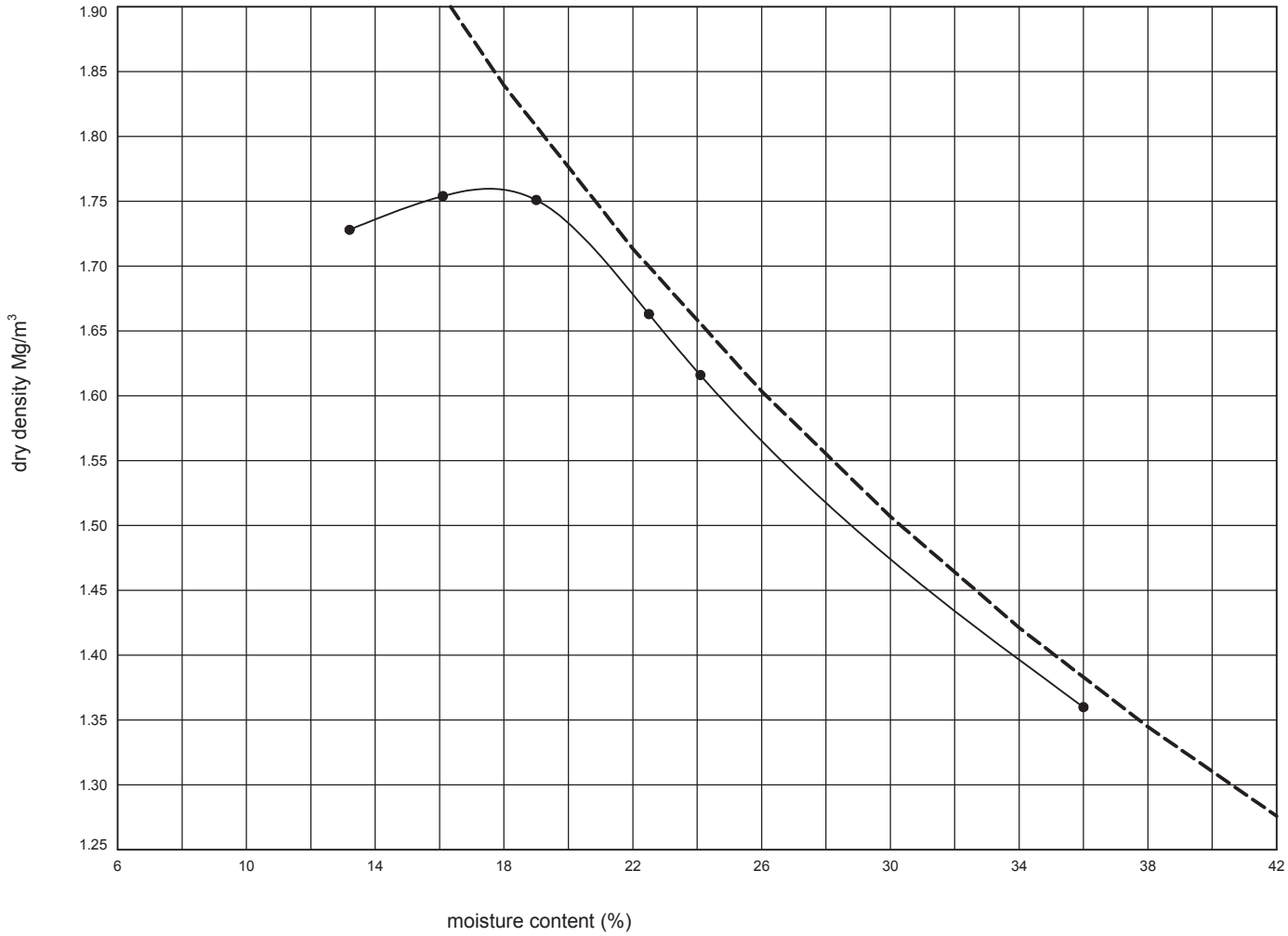
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP532A |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 8B |
| | | SAMPLE DEPTH (m) | 2.20 |
| DESCRIPTION | Greyish brown mottled off white slightly sandy CLAY | SPECIMEN DEPTH (m) | 2.20 |




| | | | | |
|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | |
| sample preparation | | C,R | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content (%) | 37 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density ($Mg/m^3$) | 1.76 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content (%) | 18 |

remarks:

represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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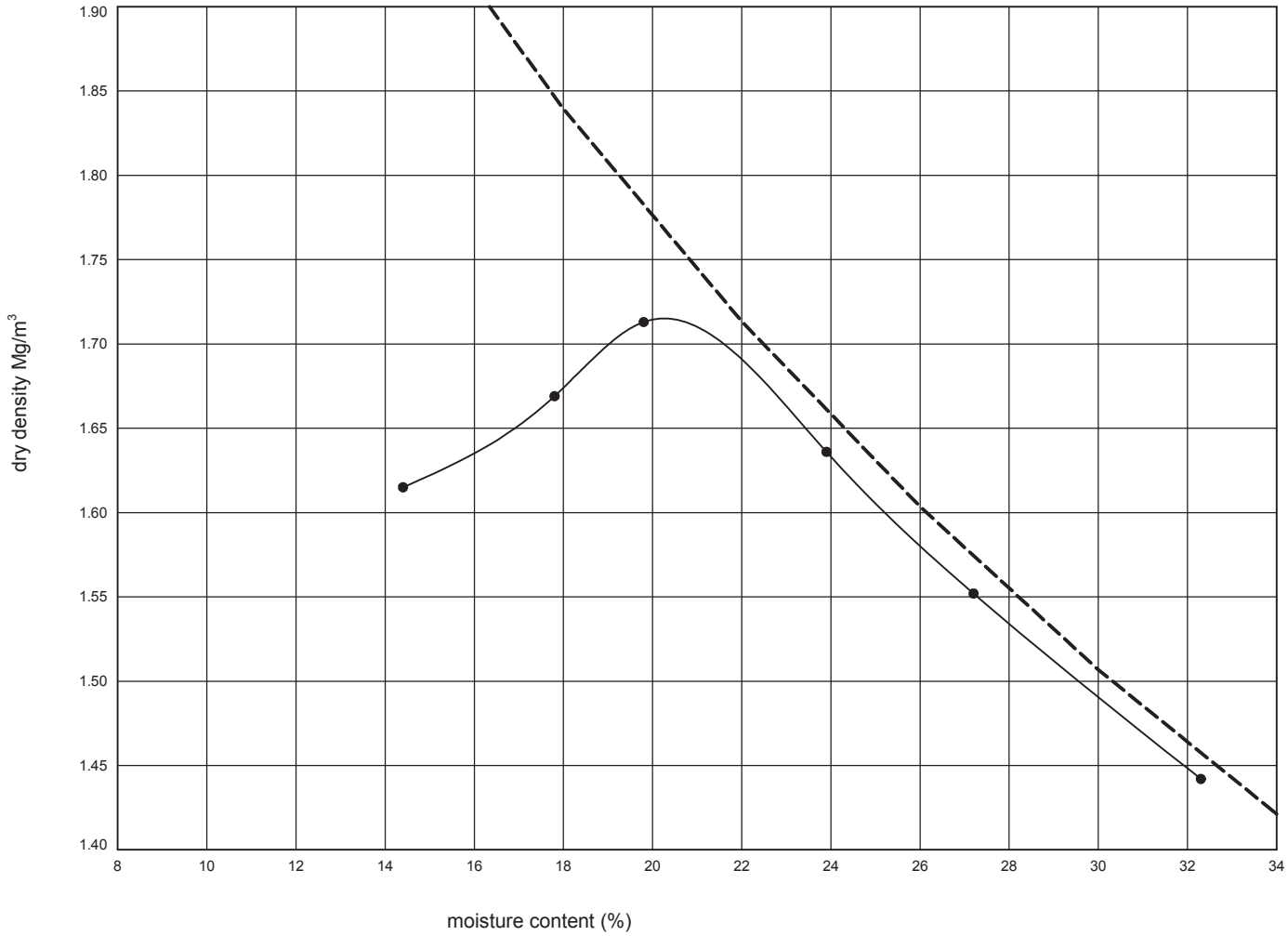
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP533 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 3B |
| | | SAMPLE DEPTH (m) | 0.60 |
| DESCRIPTION | Greenish brown mottled brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 0.60 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 32 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.72 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content | (%) | 20 |

remarks:

represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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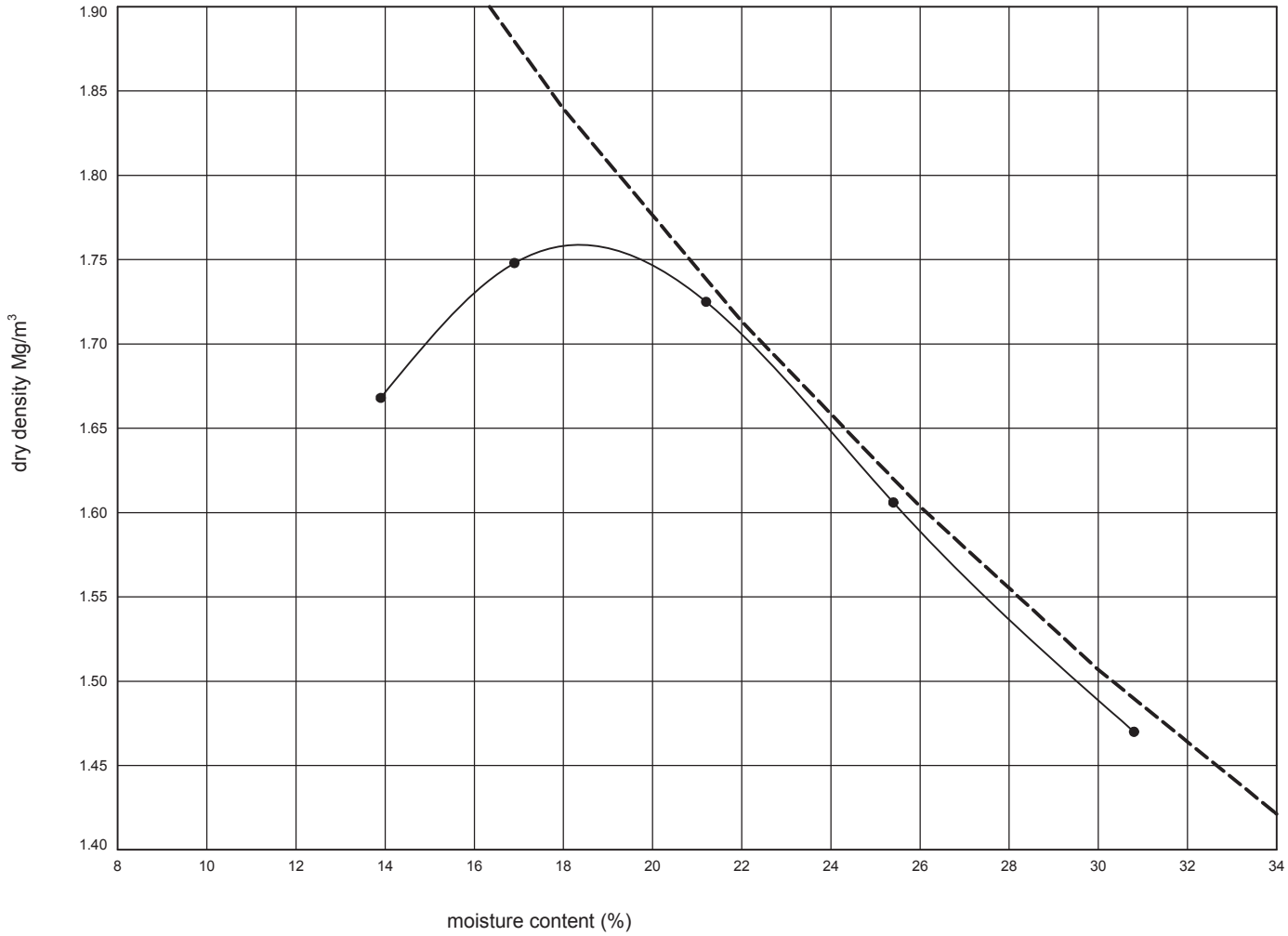
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP538 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 5B |
| | | SAMPLE DEPTH (m) | 1.00 |
| DESCRIPTION | Greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 1.00 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 32 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.76 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content | (%) | 18 |

remarks:

– – – – – represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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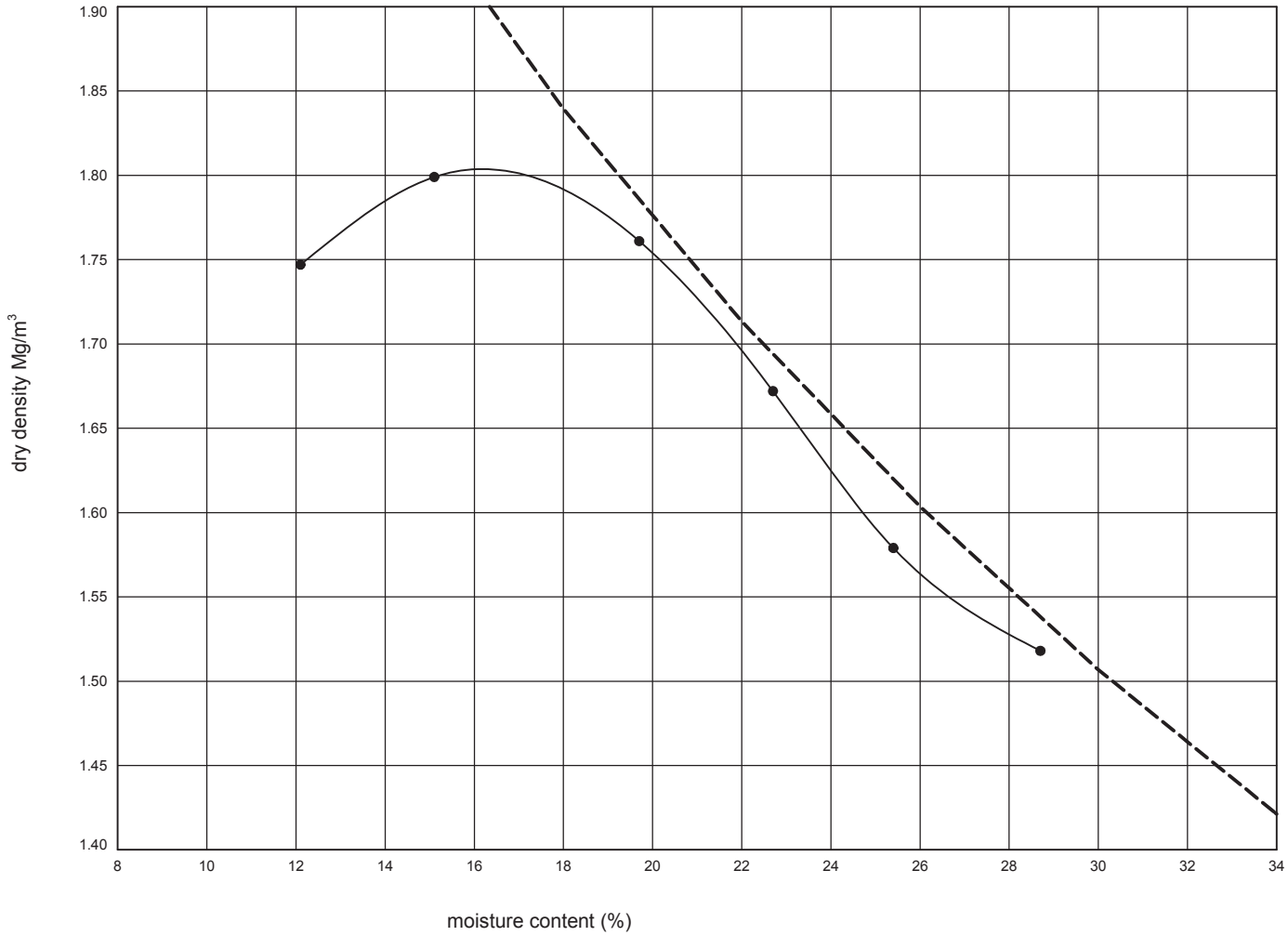
Geotechnical Engineering Limited

# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP538 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 7B |
| | | SAMPLE DEPTH (m) | 2.00 |
| DESCRIPTION | Greyish brown mottled greenish brown slightly sandy silty CLAY | SPECIMEN DEPTH (m) | 2.00 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.5.4.1 4.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 28 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.80 |
| particle density | ($Mg/m^3$) | #2.75 | optimum moisture content | (%) | 16 |

remarks:

– – – – represents 0% air voids curve

# denotes particle density has been assigned
an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
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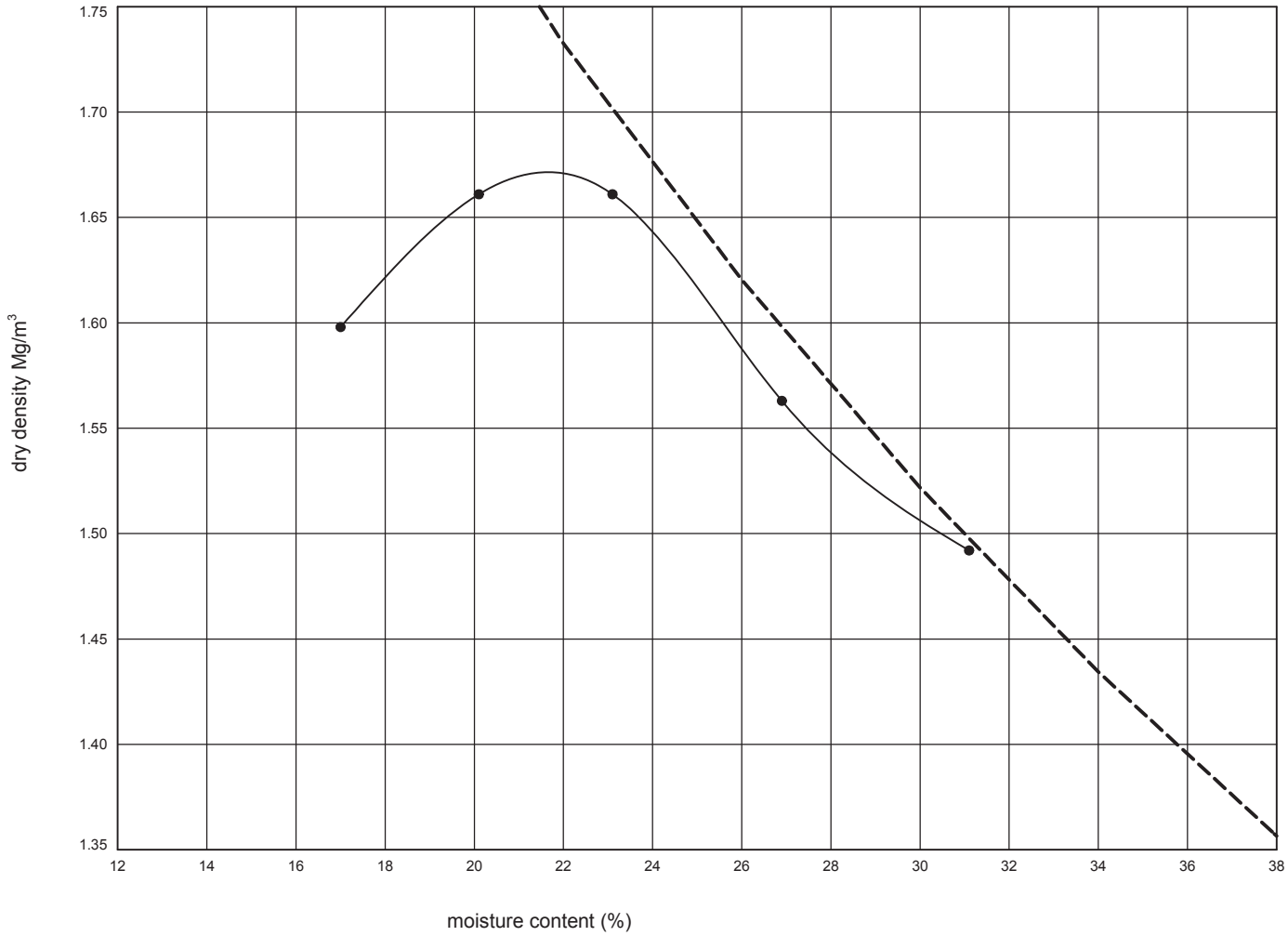
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

**BS.1377 : Part 4 : 1990 : 3**

| | | | |
|---|---|---|---|
| CLIENT | GRAVEN HILL VILLAGE DEVELOPMENT COMPANY | BH/TP No. | TP539 |
| SITE | GRAVEN HILL NEW URBAN COMMUNITY, BICESTER | SAMPLE No./TYPE | 6B |
| | | SAMPLE DEPTH (m) | 1.50 |
| DESCRIPTION | Grey mottled white silty CLAY | SPECIMEN DEPTH (m) | 1.50 |




| | | | | | |
|---|---|---|---|---|---|
| test method | | 3.3.4.1 2.5kg dynamic compaction - 1L mould | | | |
| preparation procedure | | 3.2.4.1 (grading zone 1) | | | |
| sample preparation | | C,R | | | |
| proportion retained on 37.5mm sieve | (%) | 0 | initial moisture content | (%) | 38 |
| proportion retained on 20mm sieve | (%) | 0 | maximum dry density | ($Mg/m^3$) | 1.67 |
| particle density | ($Mg/m^3$) | #2.80 | optimum moisture content | (%) | 22 |

remarks:

represents 0% air voids curve

# denotes particle density has been assigned an assumed value
C denotes sample has been chopped to pass 20mm sieve
S denotes sample has been shredded to pass 20mm sieve
R denotes sample material has been recycled between/for points

| CONTRACT | CHECKED |
|---|---|
| **30378** | **SR** |

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Chemtest Ltd.
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.co.uk

UKAS TESTING 2183

# Final Report

| | | | |
|---|---|---|---|
| **Report Number:** | 15-14007 Issue-1 | | |
| **Initial Date of Issue:** | 23-Jun-2015 | | |
| **Client:** | Geotechnical Engineering Ltd | | |
| **Client Address:** | Centurion House<br>Olympus Park<br>Quedgeley<br>Gloucester<br>Gloucestershire<br>GL2 4NF | | |
| **Contact(s):** | Claire Andrew | | |
| **Project:** | 30378/C Graven Hill, Bicester | | |
| **Quotation No.:** | | **Date Received:** | 18-Jun-2015 |
| **Order No.:** | | **Date Instructed:** | 18-Jun-2015 |
| **No. of Samples:** | 28 | **Target Due Date:** | 22-Jun-2015 |
| **Turnaround: (Wkdays)** | 5 | **Results Due Date:** | 24-Jun-2015 |
| **Date Approved:** | 22-Jun-2015 | | |

**Approved By:**

**Details:** Darrell Hall, Laboratory Director

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# Results Summary - Soil

## Project: 30378/C Graven Hill, Bicester

| Client: Geotechnical Engineering Ltd | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quotation No.: | | | | **Chemtest Job No.:** | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 |
| Order No.: | | | | **Chemtest Sample ID.:** | 154716 | 154717 | 154718 | 154719 | 154720 | 154721 | 154722 | 154723 | 154724 | 154725 | 154726 |
| | | | | Client Sample Ref.: | | | | | | | | | | | |
| | | | | **Client Sample ID.:** | TP514 2B | TP521 4B | TP524 4B | TP532A 6B | TP518 2B | TP514 1B | TP516 2B | TP516 4B | TP515 2B | TP515 3B | TP519 2B |
| | | | | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | | | | Top Depth (m): | 1.40 | 1.60 | 1.80 | 2.20 | 0.40 | 0.40 | 1.00 | 2.00 | 0.30 | 1.10 | 0.50 |
| | | | | Bottom Depth(m): | | | | | | | | | | | |
| | | | | Date Sampled: | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | | | | | | | | | | | |
| Moisture | N | 2030 | % | 0.02 | 29 | 20 | 24 | 24 | 17 | 24 | 18 | 21 | 22 | 20 | 18 |
| pH | U | 2010 | | | 4.5 | 8.1 | 8.1 | 7.7 | 8.1 | 8.0 | 8.4 | 8.3 | 8.2 | 8.1 | 8.3 |
| Magnesium (Water Soluble) | N | 2120 | g/l | 0.01 | 0.092 | < 0.010 | < 0.010 | 0.017 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| Sulphate (2:1 Water Soluble) as SO4 | U | 2120 | g/l | 0.01 | 1.9 | 0.16 | 0.15 | 1.7 | 0.22 | 0.16 | 0.037 | 0.035 | 0.13 | 0.20 | 0.064 |
| Total Sulphur | U | 2175 | % | 0.01 | 0.77 | 0.090 | 0.040 | 5.3 | 0.12 | 0.050 | 0.020 | 0.070 | 0.040 | 0.010 | 0.040 |
| Chloride (Extractable) | U | 2220 | g/l | 0.01 | 0.014 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| Nitrate (Extractable) | N | 2220 | g/l | 0.01 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| Sulphate (Acid Soluble) | U | 2430 | % | 0.01 | 1.2 | 0.23 | 0.12 | 7.0 | 0.25 | 0.096 | 0.083 | 0.045 | 0.11 | 0.094 | 0.097 |

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# Results Summary - Soil

## Project: 30378/C Graven Hill, Bicester

| Client: Geotechnical Engineering Ltd | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Chemtest Job No.:** | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 |
| Quotation No.: | | | | **Chemtest Sample ID.:** | 154727 | 154728 | 154729 | 154730 | 154731 | 154732 | 154733 | 154734 | 154735 | 154736 | 154737 |
| Order No.: | | | | Client Sample Ref.: | | | | | | | | | | | |
| | | | | **Client Sample ID.:** | TP521 2B | TP524 2B | TP527 2B | TP532A 2B | TP533 2B | TP538 3B | TP526 6B | TP527 6B | TP539 4B | TP519 4B | TP527 4B |
| | | | | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | | | | Top Depth (m): | 0.50 | 0.50 | 0.40 | 0.30 | 0.60 | 1.00 | 2.20 | 2.40 | 1.50 | 1.90 | 1.20 |
| | | | | Bottom Depth(m): | | | | | | | | | | | |
| | | | | Date Sampled: | 17-Jun-15 | 17-Jun-15 | 16-Jun-15 | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 | 16-Jun-15 | 16-Jun-15 | 16-Jun-15 | 16-Jun-15 | 16-Jun-15 |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | | | | | | | | | | | |
| Moisture | N | 2030 | % | 0.02 | 21 | 18 | 17 | 20 | 22 | 21 | 30 | 27 | 25 | 19 | 21 |
| pH | U | 2010 | | | 8.3 | 8.3 | 7.9 | 8.2 | 8.1 | 8.3 | 4.3 | 6.0 | 7.8 | 8.0 | 7.6 |
| Magnesium (Water Soluble) | N | 2120 | g/l | 0.01 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | 0.010 | 0.13 | 0.029 | 0.061 | 0.11 |
| Sulphate (2:1 Water Soluble) as SO4 | U | 2120 | g/l | 0.01 | 0.022 | 0.013 | 0.085 | 0.19 | 0.055 | 0.12 | 0.26 | 2.1 | 1.5 | 1.5 | 2.0 |
| Total Sulphur | U | 2175 | % | 0.01 | 0.020 | 0.020 | 0.020 | 0.040 | 0.020 | 0.060 | 0.48 | 5.3 | 3.0 | 1.0 | 2.4 |
| Chloride (Extractable) | U | 2220 | g/l | 0.01 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | 0.019 | < 0.010 | < 0.010 | < 0.010 |
| Nitrate (Extractable) | N | 2220 | g/l | 0.01 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| Sulphate (Acid Soluble) | U | 2430 | % | 0.01 | 0.069 | 0.064 | 0.031 | 0.087 | 0.052 | 0.080 | 1.1 | 6.5 | 5.9 | 2.7 | 7.8 |

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# Results Summary - Soil

## Project: 30378/C Graven Hill, Bicester

| Client: Geotechnical Engineering Ltd | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Chemtest Job No.:** | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 | 15-14007 |
| Quotation No.: | | | | **Chemtest Sample ID.:** | 154738 | 154739 | 154740 | 154741 | 154742 | 154743 |
| Order No.: | | | | Client Sample Ref.: | | | | | | |
| | | | | **Client Sample ID.:** | TP523 6B | TP523 7B | TP526 2B | TP526 4B | TP518 4B | TP538 5B |
| | | | | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | | | | Top Depth (m): | 2.00 | 2.40 | 0.60 | 1.50 | 1.50 | 2.00 |
| | | | | Bottom Depth(m): | | | | | | |
| | | | | Date Sampled: | 16-Jun-15 | 17-Jun-15 | 16-Jun-15 | 17-Jun-15 | 17-Jun-15 | 17-Jun-15 |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | | | | | | |
| Moisture | N | 2030 | % | 0.02 | 25 | 24 | 26 | 26 | 19 | 19 |
| pH | U | 2010 | | | 7.7 | 7.7 | 7.3 | 5.7 | 8.3 | 8.3 |
| Magnesium (Water Soluble) | N | 2120 | g/l | 0.01 | 0.017 | 0.031 | 0.015 | < 0.010 | < 0.010 | < 0.010 |
| Sulphate (2:1 Water Soluble) as SO4 | U | 2120 | g/l | 0.01 | 0.81 | 1.6 | 0.32 | 0.17 | 0.035 | 0.096 |
| Total Sulphur | U | 2175 | % | 0.01 | 0.28 | 4.0 | 0.10 | 0.050 | 0.050 | 0.070 |
| Chloride (Extractable) | U | 2220 | g/l | 0.01 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| Nitrate (Extractable) | N | 2220 | g/l | 0.01 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| Sulphate (Acid Soluble) | U | 2430 | % | 0.01 | 1.0 | 3.0 | 0.27 | 0.16 | 0.087 | 0.086 |

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## Report Information

### Key

| | |
|---|---|
| U | UKAS accredited |
| M | MCERTS and UKAS accredited |
| N | Unaccredited |
| S | This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis |
| SN | This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis |
| T | This analysis has been subcontracted to an unaccredited laboratory |
| I/S | Insufficient Sample |
| U/S | Unsuitable Sample |
| N/E | not evaluated |
| < | "less than" |
| > | "greater than" |

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis
The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols
For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at our Coventry laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container

### Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.co.uk