Fontmell Close, St Albans, Hertfordshire, AL3 5HU

Ground Subsidence Investigation Report

On behalf of

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Mr & Mrs Williams c/o Acromas c/o Innovation Group Plc; &

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1 Introduction

1.1 Background

1.1.1 Peter Brett Associates LLP (PBA) has been employed to investigate and assess the nature and cause of ground subsidence that has resulted in damage to the highway and adjacent private land at Fontmell Close, St Albans, Hertfordshire, AL3 5HU (see Location Plan **Figure 1**).

1.1.2 The services of PBA have been commissioned by a range of stakeholders impacted by the ground collapse that has occurred as follows:

- Cunningham Lindsey loss adjusters acting on behalf of the insurer Legal and General for 10 Fontmell Close and 1 Bridle Close
- Innovation Group Plc loss adjusters acting on behalf of the insurer Aviva for 8 Fontmell Close and Acromas for 9 Fontmell Close
- Crawford & Company loss adjusters acting on behalf of the insurer Ageas for 11 Fontmell Close
- Hertfordshire County Council (HCC) in respect of the highway.

This report provides the results of the investigations completed below the highway and below adjacent private properties, which have been used to understand the ground conditions present in order to develop a ground model for the site and inform options for remedial measures.

1.1.3 A substantial ground collapse occurred in Fontmell Close on 1 October 2015. Following the collapse HCC and St Albans City & District Council (SACDC) coordinated infilling of the collapse with foamed concrete. HCC then commissioned a geophysical survey of the highway, completed by Geotechnology Ltd. Further geophysical surveys were later carried out by RSK, commissioned by GCG by agreement with the loss adjusters, encompassing adjacent private properties around the margins of the collapse.

1.1.4 Following a review of the geophysical survey results, PBA coordinated intrusive ground investigation works including the drilling of boreholes in areas interpreted by the geophysical survey to be of lower density ground than surrounding areas, possibly containing voids. These intrusive investigations were completed during December 2015 and January 2016.

1.2 The Site

1.2.1 The plan area of the ground collapse, centred on the highway, is approximately 130m^2 and is located between the fronts of numbers 8, 9 and 11 Fontmell Close, St Albans, Hertfordshire. The site of the collapse is approximately 1.5km to the north east of St Albans city centre (approximately TL 154 084). The immediate area is surrounded by further residential development. Numbers 8 and 10 Fontmell Close are two storey, semi-detached houses, number 1 Bridle Close is a two storey detached house, whilst numbers 9 and 11 Fontmell Close are single storey detached bungalows.

1.3 Historical Information

1.3.1 Based on a review of historical OS maps, the earliest available map dated 1878, shows that the site of the collapse and surrounding properties coincide with the location of a historical clay pit. A lime kiln and brick kiln are located on the south side of the pit. The land plot

containing the pit and kilns is marked as a Brick Field. The plan extent of the historical clay pit encompassed the land now occupied by the above referenced properties and extends over a wider area to the north, east, south and west. The 1898 map no longer shows the clay pits but marks the area as Old Clay Pits and the land where the clay pits were located is now marked as pasture. The early development of the houses around Fontmell Close in the wider area is shown on the maps from 1924, although outlines of the former pits can still be seen. By the 1973 map edition Fontmell Close and Bridle Close are shown much as they are currently.

1.3.2 Historical maps also show that further historical clay pits were present in the wider area surrounding Fontmell Close. The 1878 map shows further clay pits and kilns within a Brick Field a few hundred metres to the west. Three shafts are also marked indicating the presence of chalk mine workings.

1.3.3 As well as clay, chalk was an essential part of the brick, tile and pottery manufacturing process and the presence of chalk pits or chalk mine workings are commonly associated with the presence of clay pits (Edmonds, Green & Higginbottom 1990). Chalk was also required for the production of lime and the presence of lime kilns therefore can also indicate the presence of historical chalk workings. Copies of the referenced historical maps are contained within the geophysical survey report prepared by Geotechnology Ltd.

1.4 Geology

1.4.1 At the location of the site the published geological sequence (British Geological Survey Sheet 239: Hertford, 1978, 1: 50,000 scale and online resources at www.bgs.ac.uk) was indicated to comprise Quaternary age Kesgrave Catchment Subgroup – Sand & Gravel over Palaeogene age Lambeth Group deposits underlain by Cretaceous age Chalk Group strata (Lewes Nodular Chalk and Seaford Chalk Formations undifferentiated).

1.5 Hydrogeology

1.5.1 The published hydrogeology map (British Geological Survey, Hydrogeological Map of the area between Cambridge And Maidenhead, 1984, 1:100,000 scale) shows that the ground water level within the chalk aquifer lies between 70m OD and 80m OD (as recorded in 1976). Based on the topographical survey completed, ground level is recorded at around 122m OD. This indicates that the depth to ground water in the underlying chalk is at about 40m to 50m below the ground surface.

1.6 Scope of Works

1.6.1 The agreed scope of the ground investigation works undertaken by PBA comprised:

- Topographical and Utilities Surveys
- 3 vertically drilled cable percussion boreholes to obtain soil samples and to assess the ground conditions around the collapse in areas marginal to where anomalous ground conditions were inferred by the geophysical surveys
- 22 vertically and inclined drilled rotary open hole boreholes to assess ground conditions immediately below and surrounding the collapse feature particularly below adjacent private properties
- 3 window sampler boreholes to the rear of number 8 Fontmell Close
- 11 super heavy dynamic probes to the rear of numbers 8 and 10 Fontmell Close
- 3 hand dug trial pits to inspect the foundations of 9 and 11 Fontmell Close

- Production of exploratory hole Logs
- Interpretation of the ground conditions
- Production of a Ground Subsidence Investigation Report

2 Ground Investigations Completed

2.1 Geophysical Surveys

2.1.1 An initial geophysical survey was carried out by Geotechnology Ltd, acting on behalf of HCC (ref: Ground Collapse at Fontmell Close, St Albans, Microgravity Report, Report Number 1531r1v1d1015). This survey, undertaken shortly after backfilling the collapse, was focused on the highway and included the full length of Fontmell Close and Bridle Close. The survey results have been used to inform design of the follow-on intrusive investigations coordinated by Opus acting on behalf of HCC below the highway as well as those coordinated by PBA in the immediate area of the ground collapse.

2.1.2 Two further geophysical surveys were carried out by RSK, instructed by GCG on behalf of the loss adjusters, to encompass the private properties adjacent to the collapse (refs: Fontmell Close, St Albans, Geophysical Report, Project No. 191366 dated November 2015, RSK and Fontmell Close, St Albans, Geophysical Report, Project No. 191428 dated December 2015, RSK). These surveys have also informed the intrusive investigations coordinated by PBA.

2.2 Enabling Surveys

2.2.1 Prior to any intrusive work commencing PBA instructed Site Vision Surveys to complete a topographical survey and utilities survey of the site. The records from these surveys are presented within **Appendix 1.** In addition, level monitoring was carried out upon the concrete plug and properties around to check whether any significant movement was occurring.

2.2.2 A ground investigation was designed, risk assessed (with input from the stakeholders and GCG) and coordinated on site by PBA. The investigation was undertaken between 2 December 2015 and 27 January 2016, suspended over the Christmas period from 18 December 2015 to 4 January 2016. During this investigation, three cable percussion boreholes were sunk by Terra Firma Ground Investigations Ltd and twenty two rotary drilled non-cored boreholes were sunk by Forkers Limited. To investigate a localised ground depression to the rear of 8 Fontmell Close, eleven super heavyweight dynamic probes and three window sampler boreholes were sunk by Stunt Drilling Ltd. Hand dug trial pits to inspect the foundations of 9 and 11 Fontmell Close were carried out by Harcross Ltd who acted as Principal Contractor for the duration of the works on site.

2.2.3 All exploratory holes were logged by PBA and the investigation records can be found in **Appendix 2** with exploratory hole locations provided on **Figure 2**.

2.2.4 The cable percussion boreholes, window sampler boreholes and dynamic probes were carried out in accordance with the British and European Standard BSEN ISO 22476-2:2005, Geotechnical Investigation and Testing.

2.3 Super Heavy Weight Dynamic Probes

2.3.1 Super heavy weight dynamic probing was undertaken to the rear of 8 and 10 Fontmell Close. The technique employed consists of driving a rod with an oversized cone at its base into the ground with blows from a percussive hammer with a uniform weight (63.5kg) and drop height (760mm). The blow count is recorded for each 100mm of driving (N100 value). The results of the probes are presented as N100 values versus depth. Side friction on the driving rods or torque is measured every metre. The torque value provides a guide to the friction build-up with depth showing the horizons where the recorded blow counts also incorporate a degree of energy input to overcome friction. The method of ground investigation conforms to the British and European Standard BS EN ISO 22476-2:2005 Geotechnical Investigation and Testing, Field Testing, Part 2 Dynamic Probing.

2.3.2 The dynamic probes were positioned across minor ground depressions noted within the two rear gardens. The probes, taken to depths of up to 16.4m bgl, provide a ground strength profile plotted against depth of penetration.

2.3.3 The recorded N_{100} values, plotted versus depth, have been interpreted in terms of profile shape, the blow counts, pattern and side friction. The N_{100} values can be combined over a depth interval of 300mm to derive N_{300} values which in turn can be used to classify the ground from a stability perspective as being undisturbed, relaxed or disturbed as shown in the table below.

N_{300} Values	Interpreted Ground Condition
≤ 5	Very weak/voided/disturbed Ground
6 – 10	Reduced strength/relaxed Ground
>10	Undisturbed Ground

2.4 Window Sampler Boreholes

2.4.1 In order to confirm and clarify the shallow geological sequence present, a series of window sampler boreholes were undertaken to the rear of 8 Fontmell Close. These boreholes, taken to depths of up to 4.0m bgl, were positioned where it was anticipated that reasonable ground penetration to depth could be achieved.

2.4.2 The window sampling technique involves percussively driving hollow, small diameter, metal sample tubes of between 1m and 2m in length into the ground. The sample tubes are driven into the ground using the same rig that was used to perform the probes. The sampling tubes have a cutting shoe attached at the driving end. Copies of the exploratory hole logs are presented in **Appendix 2** and their locations are shown in **Figure 2**.

2.5 Cable Percussion Boreholes

2.5.1 Three cable percussion boreholes were completed, two below the highway and one in the front garden of 8 Fontmell Close. These boreholes were sunk to confirm the geological sequence and to confirm the nature of the ground conditions in areas where the geophysical surveys had inferred either relatively undisturbed or edge of anomalous ground conditions. BH101 refused due to encountering loose sands at 22.5m bgl, whilst BH102 and 103 were terminated in chalk at 24.9m bgl and 31.45m bgl respectively.

2.5.2 The cable percussion technique involves dropping a shell (cohesionless soils) or auger (for cohesive soils) from up to 3 metres above ground level from a derrick of around 6 metres in height. The drop is self-weighted. Standard penetration tests (SPT) were carried out at 1m intervals for 5m, then every 1.5m thereafter. SPTs provide an additional density test and were carried out in order to determine the depth at which competent chalk was encountered. Cable percussion techniques were carried out in accordance with BS 5930:1999+A2:2010.

2.5.3 The soil strata encountered were logged in accordance with BS 5930:1999+A2:2010, BS EN ISO 14688-1:2002 and CIRIA C574. Copies of the exploratory hole logs are presented in **Appendix 2** and their locations are shown in **Figure 2**.

2.6 Rotary Boreholes

2.6.1 Twenty two rotary drilled non-cored boreholes were completed. Sixteen of these holes were completed from the surface of the foamed concrete backfill to the collapse and were drilled both vertically and at raking angles to investigate the ground below and immediately

surrounding the collapse. Two further vertical holes were positioned upon the highway, to the east and west of the collapse. Two angled holes were also drilled below 1 Bridle Way, and two more below 8 and 10 Fontmell Close.

2.6.2 The technique for these holes included using rotary drilling methods to advance both casing and drill rods together to the desired termination depth. Minimal water was added as required to assist the drilling process. This approach was adopted to minimise the risk of triggering ground movement by the boring process in case further voids were present in the ground. Drill cuttings were returned to the surface during drilling process which enabled logging of the strata encountered. The lead driller completed driller's logs for each borehole.

2.6.3 In addition to soils descriptions, in order to facilitate interpretation of the ground conditions and improve interpretation of the ground model, a series of drilling parameters were measured per 500mm drilled as follows:

a. Penetration rate (sec)

b. Applied Drilling Pressure (bar)

c. Air Pressure (bar)

d. Rotary Drilling Speed (rpm)

e. Flush Returns (%).

2.6.4 During the drilling process, the applied drilling pressure, air pressure and rotary drilling speed were kept constant for all boreholes with the only variable being, penetration rate. The resulting rate of ground penetration enabled interpretation of the relative density of the ground being penetrated. This process is a proven method for identifying weak, disturbed or voided ground conditions. The data gathered is presented within **Appendix 3**.

2.7 Level Monitoring

2.7.1 Gryphon Surveys were employed by the loss adjustors to monitor the ground level including the concrete plug.

2.7.2 The results of the monitoring of the concrete plug have been provided to PBA, and can be seen in **Figure 6**. The monitoring data was reviewed during the investigation works and used to check that there was no ground movement of concern occurring during the work on site.

2.7.3 It should be noted that MP14 and MP15 were destroyed when Forkers' rig was placed on the concrete plug. These were replaced as MP14a and MP15a but again these were destroyed. One reading was not possible for MP16 due to the position of the rig at the time.

2.7.4 Additionally Forkers employed the use of oscillating laser levels to check for signs of sudden ground movement between the surface of the concrete plug and the existing road surface beyond as the drilling work took place. This provided a further safeguard as the investigations proceeded and assisted with the ongoing risk assessment process.

3 Ground Investigation Results

3.1 Geophysical Survey Results

3.1.1 The geophysical survey completed by Geotechnology Ltd identified a number of gravity anomalies below the highway. Anomaly A was located immediately to the west of and adjacent to the collapse. The anomaly was considered by the survey company to be a potentially self-supporting void within the chalk bedrock, at an estimated depth of 19m below ground level, posing a risk of further ground instability.

3.1.2 The further geophysical surveys carried out by RSK within the land occupied by the privately owned properties adjacent to the highway partially corroborated the earlier Geotechnology Ltd survey results, and showed that Anomaly A potentially extended to the south, below private property. The survey company acknowledged that the geophysical anomalies identified may be representative of either, void space within the chalk bedrock, or shallow depth variation in the density of fill materials associated with the backfilling of the clay pits.

3.2 Ground Investigation Results

3.2.1 In the first instance it was decided to carry out three cable percussion boreholes (BH101 to BH103) to evaluate the nature of the ground to confirm the results of the geophysical survey and the stability risk assessment. BH101 was positioned in the highway to the north east of the collapse to confirm that stable ground was present at this location as indicated by the geophysical survey. It was necessary to prove this before a tracked rotary drilling rig could be brought to site and positioned upon the concrete plug within the collapse.

3.2.2 The borehole BH101 found Made Ground/ Reworked Ground to 5.5m bgl underlain by clays and sands of the Lambeth Group. The borehole was terminated in the Lambeth Group at 22.5m bgl due to encountering loose sand which blocked the borehole preventing progress.

3.2.3 BH102 was completed in the front lawn of Number 8 Fontmell Close at another location where stable ground was expected north of the collapse and at the edge of the anomalous ground conditions suggested by the geophysical survey. Made Ground and Reworked Ground was encountered to 10m bgl. This was underlain by 8.9m of Lambeth Group deposits. Chalk was encountered at 18.9m bgl and the borehole was terminated at 24.9m bgl. The Chalk was very weak to weak and included a band of sandy clay, possibly associated with a localised karstic feature.

3.2.4 BH103 was drilled to the west of the feature, within the highway at another position where the ground was assessed as being stable. This borehole encountered Made Ground to 7.5m bgl, largely consisting of very loose, black, ash material. This was underlain by the Lambeth Group to 25.7m bgl and Chalk to the termination depth of 31.45m bgl.

3.2.5 Consequently the cable percussion boreholes confirmed the expected stability of the ground as previously risk assessed and they also confirmed what the nature of the variable ground conditions were that had been detected by the geophysical surveys. It was evident that the survey technique was detecting variable thickness and density in the backfill materials within the old historical clay pits that underlay the area. These findings were important in realising that the source of the ground instability was somewhat deeper than the backfilled old pits and the depth of penetration of the geophysical surveys. They also demonstrated that large scale shallow voids did not appear to be present allowing a re-assessment of the stability risks for continuing the ground investigations. The next stage was to carry out deeper level boreholes drilled from the concrete plug which was also being level monitored.

3.2.6 The following table summarises the ground conditions encountered in the twenty two boreholes drilled using rotary open hole methods. It should be noted that within the depth

columns due to the holes being drilled at angles, the upper number, in black, indicates the drilled length, whilst the lower number, in red, indicates the corrected vertical depth, below ground level.

BH No	Depth of Hole (m)	Depth of Made Ground (m)	Thickness of Lambeth Group (m)	Depth to top of Chalk (m)	Additional Comments
BH201	26.0	7.5 7.4	11.5 11.3	19.0 18.7	Concrete plug 3m thick
BH202	30.0	6.0 5.6	20.5 19.3	26.5 24.9	Concrete plug 2m thick
BH203	32.0	7.5 6.7	23.2 20.7	30.7 27.4	Concrete plug 3m thick
BH204	34.0	7.5 6.5	21.0 18.2	28.5 24.7	Concrete plug 3m thick Lambeth Gp/Chalk contact disturbed
BH205	34.0	7.0 6.5	13.5 12.5	20.5 19.0	Concrete plug 3.5m thick Lambeth Gp/Chalk contact highly disturbed
BH206	40.0	6.5 5.9	11.5 10.4	17.5 15.9	Concrete plug 4m thick Lambeth Gp/Chalk contact disturbed
BH207	40.0	7.5 7.0	9.5 8.9	16.5 15.5	Concrete plug 3.5m thick Lambeth Gp/Chalk contact disturbed
BH208	48.0	34.0 34.0	10.1 10.1	44.1 44.1	Concrete plug 4m thick Very soft Made Ground 13.0 – 34.0m
BH209	40.0	7.5 6.6	10.5 9.3	18.0 15.9	Concrete plug 4m thick Lambeth Gp/Chalk contact disturbed Weaker zone in chalk 25m to 35m
BH210	47.5	7.5 7.2	38.5 36.8	46.0 44.0	Concrete plug 3.5m thick Lambeth Gp/Chalk contact disturbed
BH211	40.0	3.5 3.3	15.5 14.8	19.0 18.2	Concrete plug 3.5m thick Lambeth Gp/Chalk contact is disturbed
BH212	40.0	6.5 6.4	5.5 5.4	12.0 11.5	Concrete plug 3m thick
BH213	50.0	10.0 9.9	12.0 11.9	22.0 21.8	Concrete plug 5.5m thick Lambeth Gp/Chalk contact is disturbed Very weak zone in chalk 29.5m – 34.0m and also weaker 38m – 47.5m

BH No	Depth of Hole (m)	Depth of Made Ground (m)	Thickness of Lambeth Group (m)	Depth to top of Chalk (m)	Additional Comments
BH214	50.0	14.0 13.9	7.5 7.4	21.5 21.3	Concrete plug 5m thick Weaker zone in chalk 31.5m – 36m
BH215	40.0	6.0 6.0	13.5 13.5	19.5 19.5	Drilled vertically Heavily weathered chalk surface to 26.5m
BH216	50.0	3.0 3.0	42.0 42.0	45.0 45.0	Drilled vertically Very soft drilling 39.0 – 45.0m showing disturbed Lambeth Gp above chalk surface
BH217	46.5	23.5 23.3	2.0 2.0	25.5 25.3	Concrete plug 5m thick Lambeth Gp/Chalk contact is disturbed
BH218	50.0	17.5 17.4	2.0 2.0	19.5 19.4	Concrete plug 4.5m thick Lambeth Gp/Chalk contact disturbed and chalk highly weathered to 34m. Very weak zone 34.0 – 42m
BH219	40.0	11.0 10.9	13.5 13.3	24.5 24.3	Lambeth Gp/Chalk contact is disturbed 18.5m – 24.5m
BH220	40.0	10.0 9.9	8.0 7.9	18.0 17.8	Lambeth Gp/Chalk contact is disturbed 15.5m – 22m Sandy layer within chalk 29.5 – 33.5m
BH221	42.0	8.0 7.7	18.0 17.4	26.0 25.1	Highly weathered chalk surface 26m – 30.5m
BH222	40.0	7.5 7.3	16.5 16.0	24.0 23.3	Highly weathered chalk surface 24m – 28m

3.2.7 The results above indicate significant variation in the depth to the chalk bedrock, ranging from 11.5m to 45.0m bgl. The depth to the base of the Made Ground encountered also varies significantly, from 3.0m bgl below the highway to the north east side of the collapse, to 34.0m bgl below the foamed concrete plug in the collapse. The concrete plug thickness also varies locally from 2m to 5.5m.

3.2.8 During the drilling process drilling parameters were recorded and the records of these are presented within **Appendix 3.** It should be noted also that all boreholes drilled were backfilled with a cement bentonite grout mix on completion to seal them and prevent them forming a preferential path for drainage in the future.

3.2.9 A series of dynamic probes and window samples were carried out to the rear of 8 and 10 Fontmell Close, to investigate localised ground surface depressions. All the probes sunk, terminated in dense material at significantly shallower depth that the design depth.

3.2.10 A total of 11 dynamic proves (DP401 to DP411) were completed by Stunt Drilling Ltd to depths of between 3.0m and 16.4m below ground level (bgl). Three window samples (WS501 to WS503) were also completed, to depths of between 3.0 and 4.0m bgl.

3.2.11 The table below provides a summary of the terminated depth of the probes and window samples completed (bgl).

Probe/ Borehole	Terminated Depth (bgl)
DP401	6.5m
DP402	6.6m
DP403	6.5m
DP404	6.2m
DP405	16.4m
DP406	3.0m
DP406a	8.3m
DP407	8.1m
DP408	12.7m
DP409	11.5m
DP410	7.8m
DP411	8.5m
WA501	4.0m
WS502	3.0m
WS503	4.0m

3.2.12 Dynamic probes DP401, DP402 and DP403 were completed from a platform constructed by Harcross Specialist Contractors over a shallow depression in the rear garden of number 8. These probes showed a very weak ground profile to approximately 3m bgl. Below this depth the ground strength increases, with all three probes refusing at between 6.5m and 6.6m bgl. Window sample WS502 was also completed from this platform. Made Ground was encountered to 1.0m bgl. Between 1.0 and 3.0m bgl there was no recovery, due to an obstruction blocking the sampling tube. For this reason this window sample was terminated early.

3.2.13 DP404 and DP405 were completed within a further small depression had been noted in the grass, thought to be associated with a drainage line. These probes showed very weak ground to between 2.0m and 2.5m bgl, below which ground strength increases. DP404 refused at 6.2m whilst DP405 refused at 16.4m.

3.2.14 DP406, DP406a and DP407 were completed near a second small depression, thought to be associated with an old tree location. DP406 was terminated early due to inclination of the rods, and was moved slightly and retested as DP406a. DP406a showed very weak ground to 2.9m

bgl and below this the ground strength increased showing similar blow counts (mostly 3s and 4s) to 5.8m bgl. The ground strength then improved further until the termination depth was reached at 8.3m bgl where refusal occurred in undisturbed ground. DP407 shows a very weak profile to 5.2m bgl, followed by an increase of strength (blow counts 3s to 5s) to 7.0m bgl. Below this there is a further rapid increase in strength to a termination depth of 8.1m.

3.2.15 WS503 was completed between these two depressions in the grass where Made Ground was encountered to the termination depth of 4.0m bgl.

3.2.16 DP408 and DP409 were completed upon the rear patio of number 8 along with WS501. This was to investigate some movement that had occurred below the patio slabs, thought to also be associated with drainage. DP408 shows a very weak profile to 8m bgl, below which ground strength increases slightly 10m depth and then further improves below to the termination depth of 12.7m bgl. DP409 shows a very weak profile to 6.5m bgl except for a denser layer at 5m depth. Below this the ground strength progressively increases to the refusal depth of 11.5m bgl. WS501 shows a Made Ground profile to the termination depth of 4m.

3.2.17 DP410 and DP411 were completed in the rear garden of number 10, in line with the depression in the rear garden of number 8. The ground strength profiles for DP410 and DP411 are similar to those of DP402 to DP404, showing very weak ground to between 5m and 6.1m bgl. Below this the profiles indicate stronger ground to the termination depths of 7.8m and 8.5m bgl respectively.

3.2.18 The results appear to indicate variable depths of weak backfilled ground associated with the infilling of the former clay pits at the site below the position of the garden depression. It seems likely that the depressions forming in the garden of number 8 are possibly related to where utility services pass through the filled ground.

3.3 Existing Foundations

3.3.1 Three trial pits were dug by hand to expose foundations (TP301 to TP303). TP301 was completed under the extension of number 11 Fontmell Close and exposed a 200mm diameter steel pile beneath a 450mm thickness concrete slab.

3.3.2 TP302 was completed under the original part of number 11 Fontmell Close. This pit showed the house to be founded on a concrete slab of 500mm thickness. Further hand excavations were carried out under the concrete foundation but the inside edge of the concrete could not be found, suggesting that the original house was built upon a raft foundation.

3.3.3 TP303 was completed at number 9 Fontmell Close and encountered a 400mm diameter concrete pile beneath a 600mm thickness concrete slab.

3.3.4 Figures A-C show profiles and photos of all the pits completed and are presented within **Appendix 4**.

3.3.5 The depths of the piles at the two properties are unknown and further works would be required to establish these depths.

3.3.6 The foundations that could be viewed appeared to be in good condition.

3.4 Geotechnical Laboratory Testing

3.4.1 Geotechnical laboratory testing was carried out on selected samples to verify the geotechnical classification properties of the materials encountered.

3.4.2 The testing was performed by Geolabs Ltd which holds UKAS certification for the majority of tests scheduled.

3.4.3 A total of 4 samples for the exploratory holes were submitted to Geolabs for geotechnical testing. The laboratory certificates of geotechnical analysis are presented in **Appendix 5**.

3.4.4 The following table summarises the geotechnical soil testing scheduled by PBA.

Number of Tests	Description
4	**Particle Size Distribution with Pipette:** BS1377: Part 2: Clause 9.2, BS1377: Part 2: Clause 9.4
4	**BRE Digest SD1 Suite B: 2005 Concrete Aggressivity Suite**

3.4.5 Measured sulphate and pH values determined upon samples of Lambeth Group deposits as part of the soils testing are summarised in the table below.

Determinand	Range
2:1 Water / soil extract SO_4 (g/L)	0.04 – 0.59
pH Value	7.2 – 7.5

3.4.6 Using procedures outlined in BRE Special Digest 1, 3rd Edition, (BRE, 2005) and based upon the results to date the Design Sulphate Class for the site would be DS-2 and buried concrete proposed for the site would therefore have to be designed for Aggressive Chemical Environment for Concrete (ACEC) Class AC-2. It is however, noted that only one of the four tests performed recorded relatively high sulphate concentrations with all other concentrations at or below the threshold for Design Sulphate Class DS1. It is possible that the sulphate class could be lowered if a larger dataset is obtained via further soil testing.

3.4.7 The results of the particle size distribution classification testing broadly confirmed the soil descriptions provided on the borehole logs.

4 Interpretation of Ground Conditions

4.1 Geological Sequence

4.1.1 The results of the recent investigations confirm the general published geological conditions for the local site area based on the sequence found although the shallow surface conditions have been greatly modified by the historical excavation and removal of clays for brick making.

4.1.2 Cross sections through the collapse feature in an east to west direction (**Figure 3**) and along a north to south orientation (**Figure 4**) illustrate the significant variation in the Chalk, Lambeth Group and Made Ground levels across the site. Similar variation in levels of the geological sequence has been found within the boreholes below the highway undertaken by Opus acting on behalf of HCC outside of the collapse area.

4.1.3 The Lambeth Group deposits generally comprise the Reading Formation overlying the basal deposits of the Upnor Formation. Typically the Upnor Formation comprises a few metres of green (glauconite rich) sands or clayey sands often with black-coated rounded flints. At the base there can be green-coated rounded flints and other flint nodules within brownish green sand to sandy clay matrix. During the investigation at the site no evidence of the presence of the Upnor Formation was found in the boreholes. This agrees with the observations of Catt (2010) who suggests that apart from the southern portion of Hertfordshire and into the London area it is probable that the Upnor Formation is absent

4.1.4 It is to be expected that the historical excavations on the site have preferentially extracted clays in order to make bricks therefore the Reading Formation deposits remaining below the Made Ground are dominated by lithologies that were considered unfavourable for brick making. A schematic interpretation of the developmental stages relating to clay excavation and chalk mining at depth (discussed later below) is presented in **Figure 5** in order to explain the nature of the ground conditions encountered.

4.1.5 According to Catt (2010), based on past exposures described in Hertfordshire, the deposits typically comprise variously coloured mottled clays containing thin beds of brown, pale yellow, grey or white sand and occasional thin laminae of grey or brown clay. The upper portion of the sequence tends to be dominated by clays underlain by sands. However, local variations to this sequence can occur. The exploratory holes at the site did not encounter any mottled clays.

4.1.6 Generally in the boreholes the colours of the deposits vary from brown to yellow brown, orange brown, reddish brown to grey. With the clays removed, the remaining deposits are dominated by variably sandy, clayey gravel changing to variably sandy gravel and elsewhere becoming variably sandy, gravelly clay. Sometimes clays, sandy clays and sands were found but the granular lithologies dominated.

4.1.7 Catt (2010) indicates that a typical thickness of the Reading Formation in Hertfordshire is less than 16m, however the exploratory holes on site found significant thickness variations. One of the major reasons for the variation is that the Lambeth Group deposits have been piped down into the Chalk below. This has been caused by karstic dissolution of the underlying chalk surface. As outlined in 3.2.6 above, as a result of dissolution, the chalk surface level varies from 11.5m bgl (BH212) to 45m bgl (BH216). Another characteristic of many of the borehole profiles (BH204 to BH207, BH209 to BH211, BH213, BH216 to BH220) is that they exhibit a mixing of the chalk and Lambeth Group deposits in a manner which is often observed within steeply dipping contact zones at the margins of solution pipes. At depth within BH220 there is also a substantial infilled zone of sand between 29.5m bgl and 33.5m bgl which is interpreted to be a sheet pipe – often found at depth in areas subject to large scale solution piping. Sheet pipes are created by dissolution extending laterally outwards from solution pipes along bedding planes, often former paleo-water table levels. Some boreholes (e.g. BH215, BH218,

BH221 and BH222) have also intersected chalk surfaces showing signs of karstic weathering whereby it has caused the chalk to become discoloured – often cream or light brown.

4.1.8 It is often the case that as a result of solution subsidence the infilling deposits within solution pipes are in a softened and loosened metastable state, however, it also possible that older solution pipes (that have not been re-activated) might contain more compacted infills having had a longer period of settlement or else have been compacted by glacial ice loading. The majority of the boreholes at the site intersecting solution pipes show that the pipes have compact infills. The only boreholes that found evidence of some softening of the infills at their base are BH210 and BH218.

4.2 Ground Model

4.2.1 The investigation results have been carefully considered. Based on analysis of past projects involving ground collapses over solution features and chalk mines it is recorded (Edmonds 2008) that the void space within solution pipes, even those up to 50m depth, does not usually produce sinkholes that exceed 5m in diameter. However, chalk mines tend to contain larger volumes of void space and are capable of producing rather larger crown holes that can exceed 10m in diameter. Consequently, on balance, the cause of the collapse at Fontmell Close is considered to have a man-made origin (see **Figure 5**).

4.2.2 Confirmation of this cause has been provided by the drilling results of BH208 and some of the surrounding boreholes (BH213, BH214, BH217 & BH218). BH208 was drilled vertically down through the concrete plug close to the centre of the collapse and the results revealed the presence of a shaft extending to at least 34m bgl with the Chalk not being encountered until 44.1m bgl. Below the Made Ground there were Lambeth Group deposits present above the chalk and given the depth of the chalk surface it is considered that the borehole has also coincided with the position of a solution pipe.

4.2.3 In the north to south direction boreholes BH213 and BH214 drilled steeply to either side of BH208 found chalk at shallower depths of 21.8m and 21.3m bgl respectively. The rapid change in chalk levels tends to confirm that this is most likely as the result of a solution pipe being present. The drilling also detected a notably weaker zone in the chalk profile at about 29m to 33m bgl in BH213 and at about 31m to 36m bgl in BH214. These zones are most likely indicating disturbance due to possible mined ground.

4.2.4 In the east to west direction boreholes BH217 and BH218, also drilled steeply to either side of BH208, encountered the chalk surface at 25.3m and 19.4m bgl respectively. Again the shallower chalk levels are indicative of a solution pipe. It was also noted in BH217 that between 25.3m and almost 39m bgl that the chalk was mixed with Lambeth Group sand suggesting that the borehole had passed down through the steeply dipping karstic margin to the solution pipe detected in BH208. There was similar evidence of a karstic margin found in BH218 down to almost 34m bgl, however below this the drilling was extremely soft down to about 41.2m bgl strongly suggesting disturbance as a result of past mining excavation.

4.2.5 Based on these results it is interpreted that a shaft was sunk in the base of the clay pit down through the central axis of the solution pipe and then the miners excavated laterally into the closely adjacent chalk walls beyond the solution pipe margin to extract chalk from an irregular bellpit style of mine. It seems that the miners preferentially dug outwards into the chalk mostly below the northern, western and southern portions of the collapse where they presumably found chalk of a suitable quality.

4.2.6 Analysis shows that the possible roof level of the excavated zones deepened from around 29m depth in the north through 34m depth in the west and then 31m depth in the south. It is not unusual for the height of the working excavation to be around 5m to 10m high, sometimes with extending niches. On this basis, volumetric calculation suggests that the amount of soil material that collapsed into the ground to form the surface collapse (crown hole) could be accommodated by collapse into an irregular open bellpit that was 7m high and 7m radius via a

shaft that was 2m in diameter. Such dimensions are entirely feasible based on chalk mine records contained in the PBA mining cavity database archives.

4.2.7 Furthermore, the style and scale of the mining is logical given that deeply penetrating solution pipes are present which locally limit the lateral extent to which mines can extend before a mine breaches an adjacent solution pipe. It is also concluded that the clay dug at the surface from the old pits must have been exploiting clay deposits that locally deepened and infilled the central cores of the solution pipes. This pattern of clay extraction explains why the surface quarries are a series of rounded, deep pits centred over solution features, rather than broader scale, shallower pits that are quasi-rectangular in shape as found where laterally extensive layers are being quarried. Positioning a shaft at the base of the pit also reduces the depth of excavation to reach chalk for mining purposes.

5 Remedial Measure Options

5.1 Assessment of Stability

5.1.1 As indicated in Section 4 of this report, the ground investigations have shown that there is significant variation in the near surface geology, the variations in Made Ground thicknesses reflecting the pattern of historical excavation and backfilling to former clay pits. Despite the extended time over which backfilling has taken place the deposits, presumably because they have been end-tipped and were never compacted, remain in a relatively soft state. The geophysical survey results confirm the low density nature of the clay pit backfilling materials. Therefore they remain in a quasi-equilibrium compaction condition that is prone to disturbance in the presence of water, particularly escapes of water from leaking utility services. Where such escapes of water occur then it is likely that inundation settlement and erosion of fines might result to cause minor surface depressions in open ground areas and below the highway.

5.1.2 The depressions formed in the rear garden of number 8 Fontmell Close appear to be related to possible leaking water from utility service pipes in the ground formed by the mechanism outlined in 5.1.1 above.

5.1.3 Investigations have shown that the major collapse below the highway is deep seated, to about 40m or so in depth below the surface, but is relatively localised in terms of its spatial extent. As discussed in section 4.2 above and shown in **Figures 3 & 4**, the collapse overlies a deep backfilled historical clay pit (circa 20m or so deep) that is coincident with a deeply penetrating solution pipe (circa 44m deep) in which a shaft (5m to 10m deep) has been dug below the pit to create an entrance down into an irregular bellpit mine working below (see **Figure 5**). It is likely that the plan layout of the mine, perhaps 5m to 10m in working height, extends only for a limited distance (perhaps only 7m) into the chalk beyond the solution feature margin. Consequently the plan extent of disturbed mined ground at depth is largely contained within the plan area of the observed surface collapse (crown hole).

5.1.4 During the ground investigation works, as access has allowed, level monitoring has been carried out upon the concrete plug. The results, plotted as plug ground level changes against time, are shown in **Figure 6** and the same results plotted as a log scale are shown in **Figure 7.** The log scale data has been interpreted to produce an average trend line of the settlement plotted and projected forward in time. According to the trend line, over a 27 year period, it is estimated that the concrete plug will settle about 50mm or so. About half of the estimated settlement has already occurred during the monitoring period. This assumes of course that the same status quo ground conditions continue and excludes the effects of future water penetration into the ground from exceptional rainfall events, soakaways and leaking water services.

5.1.5 Careful consideration of the ground investigation results below the insured properties surrounding the collapse in the highway has shown that below the Made Ground the geological sequences are essentially undisturbed in respect of impacts due to past chalk mining. Borehole 210 below number 9 Fontmell Close encountered chalk at 44m bgl with signs of softening reported during the drilling within the zone immediately above the chalk but this is consistent with the presence of a solution pipe at this location. The natural ground above was described as stiff to very stiff in consistency and the drilling times also confirm that the ground is relatively hard. Below number 11 Fontmell Close boreholes BH204 and BH205 indicate deepening chalk levels by comparison with BH206, probably showing proximity to another solution pipe, but in all cases the natural sequences do not show any evidence of disturbance due to past chalk mining activities. The boreholes beneath numbers 8 and 10 Fontmell Close and number 1 Bridle Close also do not show any disturbance at depth due to past chalk mining activity.

5.1.6 Therefore in terms of the insured properties surrounding the collapse in the highway there is no evidence of ground instability at depth below them. The effects of recent instability are just limited to encroachment of the original collapse upon the front gardens of 8, 9 and 11 Fontmell Close. The supporting ground conditions beneath the insured properties remains much as it was before the major collapse in the highway. At shallow level the concrete plug is beneficial to providing some lateral support to the front gardens of the insured properties and therefore careful consideration will need to be given to the construction sequence of the final reinstatement of the highway and utility services to ensure that support continues so that the front gardens of the insured buildings are suitably protected from further damage.

5.1.7 Whilst future settlement of the collapse at shallow level would have the potential to impact the highway and adjacent front gardens of 8, 9 and 11 Fontmell Close, it does not appear that the properties (buildings) are at significant risk of instability. Remedial measure options are therefore considered below in terms of the potential for future settlement of the collapse and impacts to the highway and services passing over the collapse area as well as the front gardens of the insured.

5.2 Remedial Measures – Reinstatement

5.2.1 Due to the level of disturbance to the material within the collapse, the presence of a natural karstic feature (solution pipe) and deep seated very weak collapse material extending down to circa 40m associated with the old chalk mine workings at depth, further future settlement of this material can be expected over time. The degree of such settlement can be influenced by a number of factors, including the gradual settlement of the disturbed fill due to self-weight compaction, or increased rates of settlement following water inundation (e.g. due to leakage from water-carrying utility services or possibly downward percolating water following exceptional rainfall events).

5.2.2 In the latter case outlined in 5.2.1 water inundation can potentially cause settlement of deep loose soil columns of the order of 50mm to 250mm or more based on past experience. However, the concrete plug, given its size and thickness, is likely to bridge over localised settlement. Wholesale settlement of the plug would require loss of passive support beneath the entire plug footprint and shear failure of the ground around its margins. This form of failure, if it should occur, would probably take several years or more to manifest itself. Longer term surface monitoring (levels and visual appearance of the surface) could be used to check for signs of re-activation of settlement over and above that expected as outlined in 5.2.3.

5.2.3 As discussed in section 5.1.4 above, although prediction of the medium to long term ground settlement is difficult, it is not unreasonable to suggest that the settlement of the ground surface should be anticipated to be at least 50mm or more (excluding the uncertainty and impacts of other causal factors as outlined in 5.2.1 and 5.2.2). About half of the predicted settlement has already been achieved during the monitoring period.

5.2.4 The placement of foamed concrete into the collapse provided a short term means to create a stable plug to support the sides of the collapse to arrest lateral degradation of the ground around the collapse and attempt to limit vertical movement. Now that the investigations have found no significant voids in the ground below and that longer term settlement rather than further major ground collapse is the main concern, the plug can continue to perform a useful role. Its presence will help to spread surface loading and will assist with resisting differential settlement movement of the surface across its footprint. Around the edges of the plug, however, differential settlement is likely to result over time.

5.2.5 In principle, subject to the longer term ground settlement issues described above being acceptable, then the utilities and highway could be reinstated leaving the concrete plug in place.

5.2.6 Careful consideration will need to be given to the level of say the sewer when reinstating the utility services across the concrete plug. If it is necessary to reduce the surface level of the

plug then cutting/grinding techniques should be used and percussive techniques avoided which might cause the plug to crack and break up. Alternatively some utilities might be able to re-route services to avoid crossing the plug. Where this is unavoidable then new utility connections would need to utilise suitably flexible connections where they cross the plug to allow for future possible settlement, particularly differential settlement over the edges of the plug.

5.2.7 Similarly, following backfilling above the plug with a compacted granular sub-base, a suitably flexible highway surface could then be reinstated over the collapse, again taking into account the potential for future settlement, particularly differential settlement over the edges of the plug.

5.3 Remedial Measures – Ground Improvement

5.3.1 If the overall ground settlement and differential settlement potential and associated uncertainty, as indicated in 5.2 above, is considered to present an unacceptable risk to the reinstatement of utilities and the highway then ground improvement techniques can offer a possible solution. Ground improvement techniques such as soil reinforcement can provide a means to reduce the impact of future settlement by creating additional support across the deeply disturbed and weakened ground extending to depth. It is unlikely that longer term settlement can be entirely mitigated but such techniques can help to minimise the effects of the overall settlement and differential settlement.

5.3.2 The specific ground improvement solution needs to be purpose-designed and specified. However, such works usually take the form of excavating the ground above the collapse feature (concrete plug in this instance and around its margins) and re-filling with suitably graded, compacted stone fill layers incorporating high tensile strength geogrid to form a reinforced soil horizon crossing the collapse zone. The reinforced soil layer needs to be extended beyond the plan limits of the collapse and sometimes anchoring can be incorporated to improve the lateral strength.

5.3.3 The effectiveness of shallow ground improvement can be enhanced by the construction of reinforced concrete capping or reinforced concrete beams, designed to span the area of collapse. In the particular situation at Fontmell Close and with the concrete plug present, however, it is not considered practically feasible to incorporate such measures.

5.3.4 The placement of the reinforced soil layer would need to take into account the level of the utility services that need to be reconnected. As indicated above, when relaying utility connections across the concrete plug, they will require suitable flexible couplings where they cross over the former collapse area and margins such that further settlement can be accommodated as necessary.

5.3.5 Should any excavation into the concrete plug be required (using techniques as discussed above in 5.2.5) in proximity to the plug margins that currently provide lateral support to the front gardens of the insured properties, consideration will need to be given to alternative means of support (e.g. sheet piling or similar). The final decision in terms of construction method and phasing of the works requires more detailed scoping, analysis and cost-benefit assessment.

5.4 Remedial Measures – Ground Treatment (Full and Partial)

5.4.1 If the overall ground settlement and differential settlement potential and associated uncertainty, as indicated in 5.2 above, is considered to present an unacceptable risk to the reinstatement of utilities and the highway, and a higher level of protection is desired, then ground treatment techniques can offer a possible solution.

5.4.2 Based on past experience the most effective long term remedial solution which has a good track record of mitigating the potential further movement of disturbed ground at collapse locations is to carry out compaction grouting. The technique can be used to stabilise remnant deep, loose columns of collapsed ground and reinstate support to the ground above. All works could be carried out from the existing concrete plug.

5.4.3 The grouting technique involves the injection of a viscous mortar grout into the ground under high pressure. The grout can radially compact weak, disturbed infills that are micro-voided, strengthening the ground and mitigating against future movement. The beneficial effects of the grouting can be achieved normally to within about 3m below the ground treatment surface. However, with the concrete plug in place then it may be possible to treat the ground up to the underside of the plug. Following treatment and dependent upon the levels in the ground to re-install utility services it will be necessary to backfill with compacted granular fill as appropriate (as discussed in 5.2 above). Once the services are installed and the new road and pavement level is established it will be possible to reinstate the front gardens of the insured properties.

5.4.4 Another option variation for the grouting solution would be to limit the depth of grout treatment down to the zone containing the shaft entry into the old chalk mine workings and upwards to the concrete plug at the surface. The results of the ground investigations show that relatively strong, stable ground overlies and surrounds the small scale chalk mine workings suggesting that the risk of the mine working causing collapse and breakdown in the near future is low. In this way the volume of ground treated could be reduced (limited to say 30m depth) thereby saving costs compared with full depth treatment to 40m or so.

5.4.5 In order to progress with this remedial solution below the highway it would be necessary to prepare a suitable technical specification and to liaise with suitably experienced contractors. Further consideration of the merits and cost benefits for comparison with other remedial work alternatives would be best achieved by tendering after carrying out initial scoping and design for the works.

5.5 Remedial Measures – Performance Risk Matrix

5.5.1 To assist the process of considering the remedial measure options the relative performance risks of choosing one option over another is compared in the matrix below.

Remedial Measure Options	Construction details	Longer Term Integrity
Reinstatement	Compacted granular backfill above concrete plug and utilities re-connected using flexible couplings	Potential for long term settlement to cause damage to surfaces requiring maintenance, but utilities should be unaffected. Not able to withstand sudden induced settlement, although measures to control surface water drainage (see 5.6) would reduce this risk.
Ground Improvement	Compacted granular backfill above concrete plug with a geogrid reinforcement and utilities re-connected using flexible couplings	Reduced potential for settlement to cause damage to surfaces requiring maintenance, but utilities should be unaffected. Would be able to withstand a sudden induced settlement in the short to medium term but would require remedial

		maintenance eventually.
Ground Treatment (Partial)	Carry out compaction grouting treatment below the concrete plug down to mine shaft zone	Negligible surface settlement. Low potential for ground movement. Medium to long term stability. 10 year warranty
Ground Treatment (Full)	Carry out compaction grouting treatment from below the concrete plug to the base of the mined ground	Negligible surface settlement. Negligible potential for ground movement. Long term stability. 10 year warranty.

5.6 Remedial Measures – Control of Surface Water Drainage

5.6.1 As outlined in 5.1 above the infiltration of concentrated surface water drainage into the disturbed, backfilled ground can, in certain circumstances, trigger inundation settlement of the ground. Therefore, it would be desirable to check where soakaways are located in the front gardens of the insured properties to ensure that they are not contributing flows of water into the ground that are draining towards the collapse location. Should such soakaways be located then it would best to re-locate them as a precaution.

5.6.2 When the highway reinstatement is underway it would also be desirable to ensure that any road gulleys collecting surface drainage are directing the water away from the collapse position as well. Long pipe lengths with the minimum number of joints to reconnect the drainage system would be best, allowing for the effects of differential settlement as necessary where the pipes cross the edges of the concrete plug.

5.7 Shallow Depressions Rear of 8 & 10 Fontmell Close

5.7.1 The proximity of a number of drains suggests that leakage may have contributed to the observed settlement. A survey of the drains has been carried out by Harcross Ltd and reference should be made to their report regarding any repairs considered necessary. Regarding the depressions, they can be backfilled, compacted and raised in level to reinstate the surface as necessary. If the basal soils are particularly weak then consideration can be given to installing reinforcing geogrid as discussed in section 5.3 above.

6 Summary and Conclusions

6.1 Background

6.1.1 A major ground collapse occurred on 1 October 2015 below the highway of Fontmell Close, St Albans. The collapse extended beyond the footprint of the road and also caused the loss of adjacent land forming the front gardens and driveways of number 8, 9 and 11 Fontmell Close.

6.1.2 The collapse was backfilled with foamed concrete by HCC to form a plug, to within a metre of the original ground level. They also instigated a geophysical survey along the highway of Fontmell Close and Bridle Close. Insurers of the adjacent properties within the evacuated area around the collapse also funded a geophysical survey across the private land as well.

6.2 Current Situation

6.2.1 PBA has designed and coordinated a ground investigation to ascertain the ground conditions both underneath the plug and under the properties surrounding the collapse. Appropriate safety measures and monitoring have been undertaken as the work progressed. Variable thicknesses of old weak fill were found at shallow level forming the backfilling to old clay pits underlying the local area. Below this were Lambeth Group deposits of varying thickness above the Chalk at depth. Chalk was found at depths ranging between 11.5m bgl and 45.0m bgl. The variation occurs because of the presence of solution features in the form of solution pipes.

6.2.2 The work has determined the approximate extent of disturbed ground below the footprint of the collapse and the characteristics of the associated local ground conditions. The work found that the cause of the collapse was due to an irregular bellpit style of old chalk mine working at depth below the highway. The floor level of the mine working is circa 40m bgl.

6.2.3 The investigations found that the past chalk mining operations were of limited extent and were effectively contained within the footprint of the collapse below the highway. No evidence was found by the investigations that indicated further significant mined voids or laterally extensive mined ground present that impacted the surrounding insured properties or the ground beyond the margins of the collapse.

6.3 Way Forward

6.3.1 Numbers 8 to 11 Fontmell Close and 1 Bridle Close – no evidence of mined ground or instability was found by the investigations below the properties (buildings). There has been some minor loss of ground adjacent to the collapse, but this can be re-instated once the highway and pavement have been re-constructed after remedial works have been carried out.

6.3.2 To the rear of numbers 8 and 10 Fontmell Close – the depressions are believed to result from water leaking into the ground from the drains (see Harcross Ltd report for any actions). Regarding the depressions, they can be backfilled, compacted and raised in level to reinstate the surface as necessary. If the basal soils are particularly weak then consideration can be given to installing reinforcing geogrid as discussed in section 5.3 above.

6.3.3 A series of remedial measure options are put forward for consideration to treat the collapse location below the highway as follows:

- Ground reinstatement
- Ground Improvement
- Ground treatment

6.3.4 The relative merits and predicted long term performance of the options are set out in the matrix within 5.5.1 above.

6.3.5 Surface water drainage controls are proposed to minimise the potential for triggering water inundation settlement of the disturbed weakened backfills in the vicinity of the collapse.

7 References

- British Geological Survey (1978) Geological Map 239 Hertford, Solid and Drift 1:50,000 scale
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- RSK, November 2015, Fontmell Close, St Albans, Geophysical Report, Project number 191366
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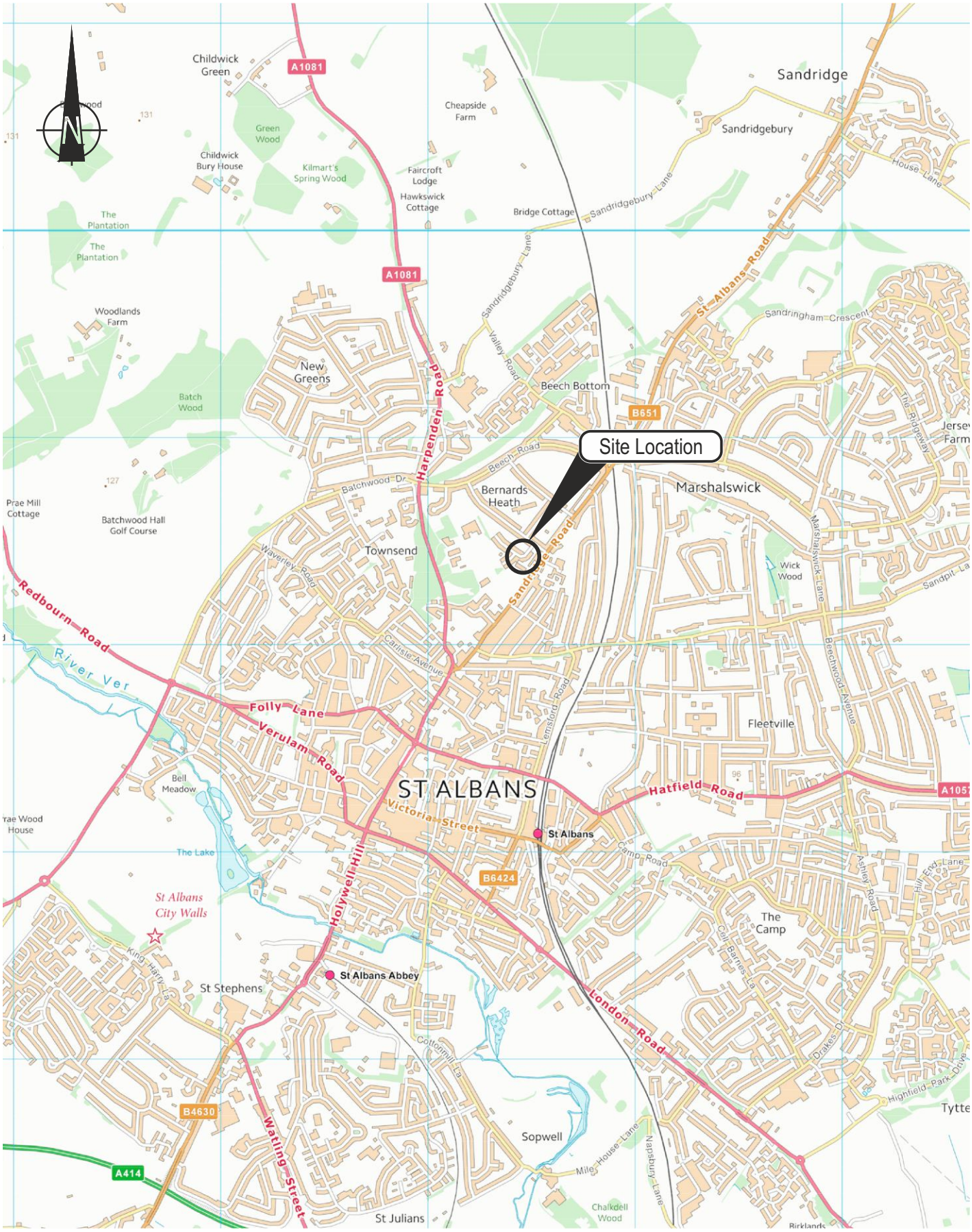
Figures



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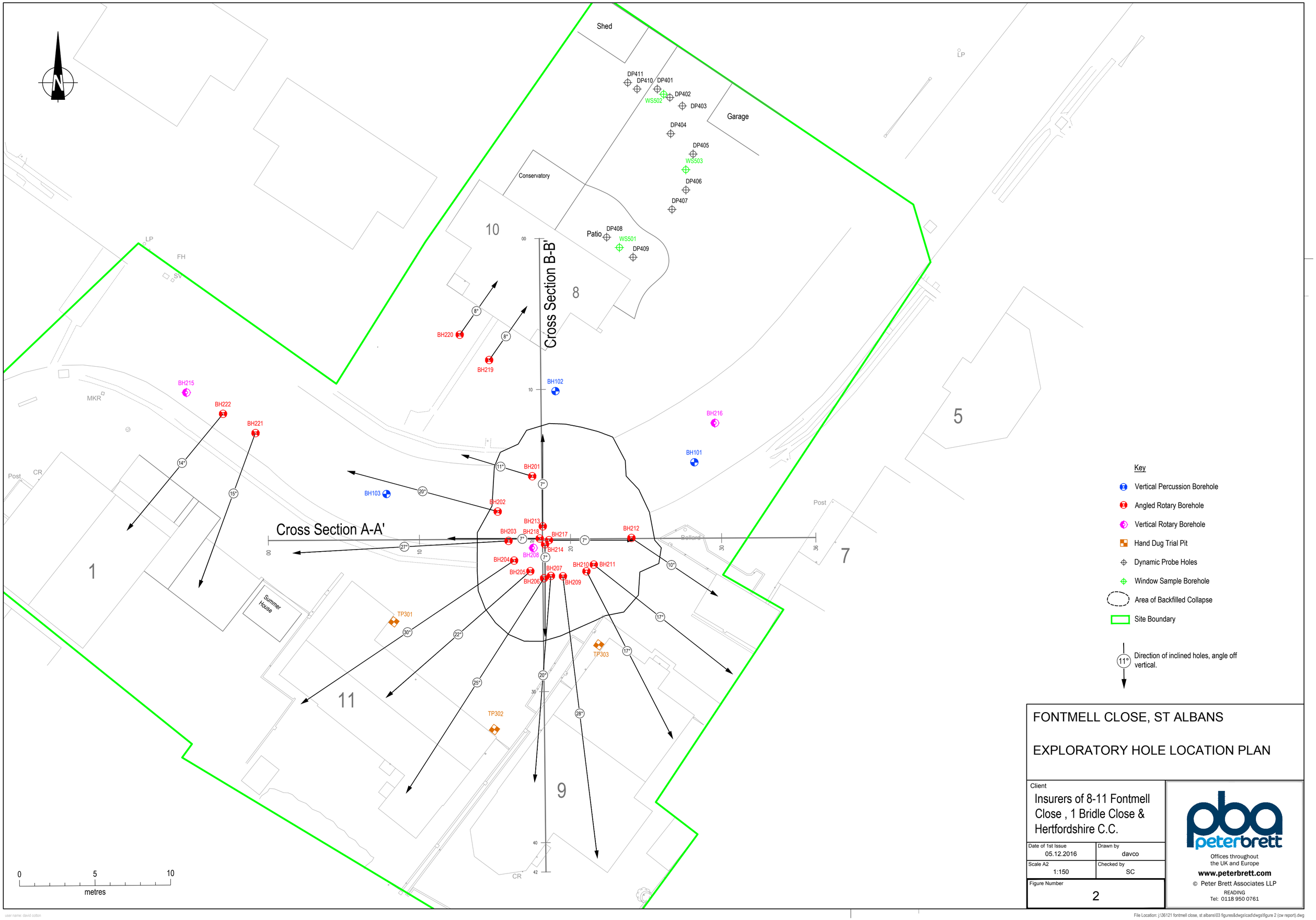
FONTMELL CLOSE, ST ALBANS

SITE LOCATION PLAN

Date	05.02.2016
A4 Scale	1:50 000
Drawn by	davco
Checked by	CW
Revision	0

FIGURE 1



Key

- Vertical Percussion Borehole
- Angled Rotary Borehole
- Vertical Rotary Borehole
- Hand Dug Trial Pit
- Dynamic Probe Holes
- Window Sample Borehole
- Area of Backfilled Collapse
- Site Boundary
- 11° Direction of inclined holes, angle off vertical.

FONTMELL CLOSE, ST ALBANS

EXPLORATORY HOLE LOCATION PLAN

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Date of 1st Issue: 05.12.2016	Drawn by: davco
Scale A2: 1:150	Checked by: SC
Figure Number: 2	

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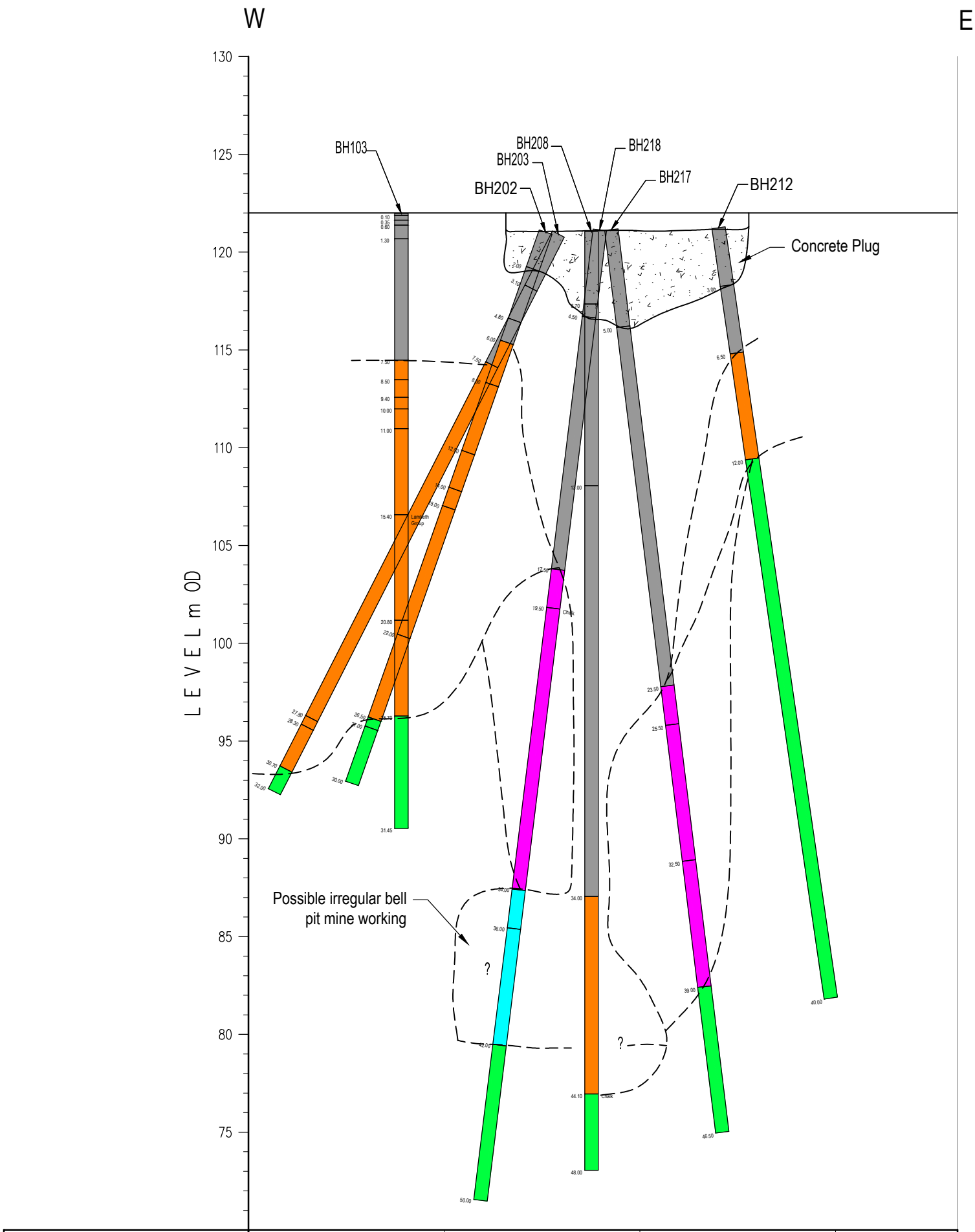
File Location: j:\36121 fontmell close, st albans\03 figures&dwgs\cad\dwgs\figure 2 (ow report).dwg



CHAINAGE	00.000	10.000	20.000	30.000 36.238
EXISTING LEVELS		98.650	81.323	

GEOLOGY KEY

- MADE GROUND
- LAMBETH GROUP
- MIXED LAMBETH GROUP/CHALK DEPOSITS - PROBABLE SOLUTION FEATURE MARGIN
- CHALK
- POSSIBLE MINED ZONE IN CHALK

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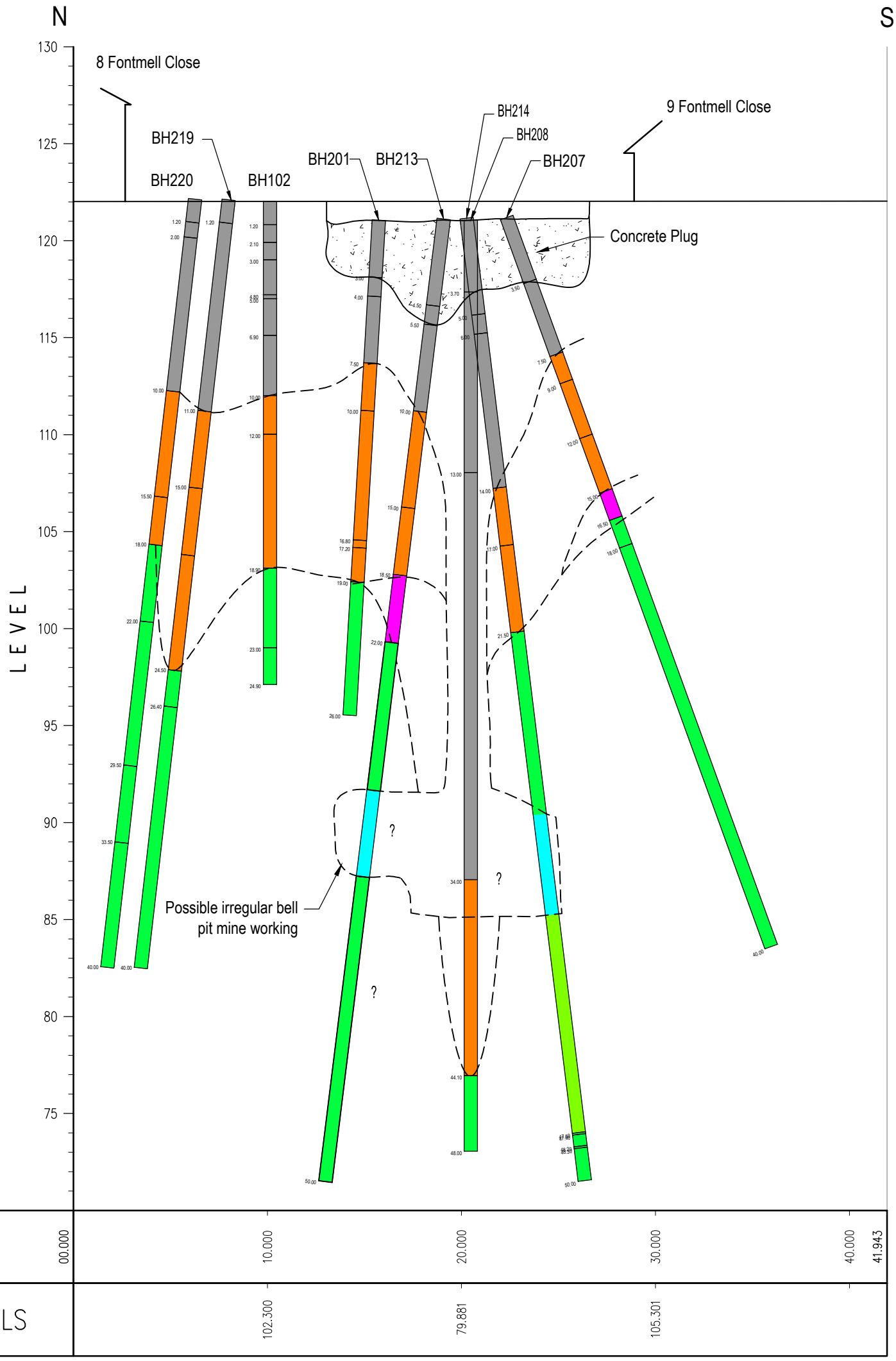
GEOLOGICAL CROSS SECTION A-A' EAST - WEST

Date	29.01.2016
A3 Scale	1:250
Drawn by	davco
Checked by	SC
Figure Number	3



GEOLOGY KEY

- MADE GROUND
- LAMBETH GROUP
- MIXED LAMBETH GROUP/CHALK DEPOSITS - PROBABLE SOLUTION FEATURE MARGIN
- CHALK
- POSSIBLE MINED ZONE IN CHALK

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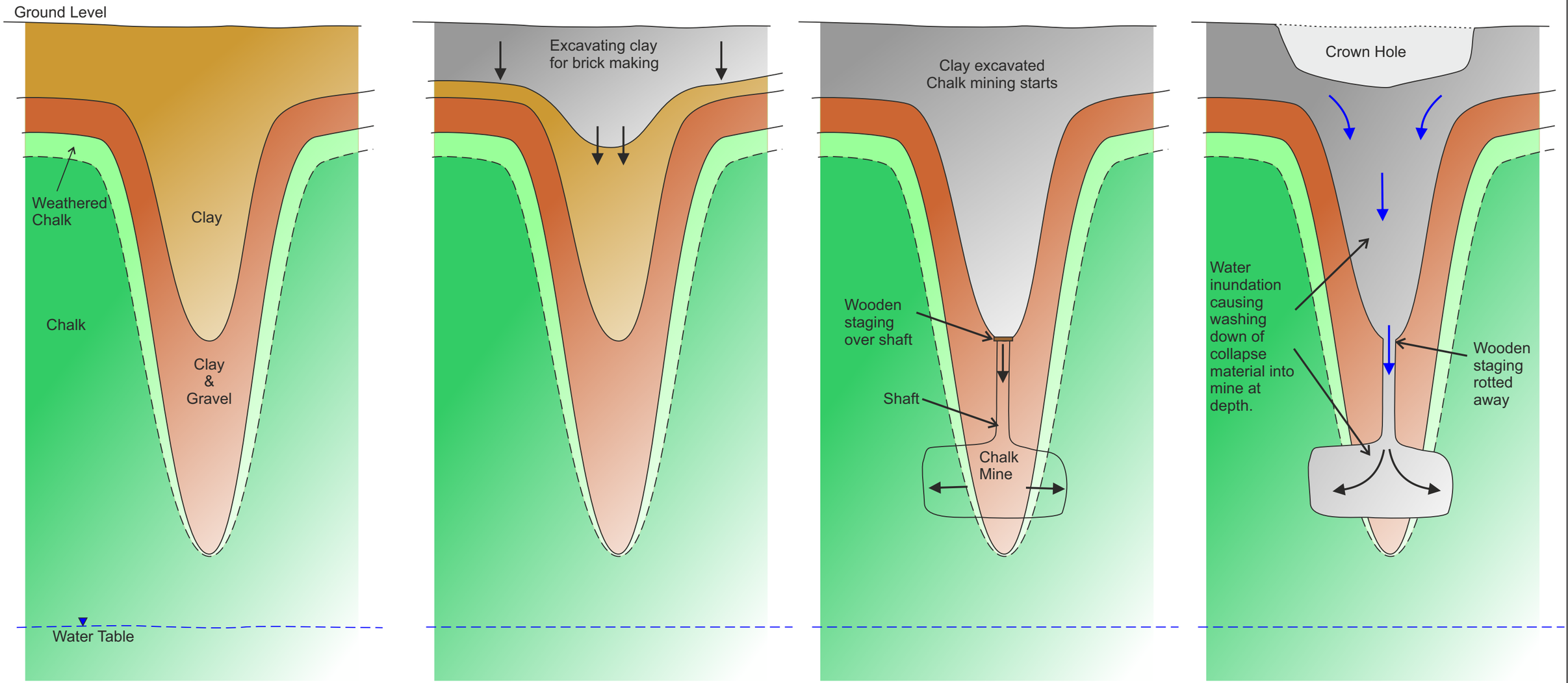
GEOLOGICAL CROSS SECTION B-B' NORTH - SOUTH

Date	29.01.2016
A3 Scale	1:250
Drawn by	davco
Checked by	SC
Figure Number	4

File Location: j:\36121 fontmell close, st albans\03 figures&dwgs\cad\dwgs\sections.dwg



Original Ground Conditions
(pre 1800s)

Modified Ground Conditions
(early 1800s)

Further Modified Ground Conditions
(early - mid 1800s)

Ground Conditions Following Collapse
(October 2015)

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Client
Insurers of 8-11 Fontmell Close,1 Bridle Close & Hertfordshire C.C.

This drawing has been produced in colour. Reproduction in black and white may result in misinterpretation of the data and features being presented.

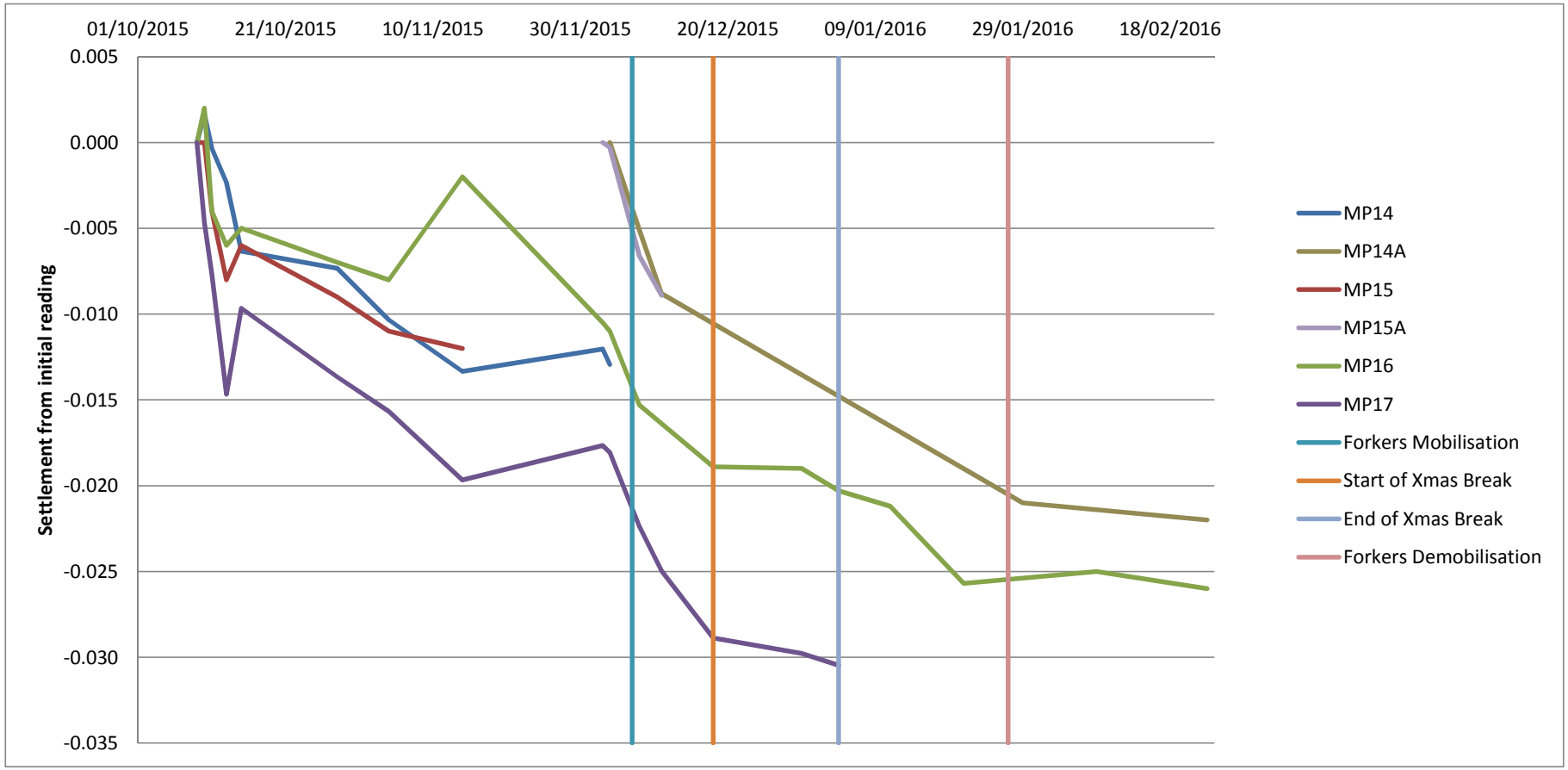
FONTMELL CLOSE, ST ALBANS

SCHEMATIC INTERPRETATION OF GROUND CONDITIONS

Date	25.02.2016
A3 Scale	not to scale
Drawn by	davco
Checked by	CNE
Revision	0

FIGURE 5

J:\36121 Fontmell Close, St Albans\03 Figures&Dwgs\Corel



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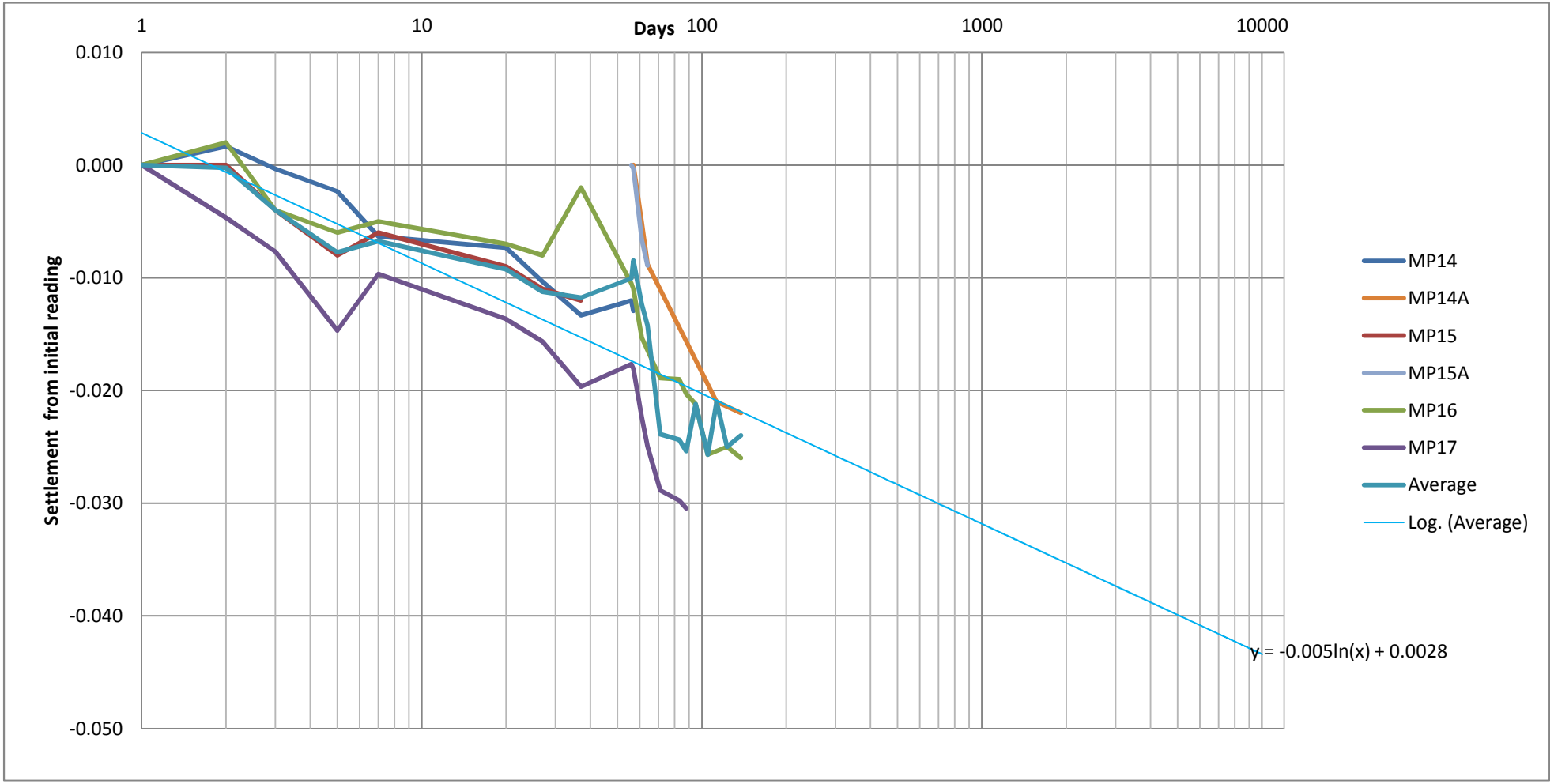
Client

Insurers of 8-11 Fontmell Close, 1 Bridle Close & Hertfordshire C.C.

Fontmell Close, St Albans

Settlement Graph of Monitoring Points within Concrete Plug

Date	March 2016
A4 Scale	
Drawn	CW
Checked	CNE
Figure	**6**



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Client

Insurers of 8-11 Fontmell Close, 1 Bridle Close & Hertfordshire C.C.

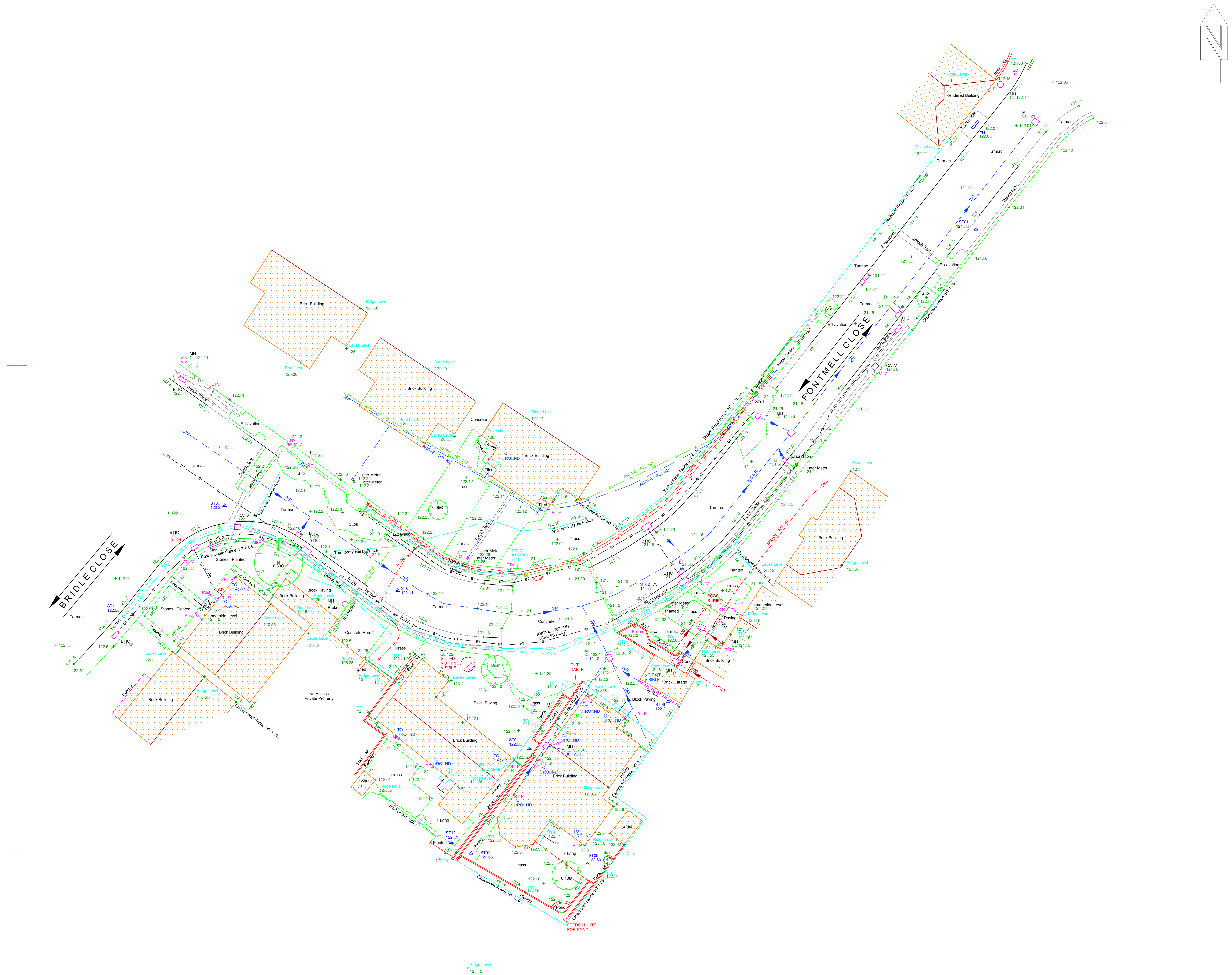
Fontmell Close, St Albans

Settlement Graph of Monitoring Points within Concrete Plug (Log Scale)

Date	March 2016
A4 Scale	
Drawn	CW
Checked	CNE
Figure	7

J:\36121 Fontmell Close, St Albans\04 Data\[plug monitoring.xlsx]Fig 7

Appendix 1 : Utilities Services Drawing



THE NAME IN SURVEYS

SHEET LAYOUT

LEGEND

Foul Drainage
Surface Drainage
Combined Drainage
Electricity
Electricity High Voltage
Traffic Signals
Gas
Water
Cable Television
Close Circuit Television
Communication
British Telecom
Compressed Air
Offset Fill-Line
Oil Pipe
Pipe
Ventilation
Fuel Line
Vapour Recovery
Gauge Line
Telemetry
Fibre Optics
Unknown
Overhead Line
Historical by Layer
End Of Trace

LEGEND

A/R	ASSUMED ROUTE	OSA	OFF SURVEY AREA
BOLL	BOLLARD	OSBM	ORDNANCE SURVEY BENCH MARK
ILLU BOLL	ILLUMINOUS BOLLARD	PR	PIPE RISER
BH	BOREHOLE	P&R FENCE	POST & RAIL FENCE
BTIC	BRITISH TELECOM COVER	RET WALL	RETAINING WALL
C/BOX	CONTROL BOX	RE	RODDING EYE
C/B FENCE	CLOSEBOARD FENCE	RS	ROAD SIGN
CR	CABLE RISER	RWP	RAIN WATER PIPE
CTV	CABLE TV	S/A	SOAK AWAY
CP	CATCHPIT	SAP	SAPLING
CONC	CONCRETE	S/C	SOUND CONNECTED
CL	COVER LEVEL	SEC FENCE	SECURITY FENCE
D	DEPTH / DEEP	SL	SPOT LIGHT
D/CHAN	DRAINAGE CHANNEL	SP	SOIL PIPE
DP	DOWN PIPE	ST	STOP TAP
EIC	ELECTRICITY COVER	STN	STATION (DATUM POINT)
ER	EARTH ROD	SV	STOP VALVE
EP	ELECTRICITY POLE	SVP	SOIL VENT PIPE
EOT	END OF TRACE	TBM	TEMPORARY BENCH MARK
FFL	FINISHED FLOOR LEVEL	TCL	TREE CANOPY LEVEL
F/BED	FLOWER BED	TOW	TOP OF WALL LEVEL
FH	FIRE HYDRANT	TFR	TAKEN FROM RECORDS
FS	FIRE SWITCH	THL	THRESHOLD LEVEL
GV	GAS VALVE	TL	TRAFFIC LIGHT
G	GULLY	TP	TELEGRAPH POLE
G-RUN	GULLY RUN	UTL	UNABLE TO LOCATE
HT	HEIGHT	UTR	UNABLE TO RAISE
IC	INSPECTION COVER	UTS	UNABLE TO SURVEY
IL	INVERT LEVEL	UTT	UNABLE TO TRACE
LP	LAMP POST	VR	VAPOUR RECOVERY
MH	MANHOLE	VP	VENT PIPE
MKR	MARKER	WM	WATER METER
MTR	METER	WFC	WATER FILLED CHAMBER
MW	MONITORING WELL	WP	WASTE PIPE
OH	OVERHEAD	U/S	UNDERSIDE
		Ø	DIAMETER

UTILITY NOTES

WATER & GAS PLASTIC ON SITE, BOTH DIVERTED ABOVE GROUND
GAS IS CAPPED/CUT OFF

ELECTRIC CUT IN PLACES AND TURNED OFF HOUSES ARE NOW EMPTY

Station	Easting	Northing	Level
ST01	515500.375	208464.087	121.884
ST02	515467.115	208427.241	121.871
ST03	515422.523	208435.472	122.265
ST04	515448.064	208399.443	122.655
ST05	515460.116	208398.340	122.598
ST06	515468.457	208415.145	122.289
ST08	515454.092	208410.284	122.886
ST09	515440.452	208426.667	122.105
ST10	515440.449	208426.665	122.105
ST11	515412.946	208424.169	122.500
ST12	515446.011	208400.545	122.905

TOPOGRAPHICAL NOTES

ALL LEVELS ARE IN METERS DERIVED FROM GPS TRANSFORMATION UK OSTN02.

COORDINATE GRID IS DERIVED FROM GPS TRANSFORMATION UK OSTN02.

TREE SPECIES ARE INDICATED WHERE KNOWN HOWEVER IT IS RECOMMENDED THAT EXPERT IDENTIFICATION IS CONSULTED IF CRITICAL.

OVERHEAD WIRES ARE EXPOSED TO CHANGING WEATHER CONDITIONS AND SHOULD BE TAKEN AS APPROXIMATE.

REV	DATE	DESCRIPTION

SURVEYS
SITE VISION SURVEYS LIMITED
UTILITY | TOPOGRAPHICAL | MAPPING
T: 01788 575036 W: SVSLTD.NET

CLIENT: PBA

SITE LOCATION: FONTMELL CLOSE, ST ALBANS

DRAWING TITLE: TOPOGRAPHICAL/FULL UTILITY

SURVEYED BY: AE/JB | DRAWN BY: AE/AW | APPROVED BY: SF

DRAWING NO: 1115-PBA-9103 | SURVEY DATE: 25-11-15

SCALE: 1:200 @A1 | SHEET NO: 1 OF 1 | REV:

SCALE
1:100 5M
1:200 10M
1:500 25M

DISCLAIMER: The location of under ground services shown on this drawing has been determined using electro-magnetic (and/or ground probing radar, where requested) techniques and visual observations. the limitations of this drawing should be realised and no guarantee can be given that all services have been identified. This drawing may not include the location of all public services that may cross the site and therefore the relevant service drawings should be obtained from the appropriate utility company and used in conjunction with this drawing. Additional services, structures or other below ground obstructions not indicated on this drawing may be present on site. reference should be made to historical plans and as built drawings. Excavations in the vicinity of services should be carried out with due diligence ref: HSG47 document "avoiding dangers from underground services". Location accuracy is determined by refering to manufacturers guidelines for the systems deployed. Reference should be made to the latest version of SVS Ltd site procedures document for utility location surveys.

Appendix 2 : Exploratory Hole Records

Project Name	Project No:		BOREHOLE
Fontmell Close, St Albans	**36121**		**BH101**
Client	Start Date / End Date		
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**02/12/2015** / **07/12/2015**		
Contractor	Ground Level		
Various	**121.86m OD**		
Method/Plant	Coordinates	Logged By: **CW**	Sheet 1 of 3
Pilcon	**515466 E** **208427 N**	Checked By:	Scale 1:50

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
						(0.05)	121.81	Tarmacadam	
						(0.30)		Concrete	
						0.35	121.51	MADE GROUND: Dark brown slightly sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to coarse, angular to rounded, of bricks, chalk, flint and carboniferous material. With occassional cobbles of flint.	
						(0.65)			
1						1.00	120.86	MADE GROUND: Soft grey mottled brown sandy silty clay. Sand is fine to coarse grained. With occasional gravel of bricks and flint.	
	1.50	C	N=4					*From 1.8 - 2.0m black*	
2									
	2.50	C	N=4						
						(3.80)			
3									
	3.50	C	N=4						
4									
	4.50	C	N=7						
						4.80	117.06	REWORKED GROUND: Firm orange brown mottled grey slightly slightly gravelly silty clay. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded, of chalk, flint and carboniferous material.	
5						(0.70)			
	5.50 5.50 - 5.95	D1 S	N=19			5.50	116.36	Stiff grey slightly sandy silty CLAY. Sand is fine to coarse grained. [Lambeth Group]	
6						(1.00)			
						6.50	115.36	Dense orange brown clayey SAND. With occasional gravel. Gravel is fine to coarse, angular to rounded, of quartzite and flint. Sand is fine to medium grained. [Lambeth Group]	
7	7.00	C	N=41						
						(2.50)			
8									
	8.50	C	N=36						
9						9.00	112.86	Very stiff orange brown sandy gravelly CLAY. Sand is fine to coarse grained. Gravel is fine to coarse, sub-angular to rounded, of flint, chalk and quartzite. [Lambeth Group]	
10	10.00	C	N=39					Continued of Next Sheet	

General Remarks

1) Contractor - Terra Firma Ground Investigation Limited 2) Area cleared with CAT Scan prior to commencement 3) Breaker from 0-0.35 4) Hand dug pit from 0.35-1.2m 5) Refusal due to borehole collapsing 6) Groundwater not encountered

Boring Progress			Water Strike			Chiselling		
Date/Time	Depth	Cas. Depth	Strike	Time (mins)	Rose To	From	To	Duration
02/12/2015 16:00:00	1.25	0.00						
03/12/2015 16:00:00	7.50	6.00						
04/12/2015 16:00:00	19.50	6.00						

Project Name	Project No:		BOREHOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH101**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**02/12/2015** **07/12/2015**		
Contractor	Ground Level		
Various	**121.86m OD**		
Method/Plant	Coordinates	Logged By: **CW**	Sheet 2 of 3
Pilcon	**515466 E** **208427 N**	Checked By:	Scale 1:50

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
11								*From 11m orange brown mottled pale grey*	
	11.50	C	N=50						
12						(6.00)			
13	13.00	C	50 (8,14/50 for 165mm)						
14									
	14.50	C	N=48						
15						15.00	106.86	Very dense yellow brown mottled orange brown slightly clayey slightly gravelly SAND. Sand is fine grained. Gravel is fine to coarse, angular to rounded, of flint. [Lambeth Group]	
								From 15.5m with occasional pale grey mottleing and fine gravel of carboniferous material	
16	16.00 16.00 - 16.45	C D2	N=43					*from 16m pale grey mottled orange brown*	
17									
	17.50	C	N=31			(7.50)		*from 17.5m dense orange brown*	
18									
19	19.00	C	N=44					*From 19m very dense*	
20								Continued of Next Sheet	

General Remarks

1) Contractor - Terra Firma Ground Investigation Limited 2) Area cleared with CAT Scan prior to commencement 3) Breaker from 0-0.35 4) Hand dug pit from 0.35-1.2m 5) Refusal due to borehole collapsing 6) Groundwater not encountered

Boring Progress			Water Strike			Chiselling		
Date/Time	Depth	Cas. Depth	Strike	Time (mins)	Rose To	From	To	Duration
02/12/2015 16:00:00	1.25	0.00						
03/12/2015 16:00:00	7.50	6.00						
04/12/2015 16:00:00	19.50	6.00						

Project Name	Project No:		BOREHOLE
Fontmell Close, St Albans	**36121**		**BH101**
Client	Start Date / End Date		
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**02/12/2015** / **07/12/2015**		
Contractor	Ground Level		
Various	**121.86m OD**		
Method/Plant	Coordinates	Logged By: **CW**	Sheet 3 of 3
Pilcon	**515466 E** **208427 N**	Checked By:	Scale 1:50

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
21	20.50	C	N=30						
22	22.00	C	N=27						
						22.50 (22.50)	99.36	End of Borehole at 22.50m	
23									
24									
25									
26									
27									
28									
29									
30									

General Remarks

1) Contractor - Terra Firma Ground Investigation Limited 2) Area cleared with CAT Scan prior to commencement 3) Breaker from 0-0.35 4) Hand dug pit from 0.35-1.2m 5) Refusal due to borehole collapsing 6) Groundwater not encountered

Boring Progress			Water Strike			Chiselling		
Date/Time	Depth	Cas. Depth	Strike	Time (mins)	Rose To	From	To	Duration
02/12/2015 16:00:00	1.25	0.00						
03/12/2015 16:00:00	7.50	6.00						
04/12/2015 16:00:00	19.50	6.00						

Project Name	Project No:		BOREHOLE
Fontmell Close, St Albans	**36121**		**BH102**
Client	Start Date / End Date		
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**08/12/2015** / **10/12/2015**		
Contractor	Ground Level		
Various	**122.02m OD**		
Method/Plant	Coordinates	Logged By: **AJ/CW**	Sheet 1 of 3
Pilcon	**515456 E** **208432 N**	Checked By:	Scale 1:50

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
						(1.20)		MADE GROUND. Soft brown slightly gravelly silty clay. Gravel is fine to coarse, angualr to subangular, of brick, flint, coal, glass, clinker and other anthropogenic material. With rare pockets (<100 x 60 mm) of cemented sand, gravel and anthropogenic materials. *At 0.50m one angular cobble of concrete floor tile.* *At 0.80m one cobble of angular brick (200 x 100 mm).*	
1	1.20 1.20 - 1.65	C D1	N=2			1.20	120.82	*From 0.90 - 1.20m with frequent off white soft chalk and very weak low density angular gravel of chalk.*	
						(0.90)		MADE GROUND. Soft orangish brown with frequent white staining , slightly gravelly silty clay with low cobble content. Gravel is angular to rounded fine to coarse of very weak low density chalk and flint. Cobbles are nodular (<100 x 70 mm) of flint.	
2	2.00	C	N=5			2.10	119.92	*At 2.00m fine fibres of possibly horse hair.*	
						(0.90)		MADE GROUND. Very soft and soft dark grey and black slightly gravelly silty clay. Gravel is fine to coarse, angular to rounded, of chalk, flint and rare brick. With rare nodular flint gravel. Slight organic odour.	
3	3.00 3.00 - 3.45	C D2	N=9			3.00	119.02	*From 2.6 - 3.0m clay is soft, dark grey with black and brown staining, with rare gravel of coal and ash.*	
						(1.80)		MADE GROUND. Soft brownish yellow slightly gravelly slightly sandy clay. Gravel is fine to coarse, rounded to subangular, of flint and chak with rare slate, brick and glass fragments. With rare wood fragments and partially decayed plant material. Slight organic odour. *From 4.5 - 4.80m frequent wood fragments and rare brick fragments.*	
4	4.00	C	N=2			4.80	117.22		
						(0.20)		MADE GROUND. Soft dark brown slightly gravelly sandy friable clay. Gravel is fine to coarse angular of brick, chalk, glass, charcoal, wood and ash. With a slight organic odour	
5	5.00 5.00 - 5.45	C D3	N=5			5.00	117.02		
						(1.90)		MADE GROUND. Very soft and soft brown, with frequent black staining, slightly gravelly slightly sandy clay. Gravel is fine to coarse angular to sub-rounded of brick, flint and rare chalk. With frequent wood fragments and occasional partially decayed plant material. Slight organic odour.	
6	6.50	C	N=8					*From 5.20m clay is soft, with occasional white chalk and angular gravel of very weak low density chalk.*	
7	6.90	D4				6.90	115.12	*From 5.50m with occasional orange staining and rare brownish red mottling.*	
								REWORKED GROUND. Stiff brownish orange with grey mottling slightly gravelly silty fissured clay. Gravel is fine to coarse, angular to rounded of flint, chalk and rare sandstone. With rare black root traces. Fissures are extremely closely spaced, randomly orientated, planar smooth.	
8	8.00 8.00 - 8.45	B5 C	N=18					*From 7.50m colour is blue grey with occasional orange staining and rare iron oxide staining.*	
						(3.10)		*At 7.90m pockets of soft black clay with frequent wood fragments.*	
9									
	9.50 9.50 - 9.95	D6 S	N=16						
10						10.00	112.02		

Continued of Next Sheet

General Remarks

1) Contractor - Terra Firm Ground Investigation Limited 2) Area cleared with CAT Scan prior to commencement. 3) Hand dug pit from 0.00-1.2m. 4) Groundwater not encountered

Boring Progress			Water Strike			Chiselling		
Date/Time	Depth	Cas. Depth	Strike	Time (mins)	Rose To	From	To	Duration
08/12/2015 16:00:00	8.45	7.10						
09/12/2015 16:00:00	17.50	8.20						
10/12/2015 14:45:00	24.80	8.20						

Project Name	Project No:		BOREHOLE
Fontmell Close, St Albans	**36121**		**BH102**
Client	Start Date / End Date		
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**08/12/2015** / **10/12/2015**		
Contractor	Ground Level	Logged By: **AJ/CW**	Sheet 2 of 3
Various	**122.02m OD**		
Method/Plant	Coordinates	Checked By:	Scale 1:50
Pilcon	**515456 E** **208432 N**		

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
	10.50 - 11.00	B7						Very Stiff orange brown mottled pale grey silty CLAY. With occasional black gravel inclusions. Gravel is fine to medium, angular to sub-rounded of decomposed tree roots. [Lambeth Group]	
11	11.00	C	N=35			(2.00)			
12						12.00	110.02		
	12.50 12.50 - 12.95	B8 C	N=38					Dense orange brown mottled pale grey silty clayey sandy GRAVEL. Gravel is fine to coarse, sub-angular to rounded, of flint and quartzite. Sand is fine to coarse grained. [Lambeth Group]	
13									
14	14.00	C	N=46						
15									
	15.50	C	N=44			(6.90)			
16									
17	17.00	C	N=36						
18									
	18.50	C	N=25						
19						18.90	103.12	Very weak structureless CHALK composed of white gravelly SILT. Gravel is weak, low density, cream-white and angular (Grade DM) [Lewes Nodular and Seaford Chalk Formation] *From 19.3 - 19.35m band of brown sandy clay*	
	19.50 19.50 - 20.00	D9 S	N=9						
20	20.00 - 20.45	B10							

Continued of Next Sheet

General Remarks

1) Contractor - Terra Firm Ground Investigation Limited 2) Area cleared with CAT Scan prior to commencement. 3) Hand dug pit from 0.00-1.2m. 4) Groundwater not encountered

Boring Progress			Water Strike			Chiselling		
Date/Time	Depth	Cas. Depth	Strike	Time (mins)	Rose To	From	To	Duration
08/12/2015 16:00:00	8.45	7.10						
09/12/2015 16:00:00	17.50	8.20						
10/12/2015 14:45:00	24.80	8.20						

Project Name	Project No:		BOREHOLE
Fontmell Close, St Albans	**36121**		**BH102**
Client: **Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC**	Start Date: **08/12/2015** End Date: **10/12/2015**		
Contractor: **Various**	Ground Level: **122.02m OD**		
Method/Plant: **Pilcon**	Coordinates: **515456 E 208432 N**	Logged By: **AJ/CW** Checked By:	Sheet 3 of 3 Scale 1:50

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
								From 20m with red brown staining and black specs	
	20.50	D11	N=13						
	20.50 - 20.95	S							
21	21.00 - 21.50	B12							
	21.50 - 21.95	U13				(4.10)			
22	21.95	D14							
	22.50	D15	N=27					*from 22.5m weak*	
	22.50 - 22.95	S							
23						23.00	99.02	Weak structureless CHALK composed of cream white gravelly SILT. Gravel is weak, low density cream white with frequent black speacks, angular. With red brown veining (Grade Dm) [Lewes Nodular and Seaford Chalk Formation]	
24	24.00 - 24.45	U16				(1.90)			
	24.45	D17	N=28						
	24.45 - 24.90	D18							
		S							
25						24.90	97.12	End of Borehole at 24.90m	
26									
27									
28									
29									
30									

General Remarks

1) Contractor - Terra Firm Ground Investigation Limited 2) Area cleared with CAT Scan prior to commencement. 3) Hand dug pit from 0.00-1.2m. 4) Groundwater not encountered

Boring Progress			Water Strike			Chiselling		
Date/Time	Depth	Cas. Depth	Strike	Time (mins)	Rose To	From	To	Duration
08/12/2015 16:00:00	8.45	7.10						
09/12/2015 16:00:00	17.50	8.20						
10/12/2015 14:45:00	24.80	8.20						

Project Name	Project No:		BOREHOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH103**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**11/12/2015** / **17/12/2015**		
Contractor	Ground Level		
Various	**121.98m OD**		
Method/Plant	Coordinates	Logged By: **CW**	Sheet 1 of 4
Pilcon	**515445 E** **208425 N**	Checked By:	Scale 1:50

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
						(0.10) 0.10	121.88	Tarmacadam	
						(0.25) 0.35	121.63	Concrete	
						(0.25) 0.60	121.38	MADE GROUND: Black slightly clayey slightly sandy gravel. Sand is fine to coarse grained. Gravel is fine to coarse, angular to rounded, of brick, flint, chalk and metal	
1						(0.70)			
						1.30	120.68	MADE GROUND: Brown slightly sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to coarse, angular to rounded, of bricks, chalk and flint	
2	2.00	C	N=2					MADE GROUND: Very loose black fine ash with frequent gravel, fine to coarse, angular to rounded, of brick, flint, glass and metal. Slight organic odour.	
3	3.00	C	N=5					*From 3.0m Loose*	
4	4.00	C	N=5						
						(6.20)		*From 4.5m with occasional concrete gravel*	
5	5.00 5.00 - 5.45	C D1	N=13						
6									
	6.50	C	N=6						
7									
						7.50	114.48	Stiff orange brown slightly sandy gravelly silty CLAY. Sand is fine to coarse grained. Gravel is fine to coarse, sub-angular to sub-rounded of flint [Lambeth Group]	
8	8.00 8.00 - 8.45	C D2	N=17			(1.00)			
	8.50	D3				8.50	113.48	Stiff orange brown mottled yellow grey sandy silty CLAY. Sand is fine to coarse grained. With occasional gravel, fine to coarse, sub-angular to rounded, of flint [Lambeth Group]	
9						(0.90)			
	9.50 9.50 - 9.95	B4 C	N=23			9.40 (0.60)	112.58	Stiff orange brown slightly gravelly sandy silty CLAY. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-rounded, of flint. With occasional black	
10						10.00	111.98		

Continued of Next Sheet

General Remarks

1) Contractor - Terra Firma Ground Investigation Limited 2) Area cleared by CAT Scan prior to commencement 3) Breaker from 0-0.35m 4) Hand dug to 1.2m 5) Groundwater not encountered

Boring Progress			Water Strike			Chiselling		
Date/Time	Depth	Cas. Depth	Strike	Time (mins)	Rose To	From	To	Duration
11/12/2015 16:00:00	9.00							
15/12/2015 16:00:00	14.50							
16/12/2015 16:00:00	28.00							

Project Name	Project No:		BOREHOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH103**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**11/12/2015** **17/12/2015**		
Contractor	Ground Level		
Various	**121.98m OD**		
Method/Plant	Coordinates	Logged By: **CW**	Sheet 2 of 4
Pilcon	**515445 E** **208425 N**	Checked By:	Scale 1:50

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
								mottling [Lambeth Group]	
						(1.00)		Very dense brown orange clayey gravelly SAND. Gravel is fine to coarse, angular to rounded, of flint. Sand is fine to coarse grained. [Lambeth Group]	
11	11.00 11.00 - 13.00	B5 C	N=50			11.00	110.98	*From 10.5m slightly gravelly* Very dense pale grey mottled orange very sandy silty slightly clayey GRAVEL. Gravel is fine to coarse, angular to rounded, of flint and quartzite. Sand is fine to coarse grained [Lambeth Group]	
12	12.50	C	50 (7,9/50 for 215mm)						
13						(4.40)			
14	14.00	C	50 (25 for 105mm/50 for 115mm)						
15									
	15.50 15.50 - 15.95	D6 S	50 (6,17/50 for 165mm)			15.40	106.58	Very dense pale grey mottled orange gravelly silty clayey SAND. Gravel is fine to coarse, angular to rounded, of flint and quartzite. Sand is fine to coarse grained. [Lambeth Group]	
16									
17	17.00 17.00 - 17.45	D7 S	N=35						
						(5.40)			
18									
	18.50 18.50 - 18.95	D8 S	N=50						
19								*From 19 - 19.3m grey*	
20	20.00 20.00 - 20.45	D9 S	N=46						

Continued of Next Sheet

General Remarks

1) Contractor - Terra Firma Ground Investigation Limited 2) Area cleared by CAT Scan prior to commencement 3) Breaker from 0-0.35m 4) Hand dug to 1.2m 5) Groundwater not encountered

Boring Progress			Water Strike			Chiselling		
Date/Time	Depth	Cas. Depth	Strike	Time (mins)	Rose To	From	To	Duration
11/12/2015 16:00:00	9.00							
15/12/2015 16:00:00	14.50							
16/12/2015 16:00:00	28.00							

Project Name	Project No:		BOREHOLE
Fontmell Close, St Albans	**36121**		**BH103**
Client: **Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC**	Start Date: **11/12/2015** End Date: **17/12/2015**		
Contractor: **Various**	Ground Level: **121.98m OD**		
Method/Plant: **Pilcon**	Coordinates: **515445 E 208425 N**	Logged By: **CW** Checked By:	Sheet 3 of 4 Scale 1:50

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
						20.80	101.18	*From 20m grey*	
21	21.50 21.50 - 21.95	B10 C	50 (7,8/50 for 150mm)					Very dense brown with pale grey and orange mottling slightly sandy slightly gravelly SILT and CLAY. Thinly laminated. Sand is fine to coarse grained. Gravel is fine to coarse, angular to rounded, of flint. [Lambeth Group]	
22									
23	23.00	C	N=50			(4.90)			
24									
	24.50	C	N=30						
25									
						25.70	96.28	Weak structureless CHALK composed of off white slightly gravelly SILT. Gravel is weak, low density, cream-white and angular (Grade DM) [Lewes Nodular and Seaford Chalk Formation]	
26	26.00 26.00 - 26.45	D11 S	N=26					*From 26.35 - 26.4m Orange brown sand*	
27									
	27.50 - 27.95	U12							
28	27.95	D13				(5.75)			
29	29.00 - 29.45	B14							
	29.50 29.50 - 29.95	D15 S	N=10					*From 29.5 - 30.8m chalk is very soft and wet.*	
30								Continued of Next Sheet	

General Remarks

1) Contractor - Terra Firma Ground Investigation Limited 2) Area cleared by CAT Scan prior to commencement 3) Breaker from 0-0.35m 4) Hand dug to 1.2m 5) Groundwater not encountered

Boring Progress			Water Strike			Chiselling		
Date/Time	Depth	Cas. Depth	Strike	Time (mins)	Rose To	From	To	Duration
11/12/2015 16:00:00	9.00							
15/12/2015 16:00:00	14.50							
16/12/2015 16:00:00	28.00							

Project Name	Project No:		BOREHOLE
Fontmell Close, St Albans	**36121**		**BH103**
Client	Start Date / End Date		
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**11/12/2015** / **17/12/2015**		
Contractor	Ground Level		
Various	**121.98m OD**		
Method/Plant	Coordinates	Logged By: **CW**	Sheet 4 of 4
Pilcon	**515445 E** **208425 N**	Checked By:	Scale 1:50

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
31	31.00 31.00 - 31.45	D16 S	N=24					*From 30.0 - 30.5m red brown mottled grey clay band, thinly laminated*	
						31.45	90.53	End of Borehole at 31.45m	
32									
33									
34									
35									
36									
37									
38									
39									
40									

General Remarks

1) Contractor - Terra Firma Ground Investigation Limited 2) Area cleared by CAT Scan prior to commencement 3) Breaker from 0-0.35m 4) Hand dug to 1.2m 5) Groundwater not encountered

Boring Progress			Water Strike			Chiselling		
Date/Time	Depth	Cas. Depth	Strike	Time (mins)	Rose To	From	To	Duration
11/12/2015 16:00:00	9.00							
15/12/2015 16:00:00	14.50							
16/12/2015 16:00:00	28.00							

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH201**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**07/12/2015** / **08/12/2015**		
Contractor	Ground Level		
Various	**121.06m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515455 E** **208426 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1								(3.00)		Concrete	
2											
3								3.00	118.06	Firm Ashy Fill	
								(1.00)			
4								4.00	117.06	Loose Ash Fill	
5											
6								(3.50)			
7											
								7.50	113.56	Damp Sandy Clay	
8											
9								(2.50)			
10								10.00	111.06	Soft to firm, light to dark brown sand	
11											
12											
13								(6.80)			
14											
15											
16											
17								16.80	104.26	Gravel, flint, very hard drilling	
								(0.40)			
								17.20	103.86	Light brown Sand	
18								(1.80)			
19								19.00	102.06	Soft Chalk	
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled at 11 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH201**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**07/12/2015** / **08/12/2015**		
Contractor	Ground Level		
Various	**121.06m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515455 E** **208426 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23								(7.00)			
24											
25											
26								26.00	95.06	End of Borehole at 26.00m	
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled at 11 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH202**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**09/12/2015** / **10/12/2015**		
Contractor	Ground Level		
Various	**121.02m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515453 E** **208424 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1								(2.00)		Concrete	
2								2.00	119.02	Black ashy fill	
3								(2.80)			
4											
5								4.80	116.22	Damp black clay fill	
								(1.20)			
6								6.00	115.02	Brown clay, gritty chalk	
7								(2.30)			
8								8.30	112.72	Sandy Gravel	
9											
10								(3.70)			
11											
12								12.00	109.02	Firm Sandy Clay	
13								(2.00)			
14								14.00	107.02	Light brown Sandy Clay	
								(1.00)			
15								15.00	106.02	Firm Sandy Clay	
16											
17											
18								(7.00)			
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled at 20 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH202**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**09/12/2015** / **10/12/2015**		
Contractor	Ground Level		
Various	**121.02m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515453 E** **208424 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22								22.00	99.02	Sandy Gravel, flint, clay	
23											
24								(4.50)			
25											
26											
								26.50	94.52	Sandy Chalk	
27								(0.50) 27.00	94.02	Firm Chalk	
28											
29								(3.00)			
30								30.00	91.02	End of Borehole at 30.00m	
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled at 20 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH203**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**15/12/2015** **15/12/2015**		
Contractor	Ground Level		
Various	**120.92m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515453 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1								(3.10)		Concrete	
2											
3								3.10	117.82	Black Ash and Gravel	
4											
5								(4.40)			
6											
7								7.50	113.42	Sandy Clay and Gravel	
8											
9											
10											
11											
12											
13											
14								(20.30)			
15											
16											
17											
18											
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled at 27 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH203**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**15/12/2015** **15/12/2015**		
Contractor	Ground Level		
Various	**120.92m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515453 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26											
27											
28								27.80 (0.50)	93.12	Hard Flint	
								28.30	92.62	Sand and Gravel	
29											
30								(2.40)			
31								30.70	90.22	Chalk	
								(1.30)			
32								32.00	88.92	End of Borehole at 32.00m	
33											
34											
35											
36											
37											
38											
39											
40											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled at 27 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH204**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**17/12/2015** **17/12/2015**		
Contractor	Ground Level		
Various	**121.14m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515455 E** **208421 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1								(3.00)		Concrete	
2											
3								3.00	118.14	Black fill	
4											
5								(4.50)			
6											
7								7.50	113.64	Sandy Gravel, flint, trace clay, firm	
8											
9											
10											
11											
12											
13											
14								(21.00)			
15											
16											
17											
18											
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled at 30 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH204**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**17/12/2015** **17/12/2015**		
Contractor	Ground Level		
Various	**121.14m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515455 E** **208421 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26											
27											
28											
								28.50	92.64		
								(0.50)		Sandy Chalk, Gravel	
29								29.00	92.14		
										Chalk	
30											
31											
								(5.00)			
32											
33											
34								34.00	87.14		
										End of Borehole at 34.00m	
35											
36											
37											
38											
39											
40											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled at 30 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH205**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**07/01/2016** **07/01/2016**		
Contractor	Ground Level		
Various	**121.15m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515455 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1								(3.50)		Concrete	
2											
3								3.50	117.65		
4										Black ashy fill, damp	
5								(3.50)			
6											
7								7.00	114.15	Sand, Gravel, Clay	
8											
9											
10											
11											
12											
13								(13.50)			
14											
15											
16											
17											
18											
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 22 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH205**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**07/01/2016** / **07/01/2016**		
Contractor	Ground Level		
Various	**121.15m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515455 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21								20.50	100.65	Light grey chalk, clay, flint, firm	
22								(2.50)			
23								23.00	98.15	Clay, Chalk traces, small gravel	
24								(3.00)			
25											
26								26.00	95.15	Pale chalk, small grey patches	
27								(2.00)			
28								28.00	93.15	Firm matt white chalk, flint parts	
29											
30											
31								(6.00)			
32											
33											
34								34.00	87.15	End of Borehole at 34.00m	
35											
36											
37											
38											
39											
40											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 22 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH206**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**07/01/2016** / **07/01/2016**		
Contractor	Ground Level		
Various	**121.18m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515456 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1										Concrete	
2								(3.50)			
3								3.50	117.68		
4										Damp Muddy Ash Fill	
5								(3.00)			
6								6.50	114.68		
7								(1.50)		Light Brown Sand, Gravel	
8								8.00	113.18		
9										Sand Gravel, Hard, Firm	
10								(4.50)			
11											
12								12.50	108.68		
13										Stiff Brown Clay Gravel	
14								(2.50)			
15								15.00	106.18		
16										Light Brown Grey Sand, Gravel, Chalk Traces	
17								(2.50)			
18								17.50	103.68		
19										Firm Pale White Chalk, Small Flint Parts	
20											
										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 25 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH206**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**07/01/2016** / **07/01/2016**		
Contractor	Ground Level		
Various	**121.18m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515456 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26											
27											
28											
29											
30								(22.50)			
31											
32											
33											
34											
35											
36											
37											
38											
39											
40								40.00	81.18	End of Borehole at 40.00m	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 25 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH207**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**11/01/2016** **11/01/2016**		
Contractor	Ground Level		
Various	**121.19m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515456 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1										Concrete	
2								(3.50)			
3								3.50	117.69		
4										Black Ash, Muddy Fill	
5								(4.00)			
6											
7								7.50	113.69		
8								(1.50)		Soft Brown Sand	
9								9.00	112.19		
10										Hard, Firm Sand, Gravel	
11								(3.00)			
12								12.00	109.19		
13										Light Brown Clay, Soft Sand	
14								(3.00)			
15								15.00	106.19		
16								(1.50)		Firm Hard Clay, Sand	
17								16.50	104.69		
18								(1.50)		Sandy Chalk, Small Gravel	
19								18.00	103.19		
20										Firm Chalk, Small flint in places	
										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 20 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH207**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**11/01/2016** **11/01/2016**		
Contractor	Ground Level		
Various	**121.19m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515456 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26											
27											
28											
29											
30								(22.00)			
31											
32											
33											
34											
35											
36											
37											
38											
39											
40								40.00	81.19	End of Borehole at 40.00m	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 20 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH208**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**11/12/2015** **14/12/2015**		
Contractor	Ground Level		
Various	**121.05m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 3
C6	**515455 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1										Concrete	
2								(3.70)			
3											
4								3.70	117.35	Black ashy, stone, muddy clays fill	
5											
6											
7											
8								(9.30)			
9											
10											
11											
12											
13								13.00	108.05	Very soft black damp fill	
14											
15											
16											
17											
18											
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled vertically

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH208**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**11/12/2015** **14/12/2015**		
Contractor	Ground Level		
Various	**121.05m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 3
C6	**515455 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26											
27								(21.00)			
28											
29											
30											
31											
32											
33											
34								34.00	87.05	Sandy clayey gravel, soft drilling	
35											
36											
37								(10.10)			
38											
39											
40										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled vertically

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH208**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**11/12/2015** **14/12/2015**		
Contractor	Ground Level		
Various	**121.05m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 3 of 3
C6	**515455 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
41											
42											
43											
44								44.10	76.95	Hard firm chalk with flint	
45											
46								(3.90)			
47											
48								48.00	73.05	End of Borehole at 48.00m	
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOGS ONLY 3) Drilled vertically

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH209**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**12/01/2016** **12/01/2016**		
Contractor	Ground Level		
Various	**121.18m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515457 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1										Concrete	
2								(4.00)			
3											
4								4.00	117.18	Black Ash, Damp Muddy Black Fill	
5											
6								(3.50)			
7											
8								7.50	113.68	Firm Sand, Gravel	
9											
10								(5.50)			
11											
12											
13								13.00	108.18	Firm Sandy Clay	
14											
15								(3.00)			
16								16.00	105.18	Sandy Clay, Small Chalk Traces	
17								(2.00)			
18								18.00	103.18	Hard Flint, Chalk	
19								(1.00) 19.00	102.18	Firm Chalk, Small flint in places	
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 28 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH209**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**12/01/2016** **12/01/2016**		
Contractor	Ground Level		
Various	**121.18m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515457 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26											
27											
28											
29											
30								(21.00)			
31											
32											
33											
34											
35											
36											
37											
38											
39											
40								40.00	81.18	End of Borehole at 40.00m	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 28 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH210**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**13/01/2016** **13/01/2016**		
Contractor	Ground Level		
Various	**121.23m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 3
C6	**515458 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1								(3.50)		Concrete	
2											
3								3.50	117.73		
4										Black Ash, Muddy Damp, Black fill, Very Soft	
5								(4.00)			
6											
7								7.50	113.73		
8										Stiff Sandy Clayey Gravel	
9											
10											
11											
12											
13											
14								(16.50)			
15											
16											
17											
18											
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 17 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH210**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**13/01/2016** **13/01/2016**		
Contractor	Ground Level		
Various	**121.23m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 3
C6	**515458 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24								24.00	97.23	Very Stiff Sandy Clay, small gravel parts	
25											
26											
27											
28											
29											
30											
31											
32								(22.00)			
33											
34											
35											
36											
37											
38											
39											
40										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 17 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH210**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**13/01/2016** **13/01/2016**		
Contractor	Ground Level		
Various	**121.23m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 3 of 3
C6	**515458 E** **208420 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
41											
42											
43											
44											
45											
46								46.00	75.23	Cream Sandy Clay/ Chalk	
47								(1.50)			
48								47.50	73.73	End of Borehole at 47.50m	
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 17 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH211**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**14/01/2016** **14/01/2016**		
Contractor	Ground Level		
Various	**121.24m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515459 E** **208421 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1										Concrete	
2								(3.50)			
3								3.50	117.74		
4										Dark brown sand and gravel	
5								(3.50)			
6											
7								7.00	114.24	Light Dark brown stiff sand clays	
8											
9											
10											
11											
12								(10.50)			
13											
14											
15											
16											
17											
18								17.50	103.74	Creamy colour chalk sand	
19								(1.50)			
20								19.00	102.24	Pale white chalk, small flint parts	
										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 2) Drilled at 17 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH211**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**14/01/2016** **14/01/2016**		
Contractor	Ground Level		
Various	**121.24m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515459 E** **208421 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26											
27											
28											
29								(19.00)			
30											
31											
32											
33											
34											
35											
36											
37											
38								38.00 (0.30) 38.30	83.24 82.94	Flint, hard Firm Chalk	
39								(1.70)			
40								40.00	81.24	End of Borehole at 40.00m	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 2) Drilled at 17 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH212**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**15/01/2016** **15/01/2016**		
Contractor	Ground Level		
Various	**121.25m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515461 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1								(3.00)		Concrete	
2											
3								3.00	118.25	Black Ash, Muddy black fill, very soft	
4								(3.50)			
5											
6								6.50	114.75	Light Dark Brown, Sand and Gravel	
7											
8								(5.50)			
9											
10											
11											
12								12.00	109.25	Pale white chalk, small flint parts	
13											
14											
15											
16											
17											
18											
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 2) Drilled at 17 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH212**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**15/01/2016** **15/01/2016**		
Contractor	Ground Level		
Various	**121.25m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515461 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26											
27											
28											
29											
30								(28.00)			
31											
32											
33											
34											
35											
36											
37											
38											
39											
40								40.00	81.25	End of Borehole at 40.00m	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 2) Drilled at 17 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH213**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**05/01/2016** **05/01/2016**		
Contractor	Ground Level		
Various	**121.12m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 3
C6	**515456 E** **208423 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1										Concrete, weak parts	
2								(4.50)			
3											
4											
								4.50	116.62		
5								(1.00)		Weak brown concrete	
								5.50	115.62		
6										Black muddy ash, clay fill	
7											
8								(4.50)			
9											
10								10.00	111.12		
11										Light grey sandy clay	
12											
13								(5.00)			
14											
15								15.00	106.12		
16										Pale grey gravelly clay, chalk trace	
17								(3.50)			
18											
								18.50	102.62		
19										Chalky gravelly clay	
20											
										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOF ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH213**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**05/01/2016** **05/01/2016**		
Contractor	Ground Level		
Various	**121.12m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 3
C6	**515456 E** **208423 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21								(3.50)			
22								22.00	99.12	Weak white chalk and very small flint bands	
23											
24											
25											
26											
27											
28											
29											
30											
31								(28.00)			
32											
33											
34											
35											
36											
37											
38											
39											
40										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOF ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH213**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**05/01/2016** **05/01/2016**		
Contractor	Ground Level		
Various	**121.12m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 3 of 3
C6	**515456 E** **208423 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
41											
42											
43											
44											
45											
46											
47											
48											
49											
50								50.00	71.12	End of Borehole at 50.00m	
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOF ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH214**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**06/01/2016** **06/01/2016**		
Contractor	Ground Level		
Various	**121.17m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 3
C6	**515456 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1										Concrete	
2								(5.00)			
3											
4											
5								5.00	116.17		
								(1.00)		Dry Black Ash	
6								6.00	115.17		
7										Soft Muddy Black Fill	
8											
9											
10								(8.00)			
11											
12											
13											
14								14.00	107.17		
										Light Brown Sandy Clay	
15								(3.00)			
16											
17								17.00	104.17		
										Light Grey Sandy Clay, Chalk traces	
18								(4.50)			
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH214**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**06/01/2016** **06/01/2016**		
Contractor	Ground Level		
Various	**121.17m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 3
C6	**515456 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21								21.50	99.67	Matt white chalk, small flint patches	
22											
23											
24											
25											
26											
27											
28											
29											
30											
31								(26.00)			
32											
33											
34											
35											
36											
37											
38											
39											
40										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH214**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**06/01/2016** **06/01/2016**		
Contractor	Ground Level		
Various	**121.17m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 3 of 3
C6	**515456 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
41											
42											
43											
44											
45											
46											
47											
								47.50	73.67	Hard Flint	
48								(0.60)	73.57	White matt chalk	
								48.20	72.97	Hard Flint	
								48.50	72.87	White matt chalk	
49								(1.70)			
50								50.00	71.17	End of Borehole at 50.00m	
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH215**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**22/01/2016** / **22/01/2016**		
Contractor	Ground Level		
Various	**122.10m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515434 E** **208433 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
0								(0.50)		Trial Pit	
								0.50	121.60	Sand Gravel	
1											
2								(3.50)			
3											
4								4.00	118.10	Black Ash Stone	
5								(2.00)			
6								6.00	116.10	Sand Gravel	
7											
8											
9								(5.50)			
10											
11											
12								11.50	110.60	Stiff Sandy Clay	
13											
14								(4.00)			
15											
16								15.50	106.60	Very Soft Drilling, No rod rotation, small sand trace	
								(1.00)			
17								16.50	105.60	Sand Gravel	
18								(2.00)			
19								18.50	103.60	Light brown cream sandy chalk	
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled vertically

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH215**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**22/01/2016** **22/01/2016**		
Contractor	Ground Level		
Various	**122.10m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515434 E** **208433 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23								(8.00)			
24											
25											
26											
27								26.50	95.60	White chalk, Flint Parts	
28											
29											
30											
31											
32											
33								(13.50)			
34											
35											
36											
37											
38											
39											
40								40.00	82.10	End of Borehole at 40.00m	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled vertically

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH216**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**26/01/2016** **26/01/2016**		
Contractor	Ground Level		
Various	**121.84m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 3
C6	**515467 E** **208430 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1								(1.20)		Trial Pit	
								1.20	120.64	Black Ash Stone	
2								(1.80)			
3								3.00	118.84	Dark Brown Sand Gravel	
4											
5								(4.00)			
6											
7								7.00	114.84	Red Brown Sandy Gravelly Clay	
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled vertically

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH216**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**26/01/2016** **26/01/2016**		
Contractor	Ground Level		
Various	**121.84m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 3
C6	**515467 E** **208430 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26											
27											
28											
29								(32.00)			
30											
31											
32											
33											
34											
35											
36											
37											
38											
39								39.00	82.84	Very Soft Drilling/ Light Brown Sandy Clay	
40										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled vertically

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH216**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**26/01/2016** **26/01/2016**		
Contractor	Ground Level		
Various	**121.84m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 3 of 3
C6	**515467 E** **208430 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
41											
42								(6.00)			
43											
44											
45								45.00	76.83	Light Brown, Chalk, Sand 50/50	
46								(2.00)			
47								47.00	74.83	White Chalk Flint	
48											
49								(3.00)			
50								50.00	71.83	End of Borehole at 50.00m	
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled vertically

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH217**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**18/01/2016** **18/01/2016**		
Contractor	Ground Level		
Various	**121.15m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 3
C6	**515456 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1										Concrete	
2								(5.00)			
3											
4											
5								5.00	116.15	Damp black muddy fill	
6											
7											
8											
9											
10											
11											
12											
13								(18.50)			
14											
15											
16											
17											
18											
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH217**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**18/01/2016** **18/01/2016**		
Contractor	Ground Level		
Various	**121.15m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 3
C6	**515456 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24								23.50	97.65	Light to dark grey, brown sand. Chalk traces	
25								(2.00)			
26								25.50	95.65	White chalk/ sand	
27											
28											
29								(7.00)			
30											
31											
32											
33								32.50	88.65	Sandy Chalk 50/50 light brown	
34											
35											
36								(6.50)			
37											
38											
39								39.00	82.15	White chalk, very hard flint bands	
40										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH217**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**18/01/2016** **18/01/2016**		
Contractor	Ground Level		
Various	**121.15m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 3 of 3
C6	**515456 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
41											
42											
43								(7.50)			
44											
45											
46											
								46.50	74.65	End of Borehole at 46.50m	
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH218**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**19/01/2016** **19/01/2016**		
Contractor	Ground Level		
Various	**121.14m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 3
C6	**515455 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1										Concrete	
2								(4.50)			
3											
4								4.50	116.64		
5										Soft black damp muddy fill	
6											
7											
8											
9											
10											
11								(13.00)			
12											
13											
14											
15											
16											
17								17.50	103.64		
18										Light grey sandy clay, chalk trace	
19								(2.00)			
20								19.50	101.64	Very light brown to white sandy chalk, flint	
										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH218**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**19/01/2016** **19/01/2016**		
Contractor	Ground Level		
Various	**121.14m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 3
C6	**515455 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26											
27								(14.50)			
28											
29											
30											
31											
32											
33											
34								34.00	87.14	White chalk, flint	
35								(2.00)			
36								36.00	85.14	Very soft drilling, small chalk trace	
37											
38								(6.00)			
39											
40										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH218**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**19/01/2016** / **19/01/2016**		
Contractor	Ground Level		
Various	**121.14m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 3 of 3
C6	**515455 E** **208422 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
41											
42								42.00	79.14	White chalk, flint bands, hard	
43											
44											
45											
46								(8.00)			
47											
48											
49											
50								50.00	71.14	End of Borehole at 50.00m	
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 7 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH219**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**26/01/2016** **26/01/2016**		
Contractor	Ground Level		
Various	**122.11m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515452 E** **208434 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
								(1.20)		Trial Pit	
								1.20	120.91	Black Ash Stone	
								(9.80)			
								11.00	111.11	Sand, Gravel, Boulders	
								(4.00)			
								15.00	107.11	Sand, Gravel, Clay	
								(3.50)			
								18.50	103.61	Light Brown Sandy Clay, Chalk Traces	
										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 8 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH219**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**26/01/2016** **26/01/2016**		
Contractor	Ground Level		
Various	**122.11m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515452 E** **208434 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22								(6.00)			
23											
24								24.50	97.61	Chalk, Flint, Small Sand Trace	
25								(1.90)			
26								26.40	95.71	White Chalk, Flint	
27											
28											
29											
30											
31											
32											
33								(13.60)			
34											
35											
36											
37											
38											
39											
40								40.00	82.11	End of Borehole at 40.00m	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 8 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH220**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**25/01/2016** **25/01/2016**		
Contractor	Ground Level		
Various	**122.14m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515450 E** **208436 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
								(1.20)		Trial Pit	
1								1.20	120.94	Sand Gravel	
								(0.80)			
2								2.00	120.14	Black Ash Stone	
3											
4											
5											
6								(8.00)			
7											
8											
9											
10								10.00	112.14	Dark Brown Sand Gravel	
11											
12											
13								(5.50)			
14											
15											
16								15.50	106.64	Light Brown Sand, Chalk Trace	
17								(2.50)			
18								18.00	104.14	Pale Sand Chalk, Off White	
19								(4.00)			
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 8 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH220**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**25/01/2016** **25/01/2016**		
Contractor	Ground Level		
Various	**122.14m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515450 E** **208436 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22								22.00	100.14	White Chalk, flint	
23											
24											
25											
26								(7.50)			
27											
28											
29								29.50	92.64	Sandy Chalk 50/50	
30											
31								(4.00)			
32											
33								33.50	88.64	White Chalk, Flint	
34											
35											
36											
37								(6.50)			
38											
39											
40								40.00	82.14	End of Borehole at 40.00m	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 8 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH221**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**20/01/2016** **20/01/2016**		
Contractor	Ground Level		
Various	**122.15m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 3
C6	**515437 E** **208429 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1										Sand, Gravel	
2								(3.50)			
3								3.50	118.65		
4										Black Ash, Stoney clay fill, damp	
5											
6								(4.50)			
7											
8								8.00	114.15		
9								(2.00)		Dark Brown Sandy Clay	
10								10.00	112.15		
11										Light Dark Brown Sandy Gravel, clay parts	
12											
13											
14											
15								(16.00)			
16											
17											
18											
19											
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 15 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH221**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**20/01/2016** **20/01/2016**		
Contractor	Ground Level		
Various	**122.15m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 3
C6	**515437 E** **208429 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22											
23											
24											
25											
26								26.00	96.15	Pale brown, off white sandy chalk	
27											
28								(4.50)			
29											
30								30.50	91.65	White chalk, flint parts	
31											
32											
33											
34											
35								(11.50)			
36											
37											
38											
39											
40										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 15 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH221**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**20/01/2016** / **20/01/2016**		
Contractor	Ground Level		
Various	**122.15m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 3 of 3
C6	**515437 E** **208429 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
41											
42								42.00	80.15	End of Borehole at 42.00m	
43											
44											
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 15 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH222**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**21/01/2016** **21/01/2016**		
Contractor	Ground Level		
Various	**122.04m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 1 of 2
C6	**515434 E** **208431 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
1								(0.50) 0.50	121.54	Trial Pit Sand Gravel	
2								(2.50)			
3								3.00	119.04	Black Ash Stone	
4											
5								(4.50)			
6											
7											
8								7.50	114.54	Light Dark Brown Sand Gravel	
9											
10											
11											
12											
13								(11.00)			
14											
15											
16											
17											
18											
19								18.50	103.54	Stiff Sandy Clay	
20										Continued of Next Sheet	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 14 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		ROTARY HOLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**BH222**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**21/01/2016** **21/01/2016**		
Contractor	Ground Level		
Various	**122.04m OD**		
Method/Plant	Coordinates	Logged By:	Sheet 2 of 2
C6	**515434 E** **208431 N**	Checked By:	Scale 1:100

(m)	Samples and Insitu Tests					Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type/FI	TCR	SCR	RQD						
21											
22								(5.50)			
23											
24								24.00	98.04	Pale Brown Sandy Chalk	
25								(2.50)			
26											
27								26.50	95.54	White Chalk, Flint Parts, Sand Trace	
28								(1.50)			
29								28.00	94.04	White Chalk, Flint	
30											
31											
32											
33											
34								(12.00)			
35											
36											
37											
38											
39											
40								40.00	82.04	End of Borehole at 40.00m	

General Remarks

1) Contractor - Forkers Limited 2) BASED ON DRILLERS LOG ONLY 3) Drilled at 14 degrees

Boring Progress			Water Strike			Coring Run		
Date/Time	Depth	Cas. Depth	Strike	Time (min)	Rose to	Top	Base	Dia.

Project Name	Project No:		TRIAL PIT
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**TP301**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**12/01/2016** / **12/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Logged By: **CW**	Sheet 1 of 1
Hand/ Mini Digger		Checked By:	Scale 1:10

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
						(0.05) 0.05		Brick Paving	
						(0.10) 0.15		MADE GROUND: Orange brown fine to coarse grained sand.	
						(0.70) 0.85		MADE GROUND: Dark brown gravelly sandy clay. Gravel is fine to coarse, angular ro rounded, of flints, brick and plastic. Sand is fine to coarse grained.	
1						(0.65) 1.50		MADE GROUND: Orange brown gravelly sandy clay. Gravel is fine to coarse, angular to rounded, of flints, brick and plastic. Sand is fine to coarse grained.	
						(0.20) 1.70		MADE GROUND: Dark brown sandy clayey gravel. Gravel is fine to coarse, angular to rounded, of flints, brick and plastic. Sand is fine to coarse grained.	
2								End of Trial Pit at 1.70m	

General Remarks

1) Contractor - Harcross Specialist Contractors Ltd 2) 20cm diameter steel pile located on corner of property 3) Effluent water inflow at 1.65m, Fast flow, stops when Thames Water empty drain nearby 4) Backfilled with arisings

Water

Strike

Standing

Flow

Stability:

Pit Dimensions

1.60 m

0.60 m

Project Name	Project No:		TRIAL PIT
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**TP302**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**12/01/2016** / **12/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Logged By: **CW**	Sheet 1 of 1
Hand/ Mini Digger		Checked By:	Scale 1:10

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
						(0.05) 0.05		Brick Paving	
						(0.10) 0.15		MADE GROUND: Orange brown fine to coarse grained sand.	
						(0.60) 0.75		MADE GROUND: Brown sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to coarse, angular to rounded, of flint, chalk and brick. With occasional cobbles of flint	
1						(0.75) 1.50		MADE GROUND: Dark brown slightly sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to coarse, angular to rounded, of flint and brick.	
								End of Trial Pit at 1.50m	
2									

General Remarks

1) Contractor - Harcross Specialist Contractors Ltd 2) Backfilled with arisings

Water

Strike

Standing

Flow

Stability:

Pit Dimensions

4.00 m

1.00 m

Project Name	Project No:		TRIAL PIT
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**TP303**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**12/01/2016** / **12/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Logged By: **CW**	Sheet 1 of 1
Hand/ Mini Digger		Checked By:	Scale 1:10

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
						(0.05) 0.05		Brick Paving	
						(0.10) 0.15		MADE GROUND: Orange brown fine to coarse grained sand.	
						(1.35) 1.50		MADE GROUND: Orange brown mottled brown sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to medium, angular to sub-rounded, of bricks, chalk, flint and polystyrene.	
1									
								End of Trial Pit at 1.50m	
2									

General Remarks

1) Contractor - Harcross Specialist Contractors Ltd 2) 40cm diameter concrete pile located on corner of property 3) Backfilled with arisings

Water

Strike

Standing

Flow

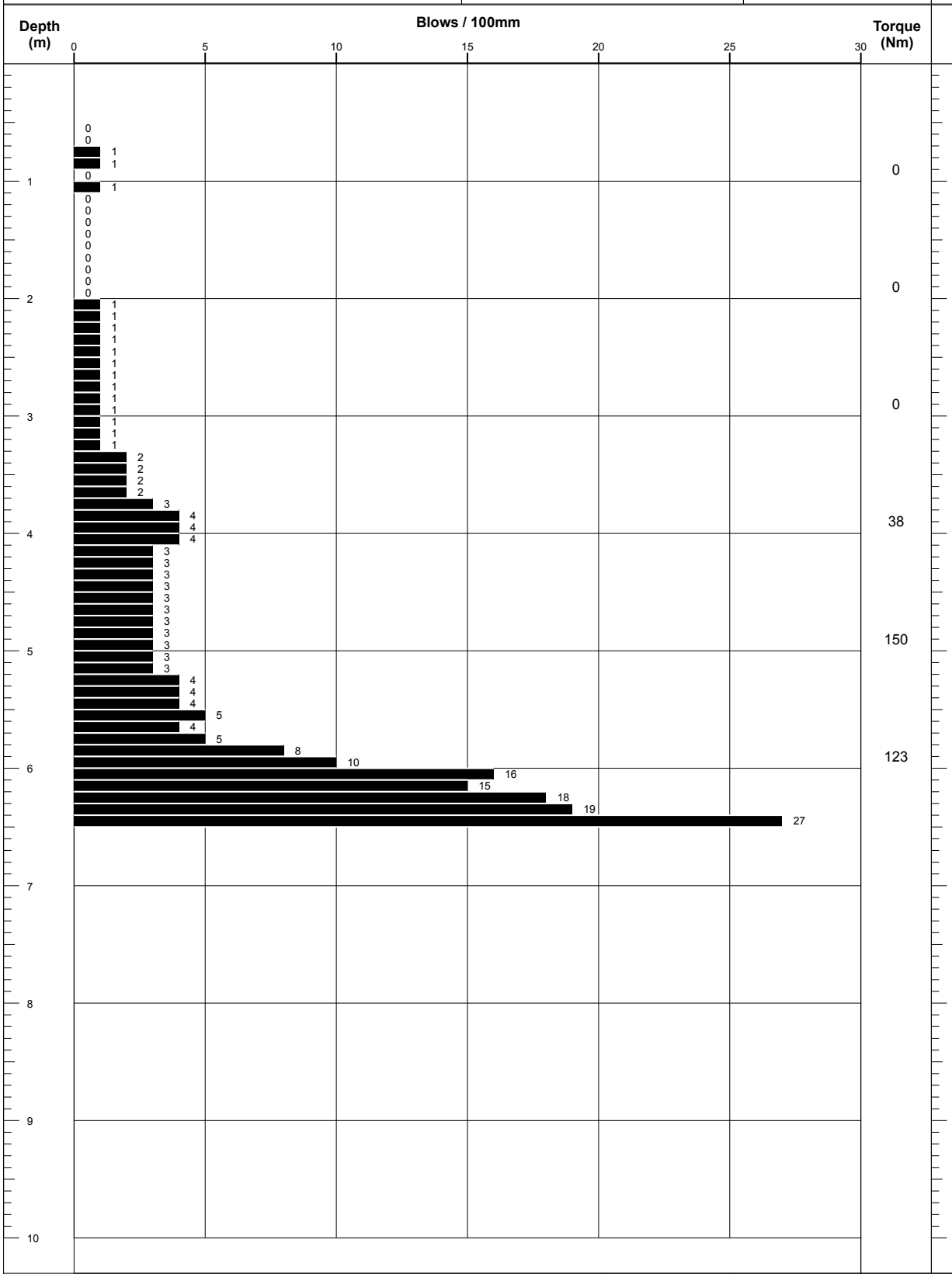
Stability:

Pit Dimensions

2.00 m

1.50 m

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP401**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**13/01/2016** / **13/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 1 of 1
Global Geotech		Checked By:	Scale 1:50

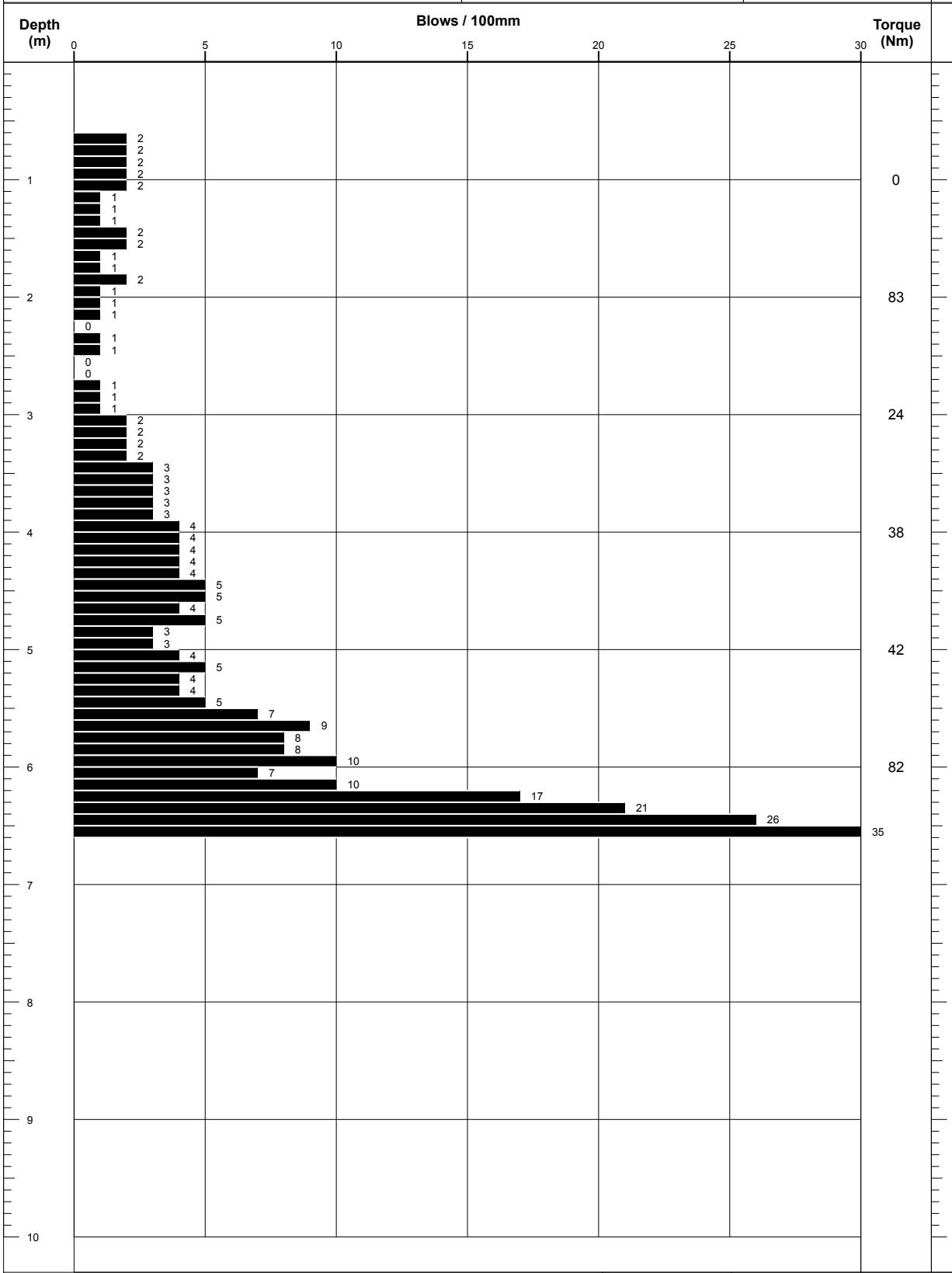


General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Probe completed on platform 4) Platform to Ground 0 - 0.6m 5) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**6.50**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP402**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**13/01/2016** / **13/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 1 of 1
Global Geotech		Checked By:	Scale 1:50

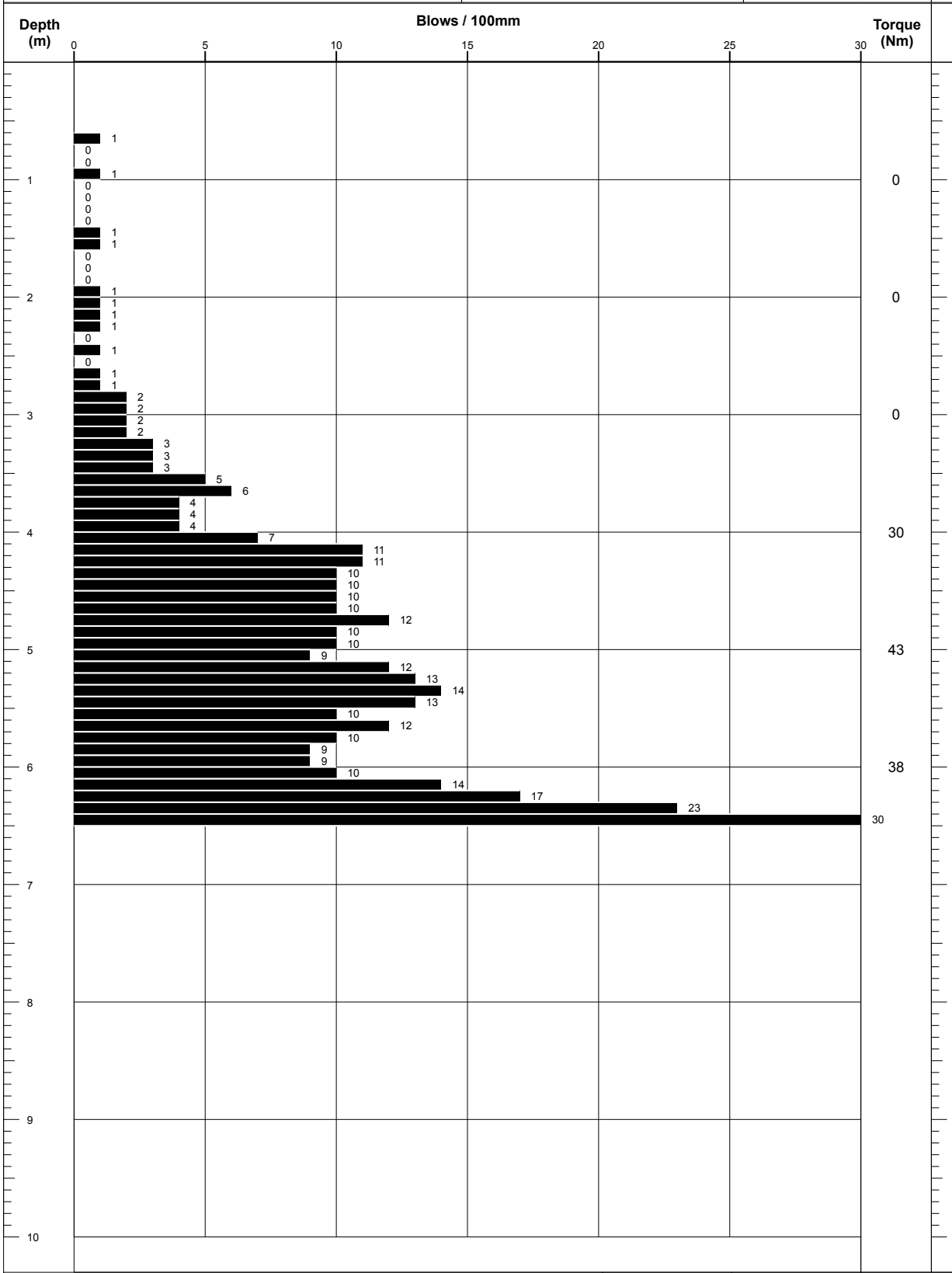


General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Probe completed on platform 4) Platform to Ground 0 - 0.6m 5) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**6.60**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP403**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**13/01/2016** / **13/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 1 of 1
Global Geotech		Checked By:	Scale 1:50

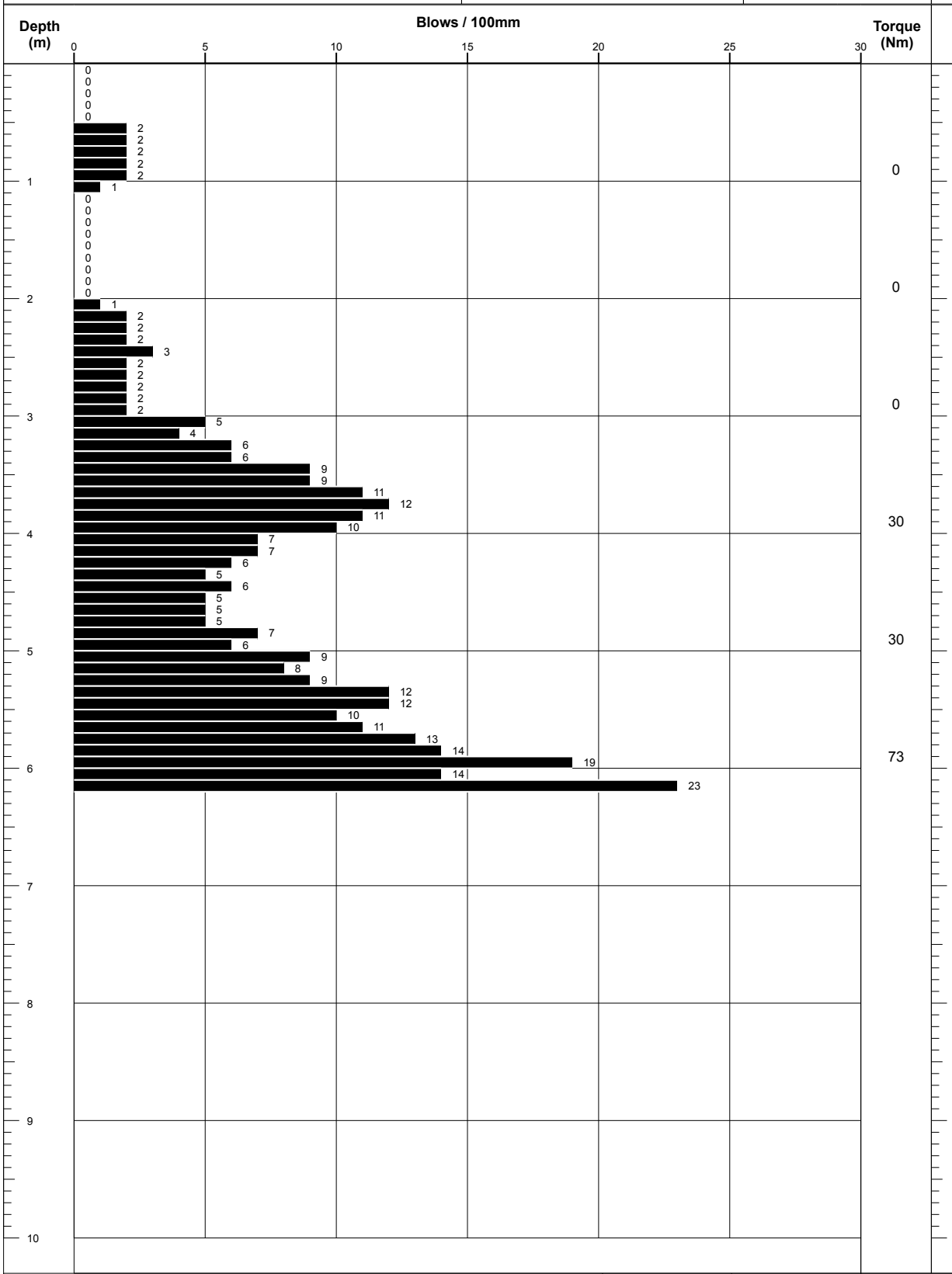


General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Probe completed on platform 4) Platform to Ground 0 - 0.6m 5) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**6.50**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP404**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**13/01/2016** / **13/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 1 of 1
Global Geotech		Checked By:	Scale 1:50

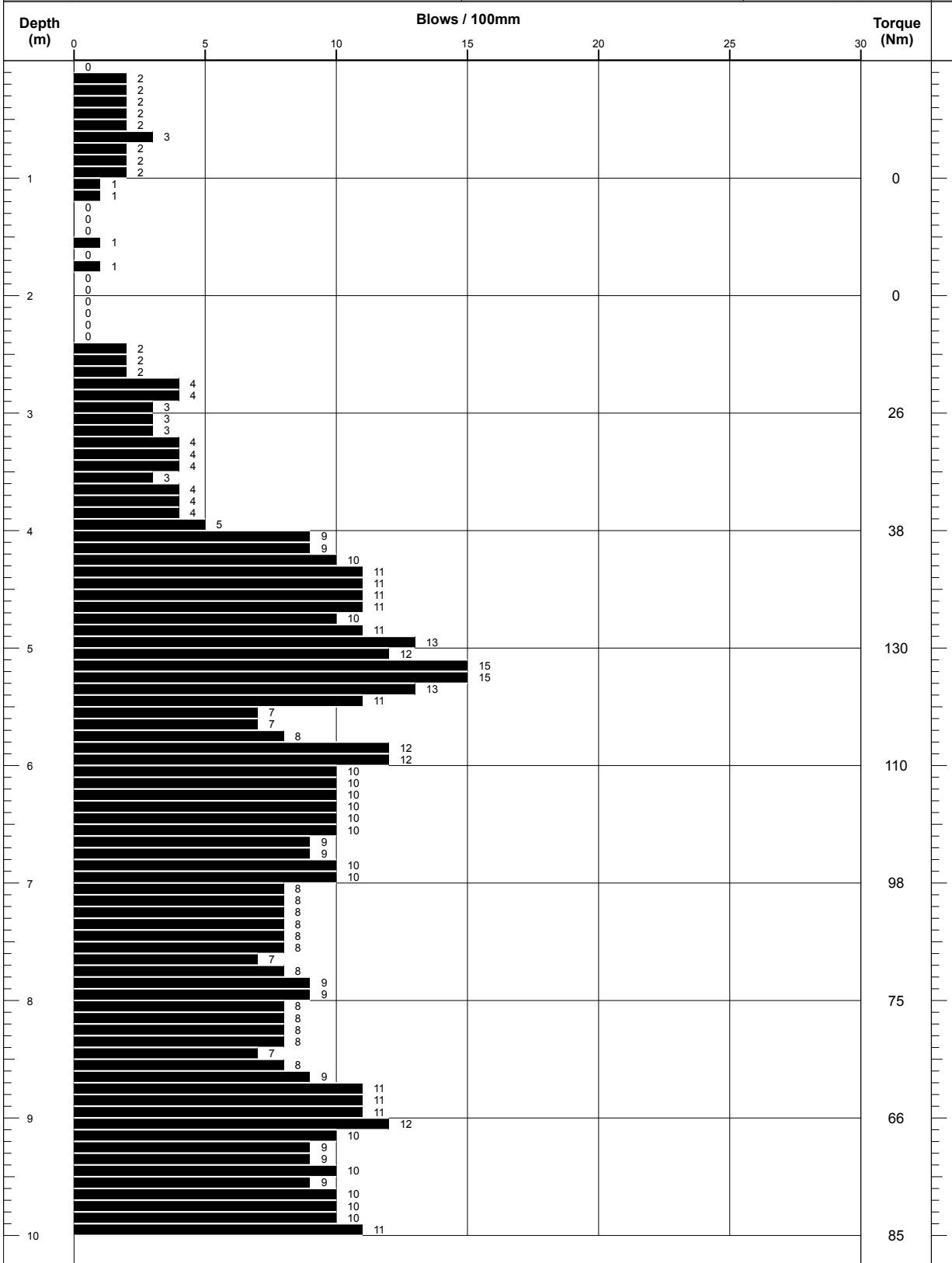


General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**6.20**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP405**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**13/01/2016** / **13/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 1 of 2
Global Geotech		Checked By:	Scale 1:50

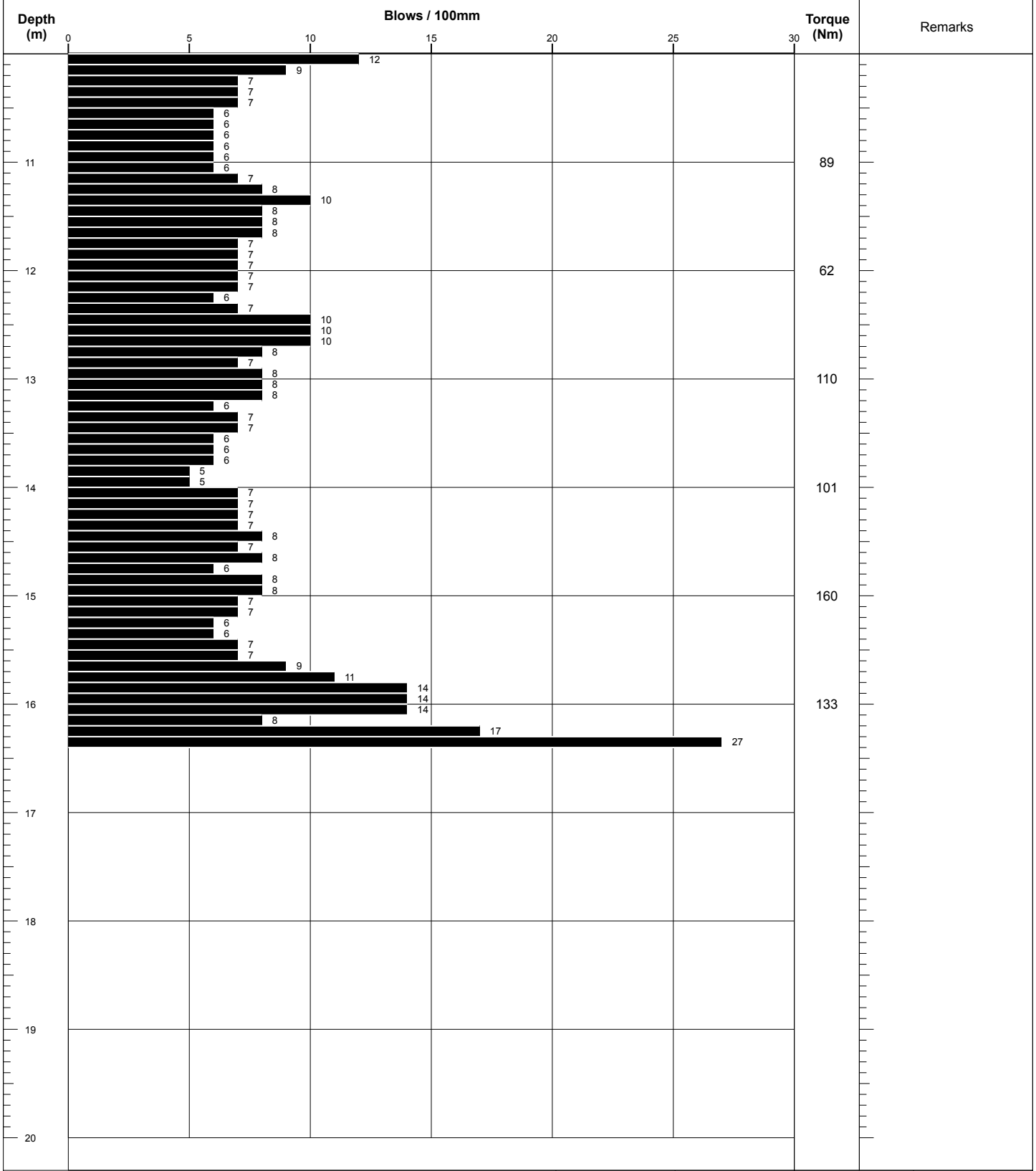


General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**16.40**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP405**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**13/01/2016** / **13/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 2 of 2
Global Geotech		Checked By:	Scale 1:50

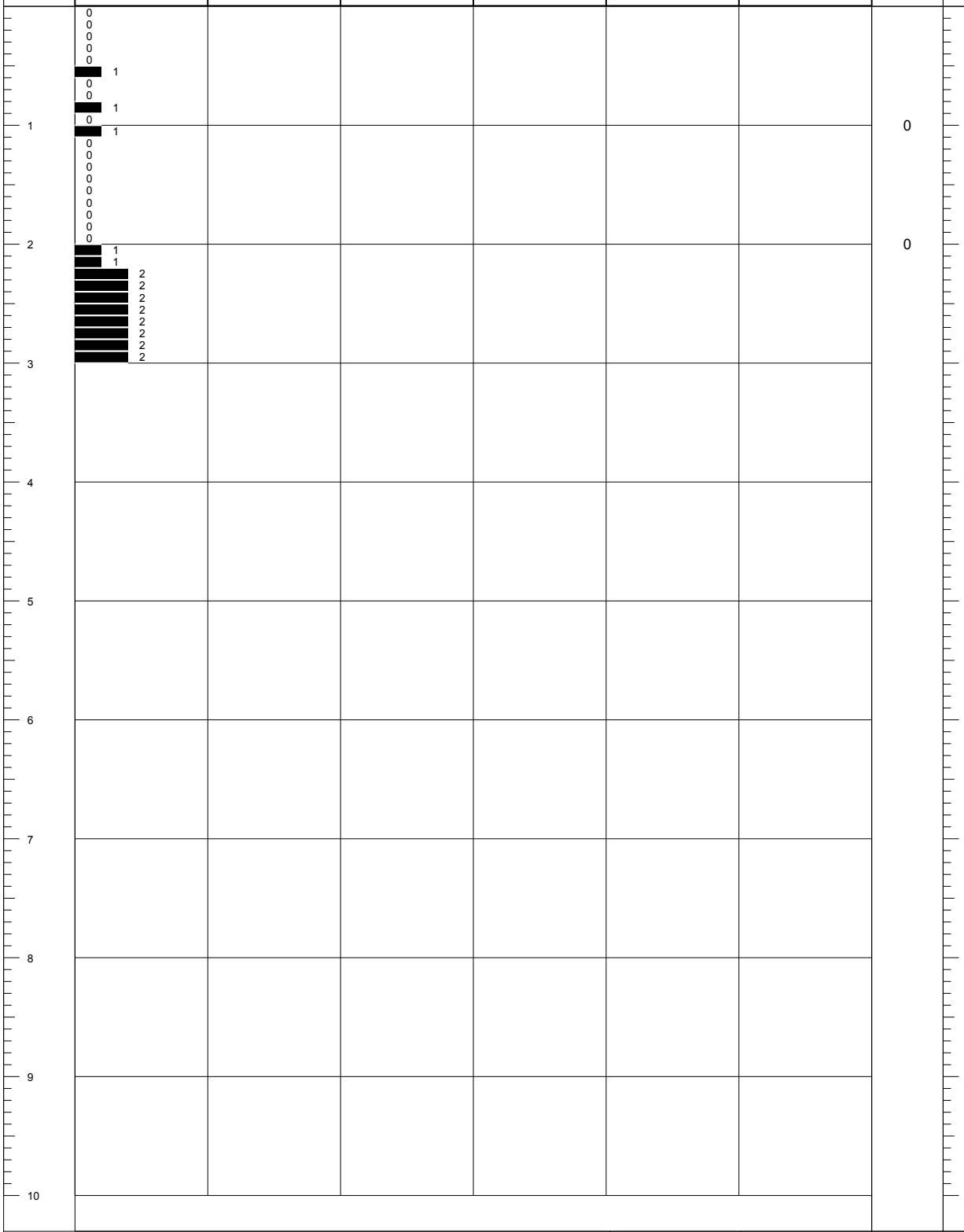


General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**16.40**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP406**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**14/01/2016** / **14/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 1 of 1
Global Geotech		Checked By:	Scale 1:50

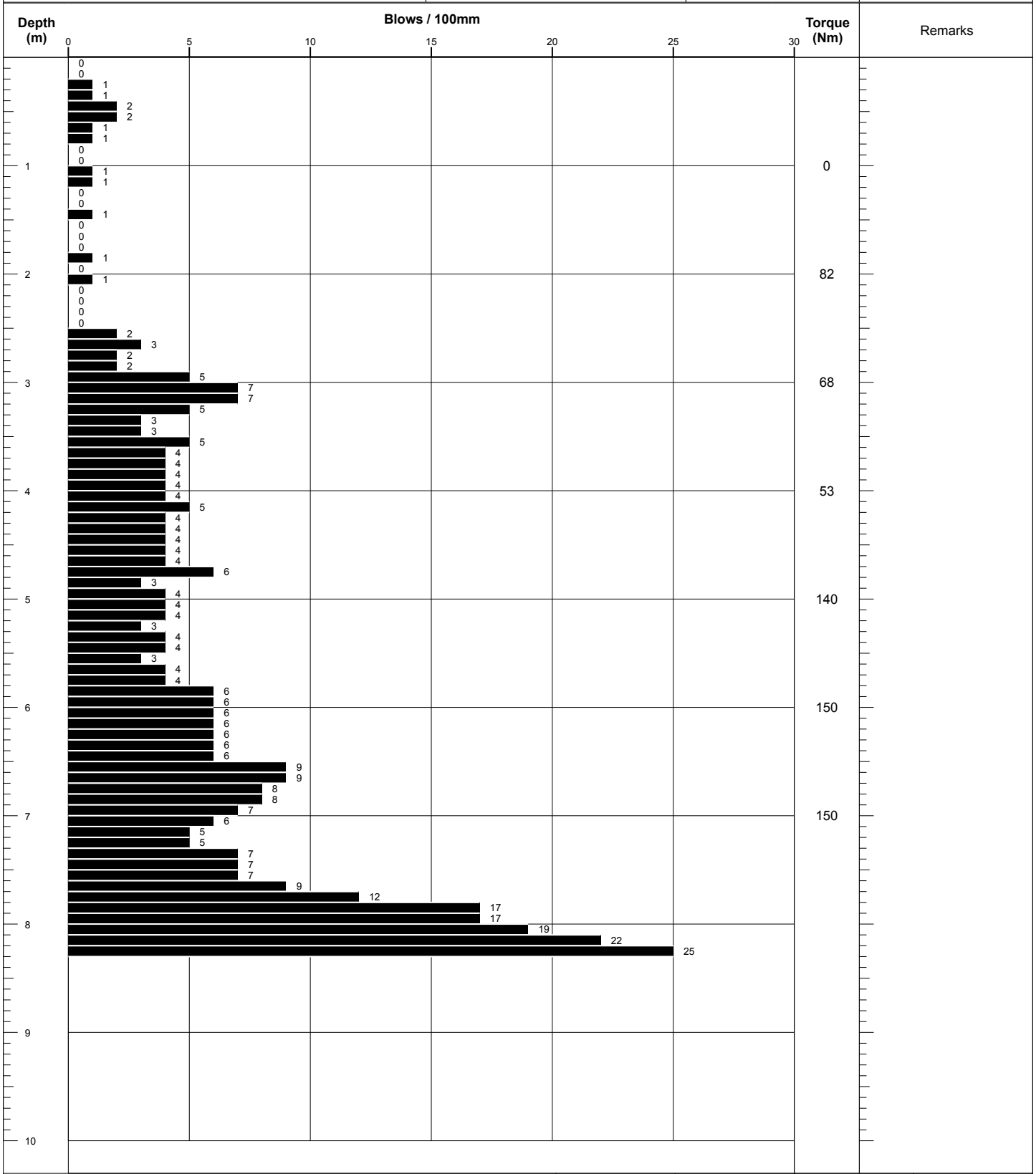


General Remarks

1 Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to inclination

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**3.00**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		**DP406a**
Client: **Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC**	Start Date: **14/01/2016** End Date: **14/01/2016**		
Contractor: **Various**	Ground Level:		
Method/Plant: **Global Geotech**	Coordinates:	Rig Crew: / Checked By:	Sheet 1 of 1 — Scale 1:50

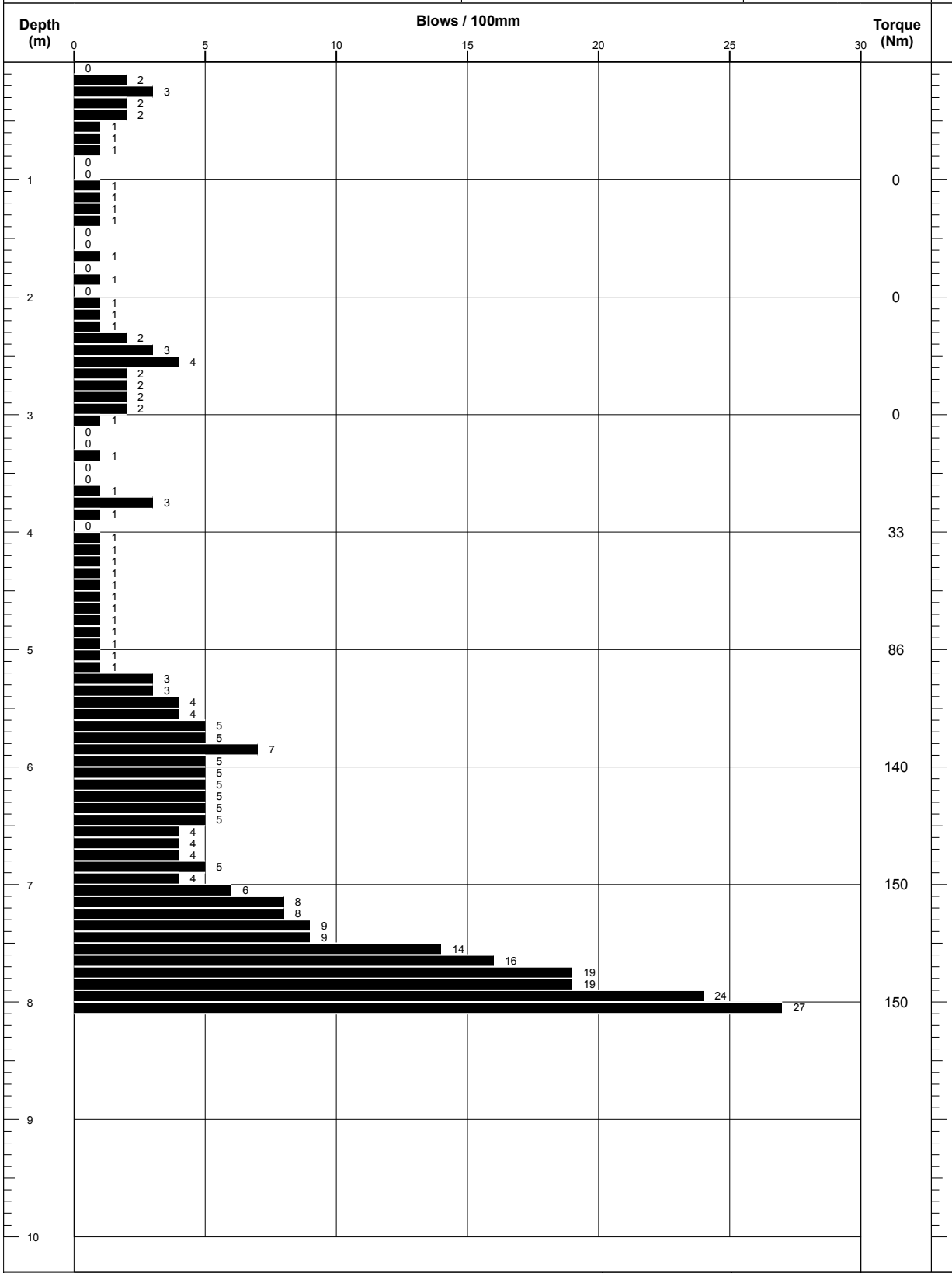


General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**8.30**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP407**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**14/01/2016** / **14/01/2016**		
Contractor	Ground Level		
Various		Rig Crew:	Sheet 1 of 1
Method/Plant	Coordinates	Checked By:	Scale 1:50
Global Geotech			

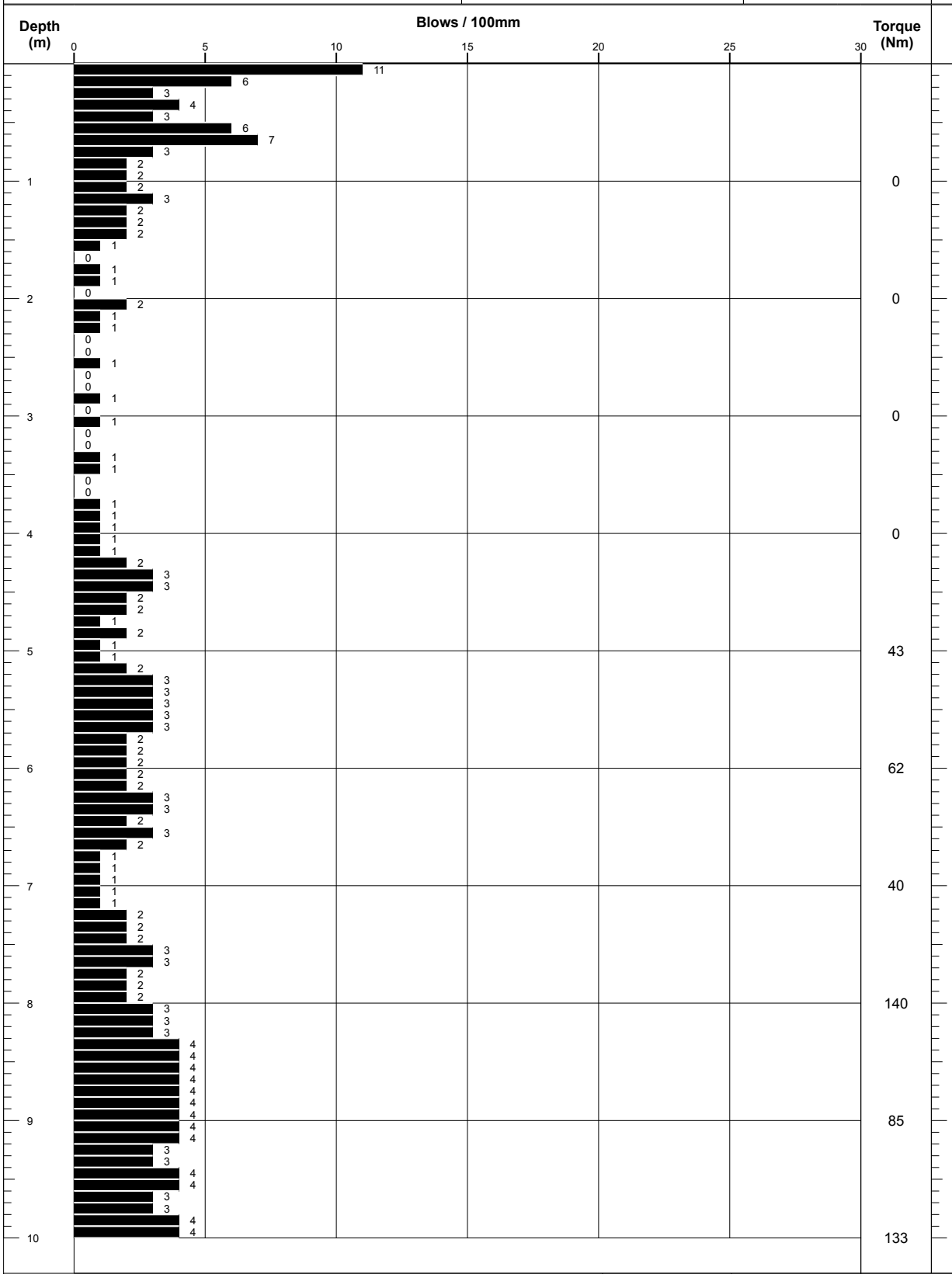


General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**8.10**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP408**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**14/01/2016** / **14/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 1 of 2
Global Geotech		Checked By:	Scale 1:50

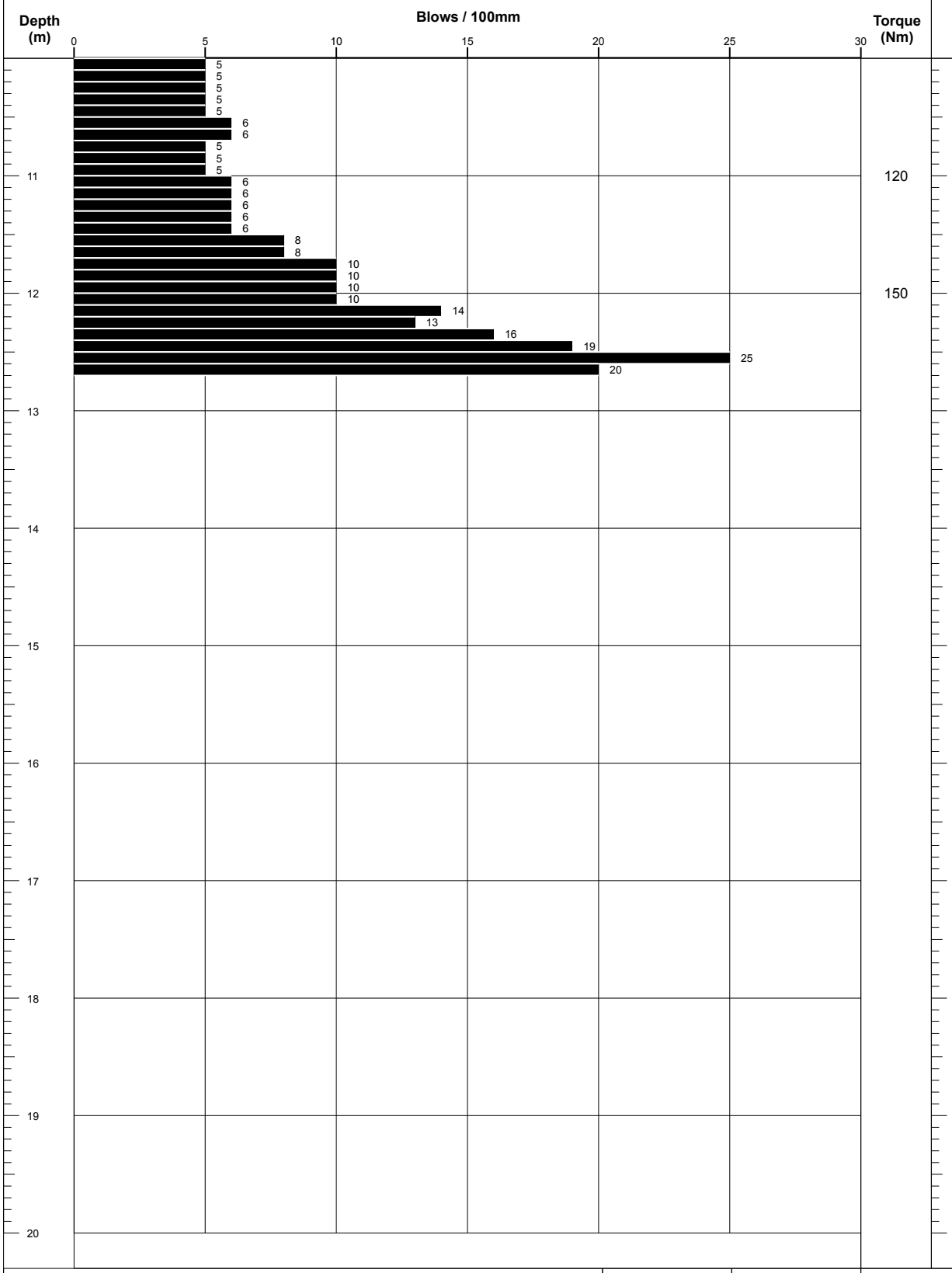


General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**12.70**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP408**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**14/01/2016** / **14/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 2 of 2
Global Geotech		Checked By:	Scale 1:50



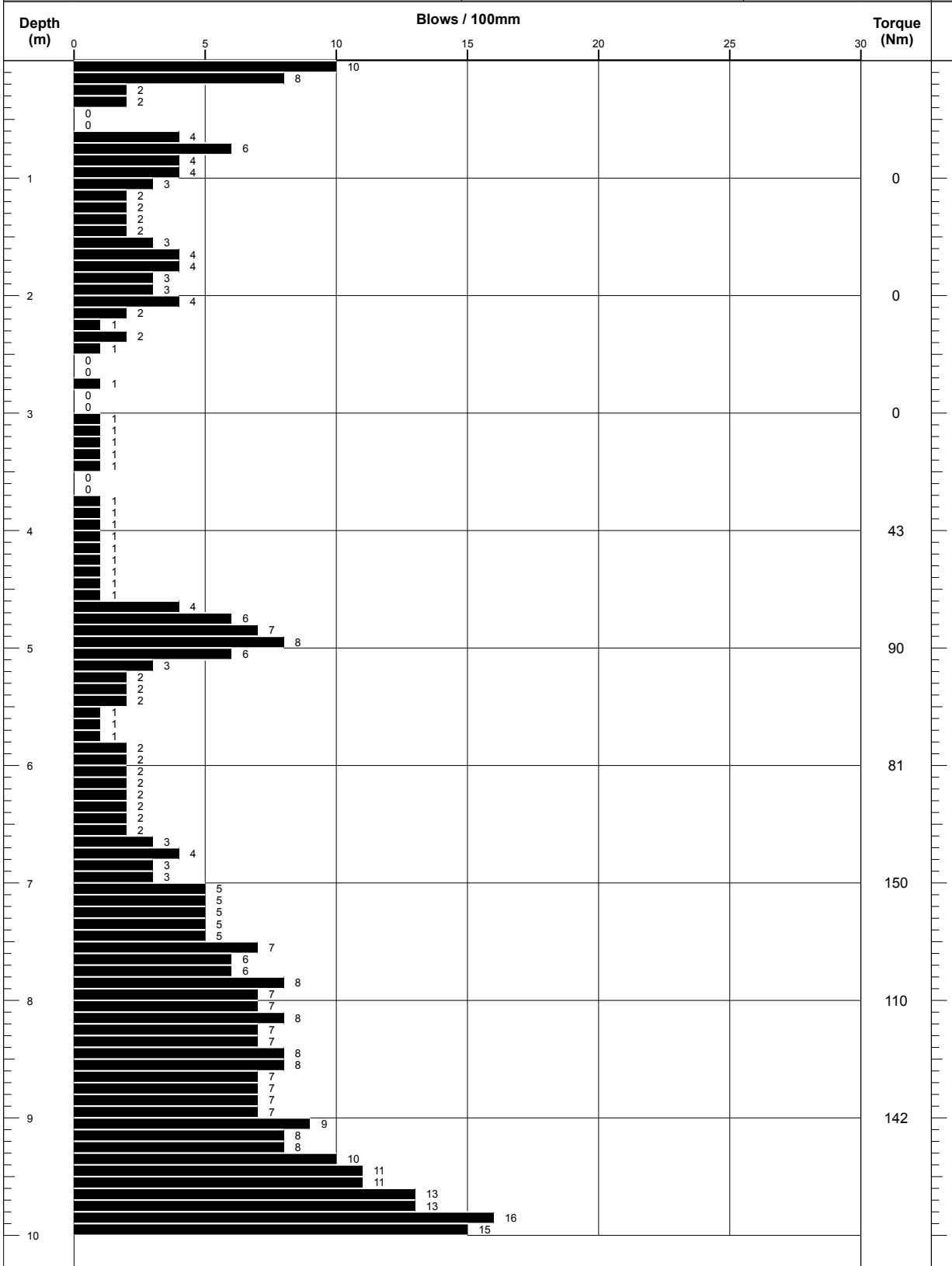
Remarks

General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**12.70**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP409**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**14/01/2016** / **14/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 1 of 2
Global Geotech		Checked By:	Scale 1:50

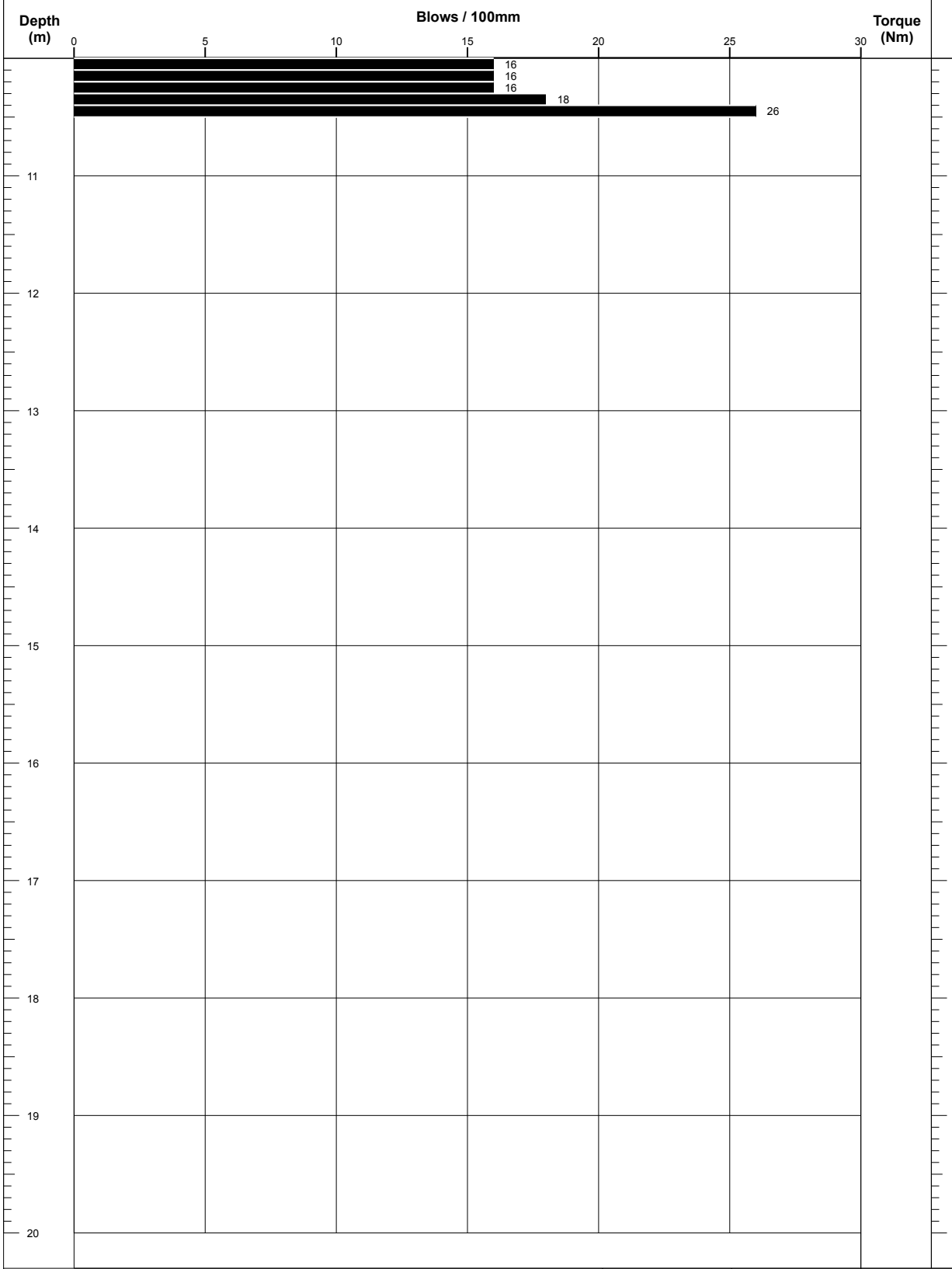


General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**11.50**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP409**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**14/01/2016** / **14/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 2 of 2
Global Geotech		Checked By:	Scale 1:50



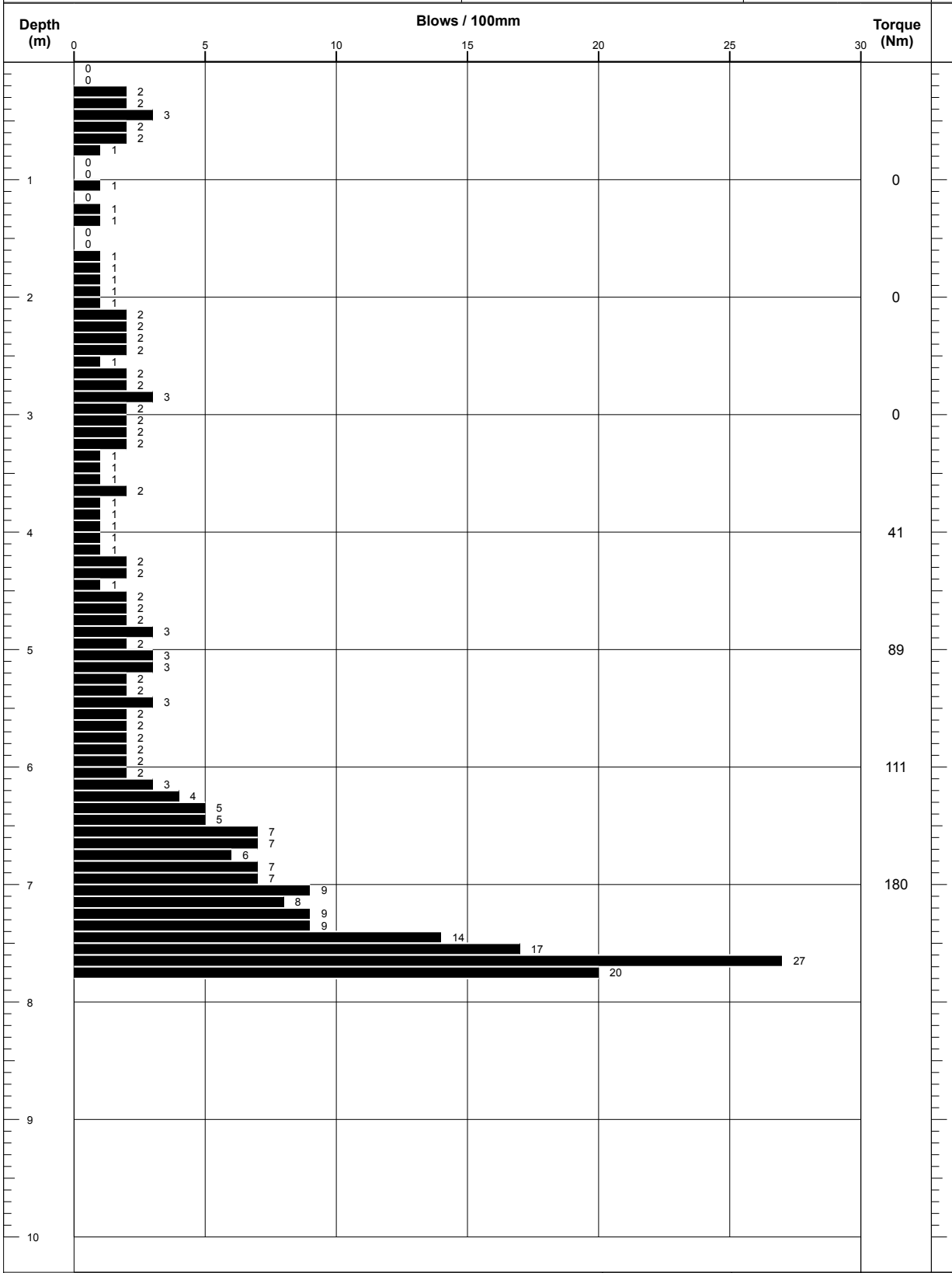
Remarks

General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal

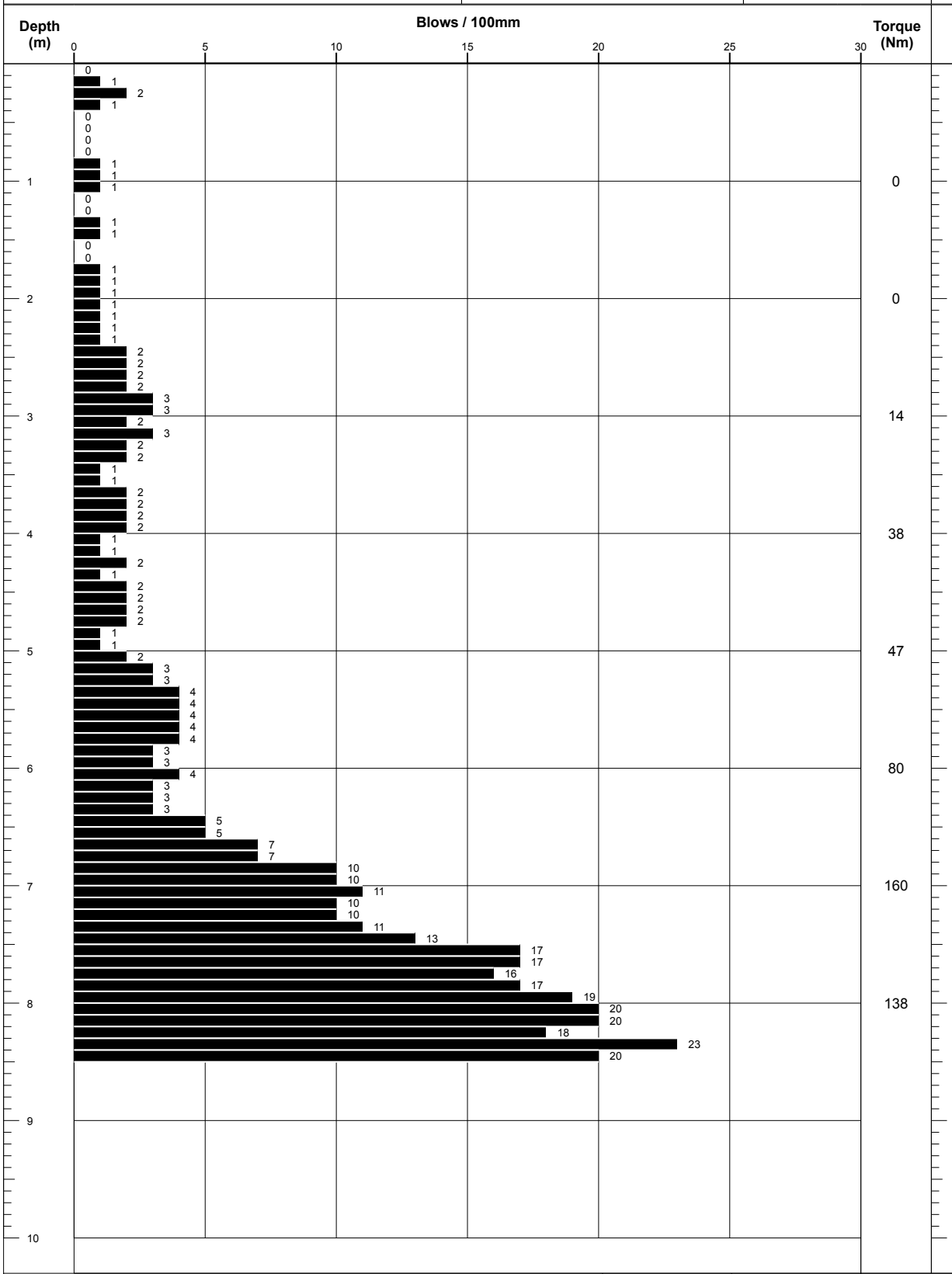
Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**11.50**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP410**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**14/01/2016** / **14/01/2016**		
Contractor	Ground Level		
Various		Rig Crew:	Sheet 1 of 1
Method/Plant	Coordinates	Checked By:	Scale 1:50
Global Geotech			



General Remarks				
1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal	Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
	Hammer Wt (kg)	**63.5**	Damper	
	Final Depth (m)	**7.80**	Type	**DPSH**

Project Name	Project No:		DYNAMIC PROBE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**DP411**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**15/01/2016** / **15/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Rig Crew:	Sheet 1 of 1
Global Geotech		Checked By:	Scale 1:50



General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area cleared with Cat Scan Prior to commencement 3) Terminated due to refusal

Drop Ht (mm)	**500**	Cone Dia. (mm)	**45**
Hammer Wt (kg)	**63.5**	Damper	
Final Depth (m)	**8.50**	Type	**DPSH**

Project Name	Project No:		WINDOW SAMPLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**WS501**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**15/01/2016** **15/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Logged By: **CW**	Sheet 1 of 1
Global Geotech		Checked By:	Scale 1:20

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
						(0.45)		No recovery	
						0.45 (0.10)		MADE GROUND: Orange brown fine to coarse sand.	
						0.55		MADE GROUND: Brown sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-rounded, of brick, flint and rubble	
						(0.45)		*Chalk*	
1						1.00		No recovery	
						(0.30)			
						1.30		MADE GROUND: Brown clayey sandy gravel. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-angular, brick, flint and rubble	
						(0.20)			
						1.50		MADE GROUND: Dark brown clayey sandy gravel. Sand is fine coarse grained. Gravel is fine to coarse, angular to sub-angular, of brick, flint and rubble	
						(0.35)			
						1.85		*Brick*	
						(0.15)		MADE GROUND: Orange brown slightly sandy clayey gravel. Gravel is fine to coarse, angular to rounded, brick, chalk and flint. Sand is fine to coarse grained.	
2						2.00		No recovery	
						(0.40)			
						2.40		MADE GROUND: Dark brown clayey sandy gravel. Sand is fine coarse grained. Gravel is fine to coarse, angular to sub-angular, of brick, flint and rubble	
						(0.30)			
						2.70		MADE GROUND: Orange brown gravelly clayey sand. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub angular of brick, flint and rubble	
						(0.30)			
3						3.00		No recovery	
						(0.10)			
						3.10		MADE GROUND: Brown clayey gravelly sand. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-rounded, of flint, brick and rubble	
						(0.30)			
						3.40		MADE GROUND: Red brown slightly sandy clay. Sand is fine to coarse grained	
						(0.40)			
						3.80		MADE GROUND: Dark brown sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-angular of brick, flint and rubble	
						(0.20)			
4						4.00		End of Window Sample at 4.00m	

General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area scanned with CAT Scan prior to commencement 3) Backfilled upon completion

Water Strike		
Strike	Time (mins)	Rose to

Window Sample Run			
Start	End	Dia. (mm)	Rec. %
0.00	1.00	87	60
1.00	2.00	78	70
2.00	3.00	67	60
3.00	4.00	67	90

Project Name	Project No:		WINDOW SAMPLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**WS502**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**15/01/2016** / **15/01/2016**		
Contractor	Ground Level		
Various			
Method/Plant	Coordinates	Logged By: **CW**	Sheet 1 of 1
Global Geotech		Checked By:	Scale 1:20

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
						(0.40)		No recovery	
						0.40		MADE GROUND: Brown gravelly slightly sandy clay. Gravel is fine to coarse, angular to sub-rounded, of brick and flint. Sand is fine to coarse grained.	
						(0.40)			
						0.80		*Brick*	
						(0.20)		MADE GROUND: Grey brown sandy clayey gravel. Sand is fine to coarse grained. Gravel is fine to coarse, angular to rounded, brick and flint.	
1						1.00		No recovery - blows were required to penetrate so material was present. Hole remained open to depth	
2						(2.00)			
3						3.00		End of Window Sample at 3.00m	
4									

General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area scanned with CAT Scan prior to commencement 3) Backfilled upon completion

Water Strike		
Strike	Time (mins)	Rose to

Window Sample Run			
Start	End	Dia. (mm)	Rec. %
0.00	1.00	87	60
1.00	2.00	78	0
2.00	3.00	78	0

Project Name	Project No:		WINDOW SAMPLE
Fontmell Close, St Albans	**36121**		
Client	Start Date / End Date		**WS503**
Insurers of 8-11 Fontmell Close & 1 Bridle Close and HCC	**15/01/2016** / **15/01/2016**		
Contractor	Ground Level		
Various		Logged By: **CW**	Sheet 1 of 1
Method/Plant	Coordinates	Checked By:	Scale 1:20
Global Geotech			

(m)	Samples and Insitu Tests			Water	Legend	Depth (Thickness)	Level (m OD)	Stratum Description	Instrumentation /Backfill
	Depth	Type	Results						
						(0.15) 0.15		No recovery	
						(0.35) 0.50		TOPSOIL: Dark brown slightly sandy slightly gravelly clay. Sand is fine to coarse grained. Gravel is fine to medium, angular to sub-rounded, flint. With occassionnal rootlets	
						(0.15) 0.65		Brick	
						(0.35) 1.00		MADE GROUND: Brown slightly sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-rounded of brick, flint and rubble	
1						(0.10) 1.10		No recovery	
						(0.70) 1.80		MADE GROUND: Brown slightly sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-rounded of brick, flint and rubble	
						(0.10) 1.90		MADE GROUND: Orange brown fine to coarse sand.	
2						(0.10) 2.00		MADE GROUND: Brown slightly sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-rounded of brick, flint and rubble	
						(0.15) 2.15		No recovery	
						(0.25) 2.40		MADE GROUND: Brown slightly sandy gravelly clay. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-rounded of brick, flint and rubble	
						(0.80) 3.20		MADE GROUND: Orange brown gravelly clayey sand. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub angular of brick, flint and rubble	
3						(0.60) 3.80		MADE GROUND: Orange brown clayey sandy gravel. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-rounded, of flint.	
						(0.20) 4.00		MADE GROUND: Orange brown slightly clayey slightly gravelly sand. Sand is fine to coarse grained. Gravel is fine to coarse, angular to sub-rounded, of flint.	
4								End of Window Sample at 4.00m	

General Remarks

1) Contractor - Stunt Drilling Ltd 2) Area scanned with CAT Scan prior to commencement 3) Backfilled upon completion

Water Strike			Window Sample Run			
Strike	Time (mins)	Rose to	Start	End	Dia. (mm)	Rec. %
			0.00	1.00	87	85
			1.00	2.00	78	90
			2.00	3.00	67	85
			3.00	4.00	67	100

WS501

0-1m

1-2m

2-3m

3-4m

WS502

0-1m

WS503

0-1m

1-2m

2-3m

3-4m

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Client

Insurers of 8-11 Fontmell Close,1 Bridle Close & Hertfordshire C.C.

FONTMELL CLOSE, ST ALBANS

PHOTOGRAPHIC RECORD OF WINDOW SAMPLES

Date	19.01.2016
A4 Scale	na
Drawn by	davco
Checked by	CW
Revision	0

FIGURE _

Appendix 3 : Drilling Parameters Records

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH201 Date: 07/12/15

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	11

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	260	100	63	50	9	26	Concrete	260
0.5	90	100	63	50	9	26	Concrete	90
1.0	190	100	63	50	9	26	Concrete	190
1.5	234	100	63	50	9	26	Concrete	234
2.0	570	100	63	50	9	26	Concrete	570
2.5	20	100	63	50	9	26	Concrete	20
3.0	10	100	63	50	9	26	Ash Fill	10
3.5	10	100	63	50	9	26	Ash Fill	10
4.0	21	10	63	50	9	26	Ash Fill	21
4.5	80	10	63	50	9	26	Ash Fill	80
5.0	81	10	63	50	9	26	Ash Fill	81
5.5	20	10	63	50	9	26	Ash Fill	20
6.0	73	10	63	50	9	26	Ash Fill	73
6.5	81	10	63	50	9	26	Ash Fill	81
7.0	337	10	63	50	9	26	Ash Fill	337
7.5	375	20	63	50	9	26	Sandy clay	375
8.0	70	20	63	50	9	26	Sandy clay	70
8.5	118	20	63	50	9	26	Sandy clay	118
9.0	340	20	63	50	9	26	Sandy clay	340
9.5	82	20	63	50	9	26	Sandy clay	82
10.0	26	100	63	50	9	26	Sand	26
10.5	21	100	63	50	9	26	Sand	21
11.0	139	100	63	50	9	26	Sand	139
11.5	48	100	63	50	9	26	Sand	48
12.0	41	100	63	50	9	26	Sand	41
12.5	22	100	63	50	9	26	Sand	22
13.0	112	100	63	50	9	26	Sand	112
13.5	158	100	63	50	9	26	Sand	158
14.0	283	100	63	50	9	26	Sand	283
14.5	343	100	63	50	9	26	Sand	343
15.0	449	100	63	50	9	26	Sand	449
15.5	343	100	63	50	9	26	Sand	343
16.0	189	100	63	50	9	26	Sand	189
16.5	170	100	63	50	9	26	Sand	170
17.0	3655	100	63	50	9	26	Gravel	3655
17.5	1000	100	63	50	9	26	Sand	1000
18.0	65	100	63	50	9	26	Sand	65
18.5	27	100	63	50	9	26	Sand	27
19.0	62	100	63	50	9	26	Chalk	62
19.5	127	100	63	50	9	26	Chalk	127
20.0	55	100	63	50	9	26	Chalk	55
20.5	100	100	63	50	9	26	Chalk	100
21.0	157	100	63	50	9	26	Chalk	157
21.5	72	100	63	50	9	26	Chalk	72
22.0	80	100	63	50	9	26	Chalk	80
22.5	55	100	63	50	9	26	Chalk	55
23.0	50	100	63	50	9	26	Chalk	50
23.5	40	100	63	50	9	26	Chalk	40
24.0	42	100	63	50	9	26	Chalk	42
24.5	45	100	63	50	9	26	Chalk	45
25.0	45	100	63	50	9	26	Chalk	45
25.5	48	100	63	50	9	26	Chalk	48

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH202 Date: 09/12/15

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	20

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	260	100	83	50	9	30	Concrete	260
0.5	375	100	83	50	9	30	Concrete	375
1.0	266	100	83	50	9	30	Concrete	266
1.5	86	100	83	50	9	30	Concrete	86
2.0	112	100	83	50	9	30	Ash Fill	112
2.5	190	100	83	50	9	30	Ash Fill	190
3.0	100	100	83	50	9	30	Ash Fill	100
3.5	13	100	83	50	9	30	Ash Fill	13
4.0	60	100	83	50	9	30	Ash Fill	60
4.5	70	100	83	50	9	30	Ash Fill	70
5.0	68	50	83	50	9	30	Clay	68
5.5	71	50	83	50	9	30	Clay	71
6.0	42	50	83	50	9	30	Clay and Chalk	42
6.5	86	50	83	50	9	30	Clay and Chalk	86
7.0	80	50	83	50	9	30	Clay and Chalk	80
7.5	111	50	83	50	9	30	Clay and Chalk	111
8.0	156	50	83	50	9	30	Clay and Chalk	156
8.5	151	50	83	50	9	30	Sandy Gravel	151
9.0	170	50	83	50	9	30	Sandy Gravel	170
9.5	128	50	83	50	9	30	Sandy Gravel	128
10.0	164	50	83	50	9	30	Sandy Gravel	164
10.5	137	50	83	50	9	30	Sandy Gravel	137
11.0	230	50	83	50	9	30	Sandy Gravel	230
11.5	198	50	83	50	9	30	Sandy Gravel	198
12.0	272	50	83	50	9	30	Sandy Clay	272
12.5	340	50	83	50	9	30	Sandy Clay	340
13.0	260	50	83	50	9	30	Sandy Clay	260
13.5	220	50	83	50	9	30	Sandy Clay	220
14.0	324	10	83	50	9	30	Sandy Clay	324
14.5	270	10	83	50	9	30	Sandy Clay	270
15.0	200	100	83	50	9	30	Sandy Clay	200
15.5	67	100	83	50	9	30	Sandy Clay	67
16.0	60	100	83	50	9	30	Sandy Clay	60
16.5	30	100	83	50	9	30	Sandy Clay	30
17.0	36	100	83	50	9	30	Sandy Clay	36
17.5	21	100	83	50	9	30	Sandy Clay	21
18.0	31	100	83	50	9	30	Sandy Clay	31
18.5	42	100	83	50	9	30	Sandy Clay	42
19.0	44	100	83	50	9	30	Sandy Clay	44
19.5	12	100	83	50	9	30	Sandy Clay	12
20.0	29	100	83	50	9	30	Sandy Clay	29
20.5	32	100	83	50	9	30	Sandy Clay	32
21.0	42	100	83	50	9	30	Sandy Clay	42
21.5	27	100	83	50	9	30	Sandy Clay	27
22.0	62	100	83	50	9	30	Sandy Gravel	62
22.5	135	100	83	50	9	30	Sandy Gravel	135
23.0	66	100	83	50	9	30	Sandy Gravel	66
23.5	57	100	83	50	9	30	Sandy Gravel	57
24.0	96	100	83	50	9	30	Sandy Gravel	96
24.5	118	100	83	50	9	30	Sandy Gravel	118
25.0	91	100	83	50	9	30	Sandy Gravel	91
25.5	61	100	83	50	9	30	Sandy Gravel	61
26.0	31	100	83	50	9	30	Sandy Gravel	31
26.5	74	100	83	50	9	30	Sandy Chalk	74
27.0	59	100	83	50	9	30	Firm Chalk	59
27.5	51	100	83	50	9	30	Firm Chalk	51
28.0	47	100	83	50	9	30	Firm Chalk	47
28.5	54	100	83	50	9	30	Firm Chalk	54
29.0	70	100	83	50	9	30	Firm Chalk	70
29.5	63	100	83	50	9	30	Firm Chalk	63

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH203 Date: 15/12/15

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	27

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	167	100	83	50	9	32	Concrete	167
0.5	266	100	83	50	9	32	Concrete	266
1.0	146	100	83	50	9	32	Concrete	146
1.5	155	100	83	50	9	32	Concrete	155
2.0	106	100	83	50	9	32	Concrete	106
2.5	151	100	83	50	9	32	Concrete	151
3.0	9	100	83	50	9	32	Ash Fill	9
3.5	8	100	83	50	9	32	Ash Fill	8
4.0	9	100	83	50	9	32	Ash Fill	9
4.5	279	100	83	50	9	32	Ash Fill	279
5.0	29	100	83	50	9	32	Ash Fill	29
5.5	8	100	83	50	9	32	Ash Fill	8
6.0	8	100	83	50	9	32	Ash Fill	8
6.5	10	100	83	50	9	32	Ash Fill	10
7.0	48	100	83	50	9	32	Ash Fill	48
7.5	9	100	83	50	9	32	Sandy Clay and Gravel	9
8.0	37	100	83	50	9	32	Sandy Clay and Gravel	37
8.5	226	100	83	50	9	32	Sandy Clay and Gravel	226
9.0	154	100	83	50	9	32	Sandy Clay and Gravel	154
9.5	70	100	83	50	9	32	Sandy Clay and Gravel	70
10.0	155	100	83	50	9	32	Sandy Clay and Gravel	155
10.5	67	100	83	50	9	32	Sandy Clay and Gravel	67
11.0	95	100	83	50	9	32	Sandy Clay and Gravel	95
11.5	38	100	83	50	9	32	Sandy Clay and Gravel	38
12.0	38	100	83	50	9	32	Sandy Clay and Gravel	38
12.5	26	100	83	50	9	32	Sandy Clay and Gravel	26
13.0	61	100	83	50	9	32	Sandy Clay and Gravel	61
13.5	28	100	83	50	9	32	Sandy Clay and Gravel	28
14.0	69	100	83	50	9	32	Sandy Clay and Gravel	69
14.5	105	100	83	50	9	32	Sandy Clay and Gravel	105
15.0	101	100	83	50	9	32	Sandy Clay and Gravel	101
15.5	95	100	83	50	9	32	Sandy Clay and Gravel	95
16.0	43	100	83	50	9	32	Sandy Clay and Gravel	43
16.5	93	100	83	50	9	32	Sandy Clay and Gravel	93
17.0	105	100	83	50	9	32	Sandy Clay and Gravel	105
17.5	21	100	83	50	9	32	Sandy Clay and Gravel	21
18.0	92	100	83	50	9	32	Sandy Clay and Gravel	92
18.5	161	100	83	50	9	32	Sandy Clay and Gravel	161
19.0	273	100	83	50	9	32	Sandy Clay and Gravel	273
19.5	38	100	83	50	9	32	Sandy Clay and Gravel	38
20.0	99	100	83	50	9	32	Sandy Clay and Gravel	99
20.5	121	100	83	50	9	32	Sandy Clay and Gravel	121
21.0	95	100	83	50	9	32	Sandy Clay and Gravel	95
21.5	25	100	83	50	9	32	Sandy Clay and Gravel	25
22.0	55	100	83	50	9	32	Sandy Clay and Gravel	55
22.5	139	100	83	50	9	32	Sandy Clay and Gravel	139
23.0	132	100	83	50	9	32	Sandy Clay and Gravel	132
23.5	95	100	83	50	9	32	Sandy Clay and Gravel	95
24.0	55	100	83	50	9	32	Sandy Clay and Gravel	55
24.5	139	100	83	50	9	32	Sandy Clay and Gravel	139
25.0	132	100	83	50	9	32	Sandy Clay and Gravel	132
25.5	95	100	83	50	9	32	Sandy Clay and Gravel	95
26.0	55	100	83	50	9	32	Sandy Clay and Gravel	55
26.5	135	100	83	50	9	32	Sandy Clay and Gravel	135
27.0	103	100	83	50	9	32	Sandy Clay and Gravel	103
27.5	1228	100	83	50	9	32	Flint	1228
28.0	5580	100	83	50	9	32	Flint	5580
28.5	55	100	83	50	9	32	Sand and Gravel	55
29.0	132	100	83	50	9	32	Sand and Gravel	132
29.5	131	100	83	50	9	32	Sand and Gravel	131
30.0	190	100	83	50	9	32	Sand and Gravel	190
30.5	132	100	83	50	9	32	Sand and Gravel	132
31.0	133	100	83	50	9	32	Firm Chalk	133
31.5	208	100	83	50	9	32	Firm Chalk	208

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH204 Date: 17/12/15

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	30

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	1300	100	83	50	9	34	Concrete	1300
0.5	630	100	83	50	9	34	Concrete	630
1.0	741	100	83	50	9	34	Concrete	741
1.5	400	100	83	50	9	34	Concrete	400
2.0	149	100	83	50	9	34	Concrete	149
2.5	161	100	83	50	9	34	Concrete	161
3.0	22	100	83	50	9	34	Ash Fill	22
3.5	5	100	83	50	9	34	Ash Fill	5
4.0	5	100	83	50	9	34	Ash Fill	5
4.5	5	100	83	50	9	34	Ash Fill	5
5.0	5	100	83	50	9	34	Ash Fill	5
5.5	5	100	83	50	9	34	Ash Fill	5
6.0	10	100	83	50	9	34	Ash Fill	10
6.5	10	100	83	50	9	34	Ash Fill	10
7.0	10	100	83	50	9	34	Ash Fill	10
7.5	10	100	83	50	9	34	Sandy Gravel	10
8.0	10	100	83	50	9	34	Sandy Gravel	10
8.5	10	100	83	50	9	34	Sandy Gravel	10
9.0	48	100	83	50	9	34	Sandy Gravel	48
9.5	14	100	83	50	9	34	Sandy Gravel	14
10.0	10	100	83	50	9	34	Sandy Gravel	10
10.5	18	100	83	50	9	34	Sandy Gravel	18
11.0	17	100	83	50	9	34	Sandy Gravel	17
11.5	20	100	83	50	9	34	Sandy Gravel	20
12.0	79	100	83	50	9	34	Sandy Gravel	79
12.5	81	100	83	50	9	34	Sandy Gravel	81
13.0	107	100	83	50	9	34	Sandy Gravel	107
13.5	73	100	83	50	9	34	Sandy Gravel	73
14.0	88	100	83	50	9	34	Sandy Gravel	88
14.5	56	100	83	50	9	34	Sandy Gravel	56
15.0	52	100	83	50	9	34	Sandy Gravel	52
15.5	14	100	83	50	9	34	Sandy Gravel	14
16.0	16	100	83	50	9	34	Sandy Gravel	16
16.5	42	100	83	50	9	34	Sandy Gravel	42
17.0	43	100	83	50	9	34	Sandy Gravel	43
17.5	15	100	83	50	9	34	Sandy Gravel	15
18.0	30	100	83	50	9	34	Sandy Gravel	30
18.5	76	100	83	50	9	34	Sandy Gravel	76
19.0	41	100	83	50	9	34	Sandy Gravel	41
19.5	31	100	83	50	9	34	Sandy Gravel	31
20.0	36	100	83	50	9	34	Sandy Gravel	36
20.5	22	100	83	50	9	34	Sandy Gravel	22
21.0	42	100	83	50	9	34	Sandy Gravel	42
21.5	68	100	83	50	9	34	Sandy Gravel	68
22.0	78	100	83	50	9	34	Sandy Gravel	78
22.5	69	100	83	50	9	34	Sandy Gravel	69
23.0	44	100	83	50	9	34	Sandy Gravel	44
23.5	80	100	83	50	9	34	Sandy Gravel	80
24.0	30	100	83	50	9	34	Sandy Gravel	30
24.5	18	100	83	50	9	34	Sandy Gravel	18
25.0	14	100	83	50	9	34	Sandy Gravel	14
25.5	21	100	83	50	9	34	Sandy Gravel	21
26.0	15	100	83	50	9	34	Sandy Gravel	15
26.5	19	100	83	50	9	34	Sandy Gravel	19
27.0	23	100	83	50	9	34	Sandy Gravel	23
27.5	24	100	83	50	9	34	Sandy Gravel	24
28.0	69	100	83	50	9	34	Sandy Gravel	69
28.5	72	100	83	50	9	34	Sandy Chalk	72
29.0	47	100	83	50	9	34	Chalk	47
29.5	37	100	83	50	9	34	Chalk	37
30.0	22	100	83	50	9	34	Chalk	22
30.5	42	100	83	50	9	34	Chalk	42
31.0	52	100	83	50	9	34	Chalk	52
31.5	60	100	83	50	9	34	Chalk	60
32.0	66	100	83	50	9	34	Chalk	66
32.5	72	100	83	50	9	34	Chalk	72
33.0	48	100	83	50	9	34	Chalk	48
33.5	70	100	83	50	9	34	Chalk	70

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH205 Date: 07/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	22

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	393	100	83	50	9	34	Concrete	393
0.5	544	100	83	50	9	34	Concrete	544
1.0	340	100	83	50	9	34	Concrete	340
1.5	139	100	83	50	9	34	Concrete	139
2.0	122	100	83	50	9	34	Concrete	122
2.5	125	100	83	50	9	34	Concrete	125
3.0	140	100	83	50	9	34	Concrete	140
3.5	6	20	83	50	9	34	Black Ashy Fill	6
4.0	7	20	83	50	9	34	Black Ashy Fill	7
4.5	7	20	83	50	9	34	Black Ashy Fill	7
5.0	7	20	83	50	9	34	Black Ashy Fill	7
5.5	7	20	83	50	9	34	Black Ashy Fill	7
6.0	7	20	83	50	9	34	Black Ashy Fill	7
6.5	7	20	83	50	9	34	Black Ashy Fill	7
7.0	7	100	83	50	9	34	Sand, Gravel, Clay	7
7.5	7	100	83	50	9	34	Sand, Gravel, Clay	7
8.0	46	100	83	50	9	34	Sand, Gravel, Clay	46
8.5	80	100	83	50	9	34	Sand, Gravel, Clay	80
9.0	107	100	83	50	9	34	Sand, Gravel, Clay	107
9.5	64	100	83	50	9	34	Sand, Gravel, Clay	64
10.0	36	100	83	50	9	34	Sand, Gravel, Clay	36
10.5	27	100	83	50	9	34	Sand, Gravel, Clay	27
11.0	65	100	83	50	9	34	Sand, Gravel, Clay	65
11.5	130	100	83	50	9	34	Sand, Gravel, Clay	130
12.0	47	100	83	50	9	34	Sand, Gravel, Clay	47
12.5	90	100	83	50	9	34	Sand, Gravel, Clay	90
13.0	156	100	83	50	9	34	Sand, Gravel, Clay	156
13.5	70	100	83	50	9	34	Sand, Gravel, Clay	70
14.0	134	100	83	50	9	34	Sand, Gravel, Clay	134
14.5	43	100	83	50	9	34	Sand, Gravel, Clay	43
15.0	53	100	83	50	9	34	Sand, Gravel, Clay	53
15.5	14	100	83	50	9	34	Sand, Gravel, Clay	14
16.0	18	100	83	50	9	34	Sand, Gravel, Clay	18
16.5	21	100	83	50	9	34	Sand, Gravel, Clay	21
17.0	24	100	83	50	9	34	Sand, Gravel, Clay	24
17.5	30	100	83	50	9	34	Sand, Gravel, Clay	30
18.0	17	100	83	50	9	34	Sand, Gravel, Clay	17
18.5	30	100	83	50	9	34	Sand, Gravel, Clay	30
19.0	39	100	83	50	9	34	Sand, Gravel, Clay	39
19.5	58	100	83	50	9	34	Sand, Gravel, Clay	58
20.0	102	100	83	50	9	34	Sand, Gravel, Clay	102
20.5	82	100	83	50	9	34	Light Grey Chalk	82
21.0	105	100	83	50	9	34	Light Grey Chalk	105
21.5	81	100	83	50	9	34	Light Grey Chalk	81
22.0	62	100	83	50	9	34	Light Grey Chalk	62
22.5	43	100	83	50	9	34	Light Grey Chalk	43
23.0	33	100	83	50	9	34	Clay, Chalk Traces	33
23.5	21	100	83	50	9	34	Clay, Chalk Traces	21
24.0	20	100	83	50	9	34	Clay, Chalk Traces	20
24.5	37	100	83	50	9	34	Clay, Chalk Traces	37
25.0	35	100	83	50	9	34	Clay, Chalk Traces	35
25.5	27	100	83	50	9	34	Clay, Chalk Traces	27
26.0	58	100	83	50	9	34	Pale Chalk, Clay parts	58
26.5	32	100	83	50	9	34	Pale Chalk, Clay parts	32
27.0	41	100	83	50	9	34	Pale Chalk, Clay parts	41
27.5	34	100	83	50	9	34	Pale Chalk, Clay parts	34
28.0	58	100	83	50	9	34	Firm White Chalk, Flint Patches	58
28.5	61	100	83	50	9	34	Firm White Chalk, Flint Patches	61
29.0	43	100	83	50	9	34	Firm White Chalk, Flint Patches	43
29.5	61	100	83	50	9	34	Firm White Chalk, Flint Patches	61
30.0	55	100	83	50	9	34	Firm White Chalk, Flint Patches	55
30.5	58	100	83	50	9	34	Firm White Chalk, Flint Patches	58
31.0	40	100	83	50	9	34	Firm White Chalk, Flint Patches	40
31.5	43	100	83	50	9	34	Firm White Chalk, Flint Patches	43
32.0	38	100	83	50	9	34	Firm White Chalk, Flint Patches	38
32.5	32	100	83	50	9	34	Firm White Chalk, Flint Patches	32
33.0	34	100	83	50	9	34	Firm White Chalk, Flint Patches	34
33.5	35	100	83	50	9	34	Firm White Chalk, Flint Patches	35

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH206 Date: 08/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	25

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	125	100	83	50	9	40	Concrete	125
0.5	241	100	83	50	9	40	Concrete	241
1.0	147	100	83	50	9	40	Concrete	147
1.5	70	100	83	50	9	40	Concrete	70
2.0	64	100	83	50	9	40	Concrete	64
2.5	66	100	83	50	9	40	Concrete	66
3.0	75	100	83	50	9	40	Concrete	75
3.5	3	20	83	50	9	40	Concrete	3
4.0	4	20	83	50	9	40	Damp Ash Fill	4
4.5	4	20	83	50	9	40	Damp Ash Fill	4
5.0	4	20	83	50	9	40	Damp Ash Fill	4
5.5	10	20	83	50	9	40	Damp Ash Fill	10
6.0	11	20	83	50	9	40	Damp Ash Fill	11
6.5	18	20	83	50	9	40	Light Brown Sand, Gravel	18
7.0	36	20	83	50	9	40	Light Brown Sand, Gravel	36
7.5	66	20	83	50	9	40	Light Brown Sand, Gravel	66
8.0	129	100	83	50	9	40	Sand, Gravel, Hard, Firm	129
8.5	97	100	83	50	9	40	Sand, Gravel, Hard, Firm	97
9.0	102	100	83	50	9	40	Sand, Gravel, Hard, Firm	102
9.5	95	100	83	50	9	40	Sand, Gravel, Hard, Firm	95
10.0	54	100	83	50	9	40	Sand, Gravel, Hard, Firm	54
10.5	57	100	83	50	9	40	Sand, Gravel, Hard, Firm	57
11.0	93	100	83	50	9	40	Sand, Gravel, Hard, Firm	93
11.5	39	100	83	50	9	40	Sand, Gravel, Hard, Firm	39
12.0	43	100	83	50	9	40	Sand, Gravel, Hard, Firm	43
12.5	74	100	83	50	9	40	Stiff Brown Clay, Gravel	74
13.0	56	100	83	50	9	40	Stiff Brown Clay, Gravel	56
13.5	21	100	83	50	9	40	Stiff Brown Clay, Gravel	21
14.0	42	100	83	50	9	40	Stiff Brown Clay, Gravel	42
14.5	31	100	83	50	9	40	Stiff Brown Clay, Gravel	31
15.0	48	100	83	50	9	40	Light Brown Grey Sand, Gravel, Chalk Traces	48
15.5	31	100	83	50	9	40	Light Brown Grey Sand, Gravel, Chalk Traces	31
16.0	30	100	83	50	9	40	Light Brown Grey Sand, Gravel, Chalk Traces	30
16.5	51	100	83	50	9	40	Light Brown Grey Sand, Gravel, Chalk Traces	51
17.0	150	100	83	50	9	40	Light Brown Grey Sand, Gravel, Chalk Traces	150
17.5	82	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	82
18.0	33	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	33
18.5	38	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	38
19.0	51	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	51
19.5	45	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	45
20.0	53	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	53
20.5	49	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	49
21.0	73	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	73
21.5	48	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	48
22.0	37	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	37
22.5	47	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	47
23.0	87	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	87
23.5	79	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	79
24.0	138	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	138
24.5	71	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	71
25.0	82	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	82
25.5	106	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	106
26.0	67	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	67
26.5	33	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	33
27.0	46	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	46
27.5	44	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	44
28.0	34	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	34
28.5	48	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	48
29.0	35	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	35
29.5	28	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	28
30.0	42	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	42
30.5	57	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	57
31.0	70	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	70
31.5	34	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	34
32.0	54	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	54
32.5	37	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	37
33.0	40	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	40
33.5	24	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	24
34.0	39	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	39
34.5	42	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	42
35.0	29	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	29
35.5	35	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	35
36.0	52	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	52
36.5	30	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	30
37.0	24	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	24
37.5	22	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	22
38.0	17	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	17
38.5	15	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	15
39.0	17	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	17
39.5	20	100	83	50	9	40	Firm Pale White Chalk, Small Flint Parts	20

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH207 Date: 11/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	20

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	195	100	83	50	9	40	Concrete	195
0.5	112	100	83	50	9	40	Concrete	112
1.0	93	100	83	50	9	40	Concrete	93
1.5	50	100	83	50	9	40	Concrete	50
2.0	97	100	83	50	9	40	Concrete	97
2.5	138	100	83	50	9	40	Concrete	138
3.0	155	100	83	50	9	40	Concrete	155
3.5	5	20	83	50	9	40	Black Ash Muddy Fill	5
4.0	5	20	83	50	9	40	Black Ash Muddy Fill	5
4.5	5	20	83	50	9	40	Black Ash Muddy Fill	5
5.0	5	20	83	50	9	40	Black Ash Muddy Fill	5
5.5	5	20	83	50	9	40	Black Ash Muddy Fill	5
6.0	5	20	83	50	9	40	Black Ash Muddy Fill	5
6.5	5	20	83	50	9	40	Black Ash Muddy Fill	5
7.0	5	20	83	50	9	40	Black Ash Muddy Fill	5
7.5	5	100	83	50	9	40	Soft Brown Sand	5
8.0	53	100	83	50	9	40	Soft Brown Sand	53
8.5	36	100	83	50	9	40	Soft Brown Sand	36
9.0	50	100	83	50	9	40	Hard Firm Sand, Gravel	50
9.5	54	100	83	50	9	40	Hard Firm Sand, Gravel	54
10.0	31	100	83	50	9	40	Hard Firm Sand, Gravel	31
10.5	49	100	83	50	9	40	Hard Firm Sand, Gravel	49
11.0	21	100	83	50	9	40	Hard Firm Sand, Gravel	21
11.5	24	100	83	50	9	40	Hard Firm Sand, Gravel	24
12.0	22	100	83	50	9	40	Light Brown Clay,Soft Sand	22
12.5	18	100	83	50	9	40	Light Brown Clay,Soft Sand	18
13.0	19	100	83	50	9	40	Light Brown Clay,Soft Sand	19
13.5	20	100	83	50	9	40	Light Brown Clay,Soft Sand	20
14.0	24	100	83	50	9	40	Light Brown Clay,Soft Sand	24
14.5	20	100	83	50	9	40	Light Brown Clay,Soft Sand	20
15.0	91	100	83	50	9	40	Firm Hard Clay, Sand	91
15.5	26	100	83	50	9	40	Firm Hard Clay, Sand	26
16.0	124	100	83	50	9	40	Firm Hard Clay, Sand	124
16.5	63	100	83	50	9	40	Sandy Chalk, Small Gravel	63
17.0	81	100	83	50	9	40	Sandy Chalk, Small Gravel	81
17.5	22	100	83	50	9	40	Sandy Chalk, Small Gravel	22
18.0	29	100	83	50	9	40	Firm Chalk, Small Flint Parts	29
18.5	38	100	83	50	9	40	Firm Chalk, Small Flint Parts	38
19.0	33	100	83	50	9	40	Firm Chalk, Small Flint Parts	33
19.5	26	100	83	50	9	40	Firm Chalk, Small Flint Parts	26
20.0	27	100	83	50	9	40	Firm Chalk, Small Flint Parts	27
20.5	23	100	83	50	9	40	Firm Chalk, Small Flint Parts	23
21.0	28	100	83	50	9	40	Firm Chalk, Small Flint Parts	28
21.5	27	100	83	50	9	40	Firm Chalk, Small Flint Parts	27
22.0	31	100	83	50	9	40	Firm Chalk, Small Flint Parts	31
22.5	32	100	83	50	9	40	Firm Chalk, Small Flint Parts	32
23.0	29	100	83	50	9	40	Firm Chalk, Small Flint Parts	29
23.5	26	100	83	50	9	40	Firm Chalk, Small Flint Parts	26
24.0	20	100	83	50	9	40	Firm Chalk, Small Flint Parts	20
24.5	26	100	83	50	9	40	Firm Chalk, Small Flint Parts	26
25.0	32	100	83	50	9	40	Firm Chalk, Small Flint Parts	32
25.5	35	100	83	50	9	40	Firm Chalk, Small Flint Parts	35
26.0	30	100	83	50	9	40	Firm Chalk, Small Flint Parts	30
26.5	35	100	83	50	9	40	Firm Chalk, Small Flint Parts	35
27.0	38	100	83	50	9	40	Firm Chalk, Small Flint Parts	38
27.5	36	100	83	50	9	40	Firm Chalk, Small Flint Parts	36
28.0	33	100	83	50	9	40	Firm Chalk, Small Flint Parts	33
28.5	32	100	83	50	9	40	Firm Chalk, Small Flint Parts	32
29.0	42	100	83	50	9	40	Firm Chalk, Small Flint Parts	42
29.5	40	100	83	50	9	40	Firm Chalk, Small Flint Parts	40
30.0	36	100	83	50	9	40	Firm Chalk, Small Flint Parts	36
30.5	62	100	83	50	9	40	Firm Chalk, Small Flint Parts	62
31.0	13	100	83	50	9	40	Firm Chalk, Small Flint Parts	13
31.5	27	100	83	50	9	40	Firm Chalk, Small Flint Parts	27
32.0	38	100	83	50	9	40	Firm Chalk, Small Flint Parts	38
32.5	35	100	83	50	9	40	Firm Chalk, Small Flint Parts	35
33.0	42	100	83	50	9	40	Firm Chalk, Small Flint Parts	42
33.5	35	100	83	50	9	40	Firm Chalk, Small Flint Parts	35
34.0	38	100	83	50	9	40	Firm Chalk, Small Flint Parts	38
34.5	36	100	83	50	9	40	Firm Chalk, Small Flint Parts	36
35.0	70	100	83	50	9	40	Firm Chalk, Small Flint Parts	70
35.5	41	100	83	50	9	40	Firm Chalk, Small Flint Parts	41
36.0	42	100	83	50	9	40	Firm Chalk, Small Flint Parts	42
36.5	37	100	83	50	9	40	Firm Chalk, Small Flint Parts	37
37.0	28	100	83	50	9	40	Firm Chalk, Small Flint Parts	28
37.5	28	100	83	50	9	40	Firm Chalk, Small Flint Parts	28
38.0	54	100	83	50	9	40	Firm Chalk, Small Flint Parts	54
38.5	38	100	83	50	9	40	Firm Chalk, Small Flint Parts	38
39.0	39	100	83	50	9	40	Firm Chalk, Small Flint Parts	39
39.5	34	100	83	50	9	40	Firm Chalk, Small Flint Parts	34

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH208 Date: 11/12/15

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	V

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	330	100	83	50	9	48	Concrete	330
0.5	270	100	83	50	9	48	Concrete	270
1.0	222	100	83	50	9	48	Concrete	222
1.5	210	100	83	50	9	48	Concrete	210
2.0	222	100	83	50	9	48	Concrete	222
2.5	104	100	83	50	9	48	Concrete	104
3.0	56	100	83	50	9	48	Concrete	56
3.5	49	100	83	50	9	48	Concrete	49
4.0	17	100	83	50	9	48	Ash Fill	17
4.5	10	100	83	50	9	48	Ash Fill	10
5.0	22	100	83	50	9	48	Ash Fill	22
5.5	40	100	83	50	9	48	Ash Fill	40
6.0	6	100	83	50	9	48	Ash Fill	6
6.5	53	100	83	50	9	48	Ash Fill	53
7.0	70	100	83	50	9	48	Ash Fill	70
7.5	40	100	83	50	9	48	Ash Fill	40
8.0	47	100	83	50	9	48	Ash Fill	47
8.5	70	100	83	50	9	48	Ash Fill	70
9.0	32	100	83	50	9	48	Ash Fill	32
9.5	94	100	83	50	9	48	Ash Fill	94
10.0	32	100	83	50	9	48	Ash Fill	32
10.5	93	100	83	50	9	48	Ash Fill	93
11.0	14	100	83	50	9	48	Ash Fill	14
11.5	8	100	83	50	9	48	Ash Fill	8
12.0	10	100	83	50	9	48	Ash Fill	10
12.5	5	100	83	50	9	48	Ash Fill	5
13.0	2	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	2
13.5	2	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	2
14.0	2	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	2
14.5	2	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	2
15.0	2	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	2
15.5	2	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	2
16.0	2	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	2
16.5	2	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	2
17.0	2	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	2
17.5	2	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	2
18.0	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
18.5	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
19.0	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
19.5	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
20.0	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
20.5	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
21.0	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
21.5	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
22.0	5	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	5
22.5	5	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	5
23.0	5	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	5
23.5	5	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	5
24.0	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
24.5	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
25.0	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
25.5	3	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	3
26.0	17	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	17
26.5	11	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	11
27.0	20	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	20
27.5	13	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	13
28.0	12	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	12
28.5	17	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	17
29.0	18	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	18
29.5	13	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	13
30.0	12	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	12
30.5	17	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	17
31.0	12	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	12
31.5	26	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	26
32.0	42	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	42
32.5	48	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	48
33.0	33	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	33
33.5	26	10	83	50	9	48	Very Soft Drilling - Black Damp Fill	26
34.0	21	80	83	50	9	48	Sandy Clay	21
34.5	26	80	83	50	9	48	Sandy Clay	26
35.0	35	80	83	50	9	48	Sandy Clay	35
35.5	21	80	83	50	9	48	Sandy Clay	21
36.0	17	80	83	50	9	48	Sandy Clay	17
36.5	19	80	83	50	9	48	Sandy Clay	19
37.0	17	80	83	50	9	48	Sandy Clay	17
37.5	16	80	83	50	9	48	Sandy Clay	16
38.0	23	80	83	50	9	48	Sandy Clay	23
38.5	21	80	83	50	9	48	Sandy Clay	21
39.0	27	80	83	50	9	48	Sandy Clay	27
39.5	14	80	83	50	9	48	Sandy Clay	14
40.0	23	80	83	50	9	48	Sandy Clay	23
40.5	30	80	83	50	9	48	Sandy Clay	30
41.0	23	80	83	50	9	48	Sandy Clay	23
41.5	10	80	83	50	9	48	Sandy Clay	10
42.0	15	80	83	50	9	48	Sandy Clay	15
42.5	28	80	83	50	9	48	Sandy Clay	28
43.0	51	80	83	50	9	48	Sandy Clay	51
43.5	59	80	83	50	9	48	Sandy Clay	59
44.0	153	80	83	50	9	48	Firm Chalk	153
44.5	273	80	83	50	9	48	Firm Chalk	273
45.0	211	80	83	50	9	48	Firm Chalk	211
45.5	141	80	83	50	9	48	Firm Chalk	141
46.0	59	80	83	50	9	48	Firm Chalk	59
46.5	105	80	83	50	9	48	Firm Chalk	105
47.0	91	80	83	50	9	48	Firm Chalk	91
47.5	81	80	83	50	9	48	Firm Chalk	81

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH209 Date: 12/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	28

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	150	100	83	50	9	40	Concrete	150
0.5	260	100	83	50	9	40	Concrete	260
1.0	145	100	83	50	9	40	Concrete	145
1.5	61	100	83	50	9	40	Concrete	61
2.0	57	100	83	50	9	40	Concrete	57
2.5	92	100	83	50	9	40	Concrete	92
3.0	90	100	83	50	9	40	Concrete	90
3.5	84	1010	83	50	9	40	Concrete	84
4.0	5	20	83	50	9	40	Black Ash, Damp Muddy Black Fill	5
4.5	5	20	83	50	9	40	Black Ash, Damp Muddy Black Fill	5
5.0	5	20	83	50	9	40	Black Ash, Damp Muddy Black Fill	5
5.5	5	20	83	50	9	40	Black Ash, Damp Muddy Black Fill	5
6.0	7	20	83	50	9	40	Black Ash, Damp Muddy Black Fill	7
6.5	7	20	83	50	9	40	Black Ash, Damp Muddy Black Fill	7
7.0	7	20	83	50	9	40	Black Ash, Damp Muddy Black Fill	7
7.5	35	100	83	50	9	40	Firm Sand, Gravel	35
8.0	70	100	83	50	9	40	Firm Sand, Gravel	70
8.5	57	100	83	50	9	40	Firm Sand, Gravel	57
9.0	87	100	83	50	9	40	Firm Sand, Gravel	87
9.5	33	100	83	50	9	40	Firm Sand, Gravel	33
10.0	32	100	83	50	9	40	Firm Sand, Gravel	32
10.5	34	100	83	50	9	40	Firm Sand, Gravel	34
11.0	64	100	83	50	9	40	Firm Sand, Gravel	64
11.5	82	100	83	50	9	40	Firm Sand, Gravel	82
12.0	40	100	83	50	9	40	Firm Sand, Gravel	40
12.5	39	100	83	50	9	40	Firm Sand, Gravel	39
13.0	40	100	83	50	9	40	Firm Sandy Clay	40
13.5	28	100	83	50	9	40	Firm Sandy Clay	28
14.0	20	100	83	50	9	40	Firm Sandy Clay	20
14.5	24	100	83	50	9	40	Firm Sandy Clay	24
15.0	26	100	83	50	9	40	Firm Sandy Clay	26
15.5	31	100	83	50	9	40	Firm Sandy Clay	31
16.0	29	100	83	50	9	40	Sandy Clay, Small Chalk Traces	29
16.5	88	100	83	50	9	40	Sandy Clay, Small Chalk Traces	88
17.0	77	100	83	50	9	40	Sandy Clay, Small Chalk Traces	77
17.5	49	100	83	50	9	40	Sandy Clay, Small Chalk Traces	49
18.0	109	100	83	50	9	40	Hard Flint, Chalk	109
18.5	425	100	83	50	9	40	Hard Flint, Chalk	425
19.0	40	100	83	50	9	40	Firm Chalk, Small Flint Parts	40
19.5	30	100	83	50	9	40	Firm Chalk, Small Flint Parts	30
20.0	33	100	83	50	9	40	Firm Chalk, Small Flint Parts	33
20.5	32	100	83	50	9	40	Firm Chalk, Small Flint Parts	32
21.0	20	100	83	50	9	40	Firm Chalk, Small Flint Parts	20
21.5	24	100	83	50	9	40	Firm Chalk, Small Flint Parts	24
22.0	20	100	83	50	9	40	Firm Chalk, Small Flint Parts	20
22.5	24	100	83	50	9	40	Firm Chalk, Small Flint Parts	24
23.0	37	100	83	50	9	40	Firm Chalk, Small Flint Parts	37
23.5	27	100	83	50	9	40	Firm Chalk, Small Flint Parts	27
24.0	33	100	83	50	9	40	Firm Chalk, Small Flint Parts	33
24.5	65	100	83	50	9	40	Firm Chalk, Small Flint Parts	65
25.0	25	100	83	50	9	40	Firm Chalk, Small Flint Parts	25
25.5	24	100	83	50	9	40	Firm Chalk, Small Flint Parts	24
26.0	25	100	83	50	9	40	Firm Chalk, Small Flint Parts	25
26.5	23	100	83	50	9	40	Firm Chalk, Small Flint Parts	23
27.0	20	100	83	50	9	40	Firm Chalk, Small Flint Parts	20
27.5	29	100	83	50	9	40	Firm Chalk, Small Flint Parts	29
28.0	25	100	83	50	9	40	Firm Chalk, Small Flint Parts	25
28.5	25	100	83	50	9	40	Firm Chalk, Small Flint Parts	25
29.0	27	100	83	50	9	40	Firm Chalk, Small Flint Parts	27
29.5	24	100	83	50	9	40	Firm Chalk, Small Flint Parts	24
30.0	21	100	83	50	9	40	Firm Chalk, Small Flint Parts	21
30.5	20	100	83	50	9	40	Firm Chalk, Small Flint Parts	20
31.0	25	100	83	50	9	40	Firm Chalk, Small Flint Parts	25
31.5	28	100	83	50	9	40	Firm Chalk, Small Flint Parts	28
32.0	23	100	83	50	9	40	Firm Chalk, Small Flint Parts	23
32.5	22	100	83	50	9	40	Firm Chalk, Small Flint Parts	22
33.0	21	100	83	50	9	40	Firm Chalk, Small Flint Parts	21
33.5	22	100	83	50	9	40	Firm Chalk, Small Flint Parts	22
34.0	26	100	83	50	9	40	Firm Chalk, Small Flint Parts	26
34.5	30	100	83	50	9	40	Firm Chalk, Small Flint Parts	30
35.0	35	100	83	50	9	40	Firm Chalk, Small Flint Parts	35
35.5	34	100	83	50	9	40	Firm Chalk, Small Flint Parts	34
36.0	38	100	83	50	9	40	Firm Chalk, Small Flint Parts	38
36.5	35	100	83	50	9	40	Firm Chalk, Small Flint Parts	35
37.0	40	100	83	50	9	40	Firm Chalk, Small Flint Parts	40
37.5	28	100	83	50	9	40	Firm Chalk, Small Flint Parts	28
38.0	32	100	83	50	9	40	Firm Chalk, Small Flint Parts	32
38.5	37	100	83	50	9	40	Firm Chalk, Small Flint Parts	37
39.0	34	100	83	50	9	40	Firm Chalk, Small Flint Parts	34
39.5	37	100	83	50	9	40	Firm Chalk, Small Flint Parts	37

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH210 Date: 13/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	17

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	166	100	83	50	9	47.5	Concrete	166
0.5	201	100	83	50	9	47.5	Concrete	201
1.0	85	100	83	50	9	47.5	Concrete	85
1.5	106	100	83	50	9	47.5	Concrete	106
2.0	140	100	83	50	9	47.5	Concrete	140
2.5	110	100	83	50	9	47.5	Concrete	110
3.0	151	100	83	50	9	47.5	Concrete	151
3.5	37	20	83	50	9	47.5	Black Ash, Fill, Very Soft	37
4.0	5	202	83	50	9	47.5	Black Ash, Fill, Very Soft	5
4.5	6	20	83	50	9	47.5	Black Ash, Fill, Very Soft	6
5.0	5	20	83	50	9	47.5	Black Ash, Fill, Very Soft	5
5.5	5	20	83	50	9	47.5	Black Ash, Fill, Very Soft	5
6.0	45	20	83	50	9	47.5	Black Ash, Fill, Very Soft	45
6.5	44	20	83	50	9	47.5	Black Ash, Fill, Very Soft	44
7.0	52	20	83	50	9	47.5	Black Ash, Fill, Very Soft	52
7.5	46	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	46
8.0	54	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	54
8.5	31	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	31
9.0	50	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	50
9.5	32	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	32
10.0	36	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	36
10.5	43	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	43
11.0	46	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	46
11.5	42	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	42
12.0	46	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	46
12.5	31	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	31
13.0	38	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	38
13.5	31	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	31
14.0	67	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	67
14.5	45	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	45
15.0	30	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	30
15.5	41	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	41
16.0	31	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	31
16.5	73	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	73
17.0	59	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	59
17.5	47	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	47
18.0	70	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	70
18.5	80	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	80
19.0	81	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	81
19.5	82	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	82
20.0	58	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	58
20.5	73	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	73
21.0	77	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	77
21.5	34	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	34
22.0	71	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	71
22.5	80	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	80
23.0	57	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	57
23.5	64	100	83	50	9	47.5	Stiff Sandy Clayey Gravel	64
24.0	82	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	82
24.5	91	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	91
25.0	124	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	124
25.5	114	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	114
26.0	94	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	94
26.5	104	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	104
27.0	82	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	82
27.5	112	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	112
28.0	125	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	125
28.5	112	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	112
29.0	95	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	95
29.5	130	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	130
30.0	210	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	210
30.5	250	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	250
31.0	195	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	195
31.5	220	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	220
32.0	195	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	195
32.5	211	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	211
33.0	157	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	157
33.5	154	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	154
34.0	190	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	190
34.5	166	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	166
35.0	86	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	86
35.5	74	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	74
36.0	102	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	102
36.5	84	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	84
37.0	87	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	87
37.5	60	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	60
38.0	62	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	62
38.5	70	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	70
39.0	54	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	54
39.5	51	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	51
40.0	80	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	80
40.5	88	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	88
41.0	84	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	84
41.5	57	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	57
42.0	70	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	70
42.5	60	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	60
43.0	77	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	77
43.5	93	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	93
44.0	68	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	68
44.5	108	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	108
45.0	95	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	95
45.5	214	100	83	50	9	47.5	Very Stiff Sandy Clay,Some Gravel	214
46.0	222	100	83	50	9	47.5	Cream Sandy Clay/ Chalk	222
46.5	176	100	83	50	9	47.5	Cream Sandy Clay/ Chalk	176
47.0	187	100	83	50	9	47.5	Cream Sandy Clay/ Chalk	187

Casing rotation pressue increased from 50 bar to 100 bar from 24m, increased to 120 bar at 31m,

From 43m, soft drilling on rods, littlte resistance, casing tight

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH211 Date: 14/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	17

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	343	100	83	50	9	40	Concrete	343
0.5	266	100	83	50	9	40	Concrete	266
1.0	130	100	83	50	9	40	Concrete	130
1.5	110	100	83	50	9	40	Concrete	110
2.0	114	100	83	50	9	40	Concrete	114
2.5	116	100	83	50	9	40	Concrete	116
3.0	160	100	83	50	9	40	Concrete	160
3.5	4	100	83	50	9	40	Dark brown sand gravel	4
4.0	3	100	83	50	9	40	Dark brown sand gravel	3
4.5	4	100	83	50	9	40	Dark brown sand gravel	4
5.0	3	100	83	50	9	40	Dark brown sand gravel	3
5.5	4	100	83	50	9	40	Dark brown sand gravel	4
6.0	91	100	83	50	9	40	Dark brown sand gravel	91
6.5	4	100	83	50	9	40	Dark brown sand gravel	4
7.0	42	100	83	50	9	40	Light Dark Brown stiff sand clay	42
7.5	16	100	83	50	9	40	Light Dark Brown stiff sand clay	16
8.0	12	100	83	50	9	40	Light Dark Brown stiff sand clay	12
8.5	15	100	83	50	9	40	Light Dark Brown stiff sand clay	15
9.0	17	100	83	50	9	40	Light Dark Brown stiff sand clay	17
9.5	11	100	83	50	9	40	Light Dark Brown stiff sand clay	11
10.0	12	100	83	50	9	40	Light Dark Brown stiff sand clay	12
10.5	29	100	83	50	9	40	Light Dark Brown stiff sand clay	29
11.0	17	100	83	50	9	40	Light Dark Brown stiff sand clay	17
11.5	16	100	83	50	9	40	Light Dark Brown stiff sand clay	16
12.0	18	100	83	50	9	40	Light Dark Brown stiff sand clay	18
12.5	53	100	83	50	9	40	Light Dark Brown stiff sand clay	53
13.0	40	100	83	50	9	40	Light Dark Brown stiff sand clay	40
13.5	18	100	83	50	9	40	Light Dark Brown stiff sand clay	18
14.0	29	100	83	50	9	40	Light Dark Brown stiff sand clay	29
14.5	34	100	83	50	9	40	Light Dark Brown stiff sand clay	34
15.0	18	100	83	50	9	40	Light Dark Brown stiff sand clay	18
15.5	27	100	83	50	9	40	Light Dark Brown stiff sand clay	27
16.0	215	100	83	50	9	40	Light Dark Brown stiff sand clay	215
16.5	72	100	83	50	9	40	Light Dark Brown stiff sand clay	72
17.0	57	100	83	50	9	40	Light Dark Brown stiff sand clay	57
17.5	19	100	83	50	9	40	Creamy colour chalk sand	19
18.0	21	100	83	50	9	40	Creamy colour chalk sand	21
18.5	31	100	83	50	9	40	Creamy colour chalk sand	31
19.0	10	100	83	50	9	40	Pale White Chalk, small flint parts	10
19.5	12	100	83	50	9	40	Pale White Chalk, small flint parts	12
20.0	14	100	83	50	9	40	Pale White Chalk, small flint parts	14
20.5	15	100	83	50	9	40	Pale White Chalk, small flint parts	15
21.0	11	100	83	50	9	40	Pale White Chalk, small flint parts	11
21.5	10	100	83	50	9	40	Pale White Chalk, small flint parts	10
22.0	11	100	83	50	9	40	Pale White Chalk, small flint parts	11
22.5	19	100	83	50	9	40	Pale White Chalk, small flint parts	19
23.0	10	100	83	50	9	40	Pale White Chalk, small flint parts	10
23.5	18	100	83	50	9	40	Pale White Chalk, small flint parts	18
24.0	17	100	83	50	9	40	Pale White Chalk, small flint parts	17
24.5	16	100	83	50	9	40	Pale White Chalk, small flint parts	16
25.0	19	100	83	50	9	40	Pale White Chalk, small flint parts	19
25.5	13	100	83	50	9	40	Pale White Chalk, small flint parts	13
26.0	26	100	83	50	9	40	Pale White Chalk, small flint parts	26
26.5	19	100	83	50	9	40	Pale White Chalk, small flint parts	19
27.0	26	100	83	50	9	40	Pale White Chalk, small flint parts	26
27.5	18	100	83	50	9	40	Pale White Chalk, small flint parts	18
28.0	40	100	83	50	9	40	Pale White Chalk, small flint parts	40
28.5	39	100	83	50	9	40	Pale White Chalk, small flint parts	39
29.0	26	100	83	50	9	40	Pale White Chalk, small flint parts	26
29.5	19	100	83	50	9	40	Pale White Chalk, small flint parts	19
30.0	24	100	83	50	9	40	Pale White Chalk, small flint parts	24
30.5	25	100	83	50	9	40	Pale White Chalk, small flint parts	25
31.0	40	100	83	50	9	40	Pale White Chalk, small flint parts	40
31.5	22	100	83	50	9	40	Pale White Chalk, small flint parts	22
32.0	19	100	83	50	9	40	Pale White Chalk, small flint parts	19
32.5	17	100	83	50	9	40	Pale White Chalk, small flint parts	17
33.0	43	100	83	50	9	40	Pale White Chalk, small flint parts	43
33.5	27	100	83	50	9	40	Pale White Chalk, small flint parts	27
34.0	28	100	83	50	9	40	Pale White Chalk, small flint parts	28
34.5	26	100	83	50	9	40	Pale White Chalk, small flint parts	26
35.0	24	100	83	50	9	40	Pale White Chalk, small flint parts	24
35.5	22	100	83	50	9	40	Pale White Chalk, small flint parts	22
36.0	26	100	83	50	9	40	Pale White Chalk, small flint parts	26
36.5	23	100	83	50	9	40	Pale White Chalk, small flint parts	23
37.0	22	100	83	50	9	40	Pale White Chalk, small flint parts	22
37.5	28	100	83	50	9	40	Pale White Chalk, small flint parts	28
38.0	56	100	83	50	9	40	Flint Hard	56
38.5	40	100	83	50	9	40	Firm Chalk	40
39.0	38	100	83	50	9	40	Firm Chalk	38
39.5	41	100	83	50	9	40	Firm Chalk	41

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH212 Date: 15/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	10

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	375	100	83	50	9	40	Concrete	375
0.5	262	100	83	50	9	40	Concrete	262
1.0	230	100	83	50	9	40	Concrete	230
1.5	237	100	83	50	9	40	Concrete	237
2.0	124	100	83	50	9	40	Concrete	124
2.5	90	100	83	50	9	40	Concrete	90
3.0	10	20	83	50	9	40	Very Soft Black Ash Fill	10
3.5	4	20	83	50	9	40	Very Soft Black Ash Fill	4
4.0	5	20	83	50	9	40	Very Soft Black Ash Fill	5
4.5	6	20	83	50	9	40	Very Soft Black Ash Fill	6
5.0	25	20	83	50	9	40	Very Soft Black Ash Fill	25
5.5	14	20	83	50	9	40	Very Soft Black Ash Fill	14
6.0	12	20	83	50	9	40	Very Soft Black Ash Fill	12
6.5	12	100	83	50	9	40	Light Dark Brown Sand Gravel	12
7.0	17	100	83	50	9	40	Light Dark Brown Sand Gravel	17
7.5	12	100	83	50	9	40	Light Dark Brown Sand Gravel	12
8.0	32	100	83	50	9	40	Light Dark Brown Sand Gravel	32
8.5	36	100	83	50	9	40	Light Dark Brown Sand Gravel	36
9.0	37	100	83	50	9	40	Light Dark Brown Sand Gravel	37
9.5	15	100	83	50	9	40	Light Dark Brown Sand Gravel	15
10.0	67	100	83	50	9	40	Light Dark Brown Sand Gravel	67
10.5	57	100	83	50	9	40	Light Dark Brown Sand Gravel	57
11.0	77	100	83	50	9	40	Light Dark Brown Sand Gravel	77
11.5	157	100	83	50	9	40	Light Dark Brown Sand Gravel	157
12.0	24	100	83	50	9	40	Pale White Chalk, small flint parts	24
12.5	17	100	83	50	9	40	Pale White Chalk, small flint parts	17
13.0	21	100	83	50	9	40	Pale White Chalk, small flint parts	21
13.5	20	100	83	50	9	40	Pale White Chalk, small flint parts	20
14.0	23	100	83	50	9	40	Pale White Chalk, small flint parts	23
14.5	22	100	83	50	9	40	Pale White Chalk, small flint parts	22
15.0	14	100	83	50	9	40	Pale White Chalk, small flint parts	14
15.5	14	100	83	50	9	40	Pale White Chalk, small flint parts	14
16.0	18	100	83	50	9	40	Pale White Chalk, small flint parts	18
16.5	14	100	83	50	9	40	Pale White Chalk, small flint parts	14
17.0	18	100	83	50	9	40	Pale White Chalk, small flint parts	18
17.5	12	100	83	50	9	40	Pale White Chalk, small flint parts	12
18.0	17	100	83	50	9	40	Pale White Chalk, small flint parts	17
18.5	16	100	83	50	9	40	Pale White Chalk, small flint parts	16
19.0	14	100	83	50	9	40	Pale White Chalk, small flint parts	14
19.5	13	100	83	50	9	40	Pale White Chalk, small flint parts	13
20.0	19	100	83	50	9	40	Pale White Chalk, small flint parts	19
20.5	17	100	83	50	9	40	Pale White Chalk, small flint parts	17
21.0	23	100	83	50	9	40	Pale White Chalk, small flint parts	23
21.5	25	100	83	50	9	40	Pale White Chalk, small flint parts	25
22.0	30	100	83	50	9	40	Pale White Chalk, small flint parts	30
22.5	19	100	83	50	9	40	Pale White Chalk, small flint parts	19
23.0	18	100	83	50	9	40	Pale White Chalk, small flint parts	18
23.5	24	100	83	50	9	40	Pale White Chalk, small flint parts	24
24.0	31	100	83	50	9	40	Pale White Chalk, small flint parts	31
24.5	18	100	83	50	9	40	Pale White Chalk, small flint parts	18
25.0	18	100	83	50	9	40	Pale White Chalk, small flint parts	18
25.5	20	100	83	50	9	40	Pale White Chalk, small flint parts	20
26.0	22	100	83	50	9	40	Pale White Chalk, small flint parts	22
26.5	47	100	83	50	9	40	Pale White Chalk, small flint parts	47
27.0	30	100	83	50	9	40	Pale White Chalk, small flint parts	30
27.5	19	100	83	50	9	40	Pale White Chalk, small flint parts	19
28.0	21	100	83	50	9	40	Pale White Chalk, small flint parts	21
28.5	23	100	83	50	9	40	Pale White Chalk, small flint parts	23
29.0	18	100	83	50	9	40	Pale White Chalk, small flint parts	18
29.5	50	100	83	50	9	40	Pale White Chalk, small flint parts	50
30.0	26	100	83	50	9	40	Pale White Chalk, small flint parts	26
30.5	21	100	83	50	9	40	Pale White Chalk, small flint parts	21
31.0	15	100	83	50	9	40	Pale White Chalk, small flint parts	15
31.5	22	100	83	50	9	40	Pale White Chalk, small flint parts	22
32.0	30	100	83	50	9	40	Pale White Chalk, small flint parts	30
32.5	27	100	83	50	9	40	Pale White Chalk, small flint parts	27
33.0	19	100	83	50	9	40	Pale White Chalk, small flint parts	19
33.5	22	100	83	50	9	40	Pale White Chalk, small flint parts	22
34.0	29	100	83	50	9	40	Pale White Chalk, small flint parts	29
34.5	26	100	83	50	9	40	Pale White Chalk, small flint parts	26
35.0	27	100	83	50	9	40	Pale White Chalk, small flint parts	27
35.5	32	100	83	50	9	40	Pale White Chalk, small flint parts	32
36.0	20	100	83	50	9	40	Pale White Chalk, small flint parts	20
36.5	20	100	83	50	9	40	Pale White Chalk, small flint parts	20
37.0	23	100	83	50	9	40	Pale White Chalk, small flint parts	23
37.5	26	100	83	50	9	40	Pale White Chalk, small flint parts	26
38.0	35	100	83	50	9	40	Pale White Chalk, small flint parts	35
38.5	39	100	83	50	9	40	Pale White Chalk, small flint parts	39
39.0	32	100	83	50	9	40	Pale White Chalk, small flint parts	32
39.5	35	100	83	50	9	40	Pale White Chalk, small flint parts	35

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH213 Date: 05/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	7

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	210	100	83	50	9	50	Concrete	210
0.5	73	100	83	50	9	50	Concrete	73
1.0	87	100	83	50	9	50	Concrete	87
1.5	60	100	83	50	9	50	Concrete	60
2.0	45	100	83	50	9	50	Concrete	45
2.5	200	100	83	50	9	50	Concrete	200
3.0	76	100	83	50	9	50	Concrete	76
3.5	67	100	83	50	9	50	Concrete	67
4.0	87	100	83	50	9	50	Concrete	87
4.5	10	100	83	50	9	50	Concrete	10
5.0	15	100	83	50	9	50	Concrete	15
5.5	6	10	83	50	9	50	Ash Fill	6
6.0	5	10	83	50	9	50	Ash Fill	5
6.5	6	10	83	50	9	50	Ash Fill	6
7.0	5	10	83	50	9	50	Ash Fill	5
7.5	5	10	83	50	9	50	Ash Fill	5
8.0	5	10	83	50	9	50	Ash Fill	5
8.5	5	10	83	50	9	50	Ash Fill	5
9.0	6	10	83	50	9	50	Ash Fill	6
9.5	5	10	83	50	9	50	Ash Fill	5
10.0	6	50	83	50	9	50	Light Grey Sandy Clay	6
10.5	5	50	83	50	9	50	Light Grey Sandy Clay	5
11.0	40	50	83	50	9	50	Light Grey Sandy Clay	40
11.5	5	50	83	50	9	50	Light Grey Sandy Clay	5
12.0	5	50	83	50	9	50	Light Grey Sandy Clay	5
12.5	5	50	83	50	9	50	Light Grey Sandy Clay	5
13.0	5	50	83	50	9	50	Light Grey Sandy Clay	5
13.5	7	50	83	50	9	50	Light Grey Sandy Clay	7
14.0	8	50	83	50	9	50	Light Grey Sandy Clay	8
14.5	8	50	83	50	9	50	Light Grey Sandy Clay	8
15.0	8	50	83	50	9	50	Pale Grey Clay	8
15.5	7	50	83	50	9	50	Pale Grey Clay	7
16.0	7	50	83	50	9	50	Pale Grey Clay	7
16.5	7	50	83	50	9	50	Pale Grey Clay	7
17.0	8	50	83	50	9	50	Pale Grey Clay	8
17.5	8	50	83	50	9	50	Pale Grey Clay	8
18.0	9	50	83	50	9	50	Pale Grey Clay	9
18.5	9	50	83	50	9	50	Chalky, Gravel, Clay	9
19.0	9	50	83	50	9	50	Chalky, Gravel, Clay	9
19.5	10	50	83	50	9	50	Chalky, Gravel, Clay	10
20.0	15	50	83	50	9	50	Chalky, Gravel, Clay	15
20.5	20	50	83	50	9	50	Chalky, Gravel, Clay	20
21.0	10	50	83	50	9	50	Chalky, Gravel, Clay	10
21.5	10	50	83	50	9	50	Chalky, Gravel, Clay	10
22.0	25	50	83	50	9	50	Weak Chalk, Small Flint Bands	25
22.5	20	50	83	50	9	50	Weak Chalk, Small Flint Bands	20
23.0	27	50	83	50	9	50	Weak Chalk, Small Flint Bands	27
23.5	30	50	83	50	9	50	Weak Chalk, Small Flint Bands	30
24.0	32	50	83	50	9	50	Weak Chalk, Small Flint Bands	32
24.5	18	50	83	50	9	50	Weak Chalk, Small Flint Bands	18
25.0	35	50	83	50	9	50	Weak Chalk, Small Flint Bands	35
25.5	21	50	83	50	9	50	Weak Chalk, Small Flint Bands	21
26.0	35	50	83	50	9	50	Weak Chalk, Small Flint Bands	35
26.5	30	50	83	50	9	50	Weak Chalk, Small Flint Bands	30
27.0	14	50	83	50	9	50	Weak Chalk, Small Flint Bands	14
27.5	14	50	83	50	9	50	Weak Chalk, Small Flint Bands	14
28.0	31	50	83	50	9	50	Weak Chalk, Small Flint Bands	31
28.5	20	50	83	50	9	50	Weak Chalk, Small Flint Bands	20
29.0	18	50	83	50	9	50	Weak Chalk, Small Flint Bands	18
29.5	14	50	83	50	9	50	Weak Chalk, Small Flint Bands	14
30.0	5	50	83	50	9	50	Weak Chalk, Small Flint Bands	5
30.5	5	50	83	50	9	50	Weak Chalk, Small Flint Bands	5
31.0	5	50	83	50	9	50	Weak Chalk, Small Flint Bands	5
31.5	5	50	83	50	9	50	Weak Chalk, Small Flint Bands	5
32.0	8	50	83	50	9	50	Weak Chalk, Small Flint Bands	8
32.5	9	50	83	50	9	50	Weak Chalk, Small Flint Bands	9
33.0	8	50	83	50	9	50	Weak Chalk, Small Flint Bands	8
33.5	9	50	83	50	9	50	Weak Chalk, Small Flint Bands	9
34.0	25	50	83	50	9	50	Weak Chalk, Small Flint Bands	25
34.5	25	50	83	50	9	50	Weak Chalk, Small Flint Bands	25
35.0	22	50	83	50	9	50	Weak Chalk, Small Flint Bands	22
35.5	28	50	83	50	9	50	Weak Chalk, Small Flint Bands	28
36.0	22	50	83	50	9	50	Weak Chalk, Small Flint Bands	22
36.5	27	50	83	50	9	50	Weak Chalk, Small Flint Bands	27
37.0	25	50	83	50	9	50	Weak Chalk, Small Flint Bands	25
37.5	20	50	83	50	9	50	Weak Chalk, Small Flint Bands	20
38.0	10	50	83	50	9	50	Weak Chalk, Small Flint Bands	10
38.5	10	50	83	50	9	50	Weak Chalk, Small Flint Bands	10
39.0	10	50	83	50	9	50	Weak Chalk, Small Flint Bands	10
39.5	10	50	83	50	9	50	Weak Chalk, Small Flint Bands	10
40.0	30	50	83	50	9	50	Weak Chalk, Small Flint Bands	30
40.5	10	50	83	50	9	50	Weak Chalk, Small Flint Bands	10
41.0	10	50	83	50	9	50	Weak Chalk, Small Flint Bands	10
41.5	7	50	83	50	9	50	Weak Chalk, Small Flint Bands	7
42.0	15	50	83	50	9	50	Weak Chalk, Small Flint Bands	15
42.5	14	50	83	50	9	50	Weak Chalk, Small Flint Bands	14
43.0	14	50	83	50	9	50	Weak Chalk, Small Flint Bands	14
43.5	17	50	83	50	9	50	Weak Chalk, Small Flint Bands	17
44.0	18	50	83	50	9	50	Weak Chalk, Small Flint Bands	18
44.5	14	50	83	50	9	50	Weak Chalk, Small Flint Bands	14
45.0	12	50	83	50	9	50	Weak Chalk, Small Flint Bands	12
45.5	13	50	83	50	9	50	Weak Chalk, Small Flint Bands	13
46.0	12	50	83	50	9	50	Weak Chalk, Small Flint Bands	12
46.5	13	50	83	50	9	50	Weak Chalk, Small Flint Bands	13
47.0	14	50	83	50	9	50	Weak Chalk, Small Flint Bands	14
47.5	19	50	83	50	9	50	Weak Chalk, Small Flint Bands	19
48.0	22	50	83	50	9	50	Weak Chalk, Small Flint Bands	22
48.5	24	50	83	50	9	50	Weak Chalk, Small Flint Bands	24
49.0	28	50	83	50	9	50	Weak Chalk, Small Flint Bands	28
49.5	31	50	83	50	9	50	Weak Chalk, Small Flint Bands	31

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH214 Date: 06/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	7

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	320	100	83	50	9	100	Concrete	320
0.5	137	100	83	50	9	100	Concrete	137
1.0	100	100	83	50	9	100	Concrete	100
1.5	69	100	83	50	9	100	Concrete	69
2.0	122	100	83	50	9	100	Concrete	122
2.5	135	100	83	50	9	100	Concrete	135
3.0	91	100	83	50	9	100	Concrete	91
3.5	54	100	83	50	9	100	Concrete	54
4.0	69	100	83	50	9	100	Concrete	69
4.5	31	100	83	50	9	100	Concrete	31
5.0	10	100	83	50	9	10	Black ash	10
5.5	10	10	83	50	9	10	Black ash	10
6.0	10	10	83	50	9	10	Soft muddy black fill	10
6.5	10	10	83	50	9	10	Soft muddy black fill	10
7.0	6	10	83	50	9	10	Soft muddy black fill	6
7.5	7	10	83	50	9	10	Soft muddy black fill	7
8.0	7	10	83	50	9	10	Soft muddy black fill	7
8.5	7	10	83	50	9	10	Soft muddy black fill	7
9.0	6	10	83	50	9	10	Soft muddy black fill	6
9.5	6	10	83	50	9	10	Soft muddy black fill	6
10.0	6	50	83	50	9	10	Soft muddy black fill	6
10.5	6	50	83	50	9	10	Soft muddy black fill	6
11.0	11	50	83	50	9	10	Soft muddy black fill	11
11.5	12	50	83	50	9	10	Soft muddy black fill	12
12.0	11	50	83	50	9	10	Soft muddy black fill	11
12.5	12	50	83	50	9	10	Soft muddy black fill	12
13.0	15	50	83	50	9	10	Soft muddy black fill	15
13.5	15	50	83	50	9	10	Soft muddy black fill	15
14.0	30	50	83	50	9	10	Light Brown Sandy Clay	30
14.5	50	50	83	50	9	10	Light Brown Sandy Clay	50
15.0	70	50	83	50	9	10	Light Brown Sandy Clay	70
15.5	30	50	83	50	9	10	Light Brown Sandy Clay	30
16.0	17	50	83	50	9	10	Light Brown Sandy Clay	17
16.5	15	50	83	50	9	10	Light Brown Sandy Clay	15
17.0	17	50	83	50	9	10	Light Grey Sandy Clay	17
17.5	13	50	83	50	9	10	Light Grey Sandy Clay	13
18.0	15	50	83	50	9	10	Light Grey Sandy Clay	15
18.5	8	50	83	50	9	10	Light Grey Sandy Clay	8
19.0	19	50	83	50	9	10	Light Grey Sandy Clay	19
19.5	14	50	83	50	9	10	Light Grey Sandy Clay	14
20.0	26	50	83	50	9	10	Light Grey Sandy Clay	26
20.5	17	50	83	50	9	10	Light Grey Sandy Clay	17
21.0	29	50	83	50	9	10	Light Grey Sandy Clay	29
21.5	31	50	83	50	9	50	White Chalk, Small Flint Bands	31
22.0	50	50	83	50	9	50	White Chalk, Small Flint Bands	50
22.5	55	50	83	50	9	50	White Chalk, Small Flint Bands	55
23.0	39	50	83	50	9	50	White Chalk, Small Flint Bands	39
23.5	13	50	83	50	9	50	White Chalk, Small Flint Bands	13
24.0	20	50	83	50	9	50	White Chalk, Small Flint Bands	20
24.5	27	50	83	50	9	50	White Chalk, Small Flint Bands	27
25.0	26	50	83	50	9	50	White Chalk, Small Flint Bands	26
25.5	20	50	83	50	9	50	White Chalk, Small Flint Bands	20
26.0	30	50	83	50	9	50	White Chalk, Small Flint Bands	30
26.5	20	50	83	50	9	50	White Chalk, Small Flint Bands	20
27.0	28	50	83	50	9	50	White Chalk, Small Flint Bands	28
27.5	23	50	83	50	9	50	White Chalk, Small Flint Bands	23
28.0	35	50	83	50	9	50	White Chalk, Small Flint Bands	35
28.5	31	50	83	50	9	50	White Chalk, Small Flint Bands	31
29.0	19	50	83	50	9	50	White Chalk, Small Flint Bands	19
29.5	17	50	83	50	9	50	White Chalk, Small Flint Bands	17
30.0	23	50	83	50	9	50	White Chalk, Small Flint Bands	23
30.5	20	50	83	50	9	50	White Chalk, Small Flint Bands	20
31.0	40	50	83	50	9	50	White Chalk, Small Flint Bands	40
31.5	12	50	83	50	9	50	White Chalk, Small Flint Bands	12
32.0	18	50	83	50	9	50	White Chalk, Small Flint Bands	18
32.5	15	50	83	50	9	50	White Chalk, Small Flint Bands	15
33.0	19	50	83	50	9	50	White Chalk, Small Flint Bands	19
33.5	10	50	83	50	9	50	White Chalk, Small Flint Bands	10
34.0	17	50	83	50	9	50	White Chalk, Small Flint Bands	17
34.5	10	50	83	50	9	50	White Chalk, Small Flint Bands	10
35.0	12	50	83	50	9	50	White Chalk, Small Flint Bands	12
35.5	10	50	83	50	9	50	White Chalk, Small Flint Bands	10
36.0	22	50	83	50	9	50	White Chalk, Small Flint Bands	22
36.5	18	50	83	50	9	50	White Chalk, Small Flint Bands	18
37.0	20	50	83	50	9	50	White Chalk, Small Flint Bands	20
37.5	10	50	83	50	9	50	White Chalk, Small Flint Bands	10
38.0	18	50	83	50	9	50	White Chalk, Small Flint Bands	18
38.5	20	50	83	50	9	50	White Chalk, Small Flint Bands	20
39.0	15	50	83	50	9	50	White Chalk, Small Flint Bands	15
39.5	15	50	83	50	9	50	White Chalk, Small Flint Bands	15
40.0	25	50	83	50	9	50	White Chalk, Small Flint Bands	25
40.5	19	50	83	50	9	50	White Chalk, Small Flint Bands	19
41.0	17	50	83	50	9	50	White Chalk, Small Flint Bands	17
41.5	20	50	83	50	9	50	White Chalk, Small Flint Bands	20
42.0	22	50	83	50	9	50	White Chalk, Small Flint Bands	22
42.5	18	50	83	50	9	50	White Chalk, Small Flint Bands	18
43.0	16	50	83	50	9	50	White Chalk, Small Flint Bands	16
43.5	20	50	83	50	9	50	White Chalk, Small Flint Bands	20
44.0	14	50	83	50	9	50	White Chalk, Small Flint Bands	14
44.5	22	50	83	50	9	50	White Chalk, Small Flint Bands	22
45.0	21	50	83	50	9	50	White Chalk, Small Flint Bands	21
45.5	18	50	83	50	9	50	White Chalk, Small Flint Bands	18
46.0	22	50	83	50	9	50	White Chalk, Small Flint Bands	22
46.5	15	50	83	50	9	50	White Chalk, Small Flint Bands	15
47.0	14	50	83	50	9	50	White Chalk, Small Flint Bands	14
47.5	642	50	83	50	9	50	Hard Flint	642
48.0	680	50	83	50	9	50	White Chalk / Hard Flint	680
48.5	17	50	83	50	9	50	White Chalk	17
49.0	18	50	83	50	9	50	White Chalk	18
49.5	21	50	83	50	9	50	White Chalk	21

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH215 Date: 22/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	V

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	PIT	0	83	50	9	40	Trial Pit	PIT
0.5	21	100	83	50	9	40	Sand Gravel	21
1.0	20	100	83	50	9	40	Sand Gravel	20
1.5	21	100	83	50	9	40	Sand Gravel	21
2.0	19	100	83	50	9	40	Sand Gravel	19
2.5	17	100	83	50	9	40	Sand Gravel	17
3.0	17	100	83	50	9	40	Sand Gravel	17
3.5	15	100	83	50	9	40	Sand Gravel	15
4.0	10	50	83	50	9	40	Black Ash Stoney Fill	10
4.5	10	50	83	50	9	40	Black Ash Stoney Fill	10
5.0	18	50	83	50	9	40	Black Ash Stoney Fill	18
5.5	41	50	83	50	9	40	Black Ash Stoney Fill	41
6.0	68	100	83	50	9	40	Sand Gravel	68
6.5	100	100	83	50	9	40	Sand Gravel	100
7.0	67	100	83	50	9	40	Sand Gravel	67
7.5	70	100	83	50	9	40	Sand Gravel	70
8.0	63	100	83	50	9	40	Sand Gravel	63
8.5	33	100	83	50	9	40	Sand Gravel	33
9.0	37	100	83	50	9	40	Sand Gravel	37
9.5	27	100	83	50	9	40	Sand Gravel	27
10.0	27	100	83	50	9	40	Sand Gravel	27
10.5	35	100	83	50	9	40	Sand Gravel	35
11.0	45	100	83	50	9	40	Sand Gravel	45
11.5	20	100	83	50	9	40	Stiff Sandy Clay	20
12.0	21	100	83	50	9	40	Stiff Sandy Clay	21
12.5	23	100	83	50	9	40	Stiff Sandy Clay	23
13.0	21	100	83	50	9	40	Stiff Sandy Clay	21
13.5	21	100	83	50	9	40	Stiff Sandy Clay	21
14.0	19	100	83	50	9	40	Stiff Sandy Clay	19
14.5	17	100	83	50	9	40	Stiff Sandy Clay	17
15.0	20	100	83	50	9	40	Stiff Sandy Clay	20
15.5	7	100	83	50	9	40	Very Soft Drilling, Small Sand Trace	7
16.0	7	100	83	50	9	40	Very Soft Drilling, Small Sand Trace	7
16.5	6	100	83	50	9	40	Sand Gravel	6
17.0	9	100	83	50	9	40	Sand Gravel	9
17.5	11	100	83	50	9	40	Sand Gravel	11
18.0	14	100	83	50	9	40	Sand Gravel	14
18.5	12	100	83	50	9	40	Light Brown Cream Sandy Chalk	12
19.0	11	100	83	50	9	40	Light Brown Cream Sandy Chalk	11
19.5	16	100	83	50	9	40	Light Brown Cream Sandy Chalk	16
20.0	21	100	83	50	9	40	Light Brown Cream Sandy Chalk	21
20.5	32	100	83	50	9	40	Light Brown Cream Sandy Chalk	32
21.0	31	100	83	50	9	40	Light Brown Cream Sandy Chalk	31
21.5	22	100	83	50	9	40	Light Brown Cream Sandy Chalk	22
22.0	34	100	83	50	9	40	Light Brown Cream Sandy Chalk	34
22.5	33	100	83	50	9	40	Light Brown Cream Sandy Chalk	33
23.0	20	100	83	50	9	40	Light Brown Cream Sandy Chalk	20
23.5	18	100	83	50	9	40	Light Brown Cream Sandy Chalk	18
24.0	19	100	83	50	9	40	Light Brown Cream Sandy Chalk	19
24.5	18	100	83	50	9	40	Light Brown Cream Sandy Chalk	18
25.0	22	100	83	50	9	40	Light Brown Cream Sandy Chalk	22
25.5	19	100	83	50	9	40	Light Brown Cream Sandy Chalk	19
26.0	23	100	83	50	9	40	Light Brown Cream Sandy Chalk	23
26.5	22	100	83	50	9	40	Whie Chalk Flint Parts	22
27.0	21	100	83	50	9	40	Whie Chalk Flint Parts	21
27.5	19	100	83	50	9	40	Whie Chalk Flint Parts	19
28.0	43	100	83	50	9	40	Whie Chalk Flint Parts	43
28.5	39	100	83	50	9	40	Whie Chalk Flint Parts	39
29.0	44	100	83	50	9	40	Whie Chalk Flint Parts	44
29.5	23	100	83	50	9	40	Whie Chalk Flint Parts	23
30.0	19	100	83	50	9	40	Whie Chalk Flint Parts	19
30.5	22	100	83	50	9	40	Whie Chalk Flint Parts	22
31.0	17	100	83	50	9	40	Whie Chalk Flint Parts	17
31.5	16	100	83	50	9	40	Whie Chalk Flint Parts	16
32.0	20	100	83	50	9	40	Whie Chalk Flint Parts	20
32.5	28	100	83	50	9	40	Whie Chalk Flint Parts	28
33.0	34	100	83	50	9	40	Whie Chalk Flint Parts	34
33.5	23	100	83	50	9	40	Whie Chalk Flint Parts	23
34.0	24	100	83	50	9	40	Whie Chalk Flint Parts	24
34.5	22	100	83	50	9	40	Whie Chalk Flint Parts	22
35.0	22	100	83	50	9	40	Whie Chalk Flint Parts	22
35.5	23	100	83	50	9	40	Whie Chalk Flint Parts	23
36.0	21	100	83	50	9	40	Whie Chalk Flint Parts	21
36.5	27	100	83	50	9	40	Whie Chalk Flint Parts	27
37.0	20	100	83	50	9	40	Whie Chalk Flint Parts	20
37.5	21	100	83	50	9	40	Whie Chalk Flint Parts	21
38.0	23	100	83	50	9	40	Whie Chalk Flint Parts	23
38.5	19	100	83	50	9	40	Whie Chalk Flint Parts	19
39.0	34	100	83	50	9	40	Whie Chalk Flint Parts	34
39.5	36	100	83	50	9	40	Whie Chalk Flint Parts	36

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH216 Date: 26/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	V

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	PIT	0	83	50	9	50	Trial Pit	PIT
0.5	PIT	0	83	50	9	50	Trial Pit	PIT
1.0	7	10	83	50	9	50	Black Ash Stone	7
1.5	6	10	83	50	9	50	Black Ash Stone	6
2.0	6	10	83	50	9	50	Black Ash Stone	6
2.5	7	10	83	50	9	50	Black Ash Stone	7
3.0	16	100	83	50	9	50	Dark Brown Sand Gravel	16
3.5	41	100	83	50	9	50	Dark Brown Sand Gravel	41
4.0	10	100	83	50	9	50	Dark Brown Sand Gravel	10
4.5	13	100	83	50	9	50	Dark Brown Sand Gravel	13
5.0	1	100	83	50	9	50	Dark Brown Sand Gravel	1
5.5	16	100	83	50	9	50	Dark Brown Sand Gravel	16
6.0	19	100	83	50	9	50	Dark Brown Sand Gravel	19
6.5	24	100	83	50	9	50	Dark Brown Sand Gravel	24
7.0	29	100	83	50	9	50	Dark Grey Brown Gravel	29
7.5	26	100	83	50	9	50	Dark Grey Brown Gravel	26
8.0	50	100	83	50	9	50	Red Brown Sand Gravel Clay	50
8.5	64	100	83	50	9	50	Red Brown Sand Gravel Clay	64
9.0	76	100	83	50	9	50	Red Brown Sand Gravel Clay	76
9.5	44	100	83	50	9	50	Red Brown Sand Gravel Clay	44
10.0	62	100	83	50	9	50	Red Brown Sand Gravel Clay	62
10.5	55	100	83	50	9	50	Red Brown Sand Gravel Clay	55
11.0	48	100	83	50	9	50	Red Brown Sand Gravel Clay	48
11.5	31	100	83	50	9	50	Red Brown Sand Gravel Clay	31
12.0	28	100	83	50	9	50	Red Brown Sand Gravel Clay	28
12.5	25	100	83	50	9	50	Red Brown Sand Gravel Clay	25
13.0	37	100	83	50	9	50	Red Brown Sand Gravel Clay	37
13.5	58	100	83	50	9	50	Red Brown Sand Gravel Clay	58
14.0	50	100	83	50	9	50	Red Brown Sand Gravel Clay	50
14.5	42	100	83	50	9	50	Red Brown Sand Gravel Clay	42
15.0	47	100	83	50	9	50	Red Brown Sand Gravel Clay	47
15.5	31	100	83	50	9	50	Red Brown Sand Gravel Clay	31
16.0	41	100	83	50	9	50	Red Brown Sand Gravel Clay	41
16.5	46	100	83	50	9	50	Red Brown Sand Gravel Clay	46
17.0	73	100	83	50	9	50	Red Brown Sand Gravel Clay	73
17.5	30	100	83	50	9	50	Red Brown Sand Gravel Clay	30
18.0	45	100	83	50	9	50	Red Brown Sand Gravel Clay	45
18.5	77	100	83	50	9	50	Red Brown Sand Gravel Clay	77
19.0	42	100	83	50	9	50	Red Brown Sand Gravel Clay	42
19.5	32	100	83	50	9	50	Red Brown Sand Gravel Clay	32
20.0	37	100	83	50	9	50	Red Brown Sand Gravel Clay	37
20.5	36	100	83	50	9	50	Red Brown Sand Gravel Clay	36
21.0	26	100	83	50	9	50	Red Brown Sand Gravel Clay	26
21.5	20	100	83	50	9	50	Red Brown Sand Gravel Clay	20
22.0	31	100	83	50	9	50	Red Brown Sand Gravel Clay	31
22.5	26	100	83	50	9	50	Red Brown Sand Gravel Clay	26
23.0	22	100	83	50	9	50	Red Brown Sand Gravel Clay	22
23.5	20	100	83	50	9	50	Red Brown Sand Gravel Clay	20
24.0	46	100	83	50	9	50	Red Brown Sand Gravel Clay	46
24.5	62	100	83	50	9	50	Red Brown Sand Gravel Clay	62
25.0	64	100	83	50	9	50	Red Brown Sand Gravel Clay	64
25.5	42	100	83	50	9	50	Red Brown Sand Gravel Clay	42
26.0	40	100	83	50	9	50	Red Brown Sand Gravel Clay	40
26.5	36	100	83	50	9	50	Red Brown Sand Gravel Clay	36
27.0	21	100	83	50	9	50	Red Brown Sand Gravel Clay	21
27.5	20	100	83	50	9	50	Red Brown Sand Gravel Clay	20
28.0	19	100	83	50	9	50	Red Brown Sand Gravel Clay	19
28.5	17	100	83	50	9	50	Red Brown Sand Gravel Clay	17
29.0	20	100	83	50	9	50	Red Brown Sand Gravel Clay	20
29.5	16	100	83	50	9	50	Red Brown Sand Gravel Clay	16
30.0	10	100	83	50	9	50	Red Brown Sand Gravel Clay	10
30.5	15	100	83	50	9	50	Red Brown Sand Gravel Clay	15
31.0	15	100	83	50	9	50	Red Brown Sand Gravel Clay	15
31.5	21	100	83	50	9	50	Red Brown Sand Gravel Clay	21
32.0	37	100	83	50	9	50	Red Brown Sand Gravel Clay	37
32.5	22	100	83	50	9	50	Red Brown Sand Gravel Clay	22
33.0	28	100	83	50	9	50	Red Brown Sand Gravel Clay	28
33.5	19	100	83	50	9	50	Red Brown Sand Gravel Clay	19
34.0	28	100	83	50	9	50	Red Brown Sand Gravel Clay	28
34.5	34	100	83	50	9	50	Red Brown Sand Gravel Clay	34
35.0	38	100	83	50	9	50	Red Brown Sand Gravel Clay	38
35.5	26	100	83	50	9	50	Red Brown Sand Gravel Clay	26
36.0	48	100	83	50	9	50	Red Brown Sand Gravel Clay	48
36.5	28	100	83	50	9	50	Red Brown Sand Gravel Clay	28
37.0	31	100	83	50	9	50	Red Brown Sand Gravel Clay	31
37.5	20	100	83	50	9	50	Red Brown Sand Gravel Clay	20
38.0	15	100	83	50	9	50	Red Brown Sand Gravel Clay	15
38.5	15	100	83	50	9	50	Red Brown Sand Gravel Clay	15
39.0	16	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	16
39.5	18	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	18
40.0	7	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	7
40.5	8	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	8
41.0	7	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	7
41.5	8	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	8
42.0	7	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	7
42.5	8	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	8
43.0	7	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	7
43.5	9	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	9
44.0	10	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	10
44.5	16	100	83	50	9	50	Very Soft Drilling, Light Brown Sandy Clay	16
45.0	14	100	83	50	9	50	Light Brown Chalk, Sand 50/50	14
45.5	16	100	83	50	9	50	Light Brown Chalk, Sand 50/50	16
46.0	16	100	83	50	9	50	Light Brown Chalk, Sand 50/50	16
46.5	19	100	83	50	9	50	Light Brown Chalk, Sand 50/50	19
47.0	19	100	83	50	9	50	White Chalk, Flint	19
47.5	28	100	83	50	9	50	White Chalk, Flint	28
48.0	17	100	83	50	9	50	White Chalk, Flint	17
48.5	26	100	83	50	9	50	White Chalk, Flint	26
49.0	22	100	83	50	9	50	White Chalk, Flint	22
49.5	23	100	83	50	9	50	White Chalk, Flint	23

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH217 Date: 18/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	7

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	274	100	83	50	9	46.5	Concrete	274
0.5	130	100	83	50	9	46.5	Concrete	130
1.0	116	100	83	50	9	46.5	Concrete	116
1.5	78	100	83	50	9	46.5	Concrete	78
2.0	112	100	83	50	9	46.5	Concrete	112
2.5	154	100	83	50	9	46.5	Concrete	154
3.0	163	100	83	50	9	46.5	Concrete	163
3.5	121	100	83	50	9	46.5	Concrete	121
4.0	168	100	83	50	9	46.5	Concrete	168
4.5	120	100	83	50	9	46.5	Concrete	120
5.0	32	20	83	50	9	46.5	Damp Black Muddy Fill	32
5.5	8	20	83	50	9	46.5	Damp Black Muddy Fill	8
6.0	17	20	83	50	9	46.5	Damp Black Muddy Fill	17
6.5	12	20	83	50	9	46.5	Damp Black Muddy Fill	12
7.0	15	20	83	50	9	46.5	Damp Black Muddy Fill	15
7.5	19	20	83	50	9	46.5	Damp Black Muddy Fill	19
8.0	10	20	83	50	9	46.5	Damp Black Muddy Fill	10
8.5	10	20	83	50	9	46.5	Damp Black Muddy Fill	10
9.0	12	20	83	50	9	46.5	Damp Black Muddy Fill	12
9.5	15	20	83	50	9	46.5	Damp Black Muddy Fill	15
10.0	10	20	83	50	9	46.5	Damp Black Muddy Fill	10
10.5	25	20	83	50	9	46.5	Damp Black Muddy Fill	25
11.0	40	20	83	50	9	46.5	Damp Black Muddy Fill	40
11.5	15	20	83	50	9	46.5	Damp Black Muddy Fill	15
12.0	13	20	83	50	9	46.5	Damp Black Muddy Fill	13
12.5	26	20	83	50	9	46.5	Damp Black Muddy Fill	26
13.0	12	20	83	50	9	46.5	Damp Black Muddy Fill	12
13.5	12	20	83	50	9	46.5	Damp Black Muddy Fill	12
14.0	10	20	83	50	9	46.5	Damp Black Muddy Fill	10
14.5	10	20	83	50	9	46.5	Damp Black Muddy Fill	10
15.0	12	20	83	50	9	46.5	Damp Black Muddy Fill	12
15.5	9	20	83	50	9	46.5	Damp Black Muddy Fill	9
16.0	2	20	83	50	9	46.5	Damp Black Muddy Fill	2
16.5	10	20	83	50	9	46.5	Damp Black Muddy Fill	10
17.0	10	20	83	50	9	46.5	Damp Black Muddy Fill	10
17.5	7	20	83	50	9	46.5	Damp Black Muddy Fill	7
18.0	7	20	83	50	9	46.5	Damp Black Muddy Fill	7
18.5	9	20	83	50	9	46.5	Damp Black Muddy Fill	9
19.0	7	20	83	50	9	46.5	Damp Black Muddy Fill	7
19.5	7	20	83	50	9	46.5	Damp Black Muddy Fill	7
20.0	9	20	83	50	9	46.5	Damp Black Muddy Fill	9
20.5	10	20	83	50	9	46.5	Damp Black Muddy Fill	10
21.0	11	20	83	50	9	46.5	Damp Black Muddy Fill	11
21.5	9	20	83	50	9	46.5	Damp Black Muddy Fill	9
22.0	10	20	83	50	9	46.5	Damp Black Muddy Fill	10
22.5	19	20	83	50	9	46.5	Damp Black Muddy Fill	19
23.0	21	20	83	50	9	46.5	Damp Black Muddy Fill	21
23.5	59	20	83	50	9	46.5	Light to dark grey sand, chalk traces	59
24.0	23	20	83	50	9	46.5	Light to dark grey sand, chalk traces	23
24.5	17	20	83	50	9	46.5	Light to dark grey sand, chalk traces	17
25.0	14	20	83	50	9	46.5	Light to dark grey sand, chalk traces	14
25.5	43	100	83	50	9	46.5	Light brown sand and chalk	43
26.0	37	100	83	50	9	46.5	Light brown sand and chalk	37
26.5	34	100	83	50	9	46.5	Light brown sand and chalk	34
27.0	29	100	83	50	9	46.5	Light brown sand and chalk	29
27.5	19	100	83	50	9	46.5	Light brown sand and chalk	19
28.0	40	100	83	50	9	46.5	Light brown sand and chalk	40
28.5	25	100	83	50	9	46.5	Light brown sand and chalk	25
29.0	23	100	83	50	9	46.5	Light brown sand and chalk	23
29.5	22	100	83	50	9	46.5	Light brown sand and chalk	22
30.0	27	100	83	50	9	46.5	Light brown sand and chalk	27
30.5	26	100	83	50	9	46.5	Light brown sand and chalk	26
31.0	24	100	83	50	9	46.5	Light brown sand and chalk	24
31.5	19	100	83	50	9	46.5	Light brown sand and chalk	19
32.0	20	100	83	50	9	46.5	Light brown sand and chalk	20
32.5	691	100	83	50	9	46.5	Light brown sand and chalk	691
33.0	43	100	83	50	9	46.5	Light brown sand and chalk	43
33.5	37	100	83	50	9	46.5	Light brown sand and chalk	37
34.0	31	100	83	50	9	46.5	Light brown sand and chalk	31
34.5	42	100	83	50	9	46.5	Light brown sand and chalk	42
35.0	57	100	83	50	9	46.5	Light brown sand and chalk	57
35.5	29	100	83	50	9	46.5	Light brown sand and chalk	29
36.0	37	100	83	50	9	46.5	Light brown sand and chalk	37
36.5	46	100	83	50	9	46.5	Light brown sand and chalk	46
37.0	35	100	83	50	9	46.5	Light brown sand and chalk	35
37.5	19	100	83	50	9	46.5	Light brown sand and chalk	19
38.0	20	100	83	50	9	46.5	Light brown sand and chalk	20
38.5	22	100	83	50	9	46.5	Light brown sand and chalk	22
39.0	19	100	83	50	9	46.5	White chalk, very hard flint bands	19
39.5	29	100	83	50	9	46.5	White chalk, very hard flint bands	29
40.0	41	100	83	50	9	46.5	White chalk, very hard flint bands	41
40.5	21	100	83	50	9	46.5	White chalk, very hard flint bands	21
41.0	18	100	83	50	9	46.5	White chalk, very hard flint bands	18
41.5	145	100	83	50	9	46.5	White chalk, very hard flint bands	145
42.0	38	100	83	50	9	46.5	White chalk, very hard flint bands	38
42.5	28	100	83	50	9	46.5	White chalk, very hard flint bands	28
43.0	21	100	83	50	9	46.5	White chalk, very hard flint bands	21
43.5	23	100	83	50	9	46.5	White chalk, very hard flint bands	23
44.0	25	100	83	50	9	46.5	White chalk, very hard flint bands	25
44.5	40	100	83	50	9	46.5	White chalk, very hard flint bands	40
45.0	37	100	83	50	9	46.5	White chalk, very hard flint bands	37
45.5	29	100	83	50	9	46.5	White chalk, very hard flint bands	29
46.0	1430	100	83	50	9	46.5	White chalk, very hard flint bands	1430

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH218 Date: 19/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	7

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	276	100	83	50	9	100	Concrete	276
0.5	176	100	83	50	9	100	Concrete	176
1.0	62	100	83	50	9	100	Concrete	62
1.5	70	100	83	50	9	100	Concrete	70
2.0	45	100	83	50	9	100	Concrete	45
2.5	65	100	83	50	9	100	Concrete	65
3.0	64	100	83	50	9	100	Concrete	64
3.5	41	100	83	50	9	100	Concrete	41
4.0	40	100	83	50	9	100	Concrete	40
4.5	7	10	83	50	9	100	Soft Black Damp Muddy Fill	7
5.0	5	10	83	50	9	10	Soft Black Damp Muddy Fill	5
5.5	10	10	83	50	9	10	Soft Black Damp Muddy Fill	10
6.0	10	10	83	50	9	10	Soft Black Damp Muddy Fill	10
6.5	13	10	83	50	9	10	Soft Black Damp Muddy Fill	13
7.0	14	10	83	50	9	10	Soft Black Damp Muddy Fill	14
7.5	11	10	83	50	9	10	Soft Black Damp Muddy Fill	11
8.0	5	10	83	50	9	10	Soft Black Damp Muddy Fill	5
8.5	5	10	83	50	9	10	Soft Black Damp Muddy Fill	5
9.0	8	10	83	50	9	10	Soft Black Damp Muddy Fill	8
9.5	5	10	83	50	9	10	Soft Black Damp Muddy Fill	5
10.0	8	10	83	50	9	10	Soft Black Damp Muddy Fill	8
10.5	10	10	83	50	9	10	Soft Black Damp Muddy Fill	10
11.0	7	10	83	50	9	10	Soft Black Damp Muddy Fill	7
11.5	6	10	83	50	9	10	Soft Black Damp Muddy Fill	6
12.0	6	10	83	50	9	10	Soft Black Damp Muddy Fill	6
12.5	7	10	83	50	9	10	Soft Black Damp Muddy Fill	7
13.0	7	10	83	50	9	10	Soft Black Damp Muddy Fill	7
13.5	10	10	83	50	9	10	Soft Black Damp Muddy Fill	10
14.0	7	10	83	50	9	10	Soft Black Damp Muddy Fill	7
14.5	11	10	83	50	9	10	Soft Black Damp Muddy Fill	11
15.0	12	10	83	50	9	10	Soft Black Damp Muddy Fill	12
15.5	12	10	83	50	9	10	Soft Black Damp Muddy Fill	12
16.0	12	10	83	50	9	10	Soft Black Damp Muddy Fill	12
16.5	13	10	83	50	9	10	Soft Black Damp Muddy Fill	13
17.0	14	10	83	50	9	10	Soft Black Damp Muddy Fill	14
17.5	7	50	83	50	9	10	Light grey sandy clay, chalk traces	7
18.0	7	50	83	50	9	10	Light grey sandy clay, chalk traces	7
18.5	9	50	83	50	9	10	Light grey sandy clay, chalk traces	9
19.0	10	50	83	50	9	10	Light grey sandy clay, chalk traces	10
19.5	17	50	83	50	9	10	Light brown to white sandy chalk, flint	17
20.0	31	50	83	50	9	10	Light brown to white sandy chalk, flint	31
20.5	32	50	83	50	9	10	Light brown to white sandy chalk, flint	32
21.0	12	50	83	50	9	10	Light brown to white sandy chalk, flint	12
21.5	18	50	83	50	9	50	Light brown to white sandy chalk, flint	18
22.0	15	50	83	50	9	50	Light brown to white sandy chalk, flint	15
22.5	20	50	83	50	9	50	Light brown to white sandy chalk, flint	20
23.0	12	50	83	50	9	50	Light brown to white sandy chalk, flint	12
23.5	12	50	83	50	9	50	Light brown to white sandy chalk, flint	12
24.0	15	50	83	50	9	50	Light brown to white sandy chalk, flint	15
24.5	30	50	83	50	9	50	Light brown to white sandy chalk, flint	30
25.0	24	50	83	50	9	50	Light brown to white sandy chalk, flint	24
25.5	23	50	83	50	9	50	Light brown to white sandy chalk, flint	23
26.0	20	50	83	50	9	50	Light brown to white sandy chalk, flint	20
26.5	25	50	83	50	9	50	Light brown to white sandy chalk, flint	25
27.0	14	50	83	50	9	50	Light brown to white sandy chalk, flint	14
27.5	30	50	83	50	9	50	Light brown to white sandy chalk, flint	30
28.0	20	50	83	50	9	50	Light brown to white sandy chalk, flint	20
28.5	24	50	83	50	9	50	Light brown to white sandy chalk, flint	24
29.0	28	50	83	50	9	50	Light brown to white sandy chalk, flint	28
29.5	17	50	83	50	9	50	Light brown to white sandy chalk, flint	17
30.0	14	50	83	50	9	50	Light brown to white sandy chalk, flint	14
30.5	21	50	83	50	9	50	Light brown to white sandy chalk, flint	21
31.0	27	50	83	50	9	50	Light brown to white sandy chalk, flint	27
31.5	28	50	83	50	9	50	Light brown to white sandy chalk, flint	28
32.0	12	50	83	50	9	50	Light brown to white sandy chalk, flint	12
32.5	18	50	83	50	9	50	Light brown to white sandy chalk, flint	18
33.0	29	50	83	50	9	50	Light brown to white sandy chalk, flint	29
33.5	25	50	83	50	9	50	Light brown to white sandy chalk, flint	25
34.0	21	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	21
34.5	6	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	6
35.0	6	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	6
35.5	6	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	6
36.0	3	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	3
36.5	4	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	4
37.0	4	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	4
37.5	4	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	4
38.0	4	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	4
38.5	5	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	5
39.0	4	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	4
39.5	4	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	4
40.0	4	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	4
40.5	5	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	5
41.0	4	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	4
41.5	5	0	83	50	9	50	Very Soft Drilling, Small Chalk Trace	5
42.0	10	100	83	50	9	50	White Chalk, Flint Bands	10
42.5	14	100	83	50	9	50	White Chalk, Flint Bands	14
43.0	12	100	83	50	9	50	White Chalk, Flint Bands	12
43.5	14	100	83	50	9	50	White Chalk, Flint Bands	14
44.0	15	100	83	50	9	50	White Chalk, Flint Bands	15
44.5	27	100	83	50	9	50	White Chalk, Flint Bands	27
45.0	15	100	83	50	9	50	White Chalk, Flint Bands	15
45.5	20	100	83	50	9	50	White Chalk, Flint Bands	20
46.0	22	100	83	50	9	50	White Chalk, Flint Bands	22
46.5	24	100	83	50	9	50	White Chalk, Flint Bands	24
47.0	19	100	83	50	9	50	White Chalk, Flint Bands	19
47.5	138	100	83	50	9	50	White Chalk, Flint Bands	138
48.0	17	100	83	50	9	50	White Chalk, Flint Bands	17
48.5	24	100	83	50	9	50	White Chalk, Flint Bands	24
49.0	28	100	83	50	9	50	White Chalk, Flint Bands	28
49.5	31	100	83	50	9	50	White Chalk, Flint Bands	31

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH219 Date: 25/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	9

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	PIT	0	83	50	9	40	Trial Pit	PIT
0.5	PIT	0	83	50	9	40	Trial Pit	PIT
1.0	7	10	83	50	9	40	Black Ash Stoney Fill	7
1.5	6	10	83	50	9	40	Black Ash Stoney Fill	6
2.0	7	10	83	50	9	40	Black Ash Stoney Fill	7
2.5	7	10	83	50	9	40	Black Ash Stoney Fill	7
3.0	6	10	83	50	9	40	Black Ash Stoney Fill	6
3.5	8	10	83	50	9	40	Black Ash Stoney Fill	8
4.0	7	10	83	50	9	40	Black Ash Stoney Fill	7
4.5	6	10	83	50	9	40	Black Ash Stoney Fill	6
5.0	7	10	83	50	9	40	Black Ash Stoney Fill	7
5.5	6	10	83	50	9	40	Black Ash Stoney Fill	6
6.0	20	10	83	50	9	40	Black Ash Stoney Fill	20
6.5	17	10	83	50	9	40	Black Ash Stoney Fill	17
7.0	17	10	83	50	9	40	Black Ash Stoney Fill	17
7.5	12	10	83	50	9	40	Black Ash Stoney Fill	12
8.0	12	10	83	50	9	40	Black Ash Stoney Fill	12
8.5	7	10	83	50	9	40	Black Ash Stoney Fill	7
9.0	13	10	83	50	9	40	Black Ash Stoney Fill	13
9.5	39	10	83	50	9	40	Black Ash Stoney Fill	39
10.0	42	10	83	50	9	40	Black Ash Stoney Fill	42
10.5	21	10	83	50	9	40	Black Ash Stoney Fill	21
11.0	37	100	83	50	9	40	Sand, Gravel, Boulders	37
11.5	41	100	83	50	9	40	Sand, Gravel, Boulders	41
12.0	43	100	83	50	9	40	Sand, Gravel, Boulders	43
12.5	29	100	83	50	9	40	Sand, Gravel, Boulders	29
13.0	41	100	83	50	9	40	Sand, Gravel, Boulders	41
13.5	37	100	83	50	9	40	Sand, Gravel, Boulders	37
14.0	38	100	83	50	9	40	Sand, Gravel, Boulders	38
14.5	137	100	83	50	9	40	Sand, Gravel, Boulders	137
15.0	133	100	83	50	9	40	Sand, Gravel, Clay	133
15.5	23	100	83	50	9	40	Sand, Gravel, Clay	23
16.0	28	100	83	50	9	40	Sand, Gravel, Clay	28
16.5	27	100	83	50	9	40	Sand, Gravel, Clay	27
17.0	22	100	83	50	9	40	Sand, Gravel, Clay	22
17.5	24	100	83	50	9	40	Sand, Gravel, Clay	24
18.0	20	100	83	50	9	40	Sand, Gravel, Clay	20
18.5	19	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	19
19.0	16	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	16
19.5	19	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	19
20.0	28	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	28
20.5	23	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	23
21.0	28	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	28
21.5	31	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	31
22.0	22	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	22
22.5	32	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	32
23.0	25	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	25
23.5	26	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	26
24.0	25	100	83	50	9	40	Light Brown Sandy Clay, Chalk Traces	25
24.5	33	100	83	50	9	40	Chalk, Flint, Small Sand Trace	33
25.0	25	100	83	50	9	40	Chalk, Flint, Small Sand Trace	25
25.5	29	100	83	50	9	40	Chalk, Flint, Small Sand Trace	29
26.0	37	100	83	50	9	40	Chalk, Flint, Small Sand Trace	37
26.5	47	100	83	50	9	40	White Chalk, Flint	47
27.0	34	100	83	50	9	40	White Chalk, Flint	34
27.5	22	100	83	50	9	40	White Chalk, Flint	22
28.0	25	100	83	50	9	40	White Chalk, Flint	25
28.5	24	100	83	50	9	40	White Chalk, Flint	24
29.0	21	100	83	50	9	40	White Chalk, Flint	21
29.5	23	100	83	50	9	40	White Chalk, Flint	23
30.0	21	100	83	50	9	40	White Chalk, Flint	21
30.5	20	100	83	50	9	40	White Chalk, Flint	20
31.0	22	100	83	50	9	40	White Chalk, Flint	22
31.5	25	100	83	50	9	40	White Chalk, Flint	25
32.0	28	100	83	50	9	40	White Chalk, Flint	28
32.5	26	100	83	50	9	40	White Chalk, Flint	26
33.0	28	100	83	50	9	40	White Chalk, Flint	28
33.5	26	100	83	50	9	40	White Chalk, Flint	26
34.0	32	100	83	50	9	40	White Chalk, Flint	32
34.5	31	100	83	50	9	40	White Chalk, Flint	31
35.0	34	100	83	50	9	40	White Chalk, Flint	34
35.5	24	100	83	50	9	40	White Chalk, Flint	24
36.0	26	100	83	50	9	40	White Chalk, Flint	26
36.5	22	100	83	50	9	40	White Chalk, Flint	22
37.0	20	100	83	50	9	40	White Chalk, Flint	20
37.5	24	100	83	50	9	40	White Chalk, Flint	24
38.0	28	100	83	50	9	40	White Chalk, Flint	28
38.5	20	100	83	50	9	40	White Chalk, Flint	20
39.0	25	100	83	50	9	40	White Chalk, Flint	25
39.5	24	100	83	50	9	40	White Chalk, Flint	24

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH220 Date: 25/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	8

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	PIT	0	83	50	9	40	Trial Pit	PIT
0.5	PIT	0	83	50	9	40	Trial Pit	PIT
1.0	7	10	83	50	9	40	Sand Gravel	7
1.5	6	10	83	50	9	40	Sand Gravel	6
2.0	6	10	83	50	9	40	Black Ash Stoney Fill	6
2.5	9	10	83	50	9	40	Black Ash Stoney Fill	9
3.0	10	10	83	50	9	40	Black Ash Stoney Fill	10
3.5	7	10	83	50	9	40	Black Ash Stoney Fill	7
4.0	7	10	83	50	9	40	Black Ash Stoney Fill	7
4.5	10	10	83	50	9	40	Black Ash Stoney Fill	10
5.0	21	10	83	50	9	40	Black Ash Stoney Fill	21
5.5	10	10	83	50	9	40	Black Ash Stoney Fill	10
6.0	12	10	83	50	9	40	Black Ash Stoney Fill	12
6.5	17	10	83	50	9	40	Black Ash Stoney Fill	17
7.0	21	10	83	50	9	40	Black Ash Stoney Fill	21
7.5	7	10	83	50	9	40	Black Ash Stoney Fill	7
8.0	11	10	83	50	9	40	Black Ash Stoney Fill	11
8.5	9	10	83	50	9	40	Black Ash Stoney Fill	9
9.0	14	10	83	50	9	40	Black Ash Stoney Fill	14
9.5	10	10	83	50	9	40	Black Ash Stoney Fill	10
10.0	29	100	83	50	9	40	Dark Brown Sand Gravel	29
10.5	32	100	83	50	9	40	Dark Brown Sand Gravel	32
11.0	45	100	83	50	9	40	Dark Brown Sand Gravel	45
11.5	22	100	83	50	9	40	Dark Brown Sand Gravel	22
12.0	31	100	83	50	9	40	Dark Brown Sand Gravel	31
12.5	36	100	83	50	9	40	Dark Brown Sand Gravel	36
13.0	40	100	83	50	9	40	Dark Brown Sand Gravel	40
13.5	24	100	83	50	9	40	Dark Brown Sand Gravel	24
14.0	39	100	83	50	9	40	Dark Brown Sand Gravel	39
14.5	49	100	83	50	9	40	Dark Brown Sand Gravel	49
15.0	51	100	83	50	9	40	Dark Brown Sand Gravel	51
15.5	23	100	83	50	9	40	Light Brown, Sand Chalk Trace	23
16.0	21	100	83	50	9	40	Light Brown, Sand Chalk Trace	21
16.5	19	100	83	50	9	40	Light Brown, Sand Chalk Trace	19
17.0	16	100	83	50	9	40	Light Brown, Sand Chalk Trace	16
17.5	16	100	83	50	9	40	Light Brown, Sand Chalk Trace	16
18.0	17	100	83	50	9	40	Pale Sand Chalk, Off White	17
18.5	17	100	83	50	9	40	Pale Sand Chalk, Off White	17
19.0	21	100	83	50	9	40	Pale Sand Chalk, Off White	21
19.5	27	100	83	50	9	40	Pale Sand Chalk, Off White	27
20.0	31	100	83	50	9	40	Pale Sand Chalk, Off White	31
20.5	21	100	83	50	9	40	Pale Sand Chalk, Off White	21
21.0	35	100	83	50	9	40	Pale Sand Chalk, Off White	35
21.5	37	100	83	50	9	40	Pale Sand Chalk, Off White	37
22.0	27	100	83	50	9	40	White Chalk, Flint	27
22.5	28	100	83	50	9	40	White Chalk, Flint	28
23.0	37	100	83	50	9	40	White Chalk, Flint	37
23.5	34	100	83	50	9	40	White Chalk, Flint	34
24.0	22	100	83	50	9	40	White Chalk, Flint	22
24.5	21	100	83	50	9	40	White Chalk, Flint	21
25.0	21	100	83	50	9	40	White Chalk, Flint	21
25.5	20	100	83	50	9	40	White Chalk, Flint	20
26.0	20	100	83	50	9	40	White Chalk, Flint	20
26.5	18	100	83	50	9	40	White Chalk, Flint	18
27.0	19	100	83	50	9	40	White Chalk, Flint	19
27.5	24	100	83	50	9	40	White Chalk, Flint	24
28.0	19	100	83	50	9	40	White Chalk, Flint	19
28.5	18	100	83	50	9	40	White Chalk, Flint	18
29.0	20	100	83	50	9	40	White Chalk, Flint	20
29.5	16	100	83	50	9	40	Sandy Chalk 50/50	16
30.0	22	100	83	50	9	40	Sandy Chalk 50/50	22
30.5	23	100	83	50	9	40	Sandy Chalk 50/50	23
31.0	19	100	83	50	9	40	Sandy Chalk 50/50	19
31.5	18	100	83	50	9	40	Sandy Chalk 50/50	18
32.0	24	100	83	50	9	40	Sandy Chalk 50/50	24
32.5	18	100	83	50	9	40	Sandy Chalk 50/50	18
33.0	19	100	83	50	9	40	Sandy Chalk 50/50	19
33.5	17	100	83	50	9	40	Firm White Chalk Flint	17
34.0	19	100	83	50	9	40	Firm White Chalk Flint	19
34.5	25	100	83	50	9	40	Firm White Chalk Flint	25
35.0	22	100	83	50	9	40	Firm White Chalk Flint	22
35.5	20	100	83	50	9	40	Firm White Chalk Flint	20
36.0	22	100	83	50	9	40	Firm White Chalk Flint	22
36.5	25	100	83	50	9	40	Firm White Chalk Flint	25
37.0	22	100	83	50	9	40	Firm White Chalk Flint	22
37.5	20	100	83	50	9	40	Firm White Chalk Flint	20
38.0	24	100	83	50	9	40	Firm White Chalk Flint	24
38.5	22	100	83	50	9	40	Firm White Chalk Flint	22
39.0	23	100	83	50	9	40	Firm White Chalk Flint	23
39.5	20	100	83	50	9	40	Firm White Chalk Flint	20

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH221 Date: 20/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	15

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	PIT	100	83	50	9	42	Sand, Gravel	PIT
0.5	35	100	83	50	9	42	Sand, Gravel	35
1.0	20	100	83	50	9	42	Sand, Gravel	20
1.5	26	100	83	50	9	42	Sand, Gravel	26
2.0	10	100	83	50	9	42	Sand, Gravel	10
2.5	17	100	83	50	9	42	Sand, Gravel	17
3.0	12	100	83	50	9	42	Sand, Gravel	12
3.5	10	50	83	50	9	42	Black Ash, Stoney Clays, Fill, Damp	10
4.0	12	50	83	50	9	42	Black Ash, Stoney Clays, Fill, Damp	12
4.5	11	50	83	50	9	42	Black Ash, Stoney Clays, Fill, Damp	11
5.0	12	50	83	50	9	42	Black Ash, Stoney Clays, Fill, Damp	12
5.5	11	50	83	50	9	42	Black Ash, Stoney Clays, Fill, Damp	11
6.0	8	50	83	50	9	42	Black Ash, Stoney Clays, Fill, Damp	8
6.5	13	50	83	50	9	42	Black Ash, Stoney Clays, Fill, Damp	13
7.0	22	50	83	50	9	42	Black Ash, Stoney Clays, Fill, Damp	22
7.5	30	50	83	50	9	42	Black Ash, Stoney Clays, Fill, Damp	30
8.0	72	100	83	50	9	42	Dark Brown Sandy Clay	72
8.5	66	100	83	50	9	42	Dark Brown Sandy Clay	66
9.0	52	100	83	50	9	42	Dark Brown Sandy Clay	52
9.5	41	100	83	50	9	42	Dark Brown Sandy Clay	41
10.0	30	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	30
10.5	47	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	47
11.0	50	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	50
11.5	27	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	27
12.0	38	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	38
12.5	62	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	62
13.0	46	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	46
13.5	50	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	50
14.0	48	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	48
14.5	68	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	68
15.0	41	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	41
15.5	27	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	27
16.0	53	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	53
16.5	33	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	33
17.0	29	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	29
17.5	31	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	31
18.0	39	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	39
18.5	36	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	36
19.0	27	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	27
19.5	51	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	51
20.0	32	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	32
20.5	53	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	53
21.0	39	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	39
21.5	66	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	66
22.0	43	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	43
22.5	27	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	27
23.0	20	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	20
23.5	23	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	23
24.0	21	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	21
24.5	31	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	31
25.0	29	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	29
25.5	27	100	83	50	9	42	Light Dark Brown Sand, Gravel, Clay	27
26.0	29	100	83	50	9	42	Pale Brown/ Off White Sandy Chalk	29
26.5	35	100	83	50	9	42	Pale Brown/ Off White Sandy Chalk	35
27.0	30	100	83	50	9	42	Pale Brown/ Off White Sandy Chalk	30
27.5	34	100	83	50	9	42	Pale Brown/ Off White Sandy Chalk	34
28.0	30	100	83	50	9	42	Pale Brown/ Off White Sandy Chalk	30
28.5	35	100	83	50	9	42	Pale Brown/ Off White Sandy Chalk	35
29.0	41	100	83	50	9	42	Pale Brown/ Off White Sandy Chalk	41
29.5	36	100	83	50	9	42	Pale Brown/ Off White Sandy Chalk	36
30.0	38	100	83	50	9	42	Pale Brown/ Off White Sandy Chalk	38
30.5	46	100	83	50	9	42	White Chalk, flint parts	46
31.0	41	100	83	50	9	42	White Chalk, flint parts	41
31.5	30	100	83	50	9	42	White Chalk, flint parts	30
32.0	41	100	83	50	9	42	White Chalk, flint parts	41
32.5	32	100	83	50	9	42	White Chalk, flint parts	32
33.0	35	100	83	50	9	42	White Chalk, flint parts	35
33.5	43	100	83	50	9	42	White Chalk, flint parts	43
34.0	37	100	83	50	9	42	White Chalk, flint parts	37
34.5	51	100	83	50	9	42	White Chalk, flint parts	51
35.0	30	100	83	50	9	42	White Chalk, flint parts	30
35.5	23	100	83	50	9	42	White Chalk, flint parts	23
36.0	22	100	83	50	9	42	White Chalk, flint parts	22
36.5	19	100	83	50	9	42	White Chalk, flint parts	19
37.0	17	100	83	50	9	42	White Chalk, flint parts	17
37.5	14	100	83	50	9	42	White Chalk, flint parts	14
38.0	19	100	83	50	9	42	White Chalk, flint parts	19
38.5	21	100	83	50	9	42	White Chalk, flint parts	21
39.0	23	100	83	50	9	42	White Chalk, flint parts	23
39.5	27	100	83	50	9	42	White Chalk, flint parts	27
40.0	29	100	83	50	9	42	White Chalk, flint parts	29
40.5	31	100	83	50	9	42	White Chalk, flint parts	31
41.0	20	100	83	50	9	42	White Chalk, flint parts	20
41.5	36	100	83	50	9	42	White Chalk, flint parts	36

Fontmell Close, St Albans

Site Record of Rotary Borehole Investigations

Borehole Number: BH222 Date: 21/01/16

Driller	Forkers
Rig Type	C6
Casing dia (mm)	150
Drill Bit Size (mm)	110
Vert/Inc (°)	14

Meterage (m)	Pene Rate (s)	% Returns	Rotary Speed (RPM)	Applied Load (BAR)	Air Pressure (BAR)	Casing (m)	Geology	Provisional Analysis
0.0	PIT	0	83	50	9	40	Trial Pit	PIT
0.5	15	100	83	50	9	40	Sand Gravel	15
1.0	21	100	83	50	9	40	Sand Gravel	21
1.5	23	100	83	50	9	40	Sand Gravel	23
2.0	14	100	83	50	9	40	Sand Gravel	14
2.5	13	100	83	50	9	40	Sand Gravel	13
3.0	12	50	83	50	9	40	Black Ash Stoney Fill	12
3.5	17	50	83	50	9	40	Black Ash Stoney Fill	17
4.0	18	50	83	50	9	40	Black Ash Stoney Fill	18
4.5	22	50	83	50	9	40	Black Ash Stoney Fill	22
5.0	17	50	83	50	9	40	Black Ash Stoney Fill	17
5.5	15	50	83	50	9	40	Black Ash Stoney Fill	15
6.0	14	50	83	50	9	40	Black Ash Stoney Fill	14
6.5	21	50	83	50	9	40	Black Ash Stoney Fill	21
7.0	22	50	83	50	9	40	Black Ash Stoney Fill	22
7.5	15	100	83	50	9	40	Light Dark Brown Sand Gravel	15
8.0	40	100	83	50	9	40	Light Dark Brown Sand Gravel	40
8.5	21	100	83	50	9	40	Light Dark Brown Sand Gravel	21
9.0	35	100	83	50	9	40	Light Dark Brown Sand Gravel	35
9.5	30	100	83	50	9	40	Light Dark Brown Sand Gravel	30
10.0	27	100	83	50	9	40	Light Dark Brown Sand Gravel	27
10.5	45	100	83	50	9	40	Light Dark Brown Sand Gravel	45
11.0	3	100	83	50	9	40	Light Dark Brown Sand Gravel	3
11.5	33	100	83	50	9	40	Light Dark Brown Sand Gravel	33
12.0	51	100	83	50	9	40	Light Dark Brown Sand Gravel	51
12.5	30	100	83	50	9	40	Light Dark Brown Sand Gravel	30
13.0	36	100	83	50	9	40	Light Dark Brown Sand Gravel	36
13.5	25	100	83	50	9	40	Light Dark Brown Sand Gravel	25
14.0	38	100	83	50	9	40	Light Dark Brown Sand Gravel	38
14.5	43	100	83	50	9	40	Light Dark Brown Sand Gravel	43
15.0	34	100	83	50	9	40	Light Dark Brown Sand Gravel	34
15.5	16	100	83	50	9	40	Light Dark Brown Sand Gravel	16
16.0	33	100	83	50	9	40	Light Dark Brown Sand Gravel	33
16.5	44	100	83	50	9	40	Light Dark Brown Sand Gravel	44
17.0	40	100	83	50	9	40	Light Dark Brown Sand Gravel	40
17.5	20	100	83	50	9	40	Light Dark Brown Sand Gravel	20
18.0	26	100	83	50	9	40	Light Dark Brown Sand Gravel	26
18.5	31	100	83	50	9	40	Stiff Sandy Clay	31
19.0	33	100	83	50	9	40	Stiff Sandy Clay	33
19.5	31	100	83	50	9	40	Stiff Sandy Clay	31
20.0	32	100	83	50	9	40	Stiff Sandy Clay	32
20.5	26	100	83	50	9	40	Stiff Sandy Clay	26
21.0	19	100	83	50	9	40	Stiff Sandy Clay	19
21.5	38	100	83	50	9	40	Stiff Sandy Clay	38
22.0	45	100	83	50	9	40	Stiff Sandy Clay	45
22.5	48	100	83	50	9	40	Stiff Sandy Clay	48
23.0	37	100	83	50	9	40	Stiff Sandy Clay	37
23.5	41	100	83	50	9	40	Stiff Sandy Clay	41
24.0	46	100	83	50	9	40	Pale Brown Sandy Chalk	46
24.5	27	100	83	50	9	40	Pale Brown Sandy Chalk	27
25.0	19	100	83	50	9	40	Pale Brown Sandy Chalk	19
25.5	26	100	83	50	9	40	Pale Brown Sandy Chalk	26
26.0	23	100	83	50	9	40	Pale Brown Sandy Chalk	23
26.5	26	100	83	50	9	40	White Chalk, Flint Parts, Sand Trace	26
27.0	22	100	83	50	9	40	White Chalk, Flint Parts, Sand Trace	22
27.5	32	100	83	50	9	40	White Chalk, Flint Parts, Sand Trace	32
28.0	27	100	83	50	9	40	White Chalk Flint	27
28.5	18	100	83	50	9	40	White Chalk Flint	18
29.0	36	100	83	50	9	40	White Chalk Flint	36
29.5	41	100	83	50	9	40	White Chalk Flint	41
30.0	41	100	83	50	9	40	White Chalk Flint	41
30.5	19	100	83	50	9	40	White Chalk Flint	19
31.0	26	100	83	50	9	40	White Chalk Flint	26
31.5	27	100	83	50	9	40	White Chalk Flint	27
32.0	17	100	83	50	9	40	White Chalk Flint	17
32.5	21	100	83	50	9	40	White Chalk Flint	21
33.0	19	100	83	50	9	40	White Chalk Flint	19
33.5	20	100	83	50	9	40	White Chalk Flint	20
34.0	24	100	83	50	9	40	White Chalk Flint	24
34.5	21	100	83	50	9	40	White Chalk Flint	21
35.0	19	100	83	50	9	40	White Chalk Flint	19
35.5	24	100	83	50	9	40	White Chalk Flint	24
36.0	19	100	83	50	9	40	White Chalk Flint	19
36.5	22	100	83	50	9	40	White Chalk Flint	22
37.0	23	100	83	50	9	40	White Chalk Flint	23
37.5	20	100	83	50	9	40	White Chalk Flint	20
38.0	19	100	83	50	9	40	White Chalk Flint	19
38.5	24	100	83	50	9	40	White Chalk Flint	24
39.0	28	100	83	50	9	40	White Chalk Flint	28
39.5	20	100	83	50	9	40	White Chalk Flint	20

Fontmell Close, St Albans

Drilling Summary Record

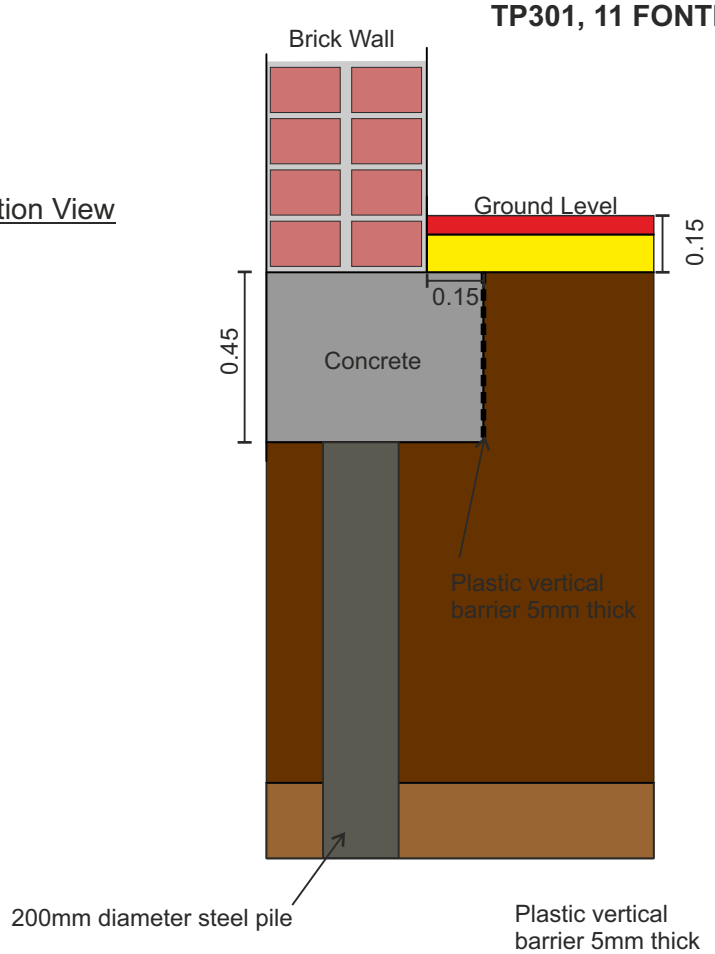
KEY	<15
Rate of penetation per 0.5m	15 to 30
	30 to 60
	<60

From Depth *(m)*	BH201	BH202	BH203	BH204	BH205	BH206	BH207	BH208	BH209	BH210	BH211	BH212	BH213	BH214	BH215	BH216	BH217	BH218	BH219	BH220	BH221	BH222
	(sec)	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*	*(sec)*
0.0	260	260	167	1300	393	125	195	330	150	166	343	375	210	320	PIT	PIT	274	276	PIT	PIT	PIT	PIT
0.5	90	375	266	630	544	241	112	270	260	201	266	262	73	137	21	PIT	130	176	PIT	PIT	35	15
1.0	190	266	146	741	340	147	93	222	145	85	130	230	87	100	20	7	116	62	7	7	20	21
1.5	234	86	155	400	139	70	50	210	61	106	110	237	60	69	21	6	78	70	6	6	26	23
2.0	570	112	106	149	122	64	97	222	57	140	114	124	45	122	19	6	112	45	7	6	10	14
2.5	20	190	151	161	125	66	138	104	92	110	116	90	200	135	17	7	154	65	7	9	17	13
3.0	10	100	9	22	140	75	155	56	90	151	160	10	76	91	17	16	163	64	6	10	12	12
3.5	10	13	8	5	6	3	5	49	84	37	4	4	67	54	15	41	121	41	8	7	10	17
4.0	21	60	9	5	7	4	5	17	5	5	3	5	87	69	10	10	168	40	7	7	12	18
4.5	80	70	279	5	7	4	5	10	5	6	4	6	10	31	10	13	120	7	6	10	11	22
5.0	81	68	29	5	7	4	5	22	5	5	3	25	15	10	18	1	32	5	7	21	12	17
5.5	20	71	8	5	7	10	5	40	5	5	4	14	6	10	41	16	8	10	6	10	11	15
6.0	73	42	8	10	7	11	5	6	7	45	91	12	5	10	68	19	17	10	20	12	8	14
6.5	81	86	10	10	7	18	5	53	7	44	4	12	6	10	100	24	12	13	17	17	13	21
7.0	337	80	48	10	7	36	5	70	7	52	42	17	5	6	67	29	15	14	17	21	22	22
7.5	375	111	9	10	7	66	5	40	35	46	16	12	5	7	70	26	19	11	12	7	30	15
8.0	70	156	37	10	46	129	53	47	70	54	12	32	5	7	63	50	10	5	12	11	72	40
8.5	118	151	226	10	80	97	36	70	57	31	15	36	5	7	33	64	10	5	7	9	66	21
9.0	340	170	154	48	107	102	50	32	87	50	17	37	6	6	37	76	12	8	13	14	52	35
9.5	82	128	70	14	64	95	54	94	33	32	11	15	5	6	27	44	15	5	39	10	41	30
10.0	26	164	155	10	36	54	31	32	32	36	12	67	6	6	27	62	10	8	42	29	30	27
10.5	21	137	67	18	27	57	49	93	34	43	29	57	5	6	35	55	25	10	21	32	47	45
11.0	139	230	95	17	65	93	21	14	64	46	17	77	40	11	45	48	40	7	37	45	50	3
11.5	48	198	38	20	130	39	24	8	82	42	16	157	5	12	20	31	15	6	41	22	27	33
12.0	41	272	38	79	47	43	22	10	40	46	18	24	5	11	21	28	13	6	43	31	38	51
12.5	22	340	26	81	90	74	18	5	39	31	53	17	5	12	23	25	26	7	29	36	62	30
13.0	112	260	61	107	156	56	19	2	40	38	40	21	5	15	21	37	12	7	41	40	46	36
13.5	158	220	28	73	70	21	20	2	28	31	18	20	7	15	21	58	12	10	37	24	50	25
14.0	283	324	69	88	134	42	24	2	20	67	29	23	8	30	19	50	10	7	38	39	48	38
14.5	343	270	105	56	43	31	20	2	24	45	34	22	8	50	17	42	10	11	137	49	68	43
15.0	449	200	101	52	53	48	91	2	26	30	18	14	8	70	20	47	12	12	133	51	41	34
15.5	343	67	95	14	14	31	26	2	31	41	27	14	7	30	7	31	9	12	23	23	27	16
16.0	189	60	43	16	18	30	124	2	29	31	215	18	7	17	7	41	2	12	28	21	53	33
16.5	170	30	93	42	21	51	63	2	88	73	72	14	7	15	6	46	10	13	27	19	33	44
17.0	3655	36	105	43	24	150	81	2	77	59	57	18	8	17	9	73	10	14	22	16	29	40
17.5	1000	21	21	15	30	82	22	2	49	47	19	12	8	13	11	30	7	7	24	16	31	20
18.0	65	31	92	30	17	33	29	3	109	70	21	17	9	15	14	45	7	7	20	17	39	26
18.5	27	42	161	76	30	38	38	3	425	80	31	16	9	8	12	77	9	9	19	17	36	31
19.0	62	44	273	41	39	51	33	3	40	81	10	14	9	19	11	42	7	10	16	21	27	33
19.5	127	12	38	31	58	45	26	3	30	82	12	13	10	14	16	32	7	17	19	27	51	31
20.0	55	29	99	36	102	53	27	3	33	58	14	19	15	26	21	37	9	31	28	31	32	32
20.5	100	32	121	22	82	49	23	3	32	73	15	17	20	17	32	36	10	32	23	21	53	26
21.0	157	42	95	42	105	73	28	3	20	77	11	23	10	29	31	26	11	12	28	35	39	19
21.5	72	27	25	68	81	48	27	3	24	34	10	25	10	31	22	20	9	18	31	37	66	38
22.0	80	62	55	78	62	37	31	5	20	71	11	30	25	50	34	31	10	15	22	27	43	45
22.5	55	135	139	69	43	47	32	5	24	80	19	19	20	55	33	26	19	20	32	28	27	48
23.0	50	66	132	44	33	87	29	5	37	57	10	18	27	39	20	22	21	12	25	37	20	37
23.5	40	57	95	80	21	79	26	5	27	64	18	24	30	13	18	20	59	12	26	34	23	41
24.0	42	96	55	30	20	138	20	3	33	82	17	31	32	20	19	46	23	15	25	22	21	46
24.5	45	118	139	18	37	71	26	3	65	91	16	18	18	27	18	62	17	30	33	21	31	27
25.0	45	91	132	14	35	82	32	3	25	124	19	18	35	26	22	64	14	24	25	21	29	19
25.5	48	61	95	21	27	106	35	3	24	114	13	20	21	20	19	42	43	23	29	20	27	26
26.0		31	55	15	58	67	30	17	25	94	26	22	35	30	23	40	37	20	37	20	29	23
26.5		74	135	19	32	33	35	11	23	104	19	47	30	20	22	36	34	25	47	18	35	26
27.0		59	103	23	41	46	38	20	20	82	26	30	14	28	21	21	29	14	34	19	30	22
27.5		51	1228	24	34	44	36	13	29	112	18	19	14	23	19	20	19	30	22	24	34	32
28.0		47	5580	69	58	34	33	12	25	125	40	21	31	35	43	19	40	20	25	19	30	27
28.5		54	55	72	61	48	32	17	25	112	39	23	20	31	39	17	25	24	24	18	35	18
29.0		70	132	47	43	35	42	18	27	95	26	18	18	19	44	20	23	28	21	20	41	36
29.5		63	131	37	61	28	40	13	24	130	19	50	14	17	23	16	22	17	23	16	36	41
30.0			190	22	55	42	36	12	21	210	24	26	5	23	19	10	27	14	21	22	38	41
30.5			132	42	58	57	62	17	20	250	25	21	5	20	22	15	26	21	20	23	46	19
31.0			133	52	40	70	13	12	25	195	40	15	5	40	17	15	24	27	22	19	41	26
31.5			208	60	43	34	27	26	28	220	22	22	5	12	16	21	19	28	25	18	30	27
32.0				66	38	54	38	42	23	195	19	30	8	18	20	37	20	12	28	24	41	17
32.5				72	32	37	35	48	22	211	17	27	9	15	28	22	691	18	26	18	32	21
33.0				48	34	40	42	33	21	157	43	19	8	19	34	28	43	29	28	19	35	19
33.5				70	35	24	35	26	22	154	27	22	9	10	23	19	37	25	26	17	43	20
34.0						39	38	21	26	190	28	29	25	17	24	28	31	21	32	19	37	24
34.5						42	36	26	30	166	26	26	25	10	22	34	42	6	31	25	51	21
35.0						29	70	35	35	86	24	27	22	12	22	38	57	6	34	22	30	19
35.5						35	41	21	34	74	22	32	28	10	23	26	29	6	24	20	23	24
36.0						52	42	17	38	102	26	20	22	22	21	48	37	3	26	22	22	19
36.5						30	37	19	35	84	23	20	27	18	27	28	46	4	22	25	19	22
37.0						24	28	17	40	87	22	23	25	20	20	31	35	4	20	22	17	23
37.5						22	28	16	28	60	28	26	20	10	21	20	19	4	24	20	14	20
38.0						17	54	23	32	62	56	35	10	18	23	15	20	4	28	24	19	19
38.5						15	38	21	37	70	40	39	10	20	19	15	22	5	20	22	21	24
39.0						17	39	27	34	54	38	32	10	15	34	16	19	4	25	23	23	28
39.5						20	34	14	37	51	41	35	10	15	36	18	29	4	24	20	27	20
40.0								23		80			30	25		7	41	4			29	
40.5								30		88			10	19		8	21	5			31	
41.0								23		84			10	17		7	18	4			20	
41.5								10		57			7	20		8	145	5			36	
42.0								15		70			15	22		7	38	10				
42.5								28		60			14	18		8	28	14				
43.0								51		77			14	16		7	21	12				
43.5								59		93			17	20		9	23	14				
44.0								153		68			18	14		10	25	15				
44.5								273		108			14	22		16	40	27				
45.0								211		95			12	21		14	37	15				
45.5								141		214			13	18		16	29	20				
46.0								59		222			12	22		16	1430	22				
46.5								105		176			13	15		19		24				
47.0								91		187			14	14		19		19				
47.5								81					19	642		28		138				
48.0													22	680		17		17				
48.5													24	17		26		24				
49.0													28	18		22		28				
49.5													31	21		23		31				

Appendix 4: Trial Pit Sections

TP301, 11 FONTMELL CLOSE

Section View



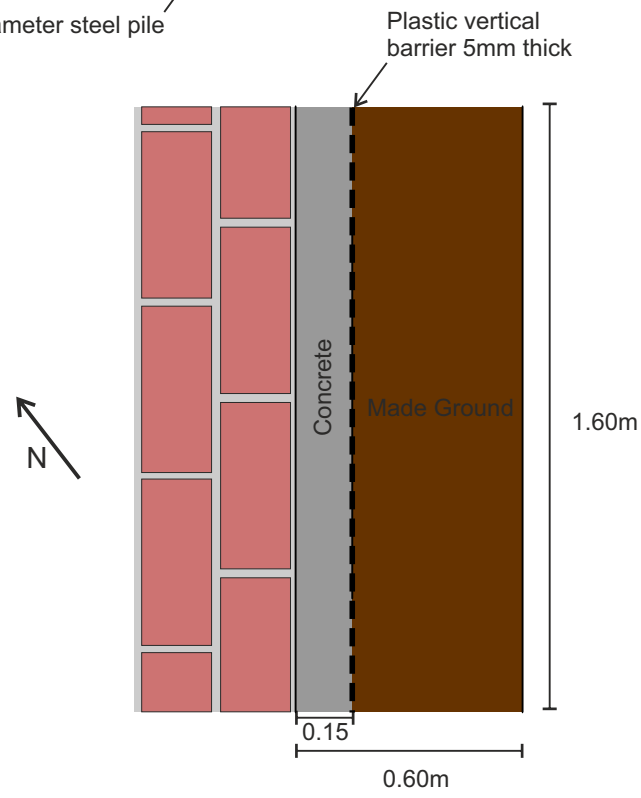
0.0-0.05m Brick pavers

0.05-0.15m Made Ground - See log for description

0.15-1.5m Made Ground - See log for description

1.5-1.7m Made Ground - See log for description

Plan View



Client	Insurers of 8-11 Fontmell Close,1 Bridle Close & Hertfordshire C.C.
	FONTMELL CLOSE, ST ALBANS
	TRIAL PIT PROFILES AND PHOTOGRAPHS
	TP301
Date	14.12.2015
A4 Scale	1:20
Drawn by	davco
Checked by	CW
Revision	0
	FIGURE A

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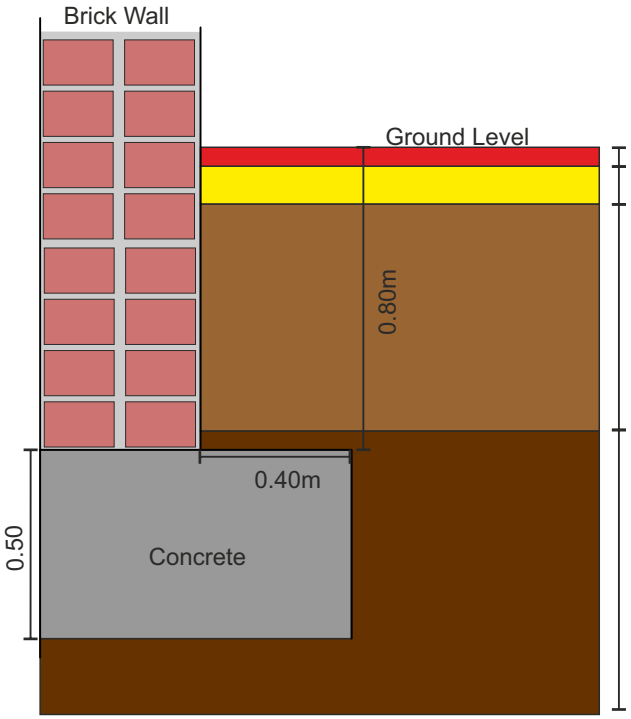
TP302, 11 FONTMELL CLOSE

Section View



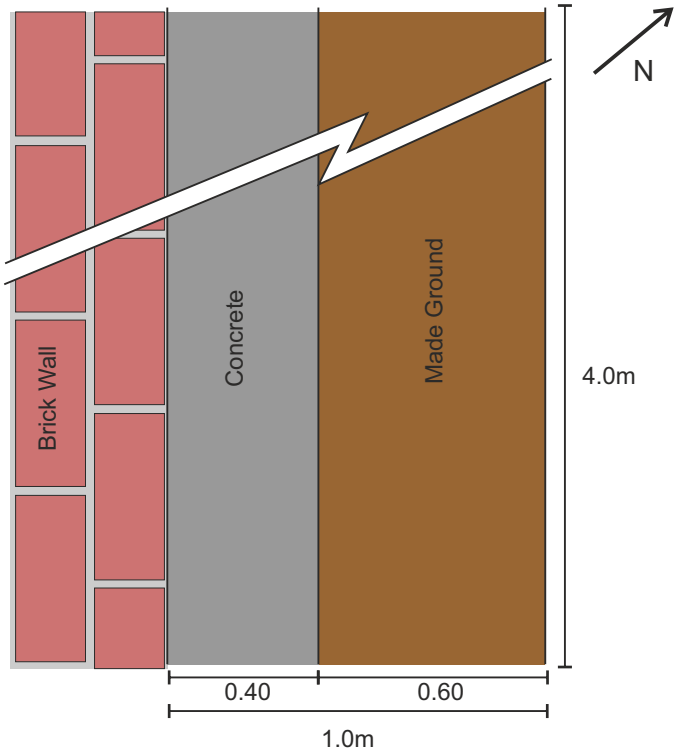
0.0-0.05m Brick pavers

0.05-0.15m Made Ground - See log for description

0.15-0.75m Made Ground - See log for description

0.75-1.50m Made Ground - See log for description

Plan View



Client	Insurers of 8-11 Fontmell Close,1 Bridle Close & Hertfordshire C.C.
	FONTMELL CLOSE, ST ALBANS
	TRIAL PIT PROFILES AND PHOTOGRAPHS
	TP302

Date	14.12.2015
A4 Scale	1:20
Drawn by	davco
Checked by	CW
Revision	0

FIGURE B

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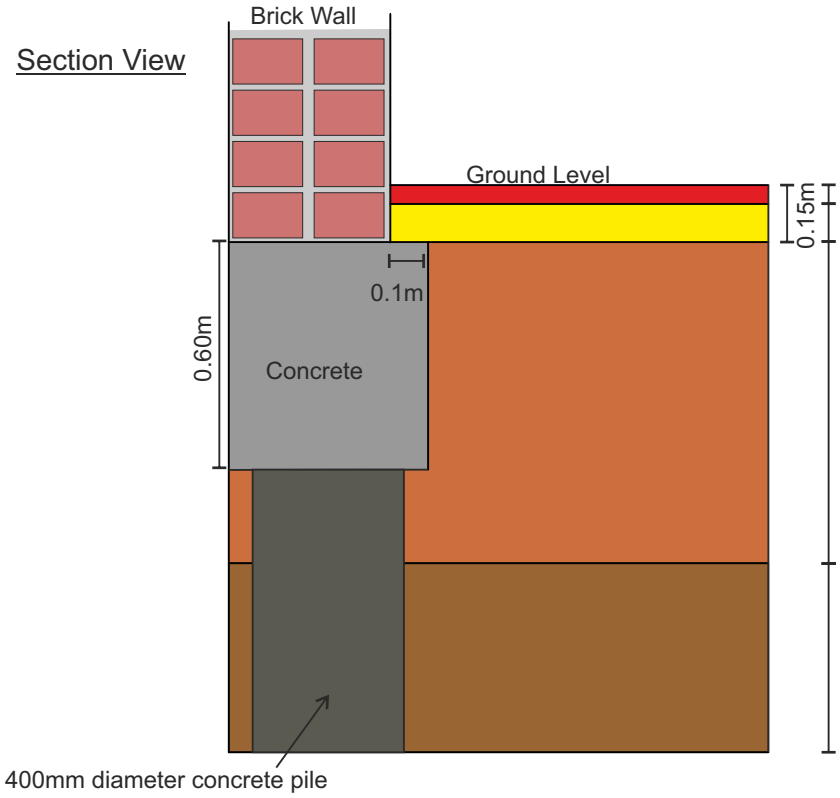
TP303, 9 FONTMELL CLOSE

Section View



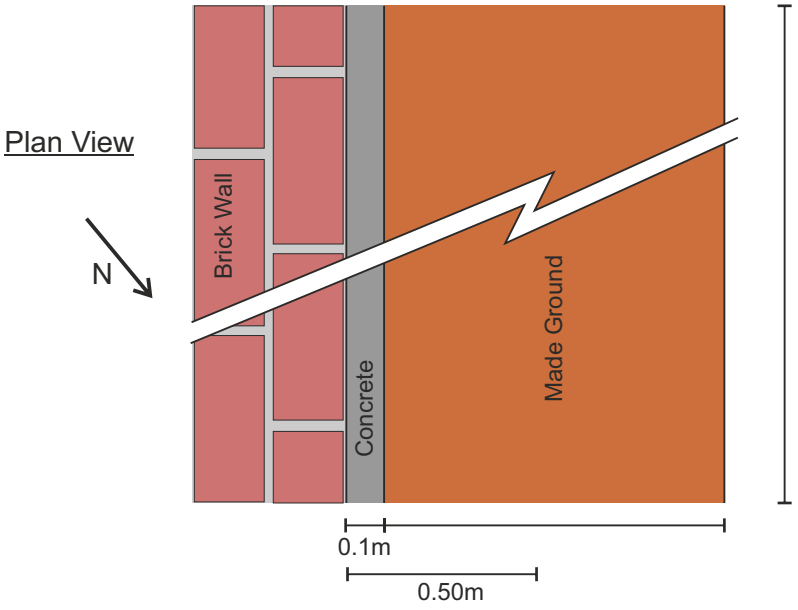
0.0-0.05m Brick pavers

0.05-0.15m Made Ground - See log for description

0.15-1.0m Made Ground - See log for description

1.0-1.5m Made Ground - See log for description

Plan View



Client	Insurers of 8-11 Fontmell Close,1 Bridle Close & Hertfordshire C.C.
	FONTMELL CLOSE, ST ALBANS
	TRIAL PIT PROFILES AND PHOTOGRAPHS
	TP303

Date	14.12.2015
A4 Scale	1:20
Drawn by	davco
Checked by	CW
Revision	0

FIGURE C

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Appendix 5: Laboratory Test Certificates

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression			Chemical Tests			Other tests and comments
Borehole / Trial Pit	Sample Ref	Depth (m)	Type	Description	MC (%)	LL (%)	PL (%)	PI (%)	<425 µm (%)	Bulk Mg/m³	Dry Mg/m³	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 (g/L)	W/S Mg (mg/L)	
BH102		12.50-12.95	B	Yellow and orange brown silty clayey sandy flint GRAVEL											7.5	0.04		Particle Size Distribution
BH103		11.00-12.00	B	Brown silty clayey very sandy fine to cobble sized GRAVEL											7.5	0.59		Particle Size Distribution
BH103	Combined Sample	15.50-18.95	D	Yellow brown and grey silty clayey fine SAND											7.2	0.33		Particle Size Distribution
BH103		21.50-21.95	B	Yellow brown gravelly sandy SILT and CLAY											7.2	0.40		Particle Size Distribution

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by

S Burke

S Burke - Senior Technician
10/02/2016

Project Number:

GEO / 23639

Project Name:

FONTMELL CLOSE, ST ALBANS
36121

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BS1377 : Part 2 : Clause 9 : 1990

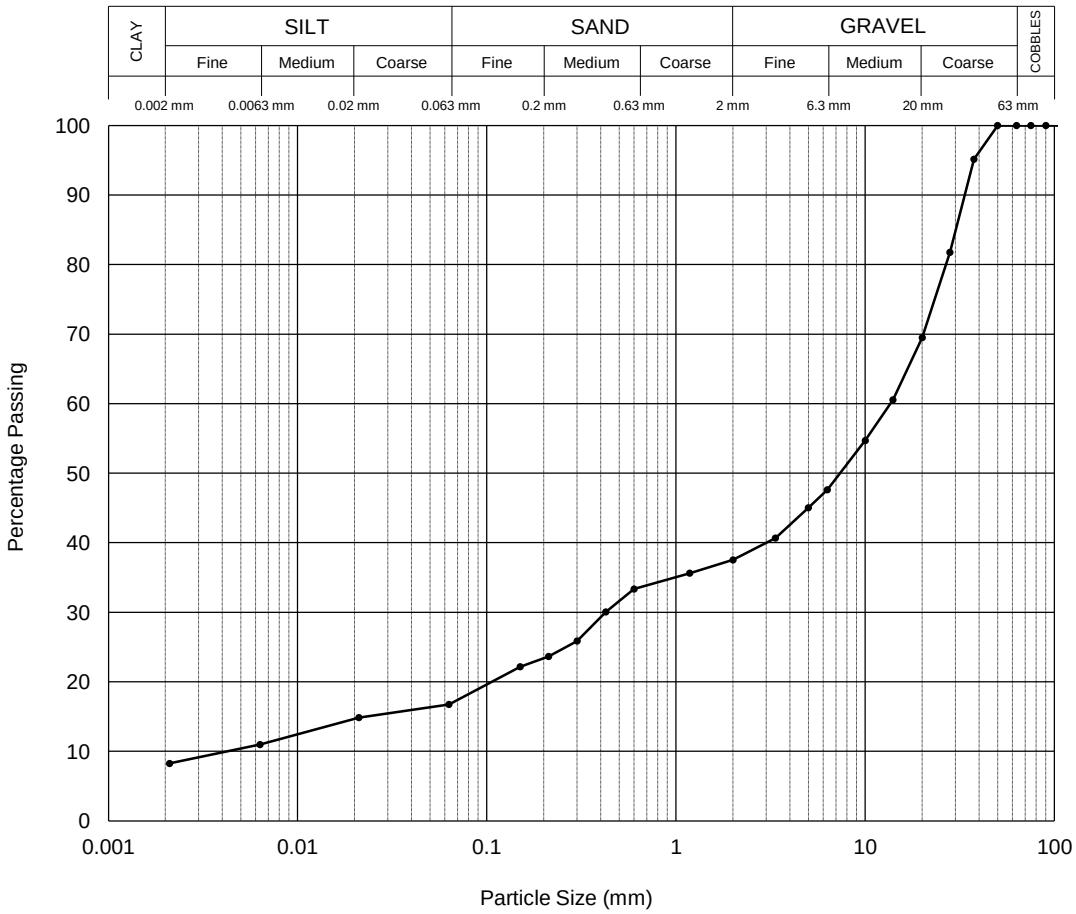
PARTICLE SIZE DISTRIBUTION

BH/TP No:	BH102
Depth (m):	12.50-12.95
Sample Type	B

Description:
Yellow and orange brown silty clayey sandy flint GRAVEL

BS1377 : Part 2 : Clause 9.2 : 1990 Wet Sieving Method
BS1377 : Part 2 : Clause 9.4 : 1990 Sedimentation by the Pipette Method

Sieve	
Sieve (mm)	% pass
200	100
125	100
90	100
75	100
63	100
50	100
37.5	95
28	82
20	69
14	61
10	55
6.3	48
5	45
3.35	41
2	38
1.18	36
0.6	33
0.425	30
0.3	26
0.212	24
0.15	22
0.063	17



Pipette	
P. Size (µm)	% pass
21.1	15
6.3	11
2.1	8
Preparation:	
No Pre-treatment used	

Temp (ºC)	20

Particle Proportions	
Cobbles	0.0 %
Gravel	62.5 %
Sand	20.8 %
Silt	8.5 %
Clay	8.2 %

Checked and Approved by

S Burke

S Burke - Senior Technician
10/02/2016

Project Number:

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Project Name:

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BS1377 : Part 2 : Clause 9 : 1990

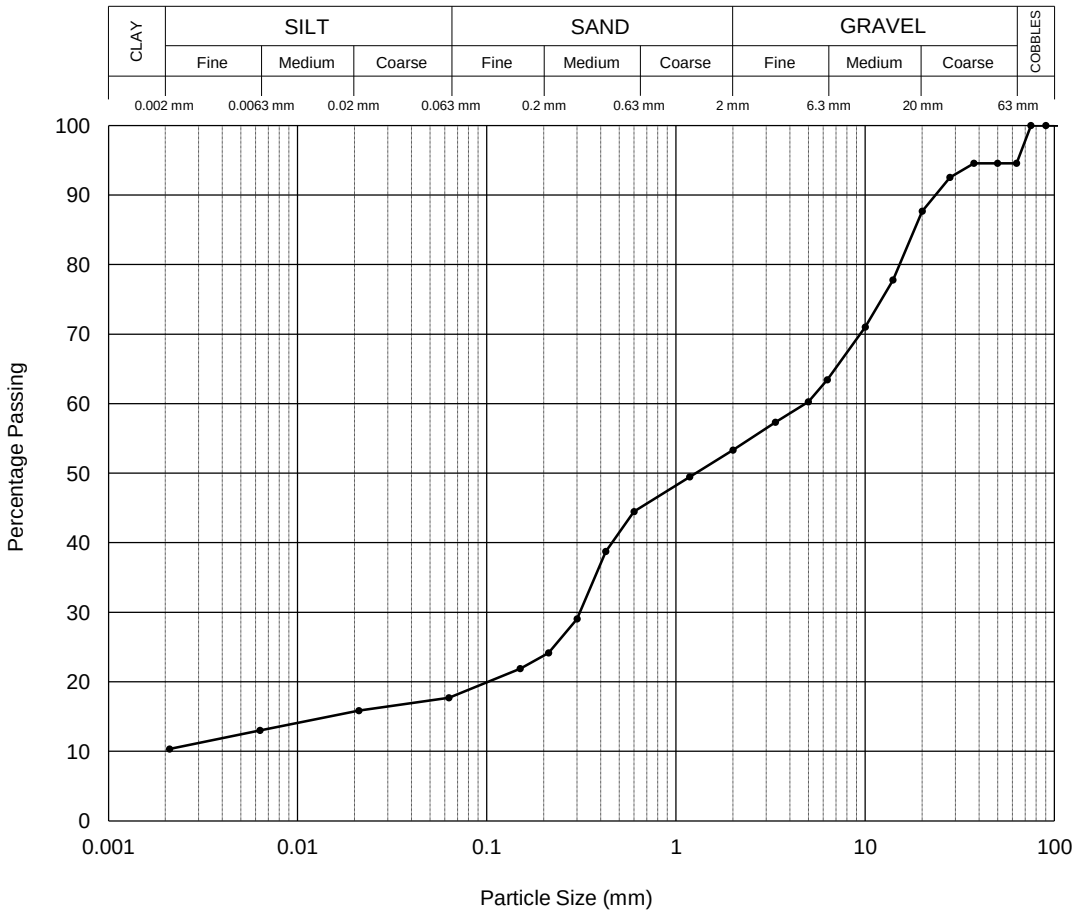
PARTICLE SIZE DISTRIBUTION

BH/TP No:	BH103
Depth (m):	11.00-12.00
Sample Type	B

Description:
Brown silty clayey very sandy fine to cobble sized GRAVEL

BS1377 : Part 2 : Clause 9.2 : 1990 Wet Sieving Method
BS1377 : Part 2 : Clause 9.4 : 1990 Sedimentation by the Pipette Method

Sieve	
Sieve (mm)	% pass
200	100
125	100
90	100
75	100
63	95
50	95
37.5	95
28	93
20	88
14	78
10	71
6.3	63
5	60
3.35	57
2	53
1.18	49
0.6	44
0.425	39
0.3	29
0.212	24
0.15	22
0.063	18



Pipette	
P. Size (µm)	% pass
21.1	16
6.3	13
2.1	10
Preparation:	
No Pre-treatment used	

Temp (ºC)	20

Particle Proportions	
Cobbles	5.4 %
Gravel	41.3 %
Sand	35.6 %
Silt	7.4 %
Clay	10.3 %

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BS1377 : Part 2 : Clause 9 : 1990

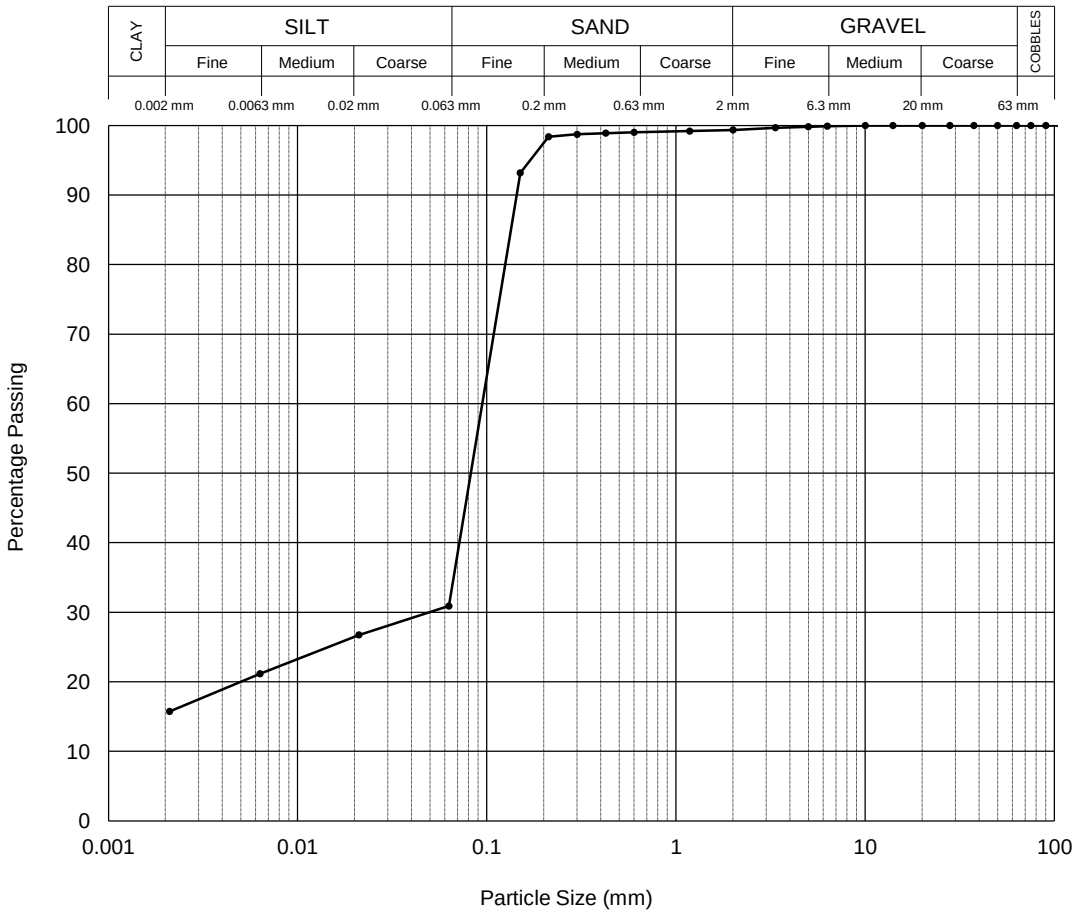
PARTICLE SIZE DISTRIBUTION

BH/TP No:	BH103
Sample Ref.	Combined Sample
Depth (m):	15.50-18.95
Sample Type	D

Description:
Yellow brown and grey silty clayey fine SAND

BS1377 : Part 2 : Clause 9.2 : 1990 Wet Sieving Method
BS1377 : Part 2 : Clause 9.4 : 1990 Sedimentation by the Pipette Method

Sieve	
Sieve (mm)	% pass
200	100
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	100
14	100
10	100
6.3	100
5	100
3.35	100
2	99
1.18	99
0.6	99
0.425	99
0.3	99
0.212	98
0.15	93
0.063	31



Pipette	
P. Size (µm)	% pass
21.1	27
6.3	21
2.1	16
Preparation:	
No Pre-treatment used	

Temp (ºC)	20

Particle Proportions	
Cobbles	0.0 %
Gravel	0.6 %
Sand	68.5 %
Silt	15.2 %
Clay	15.7 %

Checked and Approved by

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10/02/2016

Project Number:

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BS1377 : Part 2 : Clause 9 : 1990

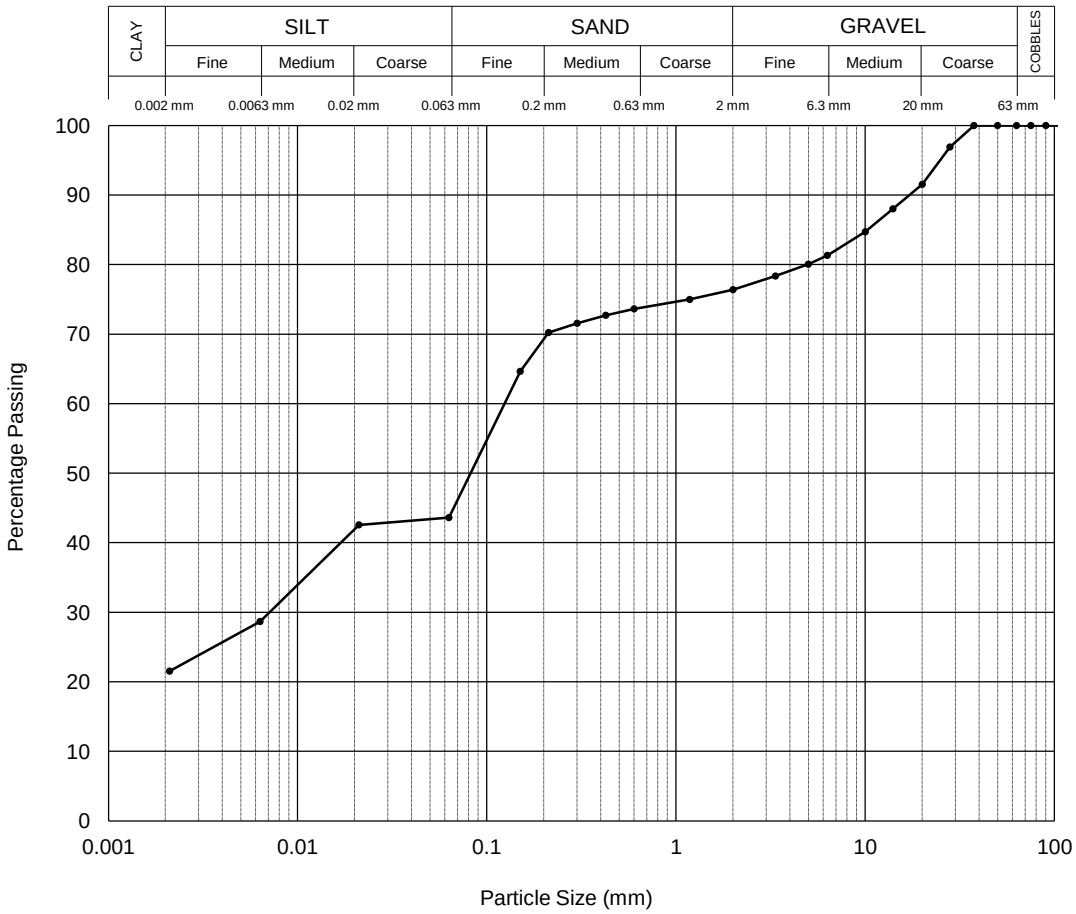
PARTICLE SIZE DISTRIBUTION

BH/TP No:	BH103
Depth (m):	21.50-21.95
Sample Type	B

Description:
Yellow brown gravelly sandy SILT and CLAY

BS1377 : Part 2 : Clause 9.2 : 1990 Wet Sieving Method
BS1377 : Part 2 : Clause 9.4 : 1990 Sedimentation by the Pipette Method

Sieve	
Sieve (mm)	% pass
200	100
125	100
90	100
75	100
63	100
50	100
37.5	100
28	97
20	92
14	88
10	85
6.3	81
5	80
3.35	78
2	76
1.18	75
0.6	74
0.425	73
0.3	72
0.212	70
0.15	65
0.063	44



Pipette	
P. Size (µm)	% pass
21.1	43
6.3	29
2.1	22
Preparation:	
No Pre-treatment used	

Temp (ºC)	20

Particle Proportions	
Cobbles	0.0 %
Gravel	23.6 %
Sand	32.8 %
Silt	22.1 %
Clay	21.5 %

Checked and Approved by

S Burke

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Project Number:

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